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Our File No. 131167

October 18, 2017

VIA RESS, EMAIL AND COURIER

Ontario Energy Board
27th Floor
2300 Yonge Street
Toronto ON M4P 1E4

Attention: Kirsten Walli,
Board Secretary

Dear Ms. Walli:

Re: Sagatay Transmission LP – Appeal under Section 7 of the *Ontario Energy Board Act, 1998* of a Decision and Order of the Board Registrar in EB-2016-0017
Board File No. EB-2017-0258

We are counsel to Sagatay Transmission LP ("Sagatay"). On behalf of Sagatay, we are hereby filing affidavit evidence and further written submissions in support of its appeal.

Yours truly,

FOGLER, RUBINOFF LLP

Thomas Brett
TB/dd
Encls.
cc: All Parties *(via email)*

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EB-2017-0258

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15 (Schedule B);

AND IN THE MATTER OF an appeal under section 7 of the *Ontario Energy Board Act, 1998* of a Decision and Order of the Board Registrar in EB-2016-0017, regarding an application for leave to construct by Sagatay Transmission LP.

SUBMISSIONS OF SAGATAY TRANSMISSION LP

Procedural Order No. 3

1. Capitalized terms that are not defined below shall have the same meanings ascribed to them in Sagatay's Notice of Appeal dated June 9, 2017.

2. In its Procedural Order No. 3, issued on October 3, 2017, the Board stated:

> *"The OEB is of the view that additional evidence concerning the proposed route of the Watay project may be of assistance to the OEB in this appeal. In particular, such additional evidence may be helpful in understanding and evaluating Sagatay's argument that Watay's project is not functionally equivalent to Sagatay's project. The OEB will therefore permit Sagatay to file affidavit evidence relating to items 1 through 3 above."*

3. The Board identified these three issues as:

> *"1. the corridor from Dinorwic to Pickle Lake (the "Dinorwic Route") that Wataynikaneyap Power LP ("Watay") identifies in its most recent draft Environmental Assessment Report issued June 2017 as the "preferred undertaking" for developing and constructing the "Line to Pickle Lake" or Phase 1;*
>
> *2. Watay's "Corridor Alternatives" for Phase 1;*

3. whether the Dinorwic Route and Corridor Alternatives will traverse through the traditional, ancestral and reserve lands of the Mishkeegogamang First Nation and Ojibway of Saugeen First Nation (the "First Nations")".

3. In accordance with Procedural Order No. 3, Sagatay refers to excerpts from Wataynikaneyap Power's Draft Environmental Assessment Report dated June, 2017 ("**Draft EA Report**") on issues 1 and 2, which is available on www.wataypower.ca[1]. While the entirety of the Draft EA Report is too voluminous to produce, we have provided hyperlinks to each section referred to in the footnotes of these submissions. Additionally, we attach excerpts from Section 13 Final Corridor Analysis and Conclusion, Section 8 Aboriginal and Treaty Rights and Interests, and Section 3 Project Description of the Draft EA Report, as **Schedules "A"**, **"B"**, and **"C"**, respectively.

4. The "Preliminary Proposed Corridor" (which Sagatay will refer to as the "**Dinorwic Route**") and two "Corridor Alternatives" through and around Mishkeegogamang First Nation's reserves as described in the Draft EA Report are shown on the map posted on Wataynikaneyap Power's website. An enlarged version of that map is attached as **Schedule "D"** to these submissions ("**Map 1**"). Watayanikaneyap Power seeks approval of the Dinorwic Route as the preferred undertaking from the Ministry of Environment and Climate Control[2] and is expected to file a final version of the EA Report soon.

5. Pursuant to Procedural Order No. 3, Sagatay also submits the affidavits sworn by Chief David Masakeyash of the Mishkeegogamang First Nation on October 18, 2017 and Chief Edward Machimity of the Ojibway Nation of Saugeen on October 17, 2017 on issues 1, 2

[1] See the Table of Contents and Executive Summary for a comprehensive overview of the subject matter contained in the Draft EA Report. At the Board's request, Sagatay will provide hard copies of the full sections of the Draft EA Report.
[2] Schedule A, Draft EA Report, Section 13 Final Corridor Analysis and Conclusion, p 13-54.

and 3 as **Schedules "E"** and **"F"**, respectively. Chiefs Masakeyash and Machimity affirm that most, if not all, of the Dinorwic Route and Corridor Alternatives would proceed through the traditional and ancestral lands of their respective First Nations and that one Corridor Alternative would pass through the reserves of the Mishkeegogamang First Nation.

6. Sagatay files this evidence to assist the Board to determine that Sagatay's proposed route, as described in its Leave to Construct Application dated January 11, 2016, is not "functionally equivalent" or of equal value to Wataynikaneyap Power's Dinorwic Route and Corridor Alternatives.[3] To facilitate this comparison and for the Board's convenience, Sagatay attaches as **Schedule "G"** an enlarged version of a map titled "Sagatay Transmission Proposed Route" ("**Map 2**"), which was Exhibit 4 of its Leave to Construct Application and shows Sagatay's proposed route.

Comparison of Wataynikaneyap Power's proposed routes and Sagatay's proposed route

7. Wataynikaneyap Power's proposed routes are very different from Sagatay's proposed route, and the transmission projects that utilize those two routes are different projects.

8. The Dinorwic Route would begin at a point on HONI's 230 kV line 26A[4], about 20 km east of Dinorwic, Ontario. In contrast, Sagatay's proposed route (shown in Map 2) would commence from a switch on the same 230 kV line, 70 km east and south of the

[3] In this appeal, Sagatay asserts, among other things, that (a) the Registrar erred by applying the test of functional equivalence (see paras 26-30) and that in any case, the routes proposed by Sagatay and Wataynikaneyap Power are not of equal value.

[4] HONI line 26A is a transmission line which runs from the Lakehead to the Manitoba boundary, 30 miles west of Kenora.

Wataynikaneyap Power switch, just below Ignace. These are different starting points that result in different routes to Pickle Lake.

9. In the Draft EA Report, Wataynikaneyap Power states that the "Project passes through two treaty areas, each with associated specified rights that may be affected by the Project: Treaty 3 (1873, Adhesions 1874 and 1875) and Treaty 9 (1905-1906)"[5]. Mishkeegogamang First Nation is a party to Treaty 9[6] and Ojibway Nation of Saugeen is situated within the boundaries identified in Treaty 3[7].

10. Sagatay attaches as **Schedule "H"** a map titled Aboriginal and Treaty Rights Local Study Areas and Treaties, which is included as Figure 8.0-1 in the Draft EA Report.

11. The Draft EA Report also affirms that under Treaty 3 and Treaty 9, the Ojibway Nation of Saugeen and Mishkeegogamang First Nation were assured of their right to pursue their avocations of hunting and fishing throughout the surrendered lands[8].

12. Most, if not all, of the estimated 303 km length of the transmission line along the Dinorwic Route proceeds through the ancestral and traditional lands of the Mishkeegogamang First Nation[9] and Ojibway Nation of Saugeen[10] (collectively, the "**First Nations**"). Further, the Dinorwic Route would be constructed through boreal forest, which is the habitat for 2 different caribou herds, as discussed below.

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[5] Schedule B, Draft EA Report, Section 8 Aboriginal and Treaty Rights and Interests, p 8-2.
[6]Schedule E, Affidavit of Chief David Masakeyash sworn October 17, 2017 ("**Affidavit of Chief David Masakeyash**"), para. 2.
[7]Schedule F, Affidavit of Chief Edward Machimity sworn October 17, 2017 ("**Affidavit of Chief Edward Machimity**"), para. 3.
[8] Schedule B, Draft EA Report, Section 8 Aboriginal and Treaty Rights and Interests, pp 8-5 to 8-6.
[9] Affidavit of Chief David Masakeyash, para. 8.
[10] Affidavit of Chief Edward Machimity, para. 8.

13. Similarly, most if not all of the estimated 293 km length of the two Corridor Alternatives proceed through the ancestral and traditional lands of the First Nations[11], with one route proceeding through Mishkeegogamang First Nations' reserves known as 63A and 63B[12].

14. Chiefs Masakeyash and Machimity affirm that the Dinorwic Route and Corridor Alternatives[13] will have a significant and adverse impact on their ability to exercise their Aboriginal and Treaty rights but did not elaborate on this point given the Board's ruling that such evidence would not be permitted in this appeal[14].

15. Construction activities relating to the construction of the transmission line by Wataynikaneyap Power will include clearing of the 40-metre-wide transmission line alignment right of way along the proposed route, building construction camps and construction of laydown areas along the proposed route to temporarily store materials and equipment[15].

16. For the Dinorwic Route,

    (a) an undetermined number of access roads and trails totalling approximately 343 km (85.6 km new) in length and comprising 52 hectares will need to be built

[11] Affidavit of Chief David Masakeyash, para. 10; Affidavit of Chief Edward Machimity, para. 9.
[12] Affidavit of Chief David Masakeyash, para. 11.
[13] While the Corridor Alternatives also follow Highway 599 to some extent, they differ in part from Sagatay's proposed route. Further, as partners of Sagatay, the First Nations would control the construction of the transmission line along Sagatay's proposed route and would be part owners of that line.
[14] Affidavit of Chief David Masakeyash, paras 6, 8 and 10; Affidavit of Chief Edward Machimity, paras 5, 8 and 9.
[15] See section 3.5.1.3 Construction Activities of the Draft EA Report for a description of the construction activities relating to the construction of the transmission line along the routes proposed by Wataynikaneyap Power.

through that forest from existing roads to the proposed transmission line[16]. It is estimated that at least thirty percent of these roads will become permanent[17];

(b) 3 work camps containing between 300 to 450 people and comprising an area of 36 hectares, will have to be established in the forest because much of the route is remote from existing roads[18]; and

(c) an estimated 185 hectares will be required for laydown areas[19].

17. For the Corridor Alternative around Mishkeegogamang First Nation's reserves,

(a) access roads or trails will have to be constructed or maintained totaling approximately 180 km (32 km new) in length and comprising an area of 19 hectares[20];

(b) 4 construction camps comprising an area of 120 hectares will have to be built[21]; and

(c) laydown areas totalling approximately 65 hectares will be required[22].

18. For the Corridor Alternative through Mishkeegogamang First Nation,

(a) access roads and trails totalling approximately 158 km (14.9 km new) in length comprising 9 hectares will have to be constructed and maintained[23]; and

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[16] Schedule C, Draft EA Report, Section 3 Project Description, p 3-85; Schedule A, Section 13 Final Corridor Analysis and Conclusion, p 13-47.
[17] Schedule C, Draft EA Report, Section 3 Project Description, p 3-85.
[18] Schedule C, Draft EA Report, Section 13 Final Corridor Analysis and Conclusion, p 13-41.
[19] Schedule C, Draft EA Report, Section 3 Project Description, p 3-89.
[20] Schedule C, Draft EA Report, Section 3 Project Description, p 3-85.
[21] Schedule C, Draft EA Report, Section 3 Project Description p 3-87.
[22] Schedule C, Draft EA Report, Section 3 Project Description p 3-89

(b) 4 construction camps comprising an area of 120 hectares will have to be constructed[24]; and

(c) laydown areas totalling approximately 68 hectares will be required[25].

19. In contrast, as Map 2 shows, the Sagatay facility will be constructed almost entirely along a corridor adjacent to Highway 599. This proximity to the highway will allow access to the transmission corridor without significant access roads having to be built and will result in lower construction camp costs. Its proximity to the highway will allow easy access to undertaking maintenance, make repairs, and to quickly refurbish any parts of the line that are damaged by major winter storms, which are not uncommon in Northwest Ontario. This enhanced access will result in the Sagatay line providing electricity service that will be more resilient and reliable than the proposed Wataynikaneyap Power facility, and less costly to maintain, repair, and refurbish.

20. Moreover, the Dinorwic Route will also run through 2 woodland caribou habitats in the region, the Churchill and the Kinloch[26]. The woodland caribou have been designated as a "threatened" species in Ontario's *Endangered Species Act, 2007*, SO 2007, c 6[27]. These transmission lines, access roads, work camps, other infrastructure, and the increased traffic and noise, both during construction and later, will interfere with caribou migration,

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[23] Schedule C, Draft EA Report, Section 3 Project Description p 3-85.
[24] Schedule C, Draft EA Report, Section 3 Project Description p 3-87.
[25] Schedule C, Draft EA Report, Section 3 Project Description, p 3-89.
[26] Schedule A, Draft EA Report, Section 13 Final Corridor Analysis and Conclusion, pp 13-9, 13-10.
[27] *Endangered Species Act, 2007*, SO 2007, c 6, Schedule 4.

mating, and calving. The impact of additional settlement or physical barriers, e.g. roads and power lines, has a deleterious effect on caribou habitat[28].

21. The First Nations hunt the caribou in the winter and spring seasons pursuant to their aboriginal and treaty rights. Their ancestral duties include safeguarding the caribou herds, as good stewards of their land and its resources. They take this responsibility very seriously. It is part of their culture and way of life[29].

22. On the other hand, because it would be built adjacent to Highway 599, Sagatay's proposed line makes no further incursion into the forests inhabited by the caribou herds, and does not put up any additional barriers to their mobility and calving activities, and general habitat. Expert reports show that the two projects have very different implications for the caribou and the First Nations' relationship to the caribou. A recent study by the CPAWS Wildlands League, a not-for-profit charity that has been working in the public interest to protect public lands and resources in Ontario since 1968, entitled "Crossing Caribou Country, A Special Report Assessing the Impacts of New Transmission Line Routes on Threatened Caribou in NW Ontario" highlights the different implications of the Wataynikaneyap Power and the Sagatay facilities. That study states:

> *"In general, the pairing of a powerline with existing infrastructure seems most likely to minimize the potential for shifting the mammal community structure, and facilitating predator access or mobility, relative to 'pioneer' corridor options. In*

[28] As discussed in the report attached to Sagatay's Leave to Construct Application dated January 11, 2016 and marked as Exhibit 29 thereto called " Crossing Caribou Country, A Special Report Assessing the Impacts of New Transmission Line Routes on Threatened Caribou in NW Ontario ".

[29] While the Board decided against permitting evidence on the Aboriginal and Treaty rights that will be adversely affected by Wataynikaneyap Power's proposed routes, the First Nations are prepared to provide such evidence when appropriate.

> *this case, the pre-existing avoidance effect from an adjacent highway, where most of the mammals in this community are likely to already exhibit avoidance responses to some extent, has some potential to reduce some of the effects that a pioneer route may bring. In a pioneer application, the increased extent of forest edge, and low-human-use may have the potential to alter the mammal community balance and/or enhance predator mobility, all of which have been demonstrated to negatively affect caribou persistence".* (p 17)

And:

> *"In this case in northwestern Ontario, we have ranges that have exceeded or close to exceeding the management threshold with little population condition data to inform decision making. We do, however, have sufficient knowledge to know that the southern ranges already present a relatively high risk situation for caribou. Our assessment shows that Route 3(a) – the option beginning in Ignace and treading along the same corridor as Highway 599 and excluding the Osnaburgh bypass, would not trigger additional anthropogenic disturbance in the Brightsand Range and only negligibly in the Far North and Churchill Ranges. Based on the information available to us, it is our opinion that this route would be the least risky to caribou overall, of the routes proposed. It is also the route that has the higher prospects of restoring the range to 65% undisturbed (if for example, construction is not too destructive and no further development is introduced)*". (p 33)

The complete study was filed as Exhibit 29 to Sagatay's Leave to Construct Application. As the above quotations demonstrate, the study strongly supports Sagatay's proposed route.

23. A further difference is that the facilities have the potential to make different contributions to enhancing service to communities along the existing line to Pickle Lake, including First Nations communities between HONI's 230 kV trunk line and Pickle Lake. In particular, Sagatay's line will be constructed on a corridor adjacent to Highway 599, an area which has existing transmission lines and infrastructure that services communities along the route. Sagatay's line has the potential for easy integration with this pre-existing transmission infrastructure given its proposed proximity. The need to reinforce service to communities in this area was highlighted by Mishkeegogamang First Nation and Ojibway

of Saugeen First Nation in their letter to the Honourable Carolyn Bennet, dated October 25, 2016, and attached as Schedule "J" to Sagatay's Notice of Appeal dated June 9, 2017. In contrast, the Dinorwic route is proposed to be constructed in remote, boreal forest. This will make integration with, and maintenance and reinforcement of existing transmission infrastructure less possible.

24. Further, the Dinorwic Route, if constructed, would also traverse part of the area which is the subject of Taashikaywin Community Based Land Use Plan, a project sponsored jointly by the Eabametoong and Mishkeegogamang First Nations and the Ontario Ministry of Natural Resources. The Terms of Reference for this Plan (which are attached as **Schedule "I"**) were approved by both First Nations and the Ontario Government on July 15, 2013 under the auspices of the *Far North Act, 2010,* SO 2010, c 18 and these two First Nations and the Ontario Government have been working to develop the plan since that time. As Chief Masakeyash states in his affidavit, "[t]he northern portion of the Dinorwic Route is situated within the area defined by the *Far North Act* and is located within the Treaty and traditional and ancestral lands of Mishkeegogamang."[30] We attach as **Schedule "J"** Figure 2.0 from the Amended Terms of Reference, which is a map that shows the extent to which the Dinorwic Route traverses that area[31].

25. The draft Community Based Land Use Plan is expected to be completed by the end of this year.

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[30] Affidavit of Chief David Masakeyash, para 9 and Exhibit "B".
[31] Schedule J, Figure 2, titled "Caribou Winter Observations In The Churchill and Brightsand Caribou Ranges 1970 TO 2012", Amended Terms of Reference, Appendix 1.0A of the Draft EA Report

26. Finally, in its EB-2016-0262 decision on March 23, 2017 where it established a deferral account for some of Wataynikaneyap Power's development expenditures, the Board made it clear that Wataynikaneyap Power's project is a single integrated project, and that it is not being implemented in phases, but as a single project. The Board stated that the various proposed transmission facilities (i.e., both the line from Dinorwic to Pickle Lake, and the lines from Red Lake and Pickle Lake to the off-grid communities farther north) are all one project. At p 2, the Board stated:

> *"On July 29, 2016, the Minister directed the OEB to amend Watay's licence to include a requirement that it proceed to develop and seek approvals for the following:*
>
> - *a new three phase single-circuit 230 kV overhead line originating at a point between Ignace and Dryden and ending in Pickle Lake*
> - *transmission lines extending north from Red Lake and Pickle Lake required to connect the remote communities named in the directive to the provincial electricity grid".*
>
> *These transmission projects, together, form the Watay Transmission Project (the Project)".*

27. On p 4, the Board stated:

> *"The OEB recognizes that the project is not being implemented in phases, <u>but as a single project</u>".* (our emphasis)

This finding enabled Wataynikaneyap Power to include in its requested deferral account for later recovery, the substantial funds it has spent, commencing as early as in 2010, and continues to spend on the development of the lines linking Pickle Lake and Red Lake to seventeen remote First Nations communities in the Far North, as well as its proposed line from Dinorwic to Pickle Lake. Accordingly, the Board established a single deferral account, the Wataynikaneyap Power Transmission Development Deferral Account.

28. That the project is proceeding as one integrated project can been seen by examining the range of current activities that are described at pp 5 to 18 of Wataynikaneyap Power's first semi-annual report to the Board dated July 17, 2017 (the "**Report**") on the Wataynikaneyap Power Transmission Project, ordered by the Board in EB-2016-0262. We attach a copy of the Report as **Schedule "K"**.

29. For example, the Report, at pp 14, 15, and 16, discusses a government funding framework, a cost recovery framework, and a project finance framework, respectively, for the Wataynikaneyap Power project on an integrated basis.

30. Page 13 deals with distribution readiness and distribution structure for all sixteen Far North communities to be connected to the grid.

31. When viewed as one integrated transmission project, it is clear that the two projects are not functionally equivalent. They are of different orders of magnitude. The Wataynikaneyap Power project raises a host of additional issues that must be addressed, including federal and provincial funding for much of the project cost, a new transmission revenue regime from the Board, a massive project financing requirement, the need to facilitate the construction of regulated distribution facilities or their equivalent for each of the seventeen First Nations, and a huge amount of First Nation financing. Sagatay's project is to build a transmission facility from Ignace to Pickle Lake.

32. In addition, the Board, in EB-2016-0262, notes at p 2 that Wataynikaneyap Power indicated that it intends to construct one part of the integrated project, running approximately 100 km from Red Lake to connect Pikangikum First Nation, before commencing construction on other lines.

33. In fact, Wataynikaneyap Power has already acquired a distribution licence for a line from Red Lake to Pikangikum, which it proposes within 3 to 4 years to convert to a transmission licence.

34. The Sagatay proposal is to build a line from Ignace to Pickle Lake. It does not include a proposal to construct lines to the Far North communities. The Sagatay project is, therefore, very different from the Wataynikaneyap Power project. However, it can provide the necessary platform for that part of Wataynikaneyap Power project north of Pickle Lake.

All of which is respectfully submitted, this 18th day of October, 2017.

Tom Brett,
Counsel for Sagatay Transmission LP

Schedule A

13.0 FINAL CORRIDOR ANALYSIS AND CONCLUSION

Transmission reliability and expansion to Pickle Lake has been identified in Ontario's *Achieving Balance Long-Term Energy Plan* (released in November 2013) as a key priority to increase grid reliability and for the connection of Aboriginal communities in northwestern Ontario to the provincial grid (Ministry of Energy 2013). A new line to Pickle Lake will help serve new demand in the area north of Dryden and provide increased capacity to connect remote communities (Ministry of Energy 2013). Wataynikaneyap intends to construct, own, and operate the Phase 1 New Transmission Line to Pickle Lake Project (the Project). Wataynikaneyap is a licenced transmission company majority owned by 22 First Nation communities and partnered with FortisOntario Inc. The proposed construction and operation of the Project has undergone an Individual environmental assessment (EA) in accordance with the Terms of Reference (ToR) and Ontario Ministry of the Environment and Climate Change (MOECC) guidance, including the *Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario* (MOECC 2014a).

Wataynikaneyap identified three corridors for the Project (Preliminary Proposed Corridor, Corridor Alternative Around Mishkeegogamang, and Corridor Alternative Through Mishkeegogamang) based on the outcome of a preliminary corridor routing analysis and the results of engagement. Each corridor was assessed in the Draft EA Report using the EA criteria described in Table 4.1-1 and cost, constructability, and technical criteria. The Draft EA Report allows Aboriginal communities, stakeholders, and regulators to understand the potential adverse net effects of each corridor. However, ultimately only one corridor will be approved and selected for development (i.e., the preferred undertaking). Therefore, as described in Section 8.0 of the Amended ToR (Golder 2014), Wataynikaneyap has completed a final corridor analysis to determine the preferred undertaking.

The following section presents an analysis of the three corridors and makes a recommendation for the preferred undertaking.

13.1 Final Corridor Routing Analysis

A preliminary corridor routing analysis was previously completed by Wataynikaneyap and included in the approved Amended ToR (Wataynikaneyap 2014, Appendix B Preliminary Corridor Routing Analysis). The preliminary analysis identified evaluation criteria and indicators among environmental, land use, technical, and cost and constructability categories. The list of criteria and indicators were based solely on existing data and information available at that time, and developed through engagement during the ToR stage of the EA process. The Project design and associated assumptions for the corridor options and alternatives were overlain on the existing environmental and land use data to provide the indicator metrics used in the analysis tables. The data and information used to quantify the indicators was based on the Project design and the existing data and information at the time of preparation of the report in 2014. Three corridors were identified through this analysis; a Preliminary Proposed Corridor, a Corridor Alternative Through Mishkeegogamang, and a corridor west around Mishkeegogamang. The corridor alternatives both have significant common routings at the southern end of these options.

As a result of engagement on the preliminary corridor routing analysis during the ToR stage of the EA process, particularly comments on woodland caribou indicators, Wataynikaneyap has completed this EA on the three corridors identified in the preliminary corridor routing analysis included in the Amended ToR. Criteria and indicators specific to the EA were identified during the EA stage through engagement with Aboriginal communities, regulatory

agencies, and stakeholders. A discussion of the definition of criteria and indicators used for the EA is included below and presented in more detail in Section 4.0 Environmental Assessment Methods.

13.1.1 Methods

As identified in Section 8.0 Assessment and Evaluation of the Amended ToR, Wataynikaneyap committed to completing a comparative analysis of the environmental effects for each discipline (i.e., criteria) between the Preliminary Proposed Corridor and the corridor alternatives using the EA criteria and indicators, as well as cost and constructability and technical criteria and indicators. The EA criteria are the physical (e.g., air), biological (e.g., fish and fish habitat, wildlife), socioeconomic, non-Aboriginal land and resource use and Aboriginal Rights and Treaty criteria used for the EA. Therefore, the final corridor routing analysis approach presented here considers three broad categories for the analysis: 1) Environmental Assessment, 2) Cost and Constructability, and 3) Technical. Each of these categories are composed of individual evaluation criteria. The evaluation criteria considered in the analysis were developed based on the following:

- presence, abundance and distribution within, or relevance to, the area associated with the Project;
- potential for interaction with the Project and sensitivity to effects;
- species conservation status or concern;
- ecological and socio-economic value to Aboriginal communities, municipalities, government agencies, and the public;
- traditional, cultural and heritage importance to Aboriginal peoples;
- experience of the environmental assessment and design team in completing transmission line environmental assessments (EAs) and associated alternatives analyses;
- provincial requirements for the assessment of alternatives;
- feedback from Aboriginal communities, government agencies, and project stakeholders; and
- feedback from regulators on the preliminary corridor routing analysis that was completed for the Project (Golder 2014) and included as part of the Amended ToR.

As described in Section 4.1, these criteria are components of the environment that are considered to have economic, social, biological, conservation, aesthetic or cultural value (Beanlands and Duinker 1983). A list of these criteria is provided in Table 13.1-1.

The EA indicators represent properties of the physical, biological and socio-economic environments that can be used to characterize changes to criteria and assessment endpoints in a meaningful way. An indicator can be described as an aspect or characteristic of a criterion that, if changed as a result of the Project, may demonstrate a physical, biological or socio-economic effect.

The cost and constructability and technical categories are based on the initial screening level corridor routing analysis included in the Amended ToR. These criteria were developed based on the experience of the environmental assessment and design team in completing transmission line projects in Ontario and are listed in Table 13.1-1.

Table 13.1-1: Evaluation Criteria Considered in the Final Corridor Routing Analysis

Environmental	Cost and Constructability	Technical
■ Air quality ■ Greenhouse gases (GHG) ■ Noise ■ Surface water ■ Groundwater ■ Brook Trout, Lake Trout, Walleye, Lake Sturgeon ■ Upland ecosystems ■ Riparian ecosystems ■ Wetlands ■ Forest-dwelling woodland caribou ■ Moose ■ Wolverine ■ Little brown myotis ■ Horned grebe ■ Other federal or provincial Species at Risk ■ Labour market ■ Regional economy ■ Government finances ■ Housing and temporary accommodation ■ Services and infrastructure ■ Community wellbeing ■ Parks and protected areas ■ Commercial industry land and resource use ■ Outdoor tourism and recreational land and resource use ■ Archaeological resources ■ Built heritage and cultural heritage landscapes ■ Landscape and visual resources ■ Human health ■ Aboriginal and Treaty Rights and Interests	■ Route length ■ Access roads ■ Large water crossings ■ Very large water crossings ■ Infrastructure crossings ■ Angle points ■ Relative cost ■ First Nation Reserves ■ Crown land[1] ■ Private land	■ Pickle Lake short circuit level ■ Length of corridor close to E1C ■ Connection to Dryden TS ■ Potential new load customers ■ Distance of tap from Dryden TS ■ Waterpower potential within 30 km

TS = transformer station.

[1] It is noted that the First Nations entered into a treaty relationship with the Crown within the spirit and intent of Indigenous Peoples' understanding based on respect, friendship and mutuality. It is always understood that there would be sharing of lands and resources. Any references to Crown Land in the final corridor routing analysis are without prejudice to the positions of First Nations in relation to Treaty and Aboriginal rights.

The following is a summary of evaluation steps that were followed to complete the final corridor routing analysis:

1) Use magnitude for criteria indicators from environmental assessment.

2) Use cost and constructability and technical criteria.

3) Assign category numerical ranking value.

4) Assign numerical ranking value to each criteria based on results of environmental assessment and preliminary design (criteria score).

5) Calculate weighted category score using category weighting and criteria indicator rankings.

6) Compare weighted category score results for the corridors and identify preferred corridor.

After completing Steps 1 to 6, the analysis identifies advantages and disadvantages of the adverse net environmental effects (direct, indirect and cumulative) between the corridors.

13.1.1.1 Step 1 – Magnitude Ratings from Environmental Assessment Criteria

The magnitude ratings for each criteria's indicators of the Project Case assessment were reviewed. Magnitude was selected among the effects characteristics of direction, magnitude, geographic extent, duration/reversibility, frequency/timing, and probability of occurrence because it is the primary measure of a potential effect to a criterion. The magnitude of the criteria indicators was then summarized in a tabular format comparing the results for each corridor.

For each discipline, a comparative analysis approach was used to consider and describe whether and how the magnitude of potential effects of the corridors would be different in nature and degree from each other based on the identified criteria and indicators. For some disciplines, this was a ranking of low, moderate, or high and for other disciplines this was a qualitative description.

13.1.1.2 Step 2 – Identify Cost and Constructability and Technical Criteria

The cost and constructability and technical criteria and indicators from the preliminary corridor routing analysis included in the Amended ToR were used and updated to reflect current Project assumptions and design. A description and rationale for these criteria and indicators are provided in Appendix B Preliminary Corridor Routing Analysis in the Amended ToR.

13.1.1.3 Step 3 – Assign Category Numerical Ranking Value

The criteria carried into the final corridor routing analysis were ranked from 1 to 3 to denote relative importance. In general, criteria assigned a rank of 3 are considered to have high relative importance and/or have a high potential for effects. The individual criterion ranking was also based on professional judgement, as well as Aboriginal participant and stakeholder input received during Round 3 Part 1 engagement activities.

A category weighting was applied to each of the cost and constructability, environmental, land use and technical categories. The rationale for each category weighting was based on the relative magnitude of each category that contributes to the feasibility and potential effects of the proposed Project, as well as input received from Aboriginal participants and stakeholders during engagement activities on the ToR.

13.1.1.4 Step 4 – Assign Numerical Ranking Value to Each Criteria (Criteria Score)

The rank score was calculated for each corridor and compared to identify the preferred corridor for the proposed Project. The corridor with the lowest potential for effects (e.g., smallest area or lowest number of features within the corridor) for a given criterion was identified based on appreciable difference values for the criterion. For each criterion, the corridor with the lowest potential for effects was then assigned the rank for the criterion, and the other corridors or alternatives were assigned a zero.

13.1.1.5 Step 5 – Calculate Weighted Category Score for Each Criteria Using Category Weighting and Criteria Indicator Rankings

A Preliminary Corridor Routing Analysis was provided in the Draft ToR on September 17, 2012. Notable comments on the evaluation process were received from the Ministry of Energy on January 22, 2013 and the MOECC (formerly the MOE) on January 23, 2013. Both the Ministry of Energy and the MOECC indicated that an equal weighting across all categories and criteria may not be appropriate for the evaluation as all categories and criteria may not have equal importance. In response to this comment, a category weighting was applied to each of the environmental assessment, cost and constructability, and technical categories. The rationale for each category weighting was based on the relative magnitude of each category that contributes to the feasibility and potential effects of the proposed Project, as well as input received from stakeholders and Aboriginal participants during engagement activities on the Draft ToR. Based on this rationale, the environmental assessment category is weighted 50%, cost and constructability category is weighted 30% and the technical category is weighted 20%. The rationale for the individual category ratings is provided in Table 13.1-2.

Table 13.1-2: Category Weightings and Rationale

Category	Weighting (%)	Rationale
Environmental assessment	50	This category is assigned a weighting of 50% due to the high importance of the environmental criteria (e.g., woodland caribou, little brown myotis criteria) and the potential effects of the Project on these criteria. During engagement on the ToR, Aboriginal and stakeholder participants identified concern about the potential for effects of the proposed Project on the environmental criteria.
Cost and Constructability	30	This category is assigned a weighting of 30% because cost and constructability are a high importance in the feasibility decision of the proposed Project. During engagement on the ToR, Aboriginal and stakeholder participants expressed interest for the cost and constructability criteria. Cost and constructability is also a consideration of other regulatory processes, including the Ontario Energy Board Leave to Construct process.

Table 13.1-2: Category Weightings and Rationale

Category	Weighting (%)	Rationale
Technical	20	This category is assigned a weighting of 20% because the moderate importance of technical criteria as factors in the feasibility of the proposed Project with regards to the stability and logical expansion of the electricity grid. During engagement on the ToR, Aboriginal and stakeholder participants expressed interest for technical criteria.

Notes:
ToR = Terms of Reference; % = percent.

The category score for each corridor was then determined by multiplying the sum of the ranked criteria score for the category divided by the maximum possible criteria score multiplied by the category weighting (Table 13.1-2):

[Criteria Score ÷ Maximum possible score] X Category Weighting = **Category Score.**

13.1.1.6 Step 6 – Compare Ranked and Weighted Criteria Results for the Corridors and Identify Preferred Corridor

Based on the evaluation of all of the above criteria an evaluation of the corridors was completed by summing the assigned rank for each criteria. The corridor with the highest score was generally considered the preferred corridor; however, to supplement the ranking a detailed discussion has also been included to support the selection of a preferred corridor as the proposed undertaking. The selection of the preferred corridor also considers if a significant effect has been identified for a criteria for that corridor.

13.1.2 Results

13.1.2.1 Step 1 – Magnitude Ratings from Environmental Assessment Criteria

The EA criteria and indicators were selected to address issues identified in relation to the Project. The final list of criteria and indicators used in the EA based on engagement with Aboriginal communities, agencies, and stakeholders and the rationale for their selection are presented in Table 4.1-1.

Table 13.1-3 summarizes the magnitude ratings for each criteria's indicators of the Project Case assessment for each corridor.

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Air quality	■ Predicted ambient concentrations of: ▪ SPM; ▪ PM_{10} and $PM_{2.5}$; ▪ CO; ▪ NO_2; and ▪ SO_2.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.
Greenhouse gases (GHG)	■ Predicted greenhouse gas emissions of CO_2. ■ Predicted greenhouse gas emissions of N_2O. ■ Predicted greenhouse gas emissions of CH_4.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.
Noise	■ Project construction related daytime equivalent noise level ($L_{eq, day}$). ■ Project construction related change in daytime equivalent noise level ($L_{eq, day}$). ■ Project operation related one-hour equivalent noise level ($L_{eq, 1 hour (day, night)}$). ■ Project operation related change in one-hour equivalent noise level ($L_{eq, 1 hour (day, night)}$).	■ Negligible, low, moderate and high. ■ The magnitude at a given POR is dependent on the distance to the Project activities. Existing noise levels at given PORs can be expected to increase, on occasion, due to construction activities when occurring nearby, but construction noise will be temporary in nature and limited in duration.	■ Negligible, low, moderate and high. ■ The magnitude at a given POR is dependent on the distance to the Project activities. Existing noise levels at given PORs can be expected to increase, on occasion, due to construction activities when occurring nearby, but construction noise will be temporary in nature and limited in duration.	■ Negligible, low, moderate and high. ■ The magnitude at a given POR is dependent on the distance to the Project activities. Existing noise levels at given PORs can be expected to increase, on occasion, due to construction activities when occurring nearby, but construction noise will be temporary in nature and limited in duration.
Surface water	■ Surface water quantity ■ Surface water quality	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.
Groundwater	■ Groundwater quantity ■ Groundwater quality	■ Moderate for groundwater quantity. ■ No primary pathways identified for groundwater quality indicator.	■ Moderate for groundwater quantity. ■ No primary pathways identified for groundwater quality indicator.	■ Moderate for groundwater quantity. ■ No primary pathways identified for groundwater quality indicator.
Brook Trout, Lake Trout, Walleye, Lake Sturgeon	■ Habitat quantity ■ Habitat quality ■ Abundance ■ Distribution	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Upland ecosystems	Ecosystem availability	Predicted loss of 1,277 ha; loss of 2 ha to the second least common land cover class (i.e., Bedrock); no loss to the least common Forest-regenerating depletion land cover class.	Predicted loss of 1,162 ha; loss of <1 ha is expected for the second least common land cover class (i.e., Bedrock); no loss to the least common Forest-regenerating depletion land cover class.	Predicted loss of 1,135 ha; no predicted loss to uncommon land cover class (i.e., Bedrock).
	Ecosystem distribution	Predicted loss to upland ecosystems is primarily associated with the corridor ROW and new permanent access roads creating a more fragmented distribution of uplands. However, upland ecosystems remain well-connected in areas surrounding the Preliminary Proposed Corridor. Small disruption to the uncommon Bedrock land cover class.	Predicted loss to upland ecosystems is primarily associated with the corridor ROW and new permanent access roads creating a more fragmented distribution of uplands. However, upland ecosystems remain well-connected in areas surrounding the corridor alternative. Small disruption to the uncommon Bedrock land cover class.	Predicted loss to upland ecosystems is primarily associated with the corridor ROW and new permanent access roads creating a more fragmented distribution of uplands. However, upland ecosystems remain well-connected in areas surrounding the corridor alternative. No predicted loss to uncommon Bedrock land cover class.
	Ecosystem composition	Edge effects and potential introduction of invasive species may alter upland species abundance and richness.	Edge effects and potential introduction of invasive species may alter upland species abundance and richness.	Edge effects and potential introduction of invasive species may alter upland species abundance and richness.
Riparian ecosystems	Ecosystem availability	Predicted loss of 66 ha.	Predicted loss of 56 ha.	Predicted loss of 53 ha.
	Ecosystem distribution	Patches of riparian ecosystems remain connected in areas surrounding the footprint.	Patches of riparian ecosystems remain connected in areas surrounding the footprint.	Patches of riparian ecosystems remain connected in areas surrounding the footprint.
	Ecosystem composition	Small changes in water quality and flow and potential introduction of invasive species may alter riparian species abundance and richness.	Small changes in water quality and flow and potential introduction of invasive species may alter riparian species abundance and richness.	Small changes in water quality and flow and potential introduction of invasive species may alter riparian species abundance and richness.
Wetlands	Ecosystem availability	Loss of 56 ha; no loss to the least common and available land cover class in the study areas (i.e., Fen-open).	Loss of 43 ha; 2 ha loss to the least common and available land cover class (i.e., Fen-open) in the study areas.	Loss of 41 ha; 1 ha loss to the least common and available land cover class (i.e., Fen-open) in the study areas.
	Ecosystem distribution	Wetlands disrupted by corridor ROW and access roads crossings. However patches of wetlands remain connected in areas surrounding the Project footprint. No disruption to the uncommon Fen-open wetland.	Wetlands disrupted by corridor ROW and access roads crossings. However patches of wetlands remain connected in areas surrounding the Alternative footprint. A small disruption to the uncommon Fen-open wetland.	Wetlands disrupted by corridor ROW and access roads crossings. However patches of wetlands remain connected in areas surrounding the Alternative footprint. A small disruption to the uncommon Fen-open wetland.
	Ecosystem composition	Small changes in water quality and flow and potential introduction of invasive species may alter wetland species abundance and richness.	Small changes in water quality and flow and potential introduction of invasive species may alter wetland species abundance and richness.	Small changes in water quality and flow and potential introduction of invasive species may alter wetland species abundance and richness.

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Woodland caribou	Habitat availability	**Churchill Range** ■ 2 ha nursery areas; one nursery area affected. ■ 106 ha winter use areas; one winter use area affected. ■ Four nursery areas and two winter use areas located within 10 km of footprint. ■ Increase in proportion of range disturbed from 44.1% to 44.3%. **Kinloch Range** ■ 207 ha nursery areas (incl. 61 ha overlap with winter use areas); 1 known nursery area affected. ■ 84 ha winter use areas (incl. 61 ha overlap with nursery areas; 1 winter use area affected. ■ Four nursery areas and one winter use area located within 10 km of footprint. ■ Increase in proportion of range disturbed from 18.9% to 19.2%.	**Churchill Range** ■ 165 ha nursery areas; two nursery areas affected. ■ 2 ha winter use areas; one winter use area affected. ■ Two nursery areas located within 10 km of footprint. ■ Increase in proportion of range disturbed from 44.1% to 44.3%. **Brightsand Range** ■ 7 ha nursery areas (including 7 ha overlap with winter use areas); one nursery area affected. ■ 20 ha winter use areas (including 7 ha overlap with nursery areas); one winter use area affected. ■ Six nursery areas and three winter use areas located within 10 km of footprint. ■ No change in proportion of range disturbed, remains at 45.4%. **Kinloch Range** ■ 67 ha nursery areas; one known nursery area affected. ■ 0 ha winter use areas; zero winter use area affected. ■ One nursery area located within 10 km of footprint. ■ Increase in proportion of range disturbed from 18.9% to 19.1%.	**Churchill Range** ■ 126 ha nursery areas; two nursery areas affected. ■ 2 ha winter use areas; one winter use area affected. ■ Two nursery areas located within 10 km of footprint. ■ Increase in proportion of range disturbed from 44.1% to 44.2%. **Brightsand Range** ■ 55 ha nursery areas (including 7 ha overlap with winter use areas); one nursery area affected. ■ 20 ha winter use areas (including 7 ha overlap with nursery areas); one winter use area affected. ■ Six nursery areas and three winter use areas located within 10 km of footprint. ■ No change in proportion of range disturbed, remains at 45.4%. **Kinloch Range** ■ 51 ha nursery areas; one known nursery area affected. ■ 0 ha winter use areas; zero winter use area affected. ■ One nursery area located within 10 km of footprint. ■ Increase in proportion of range disturbed from 18.9% to 19.0%.

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Woodland caribou	Habitat distribution	**Churchill Range** ■ Three potential travel corridors affected, including two that are fragmented at Base Case and one that is relatively undisturbed. ■ Incremental change in linear feature density in the range, from 0.46 km/km^2 to 0.47 km/km^2. **Kinloch Range** ■ One potential travel corridor affected. Corridor has little fragmentation at Base Case ■ Incremental change in linear feature density in the range, from 0.03 km/km^2 to 0.04 km/km^2.	**Churchill Range** ■ Two potential travel corridors affected, both are bisected by Hwy 599 but few other disturbances in area. Includes undisturbed areas in north portion of range. ■ No measurable change in linear feature density. **Brightsand Range** ■ Three potential travel corridors affected, including two fragmented corridors and one corridor with considerable fragmentation. ■ No measurable change in linear feature density. **Kinloch Range** ■ One potential travel corridor affected. Southern extent of corridor has little fragmentation. ■ Incremental change in linear feature density in the range, from 0.03 km/km^2 to 0.04 km/km^2.	**Churchill Range** ■ Two potential travel corridors affected, both are bisected by Hwy 599 but few other disturbances are present in area. Avoids undisturbed areas in north portion of range affected by the corridor. ■ No measurable change in linear feature density. **Brightsand Range** ■ Three potential travel corridors affected, including two fragmented corridors and one corridor with considerable fragmentation. ■ No measurable change in linear feature density. **Kinloch Range** ■ One potential travel corridor affected, route avoids effects to undisturbed portion ■ Incremental change in linear feature density in the range, from 0.03 km/km^2 to 0.04 km/km^2.
	Survival and reproduction	**Churchill Range** ■ Incremental increase in predation risk associated with removal of 164 ha suitable habitat (i.e., Category 1 and 2). ■ More important effects predicted around Bamaji Lake/ Blackstone Lake area (undisturbed); forest harvesting in other parts of the range have altered landscape conditions at Base Case. **Kinloch Range** ■ Incremental increase in predation risk associated with removal of 300 ha suitable habitat (i.e., Category 1 and 2). ■ More important effects predicted in areas that support both calving and nursery function.	**Churchill Range** ■ Incremental increase in predation risk associated with removal of 314 ha suitable habitat (i.e., Category 1 and 2). ■ More important effects predicted around Lake St. Joseph and DeLesseps Lake area (regionally important calving/nursery areas, little/no forest harvest disturbance at Base Case). **Brightsand Range** ■ Incremental increase in predation risk associated with removal of 126 ha suitable habitat (i.e., Category 1 and 2), with limited effects due to low occupancy. ■ More important effects expected around Savant Lake (regionally important calving/nursery area). ■ Low predicted occupancy in the west-central portion of the range suggests effects to fewer individuals. **Kinloch Range** ■ Incremental increase in predation risk associated with removal of 93 ha suitable habitat (i.e., Category 1 and 2). ■ More important effects predicted around Lake St. Joseph (regionally important calving/nursery area, undisturbed).	**Churchill Range** ■ Incremental increase in predation risk associated with removal of 275 ha suitable habitat (i.e., Category 1 and 2). ■ Avoids undisturbed areas in north portion of range affected by the corridor. ■ More important effects predicted around Lake St. Joseph and DeLesseps Lake area (regionally important calving/nursery areas, little/no forest harvest disturbance at Base Case). **Brightsand Range** ■ Incremental increase in predation risk associated with removal of 173 ha suitable habitat (i.e., Category 1 and 2), with limited effects due to low occupancy. ■ More important effects expected around Savant Lake (regionally important calving/nursery area). ■ Low predicted occupancy in the west-central portion of the range suggests effects to fewer individuals. **Kinloch Range** ■ Incremental increase in predation risk associated with removal of 94 ha suitable habitat (i.e., Category 1 and 2). Avoids undisturbed areas affected by the corridor. ■ More important effects predicted around Lake St. Joseph (regionally important calving/nursery area).

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Moose	Habitat availability	■ Direct loss of 1,290 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 1,054 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 1,042 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.
	Habitat distribution	■ Slight shifts in territory sizes or locations due to increased human disturbance ■ Corridor centerline is predicted to intersect 120 moose home ranges ■ 147 km of the corridor centerline is within 500 m of existing disturbance (48.4% of total corridor length)	■ Slight shifts in territory sizes or locations due to increased human disturbance ■ Corridor centerline is predicted to intersect 115 moose home ranges ■ 216 km of the corridor centerline is within 500 m of existing disturbance (73.7% of total corridor length)	■ Slight shifts in territory sizes or locations due to increased human disturbance ■ Corridor centerline is predicted to intersect 115 moose home ranges ■ 257 km of the corridor centerline is within 500 m of existing disturbance (87.7% of total corridor length)
	Survival and reproduction	Small increase in predation risk after implementation of impact management measures.	Small increase in predation risk after implementation of impact management measures.	Small increase in predation risk after implementation of impact management measures.
Wolverine	Habitat availability	■ Direct loss of 13,750 ha of high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 7,713 ha of high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 4,454 ha of high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.
	Habitat distribution	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ Slight increase in linear disturbance density from 0.42 km/km^2 to 0.43 km/km^2. ■ 147 km of the corridor centerline is within 500 m of disturbance (48.4% of total corridor length).	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ No increase in linear disturbance density. ■ 216 km of the corridor centerline is within 500 m of disturbance (73.7% of total corridor length).	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ No increase in linear disturbance density. ■ 257 km of the corridor centerline is within 500 m of disturbance (87.7% of total corridor length).
	Survival and reproduction	2.2% habitat loss in each of 12 female home ranges or 1.4% habitat loss in each of seven male home ranges.	1.3% habitat loss in each of 11 female home ranges or 0.8% habitat loss in each of seven male home ranges.	0.7% habitat loss in each of 11 female home ranges or 0.4% habitat loss in each of seven male home ranges.
Little brown myotis	Habitat availability	■ Smallest amount of direct loss of potential bat maternity and hibernacula habitat, based on the field habitat assessment. ■ Smallest amount of direct loss of potential maternity habitat based on the general habitat model. ■ No avoidance of hibernacula by bats due to sensory disturbance by adhering to setbacks.	■ Medium amount of direct loss of potential bat maternity and hibernacula habitat, based on the field habitat assessment. ■ Largest amount of direct loss of potential maternity habitat based on the general habitat model. ■ No avoidance of hibernacula by bats due to sensory disturbance by adhering to setbacks.	■ Largest amount of direct loss of potential bat maternity and hibernacula habitat, based on the field habitat assessment. ■ Medium amount of direct loss of potential maternity habitat based on the general habitat model. ■ No avoidance of hibernacula by bats due to sensory disturbance by adhering to setbacks.
	Habitat distribution	■ Slight shift in the locations of maternity roosts due to removal of 3.7 km^2 of suitable maternity habitat that was identified within the mapped portion of the corridor during the field assessment. ■ No change to the distribution of hibernacula.	■ Slight shift in the locations of maternity roosts due to removal of 3.4 km^2 of suitable maternity habitat that was identified within the mapped portion of the corridor during the field assessment. ■ No change to the distribution of hibernacula.	■ Shift in the locations of maternity roosts due to removal of 9.9 km^2 of suitable maternity habitat that was identified within the mapped portion of the corridor during the field assessment. ■ No change to the distribution of hibernacula.
	Survival and reproduction	n/a	n/a	n/a
Horned grebe	■ Habitat availability; ■ Habitat distribution; and ■ Survival and reproduction.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Bald eagle	Habitat availability	■ Direct loss of 252 ha. ■ Reduced quality of nesting and roosting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 354 ha. ■ Reduced quality of nesting and roosting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 342 ha. ■ Reduced quality of nesting and roosting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.
	Habitat distribution	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 147 km of the corridor centerline is within 500 m of disturbance (48.4% of total corridor length).	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 216 km of the corridor centerline is within 500 m of disturbance (73.7% of total corridor length).	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 257 km of the corridor centerline is within 500 m of disturbance (87.7% of total corridor length).
	Survival and reproduction	■ Reduction in predicted abundance by one individual compared to Base Case. ■ Possible reduction in productivity of home ranges overlapping the LSA. ■ Reduced survival due to collisions with electrical lines.	■ Reduction in predicted abundance by one individual compared to Base Case. ■ Possible reduction in productivity of home ranges overlapping the LSA. ■ Reduced survival due to collisions with electrical lines.	■ Reduction in predicted abundance by one individual compared to Base Case. ■ Possible reduction in productivity of home ranges overlapping the LSA. ■ Reduced survival due to collisions with electrical lines.
Canada warbler	Habitat availability	■ Direct loss of 637 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 608 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 596 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.
	Habitat distribution	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 147 km of the corridor centerline is within 500 m of existing disturbance (48.4% of total corridor length).	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 216 km of the corridor centerline is within 500 m of disturbance (73.7% of total corridor length).	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 257 km of the corridor centerline is within 500 m of disturbance (87.7% of total corridor length).
	Survival and reproduction	■ Small reduction in productivity from habitat loss and sensory disturbance. ■ Predicted abundance reduced by five individuals relative to Base Case. ■ Small increase in nest parasitism.	■ Small reduction in productivity from habitat loss and sensory disturbance. ■ Predicted abundance reduced by six individuals relative to Base Case. ■ Small increase in nest parasitism.	■ Small reduction in productivity from habitat loss and sensory disturbance. ■ Predicted abundance reduced by six individuals relative to Base Case. ■ Small increase in nest parasitism.
Eastern whip-poor-will	Habitat availability	■ Direct loss of 372 ha. ■ Reduced quality of nesting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 244 ha. ■ Reduced quality of nesting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 250 ha. ■ Reduced quality of nesting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.
	Habitat distribution	Slight shifts in territory sizes or locations due to increased human disturbance	Slight shifts in territory sizes or locations due to increased human disturbance	Slight shifts in territory sizes or locations due to increased human disturbance
	Survival and reproduction	■ Small reduction in productivity from habitat loss and sensory disturbance. ■ No reduction in predicted abundance relative to the Base Case.	■ Small reduction in productivity from habitat loss and sensory disturbance. ■ No reduction in predicted abundance relative to the Base Case.	■ Small reduction in productivity from habitat loss and sensory disturbance. ■ No reduction in predicted abundance relative to the Base Case.

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Common nighthawk	Habitat availability	■ Direct loss of 372 ha. ■ Reduced quality of nesting and roosting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 244 ha. ■ Reduced quality of nesting and roosting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 253 ha. ■ Reduced quality of nesting and roosting habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.
	Habitat distribution	Slight shifts in territory sizes or locations due to increased human disturbance	Slight shifts in territory sizes or locations due to increased human disturbance	Slight shifts in territory sizes or locations due to increased human disturbance
	Survival and reproduction	■ No reduction in predicted abundance. ■ Possible reduction in productivity of home ranges overlapping the LSA.	■ No reduction in predicted abundance ■ Possible reduction in productivity of home ranges overlapping the LSA	■ No reduction in predicted abundance ■ Possible reduction in productivity of home ranges overlapping the LSA
Olive-sided flycatcher	Habitat availability	■ Direct loss of 461 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 545 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.	■ Direct loss of 523 ha of moderate to high suitability habitat. ■ Reduced quality of habitat and possible avoidance in the LSA from sensory disturbance during construction and reclamation.
	Habitat distribution	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 147 km of the corridor centerline is within 500 m of existing disturbance (48.4% of total corridor length).	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 216 km of the corridor centerline is within 500 m of disturbance (73.7% of total corridor length).	■ Slight shifts in territory sizes or locations due to increased human disturbance. ■ 257 km of the corridor centerline is within 500 m of disturbance (87.7% of total corridor length).
	Survival and reproduction	■ Small decrease in reproductive success and survival from habitat loss and sensory disturbance. ■ Predicted abundance reduced by five individuals, relative to Base Case.	■ Small decrease in reproductive success and survival from habitat loss and sensory disturbance. ■ Predicted abundance reduced by five individuals, relative to Base Case.	■ Small decrease in reproductive success and survival from habitat loss and sensory disturbance. ■ Predicted abundance reduced by five individuals, relative to Base Case.
Labour market	■ Employment; and ■ Training opportunities.	Predicted net effects for the Project Case are positive. No magnitude assigned.	Predicted net effects for the Project Case are positive. No magnitude assigned.	Predicted net effects for the Project Case are positive. No magnitude assigned.
Regional economy	■ Business contracting opportunities; and ■ Business revenues.	Predicted net effects for the Project Case are positive. No magnitude assigned.	Predicted net effects for the Project Case are positive. No magnitude assigned.	Predicted net effects for the Project Case are positive. No magnitude assigned.
Government finances	■ Local/regional government expenditures; and ■ Government taxation revenues.	Predicted net effects for the Project Case are positive. No magnitude assigned.	Predicted net effects for the Project Case are positive. No magnitude assigned.	Predicted net effects for the Project Case are positive. No magnitude assigned.
Housing and temporary accommodation	■ Population change; ■ Housing demand; and ■ Housing supply.	Low to moderate	Low to moderate	Low to moderate
Services and infrastructure	■ Population change; ■ Service and infrastructure demand; and ■ Services and infrastructure capacity.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.	No primary pathway identified. Project Case not assessed. Negligible predicted net effects.
Community wellbeing	■ Nuisance; and ■ Public safety.	Low	Low	Low

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Parks and protected areas	■ Land use quantity; and ■ Land use quality.	No primary pathway identified. No predicted net effects for the Project Case.	No primary pathway identified. No predicted net effects for the Project Case.	No primary pathway identified. No predicted net effects for the Project Case.
Commercial industry land and resource use	■ Land use quantity; ■ Land use quality; and ■ Hunting, trapping, and fishing harvest levels.	No primary pathway identified. No predicted net effects for the Project Case.	No primary pathway identified. No predicted net effects for the Project Case.	No primary pathway identified. No predicted net effects for the Project Case.
Outdoor tourism and recreational land and resource use	■ Land use quantity; and ■ Resource availability.	■ Moderate for land use quantity indicator. ■ No primary pathway identified for resource availability indicator.	■ Moderate for land use quantity indicator. ■ No primary pathway identified for resource availability indicator.	■ Moderate for land use quantity indicator. ■ No primary pathway identified for resource availability indicator.
Archaeological resources	■ Number, type and location of known archaeological resources; ■ Area of archaeological potential; and ■ Area of marine archaeological potential.	No primary pathway identified. No predicted net effects in the Project Case.	No primary pathway identified. No predicted net effects in the Project Case.	No primary pathway identified. No predicted net effects in the Project Case.
Built heritage and cultural heritage landscapes	Number, type and location of identified and potential built heritage resources and cultural heritage landscapes	No primary pathway identified. No predicted net effects in the Project Case.	No primary pathway identified. No predicted net effects in the Project Case.	No primary pathway identified. No predicted net effects in the Project Case.
Landscape and visual resources	Visibility of the Project	Low	Low	Low
	Visual contrast of the Project relative to the existing landscape	Low	Low	Low
Human health	■ Changes in environmental quality, including surface water, groundwater and air quality, and specifically chemical concentrations in these media that could affect human health. ■ Changes in noise levels.	Low	Low	Low

Table 13.1-3: Criteria and Indicator Magnitude Evaluation by Corridor

Criteria	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Aboriginal and Treaty Rights and Interests	Quantity of locations and access routes	■ Moderate - Potential effects to Aboriginal and Treaty Rights is not fully understood for the corridor alternatives. For those Aboriginal communities that have been engaged, TLRUS have been completed for those communities that were engaged. These communities include Cat Lake First Nation, Slate Falls Nation, Eagle Lake First Nation, Lac Seul First Nation, and Wabigoon Lake Ojibway Fist Nation. Data and information collected for these communities engaged is determined to be sufficient to understand current traditional land and resource use and potential effects to Aboriginal and Treaty Rights. Spatial land use features, Aboriginal access routes and modes for engaged communities, and the availability of traditional land and resource use opportunities are also well understood. ■ Wataynikaneyap will continue to engage with Mishkeegogamang First Nation, Eabametoong First Nation, Lac des Milles Lacs First Nation (LDMLFN) and Métis Nation of Ontario (MNO) R1CC to collect TLRU data and information, understand potential effects to Aboriginal and Treaty Rights and to consider these potential effects in Project design.	A full appreciation of the potential effects to Aboriginal and Treaty Rights for the corridor alternatives is not yet understood at the time of preparation of this report. As noted, TLRU data and information has not yet been provided by all communities whose Aboriginal and Treaty Rights may be affected by the Project. These communities include Mishkeegogamang First Nation, Eabametoong First Nation, Ojibway Nation of Saugeen, Lac des Milles Lacs First Nation, and MNO R1CC. Wataynikaneyap will continue efforts to engage with these communities.	

Notes:

CH_4 = methane; CO = carbon monoxide; CO_2 = carbon dioxide; ha = hectare; km = kilometres; km/km^2 = kilometre per square kilometre; $L_{eq,\ day}$ = daytime equivalent noise level; $L_{eq,\ 1\ hour\ (day,\ night)}$ = one-hour equivalent noise level, day or night; LSA = local study area; m = metre; NO_2 = nitrogen dioxide; N_2O = nitrous oxide; PM_{10} = Particulate Matter less than 10 microns; $PM_{2.5}$ = Particulate Matter less than 2.5 microns; POR = Points of Reception; ROW = right-of-way; RSA = regional study area; SPM = suspended particulate matter; SO_2 = sulfur dioxide;% = percent. 1

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13.1.2.2 Step 2 – Identify Cost and Constructability and Technical Criteria

Table 13.1-4 lists the identified cost and constructability and technical criteria, their indicators, and the potential effects they could have when used in the final corridor routing analysis.

Table 13.1-4: Evaluation Criteria, Indicators and Potential Effects of Cost and Constructability and Technical Criteria

Criterion	Indicator	Potential Effect
Route length	Length (km) of corridor.	Potential effect on cost and constructability of the Project, as well as land disturbance due to land clearing.
Access roads	Total length (km) of access roads/trails.	Potential effect on cost and constructability of the Project, as well as land disturbance due to land clearing.
Large watercourse crossings	Number of watercourse crossings with a span between 200 m and 400 m.	Potential effect on cost and constructability of the Project and effects on waterbodies.
Very large watercourse crossings	Number of watercourse crossings with a span greater than 400 m and up to 600 m.	Potential effect on cost and constructability of the Project and effects on waterbodies.
Infrastructure crossings	Number of highway crossings, power line crossings and railway crossings.	Potential effect on cost and constructability of the Project, as well as disturbance to traffic because of construction.
Angle points	Number of angle points that are greater than 10 degrees.	Potential effect on cost and constructability of the Project.
Relative cost	Cost based on current design, construction and materials. Lowest cost for each area used as baseline.	Potential effect on cost and constructability of the Project.
First Nation Reserves	Length (km) of First Nation Reserves traversed by the 40-m-wide transmission line alignment ROW.	If construction occurs on First Nations Reserve lands, associated easements may affect Project schedule, cost and constructability.

Table 13.1-4: Evaluation Criteria, Indicators and Potential Effects of Cost and Constructability and Technical Criteria

Criterion	Indicator	Potential Effect
Crown land	Percent of overall length (km) of Crown Land traversed by the 40-m-wide transmission line alignment ROW, including MNRF unpatented land, non-freehold dispositions and acquisitions within the ROW. It is noted that the First Nations entered into a treaty relationship with the Crown within the spirit and intent of Indigenous Peoples' understanding based on respect, friendship and mutuality. It is always understood that there would be sharing of lands and resources. Any references to Crown Land in the final corridor routing analysis are without prejudice to the positions of First Nations in relation to Treaty and Aboriginal Rights.	Potential effect on cost and constructability for acquiring Crown Land easements.
Private land	Area (ha) of private land, including mining claims, traversed by the 40-m-wide transmission line alignment ROW.	Potential effect on cost and constructability of acquiring private land parcels for the Project.
Pickle Lake short circuit level	Pickle Lake short circuit level	Short Circuit Level (MVA) at Pickle Lake 115 kV bus, per IESO 2012 short circuit base case.
Length of Corridor close to E1C	Length of corridor close to E1C	The length (km) within 1 km of the existing E1C line.
Connection to Dryden TS	Connection to Dryden TS	Interconnection at substation (Yes/No).
Potential new load customers	Potential new load customers along corridor	Number of potential new customers who have expressed an interest in connecting along the transmission line.
Distance of tap from Dryden TS	Distance of tap from Dryden TS	Distance (km) of tap from Dryden.
Waterpower potential within 30 km	Waterpower potential within 30 km	Waterpower potential capacity (MW) within 30 km of the corridor.

Notes:

IESO = Independent Electricity System Operators; ha = hectare; km = kilometre; m = metre; MVA = Megavolt Ampere; MW = megawatt; ROW = right-of-way; TS = transformer station.

13.1.2.3 Step 3 – Assign Category Numerical Ranking Value

The ranking used for the criteria is similar to that used in the initial screening level corridor routing analysis included in the Amended ToR and is presented in Table 13.1-5.

Table 13.1-5: Evaluation Criteria Ranking and Rationale

Evaluation Criterion	Rank	Ranking Rationale
Effects Assessment Criteria (maximum criteria rank score is 73)		
Air quality	1	This criterion is assigned a ranking of 1 because effects from the Project to air quality will be mostly restricted to the construction stage.
Greenhouse gases (GHG)	2	This criterion is assigned a ranking of 2 because potential effects from the Project to GHGs will be mostly restricted to the construction stage. Phase 1 is also required to be constructed and operated for *Phase 2 Connecting 17 Remote First Nation Communities*, which will have high potential benefits with respect to the reduction in GHG emissions from the elimination and/or decreased use of diesel generators at the Aboriginal communities.
Noise	1	This criterion is assigned a ranking of 1 because effects from the Project to noise will be mostly restricted to the construction stage.
Surface water	1	This criterion is assigned a ranking of 1 because the proposed Project is not likely to have measurable effects on surface water with the implementation of appropriate impact management (e.g., sediment and erosion control) and best management practices, and the proposed Project will span waterbodies with no likely in-water works (e.g., transmission pole foundations).
Groundwater	2	This criterion is assigned a ranking of 2 due to the potential effects to water supplies, and because of concerns raised by Aboriginal participants and stakeholders during engagement on the Draft ToR on the potential effects of the proposed Project on water supplies and/or drinking water.
Brook Trout, Lake Trout, Walleye, Lake Sturgeon	1	These criteria are assigned a ranking of 1 because the proposed transmission line will span watercourses and waterbodies and any temporary or permanent in-water works will be designed to minimize potential effects to fish and fish habitat.
Upland ecosystems	2	This criterion is assigned a ranking of 2 due to the potential effects to this ecosystem during construction and operation of the proposed Project. It is also ranked as a 2 based on Aboriginal community use of vegetation associated with this ecosystem.
Riparian ecosystems	2	This criterion is assigned a ranking of 2 due to the potential effects to this ecosystem during construction and operation of the proposed Project. It is also ranked as a 2 based on Aboriginal community use of vegetation associated with this ecosystem.

Table 13.1-5: Evaluation Criteria Ranking and Rationale

Evaluation Criterion	Rank	Ranking Rationale
Wetlands	2	This criterion is assigned a ranking of 2 due to the potential effects to wetland areas during construction of the proposed Project. It is also ranked as a 2 based on Aboriginal participants and stakeholder interest in the effects of the proposed Project on wetlands as identified during engagement on the Draft ToR.
Forest-dwelling woodland caribou (presented by range)	3	This criterion is assigned a ranking of 3 because woodland caribou is listed as 'Threatened' under the *Endangered Species Act* (ESA), Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and the Species at Risk Act (SARA). The Project's potential for effects of altering woodland caribou habitat. Woodland caribou and other SAR is a concern raised by the Ministry of Natural Resources and Forestry and Aboriginal communities during review of the ToR.
Moose	2	This criterion is assigned a ranking of 2 because increase in moose density could negatively affect woodland caribou populations by increasing carnivore density.
Wolverine	2	This criterion is assigned a ranking of 2 because wolverine is listed as 'Threatened' provincially under the ESA and as 'Special Concern' by the COSEWIC.
Little brown myotis	3	This criterion is assigned a ranking of 3 because little brown myotis is listed as 'Endangered' provincially under the ESA and federally under the SARA.
Horned grebe	2	This criterion is assigned a ranking of 2 because horned grebe is listed as 'Special Concern' by COSEWIC.
Other federal or provincial Species at Risk, including: ■ Bald eagle ■ Canada warbler ■ Eastern whip-poor-will ■ Common nighthawk ■ Olive-sided flycatcher	3	These criteria are assigned a ranking of 3 because these species are of conservation concern provincially under the ESA and federally under the SARA.
Labour market	2	This criterion is assigned a ranking of 2 because of the potential benefits to the labour market from the Project.
Regional economy	2	This criterion is assigned a ranking of 2 because of the potential benefits to the regional economy from the Project.
Government finances	2	This criterion is assigned a ranking of 2 because of the potential benefits to Government finances from the Project.

Table 13.1-5: Evaluation Criteria Ranking and Rationale

Evaluation Criterion	Rank	Ranking Rationale
Housing and temporary accommodation	1	This criterion is assigned a ranking of 1 because housing for construction will be self-sufficient and located in temporary construction camps along the corridors, not in municipalities.
Services and infrastructure	1	This criterion is assigned a ranking of 1 because the potential effects on these services from the Project will likely be minimal and primarily only during construction.
Community wellbeing	1	This criterion is assigned a ranking of 1 because potential effects on wellbeing from the Project will likely be minimal and primarily only during construction.
Parks and protected areas	3	This criterion is assigned a ranking of 3 because of the potential effects if the proposed Project were to be located within a Provincial Park (e.g., visual disturbance for users), and because of concerns raised by Aboriginal participants and stakeholders during engagement on the Draft ToR.
Commercial industry land and resource use	2	These criteria are assigned a ranking of 2 because they have socio-economic importance to the local residents, businesses, communities and government.
Outdoor tourism and recreational land and resource use	2	These criteria are assigned a ranking of 2 because they have socio-economic importance to the local residents, businesses, communities and government.
Archaeological resources	1	This criterion is assigned a ranking of 1 because with the impact management measures implemented during construction of the proposed Project, the Project is not anticipated to affect archaeological resources.
Built heritage and cultural heritage landscapes	1	This criterion is assigned a ranking of 1 because with the impact management measures implemented during construction of the proposed Project, the Project is not anticipated to affect built heritage.
Landscape and visual resources	2	This criterion is assigned a ranking of 2 because landscape and visual resources are important to the identification of community character and to community well-being.
Human health	3	This criterion was assigned a ranking of 3 because the health of individuals is important to the well-being of families and communities.
Aboriginal and Treaty Rights and Interests (as identified through engagement, Treaties, and other methods)	3	This criterion was assigned a ranking of 3 because Aboriginal and Treaty Rights and Interests and current use of lands and resources for cultural purposes (e.g., fishing, hunting, trapping, agriculture, horticulture and use of plants) are important for Aboriginal communities and individuals to provide sustenance.

Table 13.1-5: Evaluation Criteria Ranking and Rationale

Evaluation Criterion	Rank	Ranking Rationale
Cost and Constructability (maximum criteria rank score is 16)		
Route length	1	This criterion is assigned a ranking of 1 since some consideration for route length is already reflected in the Relative Cost criterion. However, this estimate of the route length is preliminary only due to stage in Project design, and a greater route length increases the potential construction and schedule risk due to a greater project scope and footprint.
Access roads	1	This criterion is assigned a ranking of 1 since some consideration for road access is already reflected in the Relative Cost criterion. However, this estimate of access road length is preliminary only due to stage in Project design, and a lack of road access can result in additional construction and schedule risks.
Large water crossings	1	This criterion is assigned a ranking of 1 since some consideration for large watercourse crossings is already reflected in the Relative Cost criterion. However, this estimate of the number of large water crossings is preliminary only, and large watercourse crossings have the potential for greater construction challenges, impact management requirements, and schedule risk.
Very large water crossings	2	This criterion is assigned a ranking of 2 since some consideration for very large watercourse crossings is already reflected in the Relative Cost criterion. However, this estimate of the number of very large water crossings is preliminary only, and very large watercourse crossings have the potential for substantial construction challenges, impact management requirements and schedule risk. Very large watercourse crossings require large steel structures and are more difficult to construct, resulting in a greater implementation risk.
Infrastructure crossings	1	This criterion is assigned a ranking of 1 since some consideration for infrastructure crossings is already reflected in the Relative Cost criterion. However, this estimate of the number of infrastructure crossings is preliminary only, and infrastructure crossings have the potential for construction challenges, impact management requirements and schedule risk.
Angle points	1	This criterion is assigned a ranking of 1 since some consideration for angle points is already reflected in the Relative Cost criterion. However, this estimate of the number of angle points is preliminary only, and angle points greater than 10 degrees require three-pole structures and have the potential for greater construction challenges, impact management requirements, and schedule risk.
Relative cost	3	This criterion is assigned a ranking of 3 because it is the criterion that ultimately reflects a preliminary basic cost estimate based on the preceding factors. Relative cost is important since higher costs can make the Project unfeasible.

Table 13.1-5: Evaluation Criteria Ranking and Rationale

Evaluation Criterion	Rank	Ranking Rationale
First Nation Reserves	2	This criterion is assigned a ranking of 2 since some consideration for First Nation Reserve land is already reflected in the Relative Cost criterion. However, this estimate is preliminary only, and crossing Reserve land has the potential for substantial construction challenges, impact management requirements, and schedule risk.
Crown land	2	This criterion is assigned a ranking of 2 because crossing Crown land has the potential for substantial construction challenges, impact management requirements and schedule risk.
Private land	2	This criterion is assigned a ranking of 2 since some consideration for private land is already reflected in the Relative Cost criterion. However, this estimate is preliminary only, and crossing private land has the potential for substantial construction challenges, impact management requirements and schedule risk.
Technical (maximum criteria rank score is 11)		
Pickle Lake short circuit level	3	This criterion is assigned a ranking of 3 since a higher short circuit level allows more power capacity to be transferred on the transmission line. Additional capacity is one of the key drives for the project. If the short circuit capacity is low then the transmission line transfer capacity is reduced thereby limiting opportunities to serve loads and support economic growth.
Length of corridor close to E1C	2	This criterion is assigned a ranking of 2. The existing E1C line is susceptible to outages due to extreme weather and forest fires. If a section of the new transmission is parallel to the existing E1C line, then the new circuit may also be susceptible to the same outages causes. This risk may be mitigated by a wider corridor, use of steel poles, or active vegetation management.
Connection to Dryden TS	1	This criterion is assigned a ranking of 1. Connecting at an existing transformer station may potentially have advantages. The Project does not require any new transformation but rather line taps, breakers and Protection and Control equipment. Some of the Protection and Control equipment is embedded in an existing station, however it is unclear whether this equipment can be used or if additional expansion of the transformation station would be required.
Potential new load customers	2	This criterion is assigned a ranking of 2 because economic growth is facilitated if the new transmission line is located in an area of known population growth and resource development activity. Proximity to a robust grid connection is a major factor in siting decisions by resource development companies.

Table 13.1-5: Evaluation Criteria Ranking and Rationale

Evaluation Criterion	Rank	Ranking Rationale
Distance of tap from Dryden TS	1	This criterion is assigned a ranking of 1 since it was assumed the proximity to a transformer station could provide additional voltage support and operational benefits.
Waterpower potential within 30 km	2	This criterion is assigned a ranking of 2 based on an inventory of waterpower potential within 35 km. Waterpower development is an important economic activity, especially for Aboriginal communities and Aboriginal businesses. A nearby robust grid connection point is a major factor in determining the feasibility and ultimate size (MW capacity) of a waterpower development. In addition, waterpower could provide increased load supply potential and voltage stability.

Notes:

COSEWIC = Committee on the Status of Endangered Wildlife in Canada; ESA = *Endangered Species Act*; GHG = greenhouse gases; km = kilometre; MW = megawatt; ToR = Terms of Reference; TS = transformer station.

13.1.2.4 Step 4 – Assign Numerical Ranking Value to Each Criteria (Criteria Score) and Step 5 – Calculate Weighted Category Score for Each Criteria Using Category Weighting and Criteria Indicator Rankings

In Step 4 the numerical rank was assigned to each criteria based on the results of the environmental assessment and cost, constructability, and technical assessment. This is referred to as the criteria score and is assigned to the corridor with the least assessed effect.

A category weighting was applied to each of the environmental assessment, cost and constructability, and technical categories. The rationale for each category weighting was based on the relative magnitude of each category that contributes to the feasibility and potential effects of the proposed Project, as well as input received from Aboriginal participants and stakeholders during engagement. Based on this rationale, the cost and constructability category is weighted 30%, the technical category is weighted 20%, and the environmental assessment category is weighted 50%.

The results of Step 4 and 5 of the final corridor routing analysis are presented in Table 13.1-6 and discussed in detail in the subsections below.

Table 13.1-6: Final Corridor Routing Analysis

Corridors	Environmental Assessment (50%)																																										
	Air quality	Greenhouse gases (GHG)	Noise	Surface water	Groundwater	Brook Trout, Lake Trout, Walleye, Lake Sturgeon	Upland ecosystems	Riparian ecosystems	Wetlands	Woodland caribou Churchill Range	Woodland caribou Brightsand Range	Woodland caribou Kinloch Range	Moose	Wolverine	Little brown myotis	Horned grebe	Bald eagle	Canada warbler	Eastern whip-poor-will	Common nighthawk	Olive-sided flycatcher	Labour market	Regional economy	Government finances	Housing and temporary accommodation	Services and infrastructure	Community wellbeing	Parks and protected areas	Commercial industry land and resource use	Outdoor tourism and recreational land and resource use	Archaeological resources	Built heritage and cultural heritage landscapes	Landscape and visual resources	Human health	Aboriginal Rights, Treaty Rights and Interests	**Total criteria scores**	**Maximum possible score**	**Total Environmental Assessment (max 50%)**
Preliminary Proposed Corridor																																					51	73	**34.9%**
Criteria score (0, 1, 2, or 3)	1	2	1	1	2	1	0	0	0	3	3	0	0	0	3	2	3	0	0	0	3	2	2	2	1	1	1	3	2	2	1	1	2	3	3			
Corridor Alternative Around Mishkeegogamang																																					45	73	**30.8%**
Criteria score (0, 1, 2, or 3)	1	2	1	1	2	1	0	0	0	0	0	3	0	0	0	2	0	0	3	3	0	2	2	2	1	1	1	3	2	2	1	1	2	3	3			
Corridor Alternative Through Mishkeegogamang																																					52	73	**35.6%**
Criteria score (0, 1, 2, or 3)	1	2	1	1	2	1	2	2	2	0	0	3	2	2	0	2	0	3	0	0	0	2	2	2	1	1	1	3	2	2	1	1	2	3	3			

Table 13.1 6: Final Corridor Routing Analysis

	Cost and Constructability (30%)													Technical (20%)										Total Corridor Score
Corridors	Route length	Access roads	Large water crossings	Very large water crossings	Infrastructure crossings	Angle points	Relative cost	First Nation Reserves	Crown Land	Private Land	**Total criteria scores**	**Maximum possible score**	**Total Cost and Constructability (max 30%)**	Pickle Lake short circuit level	Length of corridor close to E1C	Connection to Dryden TS	Potential new load customers	Distance of tap from Dryden TS	Waterpower potential within 30 km	**Total criteria scores**	**Maximum possible score**	**Total Technical (max 20%)**	
Preliminary Proposed Corridor											**14**	**16**	**26.3%**							9	11	**16.4%**	**77.5%**
Criteria score (0, 1, 2, or 3)	0	0	1	2	1	1	3	2	2	2				3	0	1	2	1	2				
Corridor Alternative Around Mishkeegogamang											**8**	**16**	**15.0%**							11	11	**20.0%**	**65.8%**
Criteria score (0, 1, 2, or 3)	1	0	0	0	0	0	3	2	2	0				3	2	1	2	1	2				
Corridor Alternative Through Mishkeegogamang											**7**	**16**	**13.1%**							11	11	**20.0%**	**68.7%**
Criteria score (0, 1, 2, or 3)	1	1	0	0	0	0	3	0	2	0				3	2	1	2	1	2				

ENVIRONMENTAL CRITERIA

Air Quality

The environmental assessment for the air quality criterion is presented in Section 5.3: Air Quality. For all corridors, no primary effect pathways were identified between the Project and air quality and for secondary pathways negligible net effects were predicted for changes to air quality indicators, given the effective implementation of impact management measures. As a result, there would be no significant effects to air quality relative to Base Case. With the implementation the impact management measures identified in Section 5.3.6, negligible net effects are predicted which would not be significant.

All three corridors will generate criteria air contaminants (CACs) and fugitive dust emissions from construction activities that can result in changes in ambient concentrations. The implementation of impact management measures (Table 5.3-13), including an Air Quality Management Plan, are expected to limit adverse effects on air quality. Overall, negligible net effects for all three corridors are predicted on ambient concentrations of Suspended Particulate Matter (SPM), Particulate Matter less than 10 microns (PM_{10}), Particulate Matter less than 2.5 microns ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2) and sulphur dioxide (SO_2). Therefore, changes to air quality were not carried forward for further assessment and no magnitude rating was assigned. There is no predicted difference in the net effects on air quality between the three corridors. Therefore, all three corridors were assigned a criteria score of 1 (i.e., the criteria rank).

Greenhouse Gases (GHG)

The environmental assessment for the GHG criterion is presented in Section 5.4: Climate Change. No primary effect pathways were identified for greenhouse gases as a result of the Project (Section 5.4.6.1). No further assessment or characterization of net effects, including determination of significance, was completed.

All three corridors will generate greenhouse gas emissions from construction activities (representing the largest annual greenhouse gas emissions for the Project) that could potentially result in changes in federal and provincial annual greenhouse gas emissions. The implementation of impact management measures (Table 5.4-3) are expected to limit the generation of greenhouse gas emissions. Overall, all three corridors are expected to have a negligible net effect on the criteria's assessment endpoint based on the comparison between the estimated annual emission to both the federal and provincial greenhouse gas emissions. Provincial and federal greenhouse gas emission levels are anticipated to be maintained. Therefore, changes to greenhouse gasses were not carried forward for further assessment and no magnitude rating was assigned. There is no predicted difference in the net effects on greenhouse gasses between the three corridors. Therefore, all three corridors were assigned a criteria score of 2 (i.e., the criteria rank).

Noise

The environmental assessment for the noise criterion is presented in Section 5.5: Noise. The operation and maintenance stage was assessed as a secondary pathway. The assessment of Project Case effects on noise during the operation and maintenance stage considered the following scenarios:

- operation and maintenance of the ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads;
- maintenance and operation of the transformer station and connection facility; and
- electricity transmission.

Negligible net effects were predicted for changes to noise indicators for all three corridors. As a result, there would be no significant effects to noise relative to existing noise levels. With the implementation of the impact management measures identified in Section 5.5.7, negligible net effects are predicted which would not be significant.

The construction stage was assessed as a primary pathway because noise emissions from construction activities could increase existing noise levels at potential Points of Reception (PORs) above NPC-300 sound level limits. The magnitude at a given POR is dependent on the distance to the Project activities. Existing noise levels at given PORs can be expected to increase, on occasion, due to construction activities when occurring nearby, but construction noise will be temporary in nature and limited in durations. The increased noise levels are expected to be limited to the noise local study area (LSA) and short-term in duration at a given location relative to the entire construction schedule.

All three corridors result in similar effects assessments, therefore all corridors were assigned the criteria score of 1.

Surface Water

The environmental assessment for the surface water criterion is presented in Section 5.1: Surface Water. No primary effect pathways were identified between the Project and surface water. For secondary pathways, negligible net effects were predicted for changes to surface water indicators, given the effective implementation of impact management measures. As a result, there would be no significant effects to surface water relative to baseline values. With the implementation of the impact management measures identified in Section 5.1.6, negligible net effects are predicted which would not be significant.

All three corridors will potentially affect surface water quality and quantity during construction and operation from short-term water taking, wash off of organic debris from work sites, changes in land cover, short-term water diversion and changes in reach and cross-section hydraulics at waterbody crossings. Wataynikaneyap will implement appropriate impact management measures (Table 5.1-12) to limit adverse effects to surface quantity and quality. In general, the Project is expected to result in negligible net effects on surface quality and quantity related to the potential effects listed above. Therefore, these negligible net effects were not carried forward for further assessment and no magnitude rating was assigned for these net effects. Further, there is no predicted difference in the net effects on surface quality and quantity between the three corridors. Therefore, all three corridors were assigned a criteria score of 1 (i.e., the criteria rank).

Groundwater

The environmental assessment for the groundwater criterion is presented in Section 5.2: Groundwater. Potential blasting for the Project will not have a significant effect on the quantity of groundwater for human and wildlife consumption and is anticipated to be suitable for continued use per Base Case conditions. The Project is not anticipated to have an effect on the overall functionality of groundwater resources as they currently exist. Therefore, the net effects of the Project on groundwater are determined to be not significant.

Changes to groundwater quantity from blasting during construction may occur in all three corridors. Wataynikaneyap will prepare and implement a Blast Management Plan that describes specific measures to be implemented if blasting is required, such as the 50 m setback from all private wells. The predicted net effect of blasting on groundwater quantity for all three corridors is negative because, even with the use of appropriate impact management measures, blasting may create and extend fractures in the bedrock around each blast hole, thereby increasing permeability and potentially decreasing local groundwater levels. These effects are predicted to be moderate in magnitude, for all three corridors, because blasting is anticipated to increase permeability up to 4.5 to 9 metres (m) from the blast hole and local in geographic extent because the groundwater levels may be lowered adjacent to the blast hole.

There is no appreciable difference in the net effects on groundwater quantity and quality between the three corridors. Therefore, all three corridors were assigned a criteria score of 2 (i.e., the criteria rank).

Fish and Fish Habitat – Brook Trout, Lake Trout, Walleye, Lake Sturgeon

The environmental assessment for fish and fish habitat is presented in Section 6.2: Fish and Fish Habitat. No primary effect pathways were identified between the Project and the criteria species (i.e., Brook Trout, Lake Trout, Walleye, and Lake Sturgeon). For secondary pathways, negligible net effects were predicted for changes to fish habitat quantity, habitat quality, abundance, and/or distribution, given the effective implementation of impact management measures. The absolute (i.e., area) and relative (e.g., % change) change to habitat quantity were considered negligible. As a result, there would be no significant effects on the maintenance of self-sustaining and ecologically effective populations of the criteria species (Brook Trout, Lake Trout, Walleye, and Lake Sturgeon). With the implementation the impact management measures identified in Section 6.2.6, negligible net effects are predicted which would not be significant.

All three corridors have the potential to affect fish and fish habitat related to Brook Trout, Lake Trout, and Walleye. Changes to fish and fish habitat for these species relate to physical alteration of waterbodies, release of sediment during road construction at waterbody crossings and from land disturbance, placement of waterbody crossing structures, changes to hydrology or groundwater and changes to public access to recreational fishing areas. Wataynikaneyap will implement appropriate impact management measures (Table 6.2-13) to limit adverse effects to fish and fish habitat. In general, the Project is expected to result in negligible net effects on fish and fish habitat related to the potential effects listed above. Therefore, these negligible net effects were not carried forward for further assessment and no magnitude rating was assigned for these net effects. Further, there is no predicted difference in the net effects on fish and fish habitat between the three corridors. Therefore, all three corridors were assigned a criteria score of 1 (i.e., the criteria rank).

Upland Ecosystems

The environmental assessment for the upland ecosystems criterion is in Section 6.1: Vegetation and Wetlands. All three corridors are also predicted to contribute to small negative changes in upland ecosystem availability, distribution, and composition. There is a predicted loss of 1,277 hectares (ha), 1,162 ha, and 1,135 ha of riparian ecosystems for the Preliminary Proposed Corridor and corridor alternatives around and through Mishkeegogamang respectively.

Rare vegetation communities were also considered in the upland ecosystem assessment. The rare bur oak vegetation community can be found as part of the NW30 ecosite and is included in upland ecosystems. This ecosite was not identified in the regional study areas (RSAs) for the corridor alternatives. There is no loss of the NW30 ecosite within the Preliminary Proposed Corridor LSA.

The Corridor Alternative Through Mishkeegogamang is going to remove the least amount of upland ecosystems so it was assigned a criteria score of 2 (i.e., the criteria rank).

Riparian Ecosystems

The environmental assessment for the riparian ecosystems criterion is in Section 6.1: Vegetation and Wetlands. All three corridors are predicted to contribute to small negative changes in riparian ecosystem availability, distribution, and composition. With effective implementation of impact management measures, minimal changes in the remaining riparian habitat condition are predicted. The Preliminary Proposed Corridor and corridor alternatives are not predicted to change the self-sustaining and ecologically effective status of riparian ecosystems identified for the Base Case. There is a predicted loss of 66 ha, 56 ha, and 53 ha of riparian ecosystems for the Preliminary Proposed Corridor and corridor alternatives around and through Mishkeegogamang respectively.

The Corridor Alternative Through Mishkeegogamang is going to remove the least amount of riparian ecosystems so it was assigned a criteria score of 2 (i.e., the criteria rank).

Wetlands

The environmental assessment for the wetlands criterion is in Section 6.1: Vegetation and Wetlands. All three corridors are also predicted to cause small losses to wetlands. Changes are expected to be within the existing resilience limits and adaptive capacity of wetland ecosystems. For example, the incremental loss to the available wetland ecosystems for the Preliminary Proposed Corridor, and corridor alternatives around and through Mishkeegogamang is calculated to be 56 ha, 43 ha, and 41 ha, respectively. Wetlands may withstand large losses (i.e., up to 60% of historical wetlands) before their functional role on the landscape is compromised (Environment Canada 2013). In addition, the Preliminary Proposed Corridor and corridor alternatives have been designed to cause little to no disturbance to the least common land cover class (i.e., Fen-open).

The vegetation and wetlands assessment also considered effects to rare vegetation communities. For the Preliminary Proposed Corridor there is a predicted loss of 111 ha to the NW36 ecosite in the LSA. For the Corridor Alternative Around Mishkeegogamang there is a predicted loss of 95 ha to the NW36 ecosite in the LSA. For the Corridor Alternative Through Mishkeegogamang there is a predicted loss of 82 ha to NW36 ecosite in the LSA.

The Corridor Alternative Through Mishkeegogamang is going to remove the least amount of wetland ecosystems so it was assigned a criteria score of 2 (i.e., the criteria rank).

Forest-Dwelling Woodland Caribou

The environmental assessment for the woodland caribou criterion is in Section 6.3: Wildlife. To address the complexity of evaluating differences in effects to woodland caribou habitat for each corridor, this analysis has considered individual effects to each caribou range. The evaluation of the differences between corridors is focused on the magnitude of effects, including effects to nursery and winter use areas as these are the most sensitive habitat types for woodland caribou with habitat function most closely linked to caribou survival and reproduction. Table 13.1-7 presents a comparison by caribou range of the magnitude of effects to the three indicators for woodland caribou for each corridor.

The Preliminary Proposed Corridor has the least effect to suitable habitat (i.e., nursery areas and winter use areas) in the Churchill Range (i.e., smaller loss of nursery area and removal of 164 ha of suitable habitat compared to removal of 314 ha and 275 ha by the corridor alternatives around and through Mishkeegogamang respectively) and does not traverse the Brightsand Range. The Preliminary Proposed Corridor also has a lesser effect to habitat connectivity in the Churchill Range (i.e., local scale effects compared to regional scale effects for the corridor alternatives) and Brightsand Range, therefore it was assigned the criteria score of 3 for both ranges.

The corridor alternatives around and through Mishkeegogamang have the least effect to the Kinloch Range with removal of 93 ha and 94 ha of suitable habitat respectively, compared to removal of 300 ha of suitable habitat by the Preliminary Proposed Corridor. Effects to nursery and winter use areas is less along the corridor alternatives around and through Mishkeegogamang than for the Preliminary Proposed Corridor. Effects to habitat connectivity were similar across all three corridors. Therefore, the corridor alternatives were both assigned the criteria score of 3 for the Kinloch Range.

Table 13.1-7: Magnitude Results for Woodland Caribou by Range and Corridor

Caribou Range	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang	Preferred Corridor
Churchill Range	Habitat availability	■ 2 ha nursery areas; one nursery area affected ■ 106 ha winter use areas; one winter use area affected ■ Four nursery areas and two winter use areas located within 10 km of footprint. ■ Increase in proportion of range disturbed from 44.1% to 44.3%.	■ 165 ha nursery areas; two nursery areas affected ■ 2 ha winter use areas; one winter use area affected ■ Two nursery areas located within 10 km of footprint. ■ Increase in proportion of range disturbed from 44.1% to 44.3%.	■ 126 ha nursery areas; two nursery areas affected ■ 2 ha winter use areas; one winter use area affected ■ Two nursery areas located within 10 km of footprint. ■ Increase in proportion of range disturbed from 44.1% to 44.2%.	Preliminary proposed corridor for effects to nursery areas and winter use areas

Table 13.1-7: Magnitude Results for Woodland Caribou by Range and Corridor

Caribou Range	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang	Preferred Corridor
Churchill Range	Habitat distribution	■ Three potential travel corridors affected, including two that are fragmented at Base Case and one that is relatively undisturbed. ■ Incremental change in linear feature density in the range, from 0.46 km/km^2 to 0.47 km/km^2.	■ Two potential travel corridors affected, both are bisected by Hwy. 599 but few other disturbances in area. Includes undisturbed areas in north portion of range. ■ No measurable change in linear feature density.	■ Two potential travel corridors affected, both are bisected by Hwy 599 but few other disturbances are present in area. Avoids undisturbed areas in north portion of range affected by the corridor. ■ No measurable change in linear feature density.	■ Preliminary proposed corridor for connectivity beyond the range ■ Corridor alternatives for connectivity within the range
	Survival and reproduction	■ Incremental increase in predation risk associated with removal of 164 ha suitable habitat (i.e., Category 1 and 2) ■ More important effects predicted around Bamaji Lake/Blackstone Lake area (undisturbed); forest harvesting in other parts of the range have altered landscape conditions at Base Case.	■ Incremental increase in predation risk associated with removal of 314 ha suitable habitat (i.e., Category 1 and 2) ■ More important effects predicted around Lake St. Joseph and DeLesseps Lake area (regionally important calving/nursery areas, little/no forest harvest disturbance at Base Case).	■ Incremental increase in predation risk associated with removal of 275 ha suitable habitat (i.e., Category 1 and 2). Avoids undisturbed areas in north portion of range affected by the corridor. ■ More important effects predicted around Lake St. Joseph and DeLesseps Lake area (regionally important calving/nursery areas, little/no forest harvest disturbance at Base Case).	Preliminary proposed corridor
Churchill Range criteria score		3	0	0	

Table 13.1-7: Magnitude Results for Woodland Caribou by Range and Corridor

Caribou Range	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang	Preferred Corridor
Brightsand Range	Habitat availability	Corridor does not intersect range	■ 7 ha nursery areas (including 7 ha overlap with winter use areas); one nursery area affected ■ 20 ha winter use areas (including 7 ha overlap with nursery areas); one winter use area affected ■ Six nursery areas and three winter use areas located within 10 km of footprint. ■ No change in proportion of range disturbed, remains at 45.4%.	■ 55 ha nursery areas (including 7 ha overlap with winter use areas); one nursery area affected ■ 20 ha winter use areas (including 7 ha overlap with nursery areas); one winter use area affected ■ Six nursery areas and three winter use areas located within 10 km of footprint. ■ No change in proportion of range disturbed, remains at 45.4%.	Preliminary proposed corridor

Table 13.1-7: Magnitude Results for Woodland Caribou by Range and Corridor

Caribou Range	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang	Preferred Corridor
Brightsand Range	Habitat distribution	Corridor does not intersect range	■ Three potential travel corridors affected, including two fragmented corridors and two corridor with considerable fragmentation. ■ No measurable change in linear feature density.	■ Three potential travel corridors affected, including two fragmented corridors and one corridor with considerable fragmentation. ■ No measurable change in linear feature density.	Preliminary proposed corridor
	Survival and reproduction	Corridor does not intersect range	■ Incremental increase in predation risk associated with removal of 126 ha suitable habitat (i.e., Category 1 and 2), with limited effects due to low occupancy. ■ More important effects expected around Savant Lake (regionally important calving/nursery area). ■ Low predicted occupancy in the west-central portion of the range suggests effects to fewer individuals.	■ Incremental increase in predation risk associated with removal of 173 ha suitable habitat (i.e., Category 1 and 2), with limited effects due to low occupancy. ■ More important effects expected around Savant Lake (regionally important calving/nursery area). ■ Low predicted occupancy in the west-central portion of the range suggests effects to fewer individuals.	Preliminary proposed corridor
Brightsand Range criteria score		3	0	0	

Table 13.1-7: Magnitude Results for Woodland Caribou by Range and Corridor

Caribou Range	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang	Preferred Corridor
Kinloch Range	Habitat availability	■ 207 ha nursery areas (incl. 61 ha overlap with winter use areas); one known nursery area affected ■ 84 ha winter use areas (incl. 61 ha overlap with nursery areas; one winter use area affected ■ Two nursery areas and one winter use area located within 10 km of footprint. ■ Increase in proportion of range disturbed from 18.9% to 19.2%.	■ 67 ha nursery areas; one known nursery area affected ■ 0 ha winter use areas; zero winter use area affected ■ One nursery area located within 10 km of footprint. ■ Increase in proportion of range disturbed from 18.9% to 19.1%.	■ 51 ha nursery areas; one known nursery area affected ■ 0 ha winter use areas; zero winter use area affected ■ One nursery area located within 10 km of footprint. ■ Increase in proportion of range disturbed from 18.9% to 19.0%.	■ Corridor alternative through Mishkeegogamang for effects on nursery areas ■ Corridor alternatives around and through Mishkeegogamang for effects on winter use areas

Table 13.1-7: Magnitude Results for Woodland Caribou by Range and Corridor

Caribou Range	Indicator	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang	Preferred Corridor
Kinloch Range	Habitat distribution	■ One potential travel corridor affected. Corridor has little fragmentation at Base Case. ■ Incremental change in linear feature density in the range, from 0.03 km/km^2 to 0.04 km/km^2.	■ One potential travel corridor affected. Southern extent of corridor has little fragmentation. ■ Incremental change in linear feature density in the range, from 0.03 km/km^2 to 0.04 km/km^2.	■ One potential travel corridor affected, route avoids effects to undisturbed portion. ■ Incremental change in linear feature density in the range, from 0.03 km/km^2 to 0.04 km/km^2.	No measurable difference in effects to connectivity within or beyond the range
	Survival and reproduction	■ Incremental increase in predation risk associated with removal of 300 ha suitable habitat (i.e., Category 1 and 2). ■ More important effects predicted in areas that support both calving and nursery function.	■ Incremental increase in predation risk associated with removal of 93 ha suitable habitat (i.e., Category 1 and 2). ■ More important effects predicted around Lake St. Joseph (regionally important calving/nursery area, undisturbed).	■ Incremental increase in predation risk associated with removal of 94 ha suitable habitat (i.e., Category 1 and 2). Avoids undisturbed areas affected by the corridor. ■ More important effects predicted around Lake St. Joseph (regionally important calving/nursery area).	Corridor alternatives
Kinloch Range criteria score		0	3	3	

ha = hectares; km = kilometre; km^2 = square kilometre; % = percent.

Moose

The environmental assessment for the moose criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor is predicted to result in a direct loss of 1,290 ha of moderate to high suitability moose habitat. The Corridor Alternative Around Mishkeegogamang is predicted to result in a direct loss of 1,054 ha of moderate to high suitability moose habitat. The Corridor Alternative Through Mishkeegogamang is predicted to result in a direct loss of 1,042 ha of moderate to high suitability moose habitat.

The Corridor Alternative Through Mishkeegogamang was predicted to remove the least amount of moderate to high moose habitat and was assigned the criteria score of 2.

Wolverine

The environmental assessment for the wolverine criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor is predicted to result in a direct loss of 13,750 ha of high suitability wolverine habitat. The Corridor Alternative Around Mishkeegogamang is predicted to result in a direct loss of 7,713 ha of high suitability wolverine habitat. The Corridor Alternative Through Mishkeegogamang is predicted to result in a direct loss of 4,454 ha of high suitability wolverine habitat.

The Corridor Alternative Through Mishkeegogamang was predicted to remove the smallest area of high wolverine habitat and was assigned the criteria score of 2.

Little Brown Myotis

The environmental assessment for the little brown myotis criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor is predicted to result in the smallest area of direct loss of potential maternity roost habitat of 112 ha. The Corridor Alternative Around Mishkeegogamang is predicted to result in the largest area of direct loss of potential maternity roost habitat of 134 ha. The Corridor Alternative Through Mishkeegogamang is predicted to result in 124 ha of direct loss of maternity roost habitat.

The Preliminary Proposed Corridor was predicted to remove the smallest area of maternity habitat and was assigned the criteria score of 3.

Horned Grebe

The environmental assessment for the horned grebe criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor or corridor alternatives are not expected to change the availability or distribution of habitat for horned grebe as the corridors will not adversely affect wetlands or waterbodies. Therefore, the Project is expected to results in negligible net effects on horned grebe so these negligible net effects were not carried forward for further assessment and no magnitude rating was assigned. There is no predicted difference in the net effects on horned grebe between the three corridors. Therefore, all three corridors were assigned a criteria score of 2 (i.e., the criteria rank).

Bald Eagle

The environmental assessment for the bald eagle criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor is predicted to result in a direct loss of 252 ha of bald eagle habitat. The Corridor Alternative Around Mishkeegogamang is predicted to result in a direct loss of 354 ha of bald eagle habitat. The Corridor Alternative Through Mishkeegogamang is predicted to result in a direct loss of 342 ha of bald eagle habitat.

The Preliminary Proposed Corridor was predicted to remove the smallest area of bald eagle habitat and was assigned the criteria score of 3.

Canada Warbler

The environmental assessment for the Canada warbler criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor is predicted to result in a direct loss of 637 ha of moderate to high suitability Canada warbler habitat. The Corridor Alternative Around Mishkeegogamang is predicted to result in a direct loss of 608 ha of moderate to high suitability Canada warbler habitat. The Corridor Alternative Through Mishkeegogamang is predicted to result in a direct loss of 596 ha of moderate to high suitability Canada warbler habitat.

The Corridor Alternative Through Mishkeegogamang was predicted to remove the smallest area of moderate to high suitability Canada warbler habitat and was assigned the criteria score of 3.

Eastern Whip-poor-will

The environmental assessment for the Easter whip-poor-will criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor is predicted to result in a direct loss of 372 ha of Eastern whip-poor-will habitat. The Corridor Alternative Around Mishkeegogamang is predicted to result in a direct loss of 244 ha of Eastern whip-poor-will habitat. The Corridor Alternative Through Mishkeegogamang is predicted to result in a direct loss of 250 ha of Eastern whip-poor-will habitat.

The Corridor Alternative Around Mishkeegogamang was predicted to remove the least amount of Eastern whippoorwill Habitat and was assigned the criteria score of 3.

Common Nighthawk

The environmental assessment for the common nighthawk criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor is predicted to result in a direct loss of 372 ha of common nighthawk habitat. The Corridor Alternative Around Mishkeegogamang is predicted to result in a direct loss of 244 ha of common nighthawk habitat. The Corridor Alternative Through Mishkeegogamang is predicted to result in a direct loss of 253 ha of common nighthawk habitat.

The Corridor Alternative Around Mishkeegogamang was predicted to remove the smallest area of common nighthawk habitat and was assigned the criteria score of 3.

Olive-sided Flycatcher

The environmental assessment for the olive-sided flycatcher criterion is in Section 6.3: Wildlife. The Preliminary Proposed Corridor is predicted to result in a direct loss of 461 ha of moderate to high suitability olive-sided flycatcher habitat. The Corridor Alternative Around Mishkeegogamang is predicted to result in a direct loss of 545 ha of moderate to high suitability olive-sided flycatcher habitat. The Corridor Alternative Through Mishkeegogamang is predicted to result in a direct loss of 523 ha of moderate to high suitability olive-sided flycatcher habitat.

The Preliminary Proposed Corridor was predicted to remove the smallest area of moderate to high suitability olive-sided flycatcher habitat and was assigned the criteria score of 3.

Labour Market

The assessment for the labour market criterion is in Section 7.3: Socio-economics. Over the course of the approximately 18 to 24-month construction period, the Project is expected to require 450-500 full time equivalent (FTEs) of direct employment (or annual average of 225-250 FTEs). The relatively small direct and indirect employment numbers generated through Project construction (with respect to overall labour force size in the labour market LSA and the expectation that a large proportion of the construction labour will be sourced from outside the labour market LSA) indicates that the Project will not adversely affect labour market balance in the labour market LSA. Approximately eight FTEs of employment annually will be required to operate and maintain the Project. The small amount of operational employment generated during operations will not adversely affect labour market balance in the labour market LSA.

The Project would support total employment income in the LSA of an estimated $132.5 million annually (or $198.75-$265 million over the 18-24 month construction period). In the case of direct and indirect hiring from local LSA communities, direct, indirect and induced employment associated with construction of the Project would temporarily boost average wage and salary levels and total community employment income within these smaller communities. As such, a beneficial effect on employment income in the LSA communities is predicted during the construction stage.

A positive effect on training in the LSA is predicted during the construction stage. This is based on the experience with training on other Projects in the LSA the impact management providing for skills development and upgrading that would be obtained in association with construction stage employment or in anticipation of employment with the Project, and which would be incremental to existing conditions.

The Project is predicted to have a positive effects on employment, income, training opportunities and skill development. There are no predicted differences in effects to the labour market between corridors, therefore each corridor was assigned the criteria score of 2.

Regional Economy

The assessment for the labour market criterion is in Section 7.3: Socio-economics. Business opportunities and revenues are expected to be created in response to Project-related demand for and spending on goods and services. A portion of these opportunities and revenues could be provided by local and regional businesses. During the construction stage, local and regional procurement opportunities are expected to generally consist of short-term contracts with firms to provide construction services and products.

The Project will advertise all publicly available contracts, which will be open to all qualified businesses including local ventures and First Nations. For goods and services that may be sourced locally, the Project has committed to prioritising employment and procurement in Aboriginal communities.

Project operations would require a relatively small amount of spending on goods and services for its operations. The spending that would occur for business suppliers in the LSA would be mainly for general maintenance purposes. Any purchase of replacement equipment or materials would be primarily form supplies outside the immediate LSA.

The Project is predicted to have a positive effects on the regional economy. There are no predicted differences in effects to the regional economy between corridors, therefore each corridor was assigned the criteria score of 2.

Government Finances

The assessment for the government finances criterion is in Section 7.3: Socio-economics. The economic activity associated with the Project construction (including that of contractors, suppliers and employees) is anticipated to positively contribute to government net revenues through income and other taxes. The small amount of taxes generated through employment income and goods and supplies used during Project operations would further contribute to government net revenues during operations.

Payments made to governments during the operation and maintenance stage are positive benefits of the Project. There are no predicted differences in effects to government finances between corridors, therefore each corridor was assigned the criteria score of 2.

Housing and Temporary Accommodation

The assessment for the housing and temporary accommodation criterion is in Section 7.3: Socio-economics. Three temporary construction camps are planned for the Preliminary Proposed Corridor housing between 300 and 450 workers in total. The Project will require specialized contractors and suppliers from outside the region and some of these contractors and suppliers will require temporary accommodation. It is anticipated that during peak construction periods, the work camps along the Preliminary Proposed Corridor will be at capacity with the direct workforce and some contractors and suppliers will secure temporary accommodation in nearby communities (e.g., Sioux Lookout, Dryden, and Pickle Lake). An estimated 300-450 direct construction workers will potentially require housing in the temporary accommodation and rental housing LSA during peak construction, it is unlikely that all of the workers can be comfortably housed in LSA communities if peak construction falls during the peak tourism season.

Four temporary construction camps are planned for the corridor alternatives around and through Mishkeegogamang housing between 400 and 600 workers in total. As with the Preliminary Proposed Corridor temporary accommodation will be required for specialized contractors and suppliers from outside the region. An estimated 350 workers will potentially require housing in the temporary accommodation and rental housing LSA during peak construction, it is likely that all of the workers could be housed in the LSA even if peak construction falls during the peak tourism season.

The magnitude of effects to changes in rental housing and temporary accommodation availability and supply from the Preliminary Proposed Corridor and for the corridor alternatives around and through Mishkeegogamang is predicted to be low to moderate. Therefore, each corridor was assigned the criteria score of 1Preliminary Proposed Corridor.

Services and Infrastructure

The assessment for the services and infrastructure criterion is in Section 7.3: Socio-economics. Project-induced in-migration during construction is not anticipated, and there would be no effect pathway on in-Project-induced migration and maintenance of availability and access to education services, non-emergency healthcare services, social services, recreational services, and water, waste and power supply and infrastructure.

Project use of and demand on emergency services is not expected to adversely affect service capacity or regional government expenditure outlays. A negligible net effect on maintenance of maintenance of solid and liquid waste infrastructure service availability and emergency and protective service availability and access is expected.

There are no predicted differences in effects to services and infrastructure between corridors, therefore each corridor was assigned the criteria score of 1.

Community Wellbeing

The assessment for the services and infrastructure criterion is in Section 7.3: Socio-economics. The potential Project nuisance effects on community wellbeing were assessed taking into consideration the changes to air quality from fugitive dust emissions and noise during Project construction and potential for these changes to result in nuisance effects on sensitive human receptors. Nuisance effects associated with air quality are expected to be negligible, and would not affect community or individual wellbeing.

Two sensitive receptors were identified within the Preliminary Proposed Corridor community wellbeing noise LSA. The closest potentially affected active sensitive socio-economic receptor in the residential area in Central Patricia would conservatively be 175 m from the transmission line alignment ROW, where change in %HA are predicted to be 14.9% to 20.7% which is above the 6.5% threshold established by Health Canada.

Six sensitive human receptors were identified within the community wellbeing noise LSA for the Corridor Alternative Around Mishkeegogamang. These include residential areas, public school, and community centre within 1,500 m of either the transmission line, connection facility/transformer station, construction camp, or new access roads. The closest potentially affected active receptor in the residential area in Central Patricia would conservatively be 175 m from the transmission line alignment ROW, where change in %HA is predicted to be 14.9% to 20.7% which is above the Health Canada threshold for impact management measures.

Seven sensitive human receptors were identified within the community wellbeing LSA for the Corridor Alternative Through Mishkeegogamang. These include residential areas, public school, and community centre within 1,500 m of the either the transmission line alignment ROW, connection facility/transformer station, construction camp, or new access roads.

The magnitude of effects to changes in community wellbeing associated with nuisance noise from is predicted to be low and for all three corridors. As there are no predicted differences in effects to community wellbeing between corridors, therefore each corridor was assigned the criteria score of 1.

Parks and Protected Areas

The assessment for the parks and protected areas criterion is in Section 7.4: Non-Aboriginal Land and Resource Use. The parks and protected areas LSA for the Preliminary Proposed Corridor overlaps:

- Two provincial parks; however, access will primarily be restricted in the Project footprint, where only 2 ha and 1 ha of each park's identified boundary will be affected.
- Three conservation reserves; however, none of these conservation reserves are transected by the Project footprint, where the greatest access restrictions will exist.
- The Cat Lake Slate Falls Community-based Land Use Plan Dedicated Protected Area (DPA); however, access will primarily be restricted in the Project footprint, where only 0.01% of the DPA will be disturbed.

The parks and protected areas LSA for the Corridor Alternative Around Mishkeegogamang overlaps:

- Three provincial parks; however, access will primarily be restricted in the Project footprint, where only 3 ha, 19 ha and 38 ha of each park's land mass will be disturbed.
- One conservation reserve; however, the conservation reserve is not transected by the Project footprint, where the greatest access restrictions will exist.

The parks and protected areas LSA for the Corridor Alternative Through Mishkeegogamang overlaps:

- Four provincial parks; however, access will primarily be restricted in the Project footprint, where only three provincial parks will be disturbed, for 3 ha, 19 ha and 32 ha of each park's total land mass.
- One conservation reserve; however, this conservation reserve is not transected by the Project footprint, where greatest access restrictions will exist.

Although access to and use of these parks and protected areas may face temporary restrictions during the construction stage (i.e., an 18 to 24-month timeframe), these disturbances to access, parklands and associated roads will not be continuously in effect for the entire construction stage, as construction will be completed using a staged approach. Temporary access restrictions will only be put in place for a few weeks to a few months in segmented areas within the larger construction schedule, as Project construction progresses along the ROW. Access and use of disturbed areas will be permitted throughout operation, and while resulting in some changes to the visual aesthetic of cleared areas, negligible effects on the 'continued use and enjoyment of parks and protected areas' assessment endpoint are expected during the construction, operation and maintenance stages due to the proportion of each park or protected area affected by the clearing of the Project footprint.

There are no predicted differences in effects to parks and protected areas between corridors, therefore each corridor was assigned the criteria score of 3.

Commercial Industry Land and Resource Use

The assessment for the commercial industry land and resource use criterion is in Section 7.4: Non-Aboriginal Land and Resource Use. Disturbances and reductions in access would be experienced at the local level, predominantly where mining, aggregate, forestry and agricultural activities overlap the Project footprint, although effects to commercial industrial operations may experience effects at the LSA-level due to indirect effects of Project traffic. Wataynikaneyap will meet all regulatory requirements and address potential effects to commercial industrial users (including tenure holders) by engaging, negotiating, and developing mutually beneficial agreements that address potential effects, including compensation, where relevant. As a result of this impact management measures, in addition to other impact management measures presented in Table 7.4-50 and the draft Environmental and Social Management Plan (ESMP; Section 9.0), negligible net effects are anticipated on land use quantity available for commercial industrial land use, access and operations.

There are no predicted differences in effects to commercial industry land and resource use between corridors, therefore each corridor was assigned the criteria score of 2.

Outdoor Tourism and Recreational Land and Resource Use

The assessment for the outdoor tourism and recreational land and resource use criterion is in Section 7.4: Non-Aboriginal Land and Resource Use. Net effects on the land use quantity indicator under the outdoor tourism and recreation criterion are deemed to be both negative and positive in direction. As identified during the Aboriginal and stakeholder engagement Program, primary data collection interviews with outdoor tourism and recreation land users, and through other Project experience in Northern Ontario, these net effects may be considered to be positive or negative depending on the land user in question. Hunters, anglers and trappers are likely to perceive new, additional land base access to areas of the outdoor tourism and recreation LSA as beneficial, creating new opportunities and areas to participate in hunting, trapping and fishing activities. However, guided outfitters, who operate commercially and have benefited from exclusive or limited access to certain areas (i.e., creating visitor experiences based on values of remoteness and wilderness) are likely to see the expansion of access to have a negative effect their activities.

The net effect on land use quantity is considered to be of moderate magnitude, as the effect is discernable (i.e., with the potential to result in positive or adverse effects on land use), but manageable within the current system. There are no predicted differences in effects to outdoor tourism and recreational land and resource use between corridors, therefore each corridor was assigned the criteria score of 2.

Archaeological Resources

The assessment for the archaeological resources criterion is in Section 7.1: Archaeological Resources. All three corridors could potentially result in the loss of, or damage to, an archaeological resource during construction. Wataynikaneyap will complete Stage 2 archaeological assessments (and Stage 3 and 4 if required) to determine whether archaeological sites are present within LSA and to recommend appropriate impact management measures should archaeological resources be identified. Completing the Stage 2 (and Stage 3 and 4, if required)

will result in effective protection of archaeological resources that could be affected by the Project. Further, in the event that archaeological resources not previously identified are encountered unexpectedly during construction, Wataynikaneyap will implement a Chance Find Procedure. The net effect of the Project on the number, type and location of known archaeological resources, and the area of potential archaeological resources is predicted to be negligible with effective implementation of the impact management measures summarized in Table 7.1-6, and the Draft ESMP (Section 9.0). There are areas of archaeological potential within all three corridor LSAs and there is no predicted difference in the net effects on archaeological resources between the three corridors. Therefore, all three corridors were assigned a criteria score of 1 (i.e., the criteria rank). T

Built Heritage and Cultural Heritage Landscapes

The assessment for the built heritage and cultural heritage landscapes criterion is in Section 7.2: Heritage Resources. Cultural heritage resources in all three corridors could potentially be altered by vibration from construction equipment during construction, clearing and grubbing of vegetation along the transmission line alignment ROW, creating access roads and trails, and other construction activities. As currently mapped, none of the potential heritage resources are within 60 m of the project footprint and at potential risk for vibration effects, but the exact locations of these resources have not been field verified and may be inaccurate. Once the preferred corridor is selected, 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 cultural heritage resources are of cultural heritage value or interest according the criteria prescribed in Ontario Regulation 9/06 and if other, not previously documented cultural heritage resources are present in the LSA. If resources of cultural heritage value or interest are identified, the CHER may recommend site-specific Heritage Impact Assessments (HIAs), which will recommend conservation measures to ensure all cultural heritage resources potentially affected by the Project are protected. With effective implementation of the impact management measures summarized in Table 7.2-8, the net effect of the Project on potential cultural heritage resources is predicted to be negligible for all three corridors and cultural heritage resources are expected to be protected from effects from the Project. There is no predicted difference in the net effects on cultural heritage resources between the three corridors. Therefore, all three corridors were assigned a criteria score of 1 (i.e., the criteria rank).

Landscape and Visual Resources

The assessment for the landscape and visual resources criterion is in Section 7.5: Visual Aesthetics. All three corridors will adversely affect visual quality through the visibility of built structures, vegetation clearing and grading during construction and the maintenance of vegetation disturbances during operation. For most viewing locations along the Preliminary Proposed Corridor and corridor alternatives the visual effect would be of a low magnitude as visibility of Project components would be partially or fully obstructed. Therefore, all three corridors were assigned a criteria score of 2 (i.e., the criteria rank).

Human Health

The effects assessment for human health is in Section 7.6: Human Health. All three corridors could potentially affect human health through the release of CAC and fugitive dust emissions and noise emissions. The implementation of impact management measures (Table 5.3-13), including an Air Quality Management Plan, are expected to limit adverse effects on air quality. Negligible net effects for all three corridors are predicted on

changes in air quality and specifically ambient concentrations of TSP, PM_{10}, $PM_{2.5}$, CO, NO_x (as NO_2) and SO_2 that could affect human health. Therefore, changes to air quality that could affect human health were not carried forward for further assessment and no magnitude rating was assigned.

Predicted changes to noise levels as a result of the Project were provided by the noise discipline. The Project-related changes in noise levels for construction activities are predicted to be greater than the Health Canada criterion for change in %HA of 6.5% at distances of up to 300 m from the Project. The magnitude of the effect on human health from a change in noise levels was predicted to be the low for each corridor.

There is no predicted difference in the net effects on air and noise emissions related to human health between the three corridors. Therefore, all three corridors were assigned a criteria score of 3 (i.e., the criteria rank).

Aboriginal and Treaty Rights and Interests

The effects assessment for Aboriginal and Treaty Rights and Interests is in Section 8.0. The assessment in this section was focussed on potential effects of the Project on Aboriginal and Treaty Rights on Group 1 Aboriginal communities, which include communities identified in the Memorandum of Understanding signed by Wataynikaneyap in November 23, 2016 and Cat Lake First Nation and Eabametoong First Nation. The effects assessment considered potential effects related to Rights activities, such as hunting fishing and gathering, sensitive cultural sites and changes in access that may affect these activities.

The assessment was primarily completed on the Preliminary Proposed Corridor as Aboriginal communities that could be affected by this corridor were engaged and TLRUS completed not withstanding extensive efforts to engage with other communities. The communities that shared information for the TLRUS (as of May 31, 2017) included Cat Lake First Nation, Slate Falls Nation, Eagle Lake First Nation, Lac Seul First Nation, Wabauskang First Nation, and Wabigoon Lake Ojibway First Nation. Significant effects to Aboriginal and Treaty Rights and Interests for these communities are not predicted because there will be no permanent loss of access, harvesting will be permitted within the ROW, and significant effects to the quantity and quality of harvested species and cultural use sites are not anticipated. Wataynikaneyap will continue efforts to engage with Mishkeegogamang First Nation, Ojibway Nation of Saugeen, Eabametoong First Nation, Lac des Milles Lacs First Nation (LDMLFN), and Métis Nation of Ontario (MNO) R1CC to collect TLRU data and information, understand potential effects to Aboriginal and Treaty Rights, and to consider these potential effects in Project design.

A full appreciation of the potential effects to Aboriginal and Treaty Rights for the corridor alternatives is not complete. As noted, TLRU data and information has not yet been provided by all communities whose Aboriginal and Treaty Rights may be affected by the Project. These communities include Mishkeegogamang First Nation, Eabametoong First Nation, Ojibway Nation of Saugeen, LDMLFN, and MNOR1CC. Wataynikaneyap will continue efforts to engage with these communities.

Portions of First Nations homelands will be required for the 40-m-wide transmission line alignment ROW and associated project infrastructure. Each corridor was conservatively assigned the criteria score of 3 as effects to Aboriginal and Treaty Rights are not yet fully understood equally for all corridors.

COST AND CONSTRUCTABILