



Table of Contents

1.0	INTRODUCTION.....	1
1.1	Description of Project Design Refinements	2
2.0	METHOD FOR THE ANALYSIS OF PROJECT REFINEMENTS	3
3.0	PROJECT REFINEMENT COMPARATIVE EFFECTS ASSESSMENT.....	6
3.1	Red Lake Subsystem	7
3.1.1	Alignment West of McDowell Lake First Nation	7
3.2	Pickle Lake Subsystem	10
3.2.1	Alignment Around Kingfisher Lake First Nation	10
4.0	CONCLUSION	14
5.0	REFERENCES.....	14
 TABLES		
Table 1:	Corridor Refinement Analysis – Alignment West of McDowell Lake First Nation.....	7
Table 2:	Alignment Around Kingfisher Lake First Nation	11
 APPENDICES		
APPENDIX A		
Metric Tables		
 APPENDIX B		
Corridor Refinement Figures		



**PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES
ASSESSMENT OF REVISIONS TO LESS THAN 115 KV SECTIONS**

LIST OF ACRONYMS

Acronym	Definition
AC	Alternating Current
CCEG	Central Corridor Energy Group
EA	Environmental Assessment
EAA	<i>Ontario Environmental Assessment Act</i>
END	Endangered
ESA	<i>Endangered Species Act</i>
ESR	Environmental Study Report
FNLP	First Nation Limited Partnership
Hydro One Class EA	Hydro One Class Environmental Assessment for Minor Transmission Facilities
MECP	Ministry of the Environment, Conservation and Parks
MNRF	Ontario Ministry of Natural Resources and Forestry
MOECC	Ontario Ministry of the Environment and Climate Change
the Project	Connecting 17 Remote First Nation Communities Project
PPCR	Provincial Parks and Conservation Reserves
ROW	Right-of-Way
RSFD	Resource Stewardship and Facility Development
SS	Switching Station

LIST OF UNITS

Unit	Definition
ha	Hectare
km	Kilometre
kV	Kilovolt
m	Metre



PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES ASSESSMENT OF REVISIONS TO LESS THAN 115 kV SECTIONS

1.0 INTRODUCTION

A partnership that has grown to 24 First Nation communities was formed (First Nation Limited Partnership [FNLPP], formerly known as the Central Corridor Energy Group [CCEG]) to address need for sufficient electricity supply for 17 remote First Nation communities. FNLPP partnered with Fortis Inc. (Fortis), to establish a licenced transmission company, the Wataynikaneyap Power Limited Partnership (Wataynikaneyap) with a mandate to develop, construct, operate, and own the Wataynikaneyap Transmission Project. . The Wataynikaneyap Transmission Project is being developed in two phases. Phase 1, the New Transmission Line to Pickle Lake Project, is an approximately 300-kilometre (km) long, 230-kilovolt (kV) transmission line from the Dinorwic (east of Dryden) / Ignace area to Pickle Lake in northwestern Ontario. Phase 2 Connecting 17 Remote First Nation Communities includes approximately 1,500 km of 115 kV, 44 kV, and 25 kV alternating current (AC) transmission lines, and associated infrastructure 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.

A Final Environmental Study Report (ESR) for the Phase 2 Connecting 17 Remote First Nation Communities Project (the Project), which was subject to the *Ontario Environmental Assessment Act* (EAA) under the following Class EA processes:

- the Ministry of Natural Resources and Forestry (MNRF) Class Environmental Assessment for Resource Stewardship and Facility Developments (MNRF RSFD Class EA; MNR¹ 2003);
- the MNRF Provincial Parks and Conservation Reserves Class EA (MNRF PPCR Class EA; MNR 2005); and
- the Hydro One Class Environmental Assessment for Minor Transmission Facilities (Hydro One Class EA; Ontario Hydro² 1992).

The Final ESR was released for public review on November 16, 2018, and underwent a 30-day public review period, ending December 17, 2018. Various ministries and Aboriginal communities have provided comments on the Final ESR. Wataynikaneyap worked with commenters to respond to and resolve comments following the completion of the review period. Wataynikaneyap has posted responses to these comments, along with a version of the Final ESR updated to reflect required edits to their website to mark the completion of this EA process.

In Section 13.0 of the Final ESR, the following commitment was made regarding changes to the Project footprint design:

¹ The Ministry of Natural Resources and Forestry (MNRF) was formerly known as the Ministry of Natural Resources (MNR) prior to its name change in 2014.

² At the time of publication of the Class EA for Minor Transmission Facilities, Hydro One was known as Ontario Hydro prior to its reorganization into five companies in 1999. The company responsible for hydroelectricity became Hydro One.

“Should final Project design results in changes that are outside of the limits of work³ or changes that are inconsistent with the results of the EA; Wataynikaneyap will engage with the MNR and the Ministry of Environment and Climate Change (MOECC)⁴ to discuss potential required procedures. These are discussed in Section 5.8 of the MNR RSFD Class EA, Section 6.8 of the MNR PPCR Class EA and Section 3.9 of the Hydro One Class EA”.

This document considers Project design changes subject to this commitment under the MNR RSFD Class EA.

1.1 Description of Project Design Refinements

Since the release of the Notice of Completion for the Final ESR, Wataynikaneyap has identified two areas to improve alignment of 44 kV transmission line right of way (ROW) segments, specifically:

- Realignment of approximately 5 km of 44 kV ROW alignment and access west of McDowell Lake First Nation to avoid crossing a sensitive area as identified by a community member during Round 3 engagement.
- Realignment of approximately 4 km of the 44 kV ROW alignment to route the transmission line to avoid overlapping with an area of Kingfisher Lake First Nation’s reserve lands, which was identified as the community’s preference through Round 3 engagement. In addition, a new access road is proposed to connect to the substation for Kingfisher Lake First Nation to improve reliability of access during the operation and maintenance phase.

Through discussions with the MNR this assessment under the MNR RSFD Class EA was undertaken to consider potential effects of these Project refinements outside of the limits of work for 44 kV line segments and related infrastructure.

As outlined in Section 5.8 of the Ministry of Natural Resources (MNR)⁵ RSFD Class EA (MNR 2003), revisions in the Project file will be dealt with in one of two ways depending on if the changes are determined to be minor or major:

“MNR will review the proposed modification against the screening criteria in Table 3.1 [of the MNR RSFD Class EA (MNR 2003)]. Where there would be no increase in negative environmental effects or level of public or agency concern, the modification would be considered minor and the project may proceed. Where there would be an increase in potential negative environmental effects or level of public or agency concern, the modification would be considered major and MNR staff will undertake additional evaluation; the results of the evaluation shall be documented in a Revised Project File or a Revised ESR” (MNR 2003).

The assessment in this report undertakes an analysis of the planned revisions compared with the assessment in the Final ESR to help inform the MNR’s review. This assessment uses the metrics defined for consideration of corridor alternatives described in Appendix 3.10A and 3.11A of the Final ESR, which correlates with the

³ In the Environmental Study Report (ESR) Wataynikaneyap proposes a limits of work of 200 m on either side of the 40-m-wide transmission line alignment ROW for the environmental assessment (EA) approval and subsequent permitting purposes.

⁴ At the time of publication of the Final ESR, the current Ministry of the Environment, Conservation and Parks (MECP) was known as the Ministry of the Environment and Climate Change (MOECC).

⁵ At the time of publication of the MNR RSFD Class EA, the Ministry of Natural Resources and Forestry (MNR) was known as the Ministry of Natural Resources (MNR).



PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES ASSESSMENT OF REVISIONS TO LESS THAN 115 KV SECTIONS

environmental criteria defined for this EA (see Section 4.0 of the Final ESR). These metrics align with the MNRF screening criteria provided in Table 3.1 of the MNR RSFD Class EA (MNR 2003), as shown in Table 2-1, below. Metrics include consideration of results of engagement with Aboriginal communities, land use planning, and available baseline environmental spatial data. The comparative analysis findings are used to comment on any difference to environmental effects identified in the Final ESR as a result of the change, along with consideration of relevant mitigation measures, where applicable.

2.0 METHOD FOR THE ANALYSIS OF PROJECT REFINEMENTS

The objective of this section is to discuss the rationale for the refinement of the 44 kV, 40-metre(m)-wide transmission line alignment outside of the limits of work defined in the Final ESR, provide an analysis of environmental metrics for the areas of the Project footprint refinement compared with an equivalent section of the Project footprint within the Final ESR and characterize any differences in the potential environmental effects of the change compared with the assessment provided in the Final ESR.

The following five key factors were considered in the analysis of the corridors:

- natural environment;
- land use and resource management;
- socio-economic and cultural;
- Aboriginal considerations; and
- technical, including constructability and relative cost which is derived primarily from technical constraints. Cost was not considered as the sole or overriding justification.

The metrics that were considered in the analysis are presented in Appendix A. The reported metrics represent publicly available datasets and datasets collected for the Project relevant to the study areas for the analysis of these corridors, consistent with the assessment of corridor alternatives presented in Section 3.10 and Appendix 3.11A of the Final ESR.

A review and comparison of the screening criteria in the Class EA for RSFD (MNR 2003) was completed against the alternatives assessment metrics, and a concordance exercise was undertaken to identify how each of the Class EA for RSFD screening criteria would be captured in the alternatives analysis presented herein. The concordance exercise, which was based on the criteria outlined in Table 3.1: Screening Criteria in the Class EA for RSFD (MNR 2003), is summarized in Table 2-1.

Where screening criteria from the Class EA for RSFD (MNR 2003) have not been identified as metrics, they are not judged to mark a distinguishing characteristic between the alternatives (e.g., the Project is not expected to affect permafrost by identifying and avoiding through design; release of contaminants in soils and sediments will be managed through best management practices for all alternatives).

Mitigation measures summarized for the Project in Section 9.0 Environmental and Social Management Plan of the Final ESR are applicable in all work areas for the Project.

Table 2-1: Concordance between the Applicable Ministry of Natural Resources and Forestry Screening Criteria and the Alternatives Assessment Metric Categories

MNR Screening Considerations (MNR 2003)	MNR Screening Criteria (MNR 2003)	Applicable Alternatives Assessment Metric Categories (see Appendix A for data sources)
Natural Environment	Air quality	■ Point of reception
	Water quality or quantity (ground or surface)	■ Waterbodies and watercourses
	Species at risk or their habitat	■ Threatened and endangered species or their habitat
	Significant earth or life science features	■ ANSI
	Fish or other aquatic species, communities, or their habitat (including movement of resident or migratory species)	■ Waterbodies and watercourses
	Land subject to natural or human-made hazards	■ n/a
	Recovery of a species under a special management program (e.g., elk restoration)	■ Threatened and endangered species or their habitat
	Ecological integrity	■ ANSI; ■ Wetlands; ■ Waterbodies and watercourses; ■ Vegetation; ■ Wildlife habitat; ■ Threatened and endangered species or their habitat; and ■ Bald eagle nesting sites
	Terrestrial wildlife (including numbers, diversity and movement of resident or migratory species)	■ Wildlife habitat; ■ Threatened and endangered species or their habitat; and ■ Bald eagle nesting sites
	Natural vegetation and terrestrial habitat linkages or corridors through fragmentation, alteration and/or critical loss	■ ANSI; ■ Wetlands; Vegetation; ■ and ■ Wildlife habitat
Permafrost	■ n/a; discrete areas of permafrost will be avoided through Project design (e.g., through corridor routing; pole installation method) for less than 115 kV sections of the line	

Table 2-1: Concordance between the Applicable Ministry of Natural Resources and Forestry Screening Criteria and the Alternatives Assessment Metric Categories

MNRF Screening Considerations (MNR 2003)	MNRF Screening Criteria (MNR 2003)	Applicable Alternatives Assessment Metric Categories (see Appendix A for data sources)
Natural Environment	Soils and sediment quality	■ n/a
	Drainage or flooding	■ Waterbodies and watercourses
	Sedimentation or erosion	■ Waterbodies and watercourses
	Release of contaminants in soils, sediments	■ n/a
	Natural heritage features and areas (e.g. areas of natural and scientific interest, provincially significant wetlands)	■ ANSI; and ■ Wetlands
Land Use, Resource Management	Access to trails or inaccessible areas (land or water)	■ Trails
	Or obstruct navigation	■ Waterbodies and watercourses
	Other resource management projects	■ Land designation
	Traffic patterns or traffic infrastructure	■ Existing infrastructure
	Recreational importance – public or private	■ Tourism and recreation
	Creation of waste	■ n/a
	Or commit a significant amount of a non-renewable resource (e.g. aggregates, agricultural land)	■ Land designation
	Noise levels	■ Point of reception
	Views or aesthetics	■ Tourism and recreation
	Or be a precondition or justification for implementing another project	■ n/a
Socio-economic and, Cultural	Adjacent or nearby uses, persons or property	■ Land designation; ■ Tourism and recreation; ■ Existing infrastructure; and ■ Point of reception
	Cultural heritage resources – including archaeological sites, built heritage, and cultural heritage landscapes	■ Archaeology and cultural heritage
	Built heritage and cultural heritage landscapes	■ Archaeology and cultural heritage
	Or displace people, businesses, institutions, or public facilities	■ Land designation; ■ Tourism and recreation; and ■ Existing infrastructure
	Community character, enjoyment of property, or local amenities	■ Tourism and recreation
	Or increase demands on government services or infrastructure	■ Existing infrastructure
	Public health and/or safety	■ Point of reception
	Local, regional or provincial economies or businesses	■ Land designation
Tourism values (e.g. resource-based tourist lodge)	■ Tourism and recreation	

Table 2-1: Concordance between the Applicable Ministry of Natural Resources and Forestry Screening Criteria and the Alternatives Assessment Metric Categories

MNRF Screening Considerations (MNR 2003)	MNRF Screening Criteria (MNR 2003)	Applicable Alternatives Assessment Metric Categories (see Appendix A for data sources)
Aboriginal Interests	First Nation reserves or communities	■ Traditional land and resource use
	Spiritual, ceremonial, or cultural sites	
	Traditional land or resources used for harvesting, activities	
	Aboriginal values	
	Lands subject to land claims	■ n/a

ANSI = Area of Natural and Scientific Interest; MNRF = Ontario Ministry of Natural Resources and Forestry; n/a = Not applicable.

3.0 PROJECT REFINEMENT COMPARATIVE EFFECTS ASSESSMENT

This section presents the comparative analysis for each section where the 44 kV, 40-m-wide transmission line alignment was revised outside of the limits of work compared with an equivalent section of the Project footprint assessed in the Final ESR. Specifically, this includes the following areas:

Red Lake subsystem:

- Right-of-way (ROW) alignment and access west of McDowell Lake First Nation.

Pickle Lake subsystem:

- Right-of-way (ROW) around an area of Kingfisher Lake First Nation reserve lands and new access road to substation.

The metric tables used to support the Project refinement analysis are presented in Appendix A. The Project footprints were evaluated by comparing the presence of features within or where applicable, adjacent to the ROW, and by highlighting discernable differences between them. Since preparation of the Final ESR, MNRF has provided an updated dataset characterizing caribou (boreal population) habitat within the region. This updated dataset was used in the analysis presented below and in Appendix A to compare any areas crossed by the Project footprint. The Project segments subject to the corridor refinement analysis are shown in Figures 1 and 2 presented in Appendix B.

The amended Project footprint may be further refined during detailed design within the limits of work presented in the Final ESR and in this assessment in an effort to avoid sensitive features, to the extent practical, and use previously disturbed areas. Efforts will be made to reduce environmental effects associated with the preferred corridor, and Wataynikaneyap with their contractor(s) will commit to implementing mitigation measures identified in the Final ESR and adhere to all permits and approvals required for the Project.

3.1 Red Lake Subsystem

3.1.1 Alignment West of McDowell Lake First Nation

The route for the Project segment identified as the *Alignment West of McDowell Lake First Nation* is located on the Red Lake subsystem west of McDowell Lake First Nation (Figure 1). Access will be along the refined ROW. This refinement was requested by a community Elder (identified as the individual with definitive knowledge of the area) during Round 3 engagement in May 2018, who noted that the transmission line ROW should be revised to avoid a sensitive area. Presence of a sensitive area and a potential river crossing route within the 2-km-wide study corridor were discussed and mapped during a Round 2 engagement in November 2016, prior to the initial ROW being defined. Wataynikaneyap avoided the sensitive area based on the mapping in defining the ROW, but proposed a river crossing north of the potential crossing point identified. With the feedback provided during Round 3 described above, the community suggested shifting the line further to the south would be preferred. Additional information was required to facilitate technical evaluation of the suitability of a recommended crossing location to avoid this area, which is why this re-alignment was not included in the Final ESR. Technical viability of this change to the design has since been advanced, and through discussions with the community land use planning team, a preferred alignment within the dedicated protected areas, which are being defined through on-going land use planning efforts, was confirmed. A map of this revision was shared by email on March 13, 2019 with a community contact in follow up to a phone call where Wataynikaneyap shared their intent to move forward in revising the route at this location.

A high-level baseline characterization for the amended Project footprint with comparison to the Project footprint assessed in the Final ESR for this segment of the Project is presented in Table 1. The full set of metrics considered is presented in Appendix A. Generally, habitat for wildlife criteria is similarly abundant and distributed along both Project footprints.

Table 1: Corridor Refinement Analysis – Alignment West of McDowell Lake First Nation

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment West of McDowell Lake First Nation		
	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR)	
Technical	Size <ul style="list-style-type: none"> ROW is 4.9 km in length. The Project footprint is 19.7 ha. 	Size <ul style="list-style-type: none"> ROW is 4.5 km in length. The Project footprint is 18.7 ha. 	<ul style="list-style-type: none"> No discernable difference between ML1 and ML2.
Natural Environment	Areas of Natural and Scientific Interest (ANSI) <ul style="list-style-type: none"> There is 16.9 ha of mapped Candidate ANSI's within the Project footprint 	Areas of Natural and Scientific Interest (ANSI) <ul style="list-style-type: none"> There is 15.5 ha of mapped Candidate ANSI's within the Project footprint 	<ul style="list-style-type: none"> No discernable difference between ML1 and ML2.
	Wetlands^(a) <ul style="list-style-type: none"> The Project footprint crosses 4.1 ha of mapped wetlands. 	Wetlands^(a) <ul style="list-style-type: none"> The Project footprint crosses 3.9 ha of mapped wetlands. 	<ul style="list-style-type: none"> No discernable difference between ML1 and ML2.

Table 1: Corridor Refinement Analysis – Alignment West of McDowell Lake First Nation

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment West of McDowell Lake First Nation		
	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR)	
	Waterbodies and Watercourses^(b) <ul style="list-style-type: none"> The Project footprint crosses two mapped watercourses. The Project footprint does not cross any mapped waterbodies^(c). 	Waterbodies and Watercourses^(b) <ul style="list-style-type: none"> The Project footprint crosses two mapped watercourses. The Project footprint crosses one mapped waterbody^(c) for an area of 0.1 ha. 	<ul style="list-style-type: none"> No discernable difference between ML1 and ML2.
	Vegetation^(d) <ul style="list-style-type: none"> The Project footprint crosses: <ul style="list-style-type: none"> 19.7 ha of natural landcover (terrestrial). 	Vegetation^(d) <ul style="list-style-type: none"> The Project footprint crosses: <ul style="list-style-type: none"> 18.7 ha of natural landcover (terrestrial). 	<ul style="list-style-type: none"> No discernable difference between ML1 and ML2.
Natural Environment (cont'd)	Wildlife Habitat <ul style="list-style-type: none"> The Project footprint crosses 1.0 ha of potential suitable Canada warbler habitat. The Project footprint crosses 16.7 ha of potential suitable common nighthawk habitat. The Project footprint crosses 1.9 ha of potential suitable olive-sided flycatcher habitat. 	Wildlife Habitat <ul style="list-style-type: none"> The Project footprint crosses 0.9 ha of potential suitable moose habitat. The Project footprint crosses 0.9 ha of potential suitable bald eagle habitat. The Project footprint crosses 1.3 ha of potential suitable Canada warbler habitat. The Project footprint crosses 13.8 ha of potential suitable common nighthawk habitat. The Project footprint crosses 4.7 ha of potential suitable olive-sided flycatcher habitat. 	<ul style="list-style-type: none"> ML1 avoids or crosses a smaller area of potential suitable habitat for most wildlife criteria species (not threatened or endangered), except common nighthawk.
	Threatened and endangered species or their habitat (Caribou (Boreal population)) <ul style="list-style-type: none"> The Project footprint crosses >0.1 ha of Category 1 (nursery) habitat The Project footprint crosses 19.7 ha of Category 2 habitat The Project footprint crosses 16.1 ha of travel corridors (Spring – April) 	Threatened and endangered species or their habitat (Caribou (Boreal population)) <ul style="list-style-type: none"> The Project footprint crosses >0.1 ha of Category 1 (nursery) habitat The Project footprint crosses 18.6 ha of Category 2 habitat The Project footprint crosses 7.9 ha of travel corridors (Spring – April) 	<ul style="list-style-type: none"> No discernable difference between ML1 and ML2. ML1 crosses a larger area of Spring – April travel corridors but a smaller area of Fall – November travel corridors for caribou (Boreal population).

Table 1: Corridor Refinement Analysis – Alignment West of McDowell Lake First Nation

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment West of McDowell Lake First Nation		
	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR)	
	<ul style="list-style-type: none"> The Project footprint crosses 15.3 ha of travel corridors (Fall – November) 	<ul style="list-style-type: none"> The Project footprint crosses 18.7 ha of travel corridors (Fall – November) 	
	<p>Threatened and endangered species or their habitat (Wolverine)</p> <ul style="list-style-type: none"> The Project footprint crosses 19.6 ha of potential suitable wolverine habitat. 	<p>Threatened and endangered species or their habitat (Wolverine)</p> <ul style="list-style-type: none"> The Project footprint crosses 18.5 ha of potential suitable wolverine habitat. 	<ul style="list-style-type: none"> No discernable difference between ML1 and ML2.
Socio-economic	<p>Archaeology and Cultural Heritage</p> <ul style="list-style-type: none"> The Project footprint does not intersect any areas containing archaeological potential. 	<p>Archaeology and Cultural Heritage</p> <ul style="list-style-type: none"> 0.1 km of the ROW is located within areas of archaeological potential. The Project footprint has 0.7 ha of area with archaeological potential. 	<ul style="list-style-type: none"> ML1 does not intersect any areas containing archaeological potential
Aboriginal Considerations	<p>Traditional Land and Resource Use McDowell Lake First Nation</p> <ul style="list-style-type: none"> The Project footprint intersects a trapline, and a preferred crossing location identified through engagement. 	<p>Traditional Land and Resource Use McDowell Lake First Nation</p> <ul style="list-style-type: none"> The Project footprint intersects a trapline. 	<ul style="list-style-type: none"> ML1 follows the preferred crossing location identified by the community.

Notes:

- All wetlands are understood to be unevaluated.
- In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.
- Waterbodies not including watercourses.
- Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.

The realignment of the 44 kV transmission line alignment ROW west of McDowell Lake First Nation (ML1) results in a marginal increase in length and area of the ROW. The natural environment metrics presented in Table 1 for ML1 and ML2 primarily do not result in discernable differences between the two corridors, although ML1 avoids or crosses a smaller area of potential suitable habitat for most wildlife criteria species (not threatened or endangered), except common nighthawk. Compared with ML2, the Project footprint of ML1 doesn't cross areas identified during Stage 1 archaeological assessment to have archaeological potential, and crosses at a preferred location identified by a community elder from McDowell Lake First Nation during engagement on the Draft ESR.



PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES ASSESSMENT OF REVISIONS TO LESS THAN 115 kV SECTIONS

Construction and operation and maintenance activities for the alignment west of McDowell Lake First Nation are predicted to have similar effects and mitigation to those described in Section 10.0 Net Effects Assessment for the majority of the physical environment, biological environment and socio-economic environment criteria. No reasonably foreseeable developments (RFD) intersect with the alignment west of McDowell Lake First Nation, and therefore, the alignment west of McDowell Lake First Nation is predicted to have similar effects and mitigation to those described in Section 11.0 Cumulative Effects Assessment for the majority of the physical environment, biological environment and socio-economic environment criteria. As the construction and operation of a new transformer or switching station is not applicable to this segment of the Project, effects and mitigation identified in Section 10.0 and 11.0 in the Final ESR for noise are not applicable.

The potential effects of the Project for route the alignment west of McDowell Lake First Nation is predicted to reach the same conclusions for the EA criteria in Sections 5.0 to 8.0; and in consideration of implementation of the mitigation, commitments and monitoring in Section 12.0 and the environmental and social management plan in Section 9.0. Therefore, ML1 is ultimately preferred for the Project since the transmission line aligns with the community's identified preferred crossing and alignment within the dedicated protected areas being defined through on-going land use planning efforts.

3.2 Pickle Lake Subsystem

3.2.1 Alignment Around Kingfisher Lake First Nation

The route for the Project segment identified as the *Connection Around Kingfisher Lake First Nation* is located on the Pickle Lake subsystem south of Kingfisher Lake First Nation (Figure 2). The 44 kV ROW for this segment has been revised based on direction from the community to shift the ROW off-reserve. In addition, a new access road to the substation is being proposed to improve the reliability of access during the operation and maintenance phase to the revised substation location that was presented in the Final ESR. The revisions to the ROW and proposed new access road to the substation was discussed with the community during an engagement event on September 12, 2018. The community strongly preferred that the ROW alignment be located further south than originally proposed and off-reserve.

Additional information was required to facilitate technical evaluation of the identified routing, which is why this re-alignment was not included in the Final ESR. Technical viability of this change to the design has since been advanced, and through follow-up with community representatives, was confirmed. Mapping of the planned Project footprint revisions were shared with community representatives in March 2019. Community representatives in March 2019 confirmed that the revisions met the expectations discussed during the engagement event on September 12, 2018.

A high-level baseline characterization for this amended Project footprint with comparison to the Project footprint assessed in the Final ESR for this segment of the Project is presented in Table 2. The full set of analysis metrics that were considered for the preliminary and modified Project footprints are presented in Appendix A. Generally, habitat for wildlife criteria is present along both Project footprints. No bald eagle nests, or likely habitat for potential bat hibernacula were identified along either corridor through historic records or field survey observations in the area in 2016 and 2017.

Table 2: Alignment Around Kingfisher Lake First Nation

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment Around Kingfisher Lake First Nation		
	KF1 (Amended Project Footprint)	KF2 (Project Footprint Considered in the Final ESR)	
Technical	Size <ul style="list-style-type: none"> ■ ROW is 4.2 km in length. ■ Access road is 7.9 km in length. ■ The Project footprint (ROW and access road) is 18.9 ha. 	Size <ul style="list-style-type: none"> ■ ROW is 3.8 km in length. ■ Access road is 3.7 km in length. ■ The Project footprint (ROW and access road) is 15.6 ha. 	<ul style="list-style-type: none"> ■ No discernable difference between the lengths of the ROW of KF1 and KF2, although Project footprint for KF1 is larger due to the addition of the new substation access road.
	Existing Infrastructure <ul style="list-style-type: none"> ■ The Project footprint crosses three existing roads at five crossing points. ■ The Project footprint crosses one other existing linear corridor (communications line). 	Existing Infrastructure <ul style="list-style-type: none"> ■ The Project footprint crosses one existing road at one crossing point. ■ The Project footprint does not cross any other existing linear corridors. 	<ul style="list-style-type: none"> ■ The Project footprint of KF1 crosses a greater number of roads and linear corridors than KF2.
Natural Environment	Wetlands^(a) <ul style="list-style-type: none"> ■ The Project footprint crosses 2.2 ha of mapped wetlands. 	Wetlands^(a) <ul style="list-style-type: none"> ■ The Project footprint crosses 1.4 ha of mapped wetlands. 	<ul style="list-style-type: none"> ■ The Project footprint for KF2 crosses a smaller area of mapped wetlands. No areas of the uncommon Fen – open land cover class are crossed by either KF1 or KF2.
	Waterbodies and Watercourses^(b) <ul style="list-style-type: none"> ■ The Project footprint crosses four mapped watercourses. ■ The Project footprint crosses one mapped waterbody^(c) for an 0.2 ha. 	Waterbodies and Watercourses^(b) <ul style="list-style-type: none"> ■ The Project footprint crosses three mapped watercourses. ■ The Project footprint does not cross any mapped waterbodies^(c). 	<ul style="list-style-type: none"> ■ No discernable difference between KF1 and KF2.
	Vegetation^(d) <ul style="list-style-type: none"> ■ The Project footprint crosses: <ul style="list-style-type: none"> ■ 18.2 ha of natural landcover (terrestrial); and ■ 0.4 ha of anthropogenic disturbance. 	Vegetation^(d) <ul style="list-style-type: none"> ■ The Project footprint crosses: <ul style="list-style-type: none"> ■ 15.4 ha of natural landcover (terrestrial); and ■ 0.2 ha of anthropogenic disturbance. 	<ul style="list-style-type: none"> ■ The Project footprint of KF2 crosses a smaller area of natural landcover (terrestrial) than KF1.

Table 2: Alignment Around Kingfisher Lake First Nation

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment Around Kingfisher Lake First Nation		
	KF1 (Amended Project Footprint)	KF2 (Project Footprint Considered in the Final ESR)	
Natural Environment (cont'd)	Wildlife Habitat <ul style="list-style-type: none"> The Project footprint crosses 4.3 ha of potential suitable moose habitat. The Project footprint crosses 4.4 ha of potential suitable bald eagle habitat. The Project footprint crosses 4.6 ha of potential suitable Canada warbler habitat. The Project footprint crosses 12.2 ha of potential suitable common nighthawk habitat. The Project footprint crosses 5.9 ha of potential suitable olive-sided flycatcher habitat. 	Wildlife Habitat <ul style="list-style-type: none"> The Project footprint crosses 5.9 ha of potential suitable moose habitat. The Project footprint crosses 5.9 ha of potential suitable bald eagle habitat. The Project footprint crosses 5.0 ha of potential suitable Canada warbler habitat. The Project footprint crosses 8.9 ha of potential suitable common nighthawk habitat. The Project footprint crosses 6.5 ha of potential suitable olive-sided flycatcher habitat. 	<ul style="list-style-type: none"> The Project footprint of KF1 crosses smaller areas of potential suitable habitat for all wildlife criteria species (not Threatened or Endangered species), except common nighthawk.
	Threatened and endangered species or their habitat (Caribou (Boreal population)) <ul style="list-style-type: none"> The Project footprint crosses 18.9 ha of Category 3 habitat 	Threatened and endangered species or their habitat (Caribou (Boreal population)) <ul style="list-style-type: none"> The Project footprint crosses 15.6 ha of Category 3 habitat 	<ul style="list-style-type: none"> The Project footprint of KF2 crosses a smaller area of caribou (Boreal population) Category 3 habitat.
	Threatened and endangered species or their habitat (Wolverine) <ul style="list-style-type: none"> The Project footprint crosses 18.2 ha of potential suitable wolverine habitat. 	Threatened and endangered species or their habitat (Wolverine) <ul style="list-style-type: none"> The Project footprint crosses 15.4 ha of potential suitable wolverine habitat. 	<ul style="list-style-type: none"> The Project footprint of KF2 crosses a smaller area of potential suitable habitat for wolverine.
	Threatened and endangered species or their habitat (Little brown myotis) <ul style="list-style-type: none"> The Project footprint crosses 3.1 ha of potential suitable little brown myotis maternity roosting habitat. 	Threatened and endangered species or their habitat (Little brown myotis) <ul style="list-style-type: none"> The Project footprint crosses 4.4 ha of potential suitable little brown myotis maternity roosting habitat. 	<ul style="list-style-type: none"> The Project footprint of KF1 crosses a smaller area of potential suitable little brown myotis maternity roosting habitat.
	Archaeology and Cultural Heritage <ul style="list-style-type: none"> 0.2 km of the ROW is located within areas of archaeological potential. The Project footprint crosses 0.6 ha of area with archaeological potential. 	Archaeology and Cultural Heritage <ul style="list-style-type: none"> The Project footprint does not intersect any areas identified as containing archaeological potential. 	<ul style="list-style-type: none"> The Project footprint of KF1 crosses a larger area of archaeological potential. Areas of archaeological potential crossed by the Project footprint for KF1 will be subject to Stage 2 archaeological assessments (and Stage 3/ Stage 4, as required) prior to Project construction.
Socio-economic	Archaeology and Cultural Heritage <ul style="list-style-type: none"> 0.2 km of the ROW is located within areas of archaeological potential. The Project footprint crosses 0.6 ha of area with archaeological potential. 	Archaeology and Cultural Heritage <ul style="list-style-type: none"> The Project footprint does not intersect any areas identified as containing archaeological potential. 	<ul style="list-style-type: none"> The Project footprint of KF1 crosses a larger area of archaeological potential. Areas of archaeological potential crossed by the Project footprint for KF1 will be subject to Stage 2 archaeological assessments (and Stage 3/ Stage 4, as required) prior to Project construction.

Table 2: Alignment Around Kingfisher Lake First Nation

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment Around Kingfisher Lake First Nation		
	KF1 (Amended Project Footprint)	KF2 (Project Footprint Considered in the Final ESR)	
Aboriginal Considerations	Traditional Land and Resource Use Kingfisher Lake First Nation <ul style="list-style-type: none"> The Project footprint crosses identified winter and summer travel trails, hunting areas, fur trapping area, traplines, and suggested routing options. This option is routed south of the reserve lands. 	Traditional Land and Resource Use Kingfisher Lake First Nation <ul style="list-style-type: none"> The Project footprint crosses an identified winter and summer travel trails, hunting and trapping areas, suggested routing options and an area of potential airport expansion. This option crosses the reserve lands. 	<ul style="list-style-type: none"> No discernable difference between the Project footprints for KF1 and KF2. No TLRU features classified as “avoid” were identified within the Project footprint based on currently available data. Option KF1 has been indicated as preferred by the community.

Notes:

- a) All wetlands are understood to be unevaluated.
- b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.
- c) Waterbodies not including watercourses.
- d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.

The realignment of the 44 kV transmission line ROW around Kingfisher Lake First Nation and new substation access road (i.e., KF1) presents a comparable length of the ROW and Project footprint area when compared to the Project footprint assessed in the Final ESR, although the Project footprint of KF1 is slightly larger due to the addition of the new substation access road. The natural environment metrics presented in Table 2 for the KF1 Project footprint result in marginal decreases to some metrics, specifically potential suitable habitat for all wildlife criteria species (not Threatened or Endangered species), except common nighthawk, potential suitable little brown myotis maternity roosting habitat and greater intersection with existing roads and linear corridors.

Construction and operation and maintenance activities for the alignment around Kingfisher Lake First Nation are predicted to have similar effects and mitigation to those described in Section 10.0 Net Effects Assessment for the majority of the physical environment, biological environment and socio-economic environment criteria. No RFDs intersect with the alignment around Kingfisher Lake First Nation, and therefore, the alignment around Kingfisher Lake First Nation is predicted to have similar effects and mitigation to those described in Section 11.0 Cumulative Effects Assessment for the majority of the physical environment, biological environment and socio-economic environment criteria. As the construction and operation of a new transformer or switching station is not applicable to this segment of the Project, effects and mitigation identified in Section 10.0 and 11.0 in the Final ESR for noise are not applicable.

The Project footprint for KF1 which includes the addition of the access road to the substation does result in increases to some metrics, such as crossing a slightly larger area of mapped wetlands, potential suitable habitat for common nighthawk and Category 3 habitat for caribou (Boreal population). The potential effects of the Project that includes this route refinement are however, predicted to reach the same conclusions for the EA criteria in Sections 5.0 to 8.0; and in consideration of implementation of the mitigation, commitments and monitoring in



PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES ASSESSMENT OF REVISIONS TO LESS THAN 115 KV SECTIONS

Section 12.0 and the environmental and social management plan in Section 9.0. Therefore, the KF1 Project footprint is preferred around Kingfisher Lake First Nation, in alignment with community preference and to allow improved direct access to the substation.

4.0 CONCLUSION

The proposed design changes do not introduce any additional project-environment interactions beyond those outlined in the Final ESR, as the potential effects of these proposed design changes are expected to be adequately addressed by the proposed mitigation measures described in the Final ESR. In many cases, the proposed revisions to the two 44 kV transmission line segments will result in reduced environmental effects compared with the original alignment.

5.0 REFERENCES

- MNR (Ontario Ministry of Natural Resources). 2003. A Class Environmental Assessment for MNR Resource Stewardship and Facilities Development Project. Environmental Assessment Report Series. Queen's Printer for Ontario. Ontario, Canada.
- MNR. 2005. A Class Environmental Assessment for Provincial Parks and Conservation Reserves. December 31, 2004. ISBN: 0-7794-3848-5.
- Ontario Hydro. 1992. Class Environmental Assessment for Minor Transmission Facilities. Pursuant to the Environmental Assessment Act. Revision 6. Report No. 89513.

APPENDIX A

Metrics Tables



APPENDIX A

Phase 2: Connecting 17 Remote First Nation Communities Assessment of less than 115 kV Revisions - Metrics

Table of Contents

TABLES

Table A-1:	Corridor Analysis Factors and Metrics.....	1
Table A-2:	Metrics Considered in the Assessment.....	4

Table A-1: Corridor Analysis Factors and Metrics

Factor	Metric Category	Metric
Technical	Size	<ul style="list-style-type: none"> ■ Total length of the 44-kV right-of-way (ROW) ■ Area of Project footprint (ha)
	Existing Infrastructure	<ul style="list-style-type: none"> ■ Number of existing roads crossed by the Project footprint (number of separately identified roads) ■ Number of points where existing roads are crossed by the Project footprint (includes multiple crossings of the same road) ■ Number of other existing linear corridors crossed by the Project footprint (e.g., communication lines).
Natural Environment	Areas of Natural and Scientific Interest	<ul style="list-style-type: none"> ■ Area of mapped candidate Areas of Natural and Scientific Interest (ANSI) (Earth Science and Life Science) in the Project footprint (ha)
	Wetlands ^(a)	<ul style="list-style-type: none"> ■ Area of mapped wetlands in the Project footprint (ha)
	Waterbodies and Watercourses ^(b)	<ul style="list-style-type: none"> ■ Number of mapped watercourses crossed by the Project footprint ■ Area of mapped waterbodies (not including watercourses) in the Project footprint (ha) ■ Number of mapped waterbodies (not including watercourses) crossed by the Project footprint
	Vegetation	<ul style="list-style-type: none"> ■ Area of mapped occurrences of provincially tracked vegetation species in the Project footprint ^(c) (ha) ■ Area of Natural Landcover (Terrestrial), Anthropogenic Disturbance, and Natural Disturbance within the Project footprint^(d)
	Wildlife Habitat	<ul style="list-style-type: none"> ■ Area of suitable habitat (see Section 6.3 and Appendix 6.3B of the Final ESR for suitable habitat assumptions) for all wildlife criteria species (not Threatened or Endangered species) in the Project footprint (i.e., moose; horned grebe; bald eagle, Canada warbler, common nighthawk, and olive-sided flycatcher) (ha) ■ Area of mapped occurrences of potential habitat supporting provincially tracked wildlife species in the Project footprint ^(c) (ha) ■ Number of spawning sites crossed by the Project footprint ■ Number of fish and wildlife feeding or staging areas in the Project footprint
	Nesting Sites	<ul style="list-style-type: none"> ■ Number of bald eagle nesting sites crossed by the Project footprint

Table A-1: Corridor Analysis Factors and Metrics

Factor	Metric Category	Metric
Natural Environment (cont'd)	Threatened and Endangered species or their Habitat	<ul style="list-style-type: none"> ■ Area of mapped Caribou (boreal population) Category 1 high-use habitat (nursery areas) in the Project footprint (ha) ■ Area of mapped Caribou (boreal population) Category 1 high-use habitat (winter use areas) in the Project footprint (ha) ■ Area of mapped Caribou (boreal population) Category 1 high-use habitat (nursery and winter use area overlap) in the Project footprint (ha) ■ Area of mapped Caribou (boreal population) Category 2 seasonal range habitat in the Project footprint (ha) ■ Area of mapped Caribou (boreal population) Category 3 habitat in the Project footprint (ha) ■ Area of Caribou (boreal population) travel corridors (Spring; April) crossed by the Project footprint (ha) ■ Area of Caribou (boreal population) travel corridors (Fall; November) crossed by the Project footprint (ha) ■ Area of potential suitable wolverine habitat in the Project footprint (ha) ■ Number of observed boulder fields or blowdown areas representing potential wolverine den habitat crossed by the Project footprint (identified through aerial reconnaissance – see Section 6.3 of the Final ESR) ■ Area of potential suitable maternity roosting habitat for little brown myotis in the Project footprint (ha) ■ Number of moderate to high potential bat hibernacula within the Project footprint ■ Area of suitable habitat for bank swallow in the Project footprint (ha)
Land Use, Resource Management	Land Designation	<ul style="list-style-type: none"> ■ Area of Enhanced Management Areas within the Project footprint (ha) ■ Area of active, inactive, or abandoned mines in the Project footprint (ha) ■ Number of mining claims crossed by the Project footprint ■ Area of active mining claims in the Project footprint (ha) ■ Area of aggregate pits in the Project footprint (ha)
	Trails	<ul style="list-style-type: none"> ■ Number of mapped trails (OTN and non-OTN^(e)) crossed by the Project footprint ■ Length of mapped trails (OTN and non-OTN) crossed by the Project footprint (km)
	Points of Reception	<ul style="list-style-type: none"> ■ Number of potential receptor points within 1 km of a Project substation ^(f)

Table A-1: Corridor Analysis Factors and Metrics

Factor	Metric Category	Metric
Socio-economic and Cultural	Tourism and Recreation	<ul style="list-style-type: none"> ■ Area of tourism establishment areas crossed by the Project footprint (ha) ■ Existing buildings crossed by the Project footprint ■ Recreation points crossed by the Project footprint ^(g) ■ Number of bait harvest areas (BHA) crossed by the Project footprint ■ Area of BHA crossed by the Project footprint (ha)
	Archaeology and Cultural Heritage	<ul style="list-style-type: none"> ■ Number of archaeological sites crossed by the Project footprint ^(h) ■ Length of ROW within area of archaeological potential ■ Area of archaeological potential in the Project footprint (ha)
Aboriginal Consideration	Traditional Land and Resource Use, including spiritual or cultural sites ⁽ⁱ⁾	<ul style="list-style-type: none"> ■ Traditional land and resource use features shared by First Nations communities crossed by the Project footprint, classified as features to be avoided (e.g., burial sites).

Note:

- a) All wetlands are understood to be unevaluated.
- b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.
- c) Areas are considered based on “element and species occurrence and observation” datasets that record observations for species listed by MNRF as provincially tracked by the Natural Heritage Information Centre.
- d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.
- e) Mapped trails include non-OTN trails available through LIO. No OTN trails were identified as being crossed by the defined corridors.
- f) Points of reception were identified considering LIO datasets defining the locations of buildings, as well as locations of structures defined through the traditional and resource use study.
- g) Recreation points are defined as access points, beaches, boat caches of all types, boat houses, designated campsites and picnic sites.
- h) Archaeological site data may not be released publicly without the express permission of the Ministry of Tourism, Culture, and Sport to protect the integrity of these sites.
- i) See Section 8.0 of the Draft ESR for further information on traditional land and resource use information collected for the Project.
- ROW = right-of-way; km = kilometres; ha = hectares; ANSI = Area of Natural Significance and Interest; OTN = Ontario Trail Network; BHA = bait harvest areas.

Table A-2: Metrics for Revisions to less than 115 kV Segments

Factor	Metric Category	Metrics	Red Lake Subsystem		Pickle Lake Subsystem	
			Alignment West of McDowell Lake First Nation		Alignment Around Kingfisher Lake First Nation	
			ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR)	KF1 (Amended Project Footprint)	KF2 (Project Footprint Considered in the Final ESR)
Technical	Size	Total length of the 44-kV ROW (km)	4.9	4.5	4.2	3.8
		Area of Project footprint (ha)	19.7	18.7	18.9	15.6
	Existing Infrastructure	Number of existing roads crossed by the Project footprint	0	0	3	1
		Number of points where existing roads are crossed by the Project footprint (includes multiple crossings of the same road)	0	0	5	1
	Number of other existing linear corridors crossed by the Project footprint (e.g., communication lines)	0	0	1	0	
Natural Environment	Areas of Natural and Scientific Interest (ANSI)	Area of mapped candidate ANSI (Earth Science and Life Science) in the Project footprint (ha)	16.9	15.5	0.0	0.0
	Wetlands	Area of mapped wetlands ^(c) in the Project footprint (ha)	4.1	3.9	2.2	1.4
	Waterbodies and Watercourses ^(d)	Number of mapped watercourses crossed by the Project footprint	2	2	4	3
		Area of mapped waterbodies (not including watercourses) in the Project footprint (ha)	0.0	0.1	0.2	0.0
		Number of mapped waterbodies (not including watercourses) crossed by the Project footprint	0	1	1	0
	Vegetation	Area of mapped occurrences of provincially tracked vegetation species in the Project footprint (ha) ^(e)	0.0	0.0	0.0	0.0
		Area of natural landcover ^(f) (terrestrial) within the Project footprint (ha)	19.7	18.7	18.2	15.4
		Area of anthropogenic disturbance ^(f) within the Project footprint (ha)	0.0	0.0	0.4	0.2
		Area of natural disturbance ^(f) within the Project footprint (ha)	0.0	0.0	0.0	0.0
	Wildlife Habitat	Area of suitable habitat for moose in the Project footprint (ha)	0.0	0.9	4.3	5.9
		Area of suitable habitat for horned grebe in the Project footprint (ha)	0.0	0.0	0.0	0.0
		Area of suitable habitat for bald eagle in the Project footprint (ha)	0.0	0.9	4.4	5.9
		Area of mapped occurrences of potential habitat supporting provincially tracked wildlife species in the Project footprint (ha) ^(e)	0.0	0.0	0.0	0.0
		Number of spawning sites crossed by the Project footprint	0	0	0	0
	Wildlife Habitat (cont'd)	Number of fish and wildlife feeding or staging areas	0	0	0	0

APPENDIX A
Phase 2: Connecting 17 Remote First Nation Communities
Assessment of less than 115 kV Revisions - Metrics

Factor	Metric Category	Metrics	Red Lake Subsystem		Pickle Lake Subsystem	
			Alignment West of McDowell Lake First Nation		Alignment Around Kingfisher Lake First Nation	
			ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR)	KF1 (Amended Project Footprint)	KF2 (Project Footprint Considered in the Final ESR)
Natural Environment (cont'd)		Area of suitable habitat for Canada warbler in the Project footprint (ha)	0.0	1.3	4.6	5.0
		Area of suitable habitat for common nighthawk in the Project footprint (ha)	16.7	13.8	12.2	8.9
		Area of suitable habitat for olive-sided flycatcher in the Project footprint (ha)	1.9	4.7	5.9	6.5
	Nesting Sites	Number of bald eagle nesting sites crossed by the Project footprint	0	0	0	0
	Threatened and Endangered species or their Habitat	Area of mapped Caribou (boreal population) Category 1 high-use habitat (nursery areas) in the Project footprint (ha)	>0.1	>0.1	0.0	0.0
		Area of mapped Caribou (boreal population) Category 1 high-use habitat (winter use areas) in the Project footprint (ha)	0.0	0.0	0.0	0.0
		Area of mapped Caribou (boreal population) Category 1 high-use habitat (winter use and nursery overlap areas) in the Project footprint (ha)	0.0	0.0	0.0	0.0
		Area of mapped Caribou (boreal population) Category 2 seasonal range habitat in the Project footprint (ha)	19.7	18.6	0.0	0.0
		Area of mapped Caribou (boreal population) Category 3 habitat in the Project footprint (ha)	0.0	0.0	18.9	15.6
		Area of Caribou (boreal population) travel corridors (Spring; April) crossed by the Project footprint (ha)	16.1	7.9	0.0	0.0
		Area of Caribou (boreal population) travel corridors (Fall; November) crossed by the Project footprint (ha)	15.3	18.7	0.0	0.0
		Area of suitable wolverine habitat in the Project footprint (ha)	19.6	18.5	18.2	15.4
	Natural Environment (cont'd)	Threatened and Endangered species or their Habitat (cont'd)	Number of boulder fields or blowdown areas representing potential wolverine den habitat crossed by the Project footprint (identified through aerial reconnaissance – see Section 6.3 of the Final ESR)	0	0	0
Area of suitable maternity roosting habitat for little brown myotis in the Project footprint (ha)			0.0	0.0	3.1	4.4
Number of potential bat hibernacula crossed by the Project footprint (identified through aerial reconnaissance – see Section 6.3 of the Final ESR)			0	0	0	0
Area of suitable habitat for bank swallow in the Project footprint (ha)			0.0	0.0	0.0	0.0

APPENDIX A
Phase 2: Connecting 17 Remote First Nation Communities
Assessment of less than 115 kV Revisions - Metrics

Factor	Metric Category	Metrics	Red Lake Subsystem		Pickle Lake Subsystem	
			Alignment West of McDowell Lake First Nation		Alignment Around Kingfisher Lake First Nation	
			ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR)	KF1 (Amended Project Footprint)	KF2 (Project Footprint Considered in the Final ESR)
Land Use, Resource Management	Land Designations	Area of Enhanced Management Areas within the Project footprint (ha)	0.0	0.0	0.0	0.0
		Area of active, inactive, or abandoned mines in the Project footprint (ha)	0.0	0.0	0.0	0.0
		Number of mining claims crossed by the Project footprint	0	0	0	0
		Area of active mining claims in the Project footprint (ha)	0.0	0.0	0.0	0.0
		Area of existing aggregate pits in the Project footprint (ha)	0.0	0.0	0.0	0.0
		Number of mapped trails crossed by the Project footprint ^(g)	0	0	0	0
		Length of mapped trails crossed by the Project footprint (km)	0.0	0.0	0.0	0.0
Socio-economic and cultural	Points of Reception ^(g)	Number of potential receptor points within 1 km of a Project substation ^(h)	No substation within the area of the alignment		No substation within the area of the alignment	
	Tourism and Recreation	Number of MNRFP trapper cabin locations	0	0	0	0
		Area of tourism establishment areas crossed by the Project footprint (ha)	0.0	0.0	0.0	0.0
		Recreation points crossed by the Project footprint ⁽ⁱ⁾	0	0	0	0
		Number of BHA crossed by the Project footprint	0	0	0	0
		Area of BHA crossed by the Project footprint (ha)	0.0	0.0	0.0	0.0
	Archaeology and Cultural Heritage	Number of archaeological sites crossed by the Project footprint ⁽ⁱ⁾	0	0	0	0
Length of ROW within area of archaeological potential (km)		0.0	0.1	0.2	0.0	
Area of archaeological potential (ha) within the Project footprint		0.0	0.7	0.6	0.0	
Aboriginal Interests	Traditional Land and Resource Use, including spiritual or cultural sites ^(k)	Traditional land and resource use features shared by First Nations communities crossed by the Project footprint, classified as features to be avoided (e.g., burial sites)	McDowell Lake First Nation ■ The Project footprint intersects a trapline and a preferred crossing location identified through engagement.	McDowell Lake First Nation ■ The Project footprint intersects a trapline.	Kingfisher Lake First Nation ■ The Project footprint crosses identified winter and summer travel trails, hunting areas, fur trapping area, traplines, and suggested routing options. This option is routed south of the reserve lands.	Kingfisher Lake First Nation ■ The Project footprint crosses an identified winter and summer travel trails, hunting and trapping areas, suggested routing options and an area of potential airport expansion. This option crosses the reserve lands.

APPENDIX A

Phase 2: Connecting 17 Remote First Nation Communities Assessment of less than 115 kV Revisions - Metrics

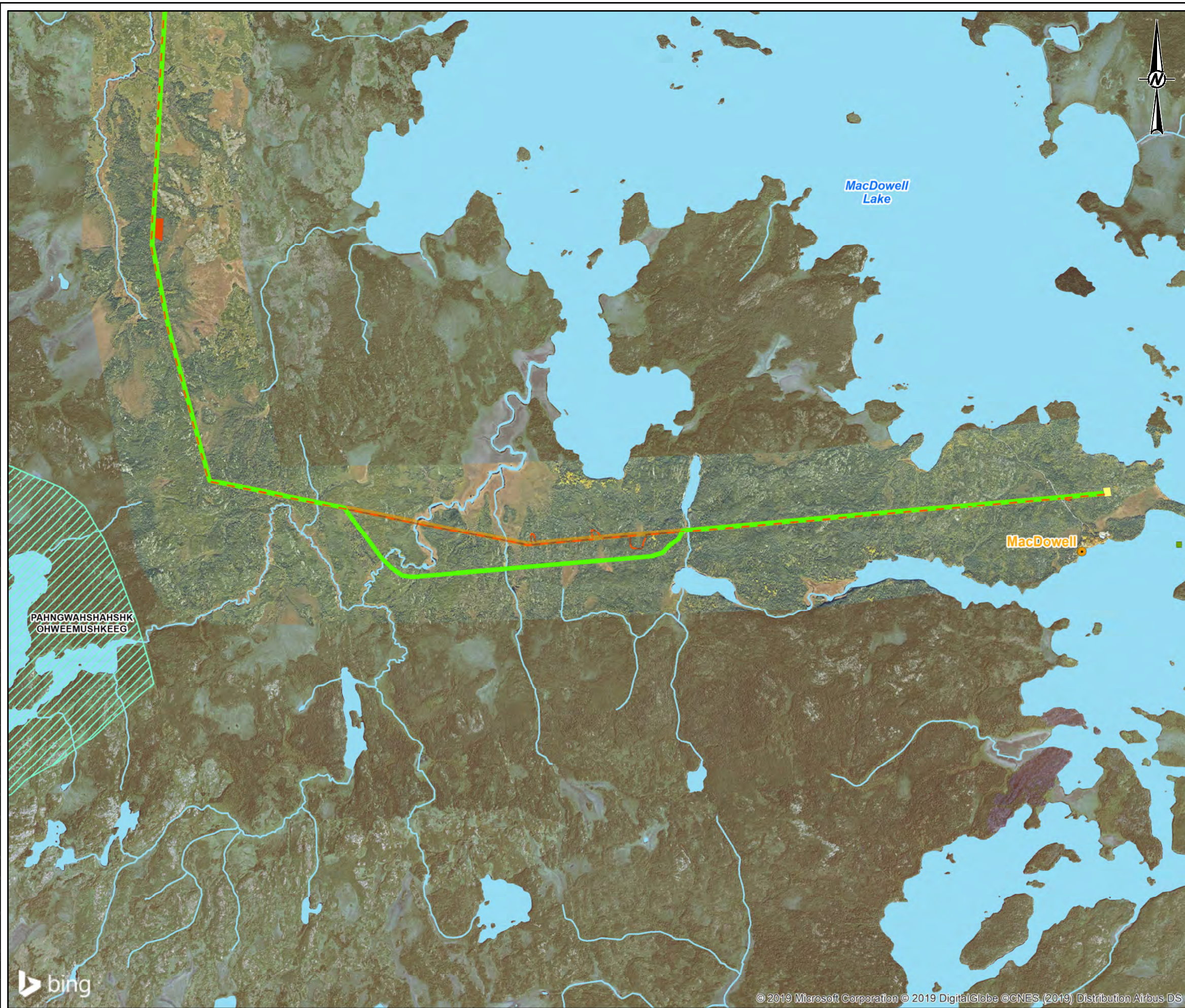
Note:

- a) All wetlands are understood to be unevaluated.
- b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.
- c) Areas are considered based on “element and species occurrence and observation” datasets that record observations for species listed by MNR as provincially tracked by the Natural Heritage Information Centre.
- d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.
- e) Mapped trails include non-OTN trails available through LIO. No OTN trails were identified as being crossed by the defined corridors.
- f) Points of reception were identified considering LIO datasets defining the locations of buildings, as well as locations of structures defined through the traditional and resource use study.
- g) Recreation points are defined as access points, beaches, boat caches of all types, boat houses, designated campsites and picnic sites.
- h) Archaeological site data may not be released publicly without the express permission of the Ministry of Tourism, Culture, and Sport to protect the integrity of these sites.
- i) See Section 8.0 of the Draft ESR for further information on traditional land and resource use information collected for the Project.

ROW = right-of-way; km = kilometres; ha = hectares; ANSI = Area of Natural Significance and Interest; OTN = Ontario Trail Network; BHA = bait harvest areas.

APPENDIX B

Corridor Refinement Figures



LEGEND

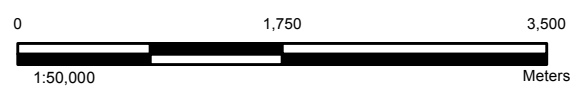
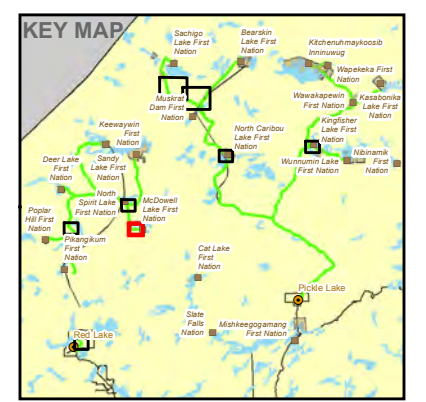
EA Addendum Footprint

- Planned 40-m-wide Transmission Line Alignment right-of-way (ROW)
- Planned New Access Road
- Planned Temporary Construction Camp
- Planned Substation Location

Revised Final ESR Project Footprint

- Planned 40-m-wide Transmission Line Alignment right-of-way (ROW)
- Planned New Access Road
- Planned Substation Location

- City/Town
- Wataynikaneyap Power Community (First Nation Community)
- First Nation Community
- Railway
- Major Roads / Highway
- Local Roads
- Winter Roads
- Trail
- Existing Electrical Transmission Line
- Communication Line
- Watercourse
- Waterbody
- Cheemuhnuhcheecheukuhtaykeehn (Dedicated Protected Areas)
- Provincial Parks
- Conservation Reserve
- First Nations Reserve



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 - MNR LIO, OBTAINED 2016/2017, NTDB
2. TRANSMISSION ROUTES - PROVIDED BY WATAYNIKANEYAP POWER L.P.
3. FIRST NATION COMMUNITIES FROM INDIGENOUS AND NORTHERN AFFAIRS CANADA (WWW.AINC-INAC.GC.CA)
4. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2016
5. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 18

CLIENT
WATAYNIKANEYAP POWER L.P.

PROJECT
PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES

TITLE
ROW NEAR MCDOWELL LAKE

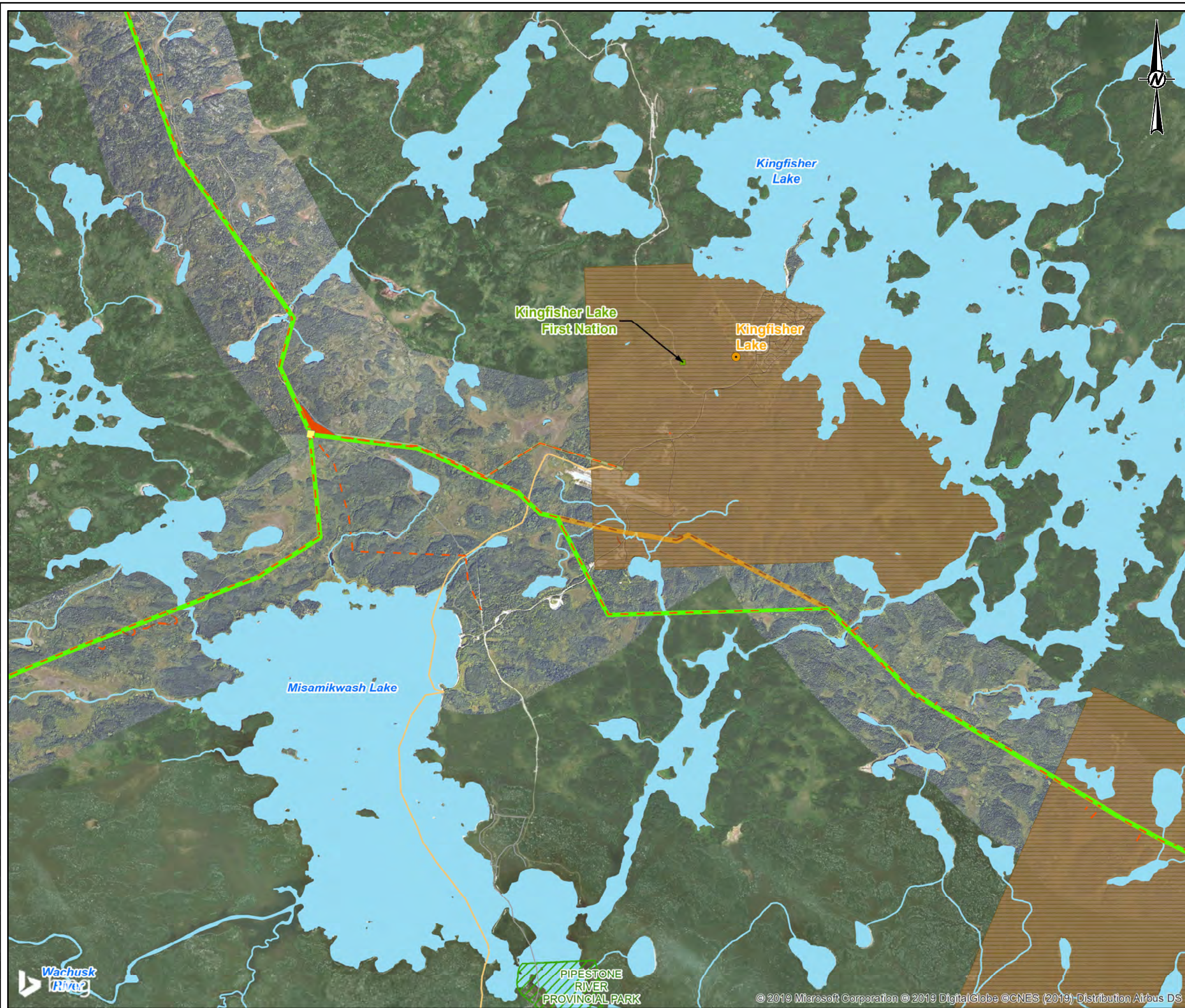
CONSULTANT	YYYY-MM-DD	2019-05-27
DESIGNED	JMC/MM	
PREPARED	SO	
REVIEWED	BT	
APPROVED	BT	

PROJECT NO. 1544751 CONTROL - REV. - MAP 6

S:\Client\Wataynikaneyap Power\Phase 2 Transmission Line\99 PROJ\1544751 Phase 2 EA\00 PROCD\0008 EA\ProjectDescription\Final Footprint vs.10\1544751-0008-FD-C2-0023 Phase 2 EA Alternatives vs.10 Page05.mxd

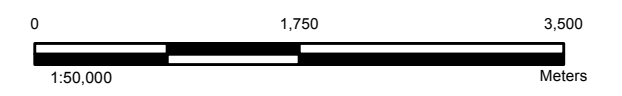
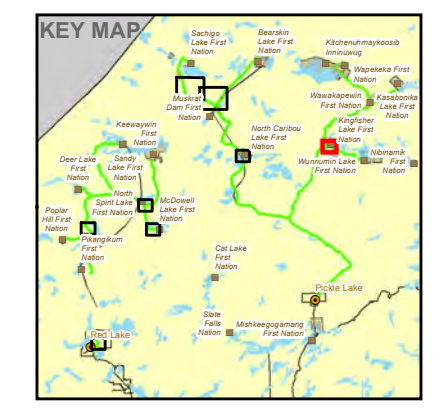


26mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:



LEGEND

Planned 40-m-wide Transmission Line Alignment right-of-way (ROW)	City/Town
Planned New Access Road	Wataynikaneyap Power Community (First Nation Community)
Planned Temporary Construction Camp	First Nation Community
Planned Substation Location	Railway
Revised Final ESR Project Footprint	Major Roads / Highway
Planned 40-m-wide Transmission Line Alignment right-of-way (ROW)	Local Roads
Planned New Access Road	Winter Roads
Planned Substation Location	Trail
Community Distribution 25 kV Line 40-m-wide right-of-way (ROW)	Existing Electrical Transmission Line
	Communication Line
	Watercourse
	Waterbody
	Cheemuhcheecheekuytaakehn (Dedicated Protected Areas)
	Provincial Parks
	Conservation Reserve
	First Nations Reserve



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 - MNR LIO, OBTAINED 2016/2017, NTDB
 2. TRANSMISSION ROUTES - PROVIDED BY WATAYNIKANEYAP POWER L.P.
 3. FIRST NATION COMMUNITIES FROM INDIGENOUS AND NORTHERN AFFAIRS CANADA (WWW.AINC-INAC.GC.CA)
 4. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2016
 5. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 18

CLIENT
 WATAYNIKANEYAP POWER L.P.

PROJECT
 PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES

TITLE
 ROW AND ACCESS NEAR KINGFISHER LAKE FIRST NATION

CONSULTANT	YYYY-MM-DD	2019-05-27
Wachusk River	DESIGNED	JMC/MM
Golder Associates	PREPARED	SO
	REVIEWED	BT
	APPROVED	BT

PROJECT NO.	CONTROL	REV.	MAP
1544751	-	-	7

S:\C:\Users\jwainwright\OneDrive\Documents\Projects\Phase 2 ESR\Map\Map1544751.mxd

26mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:

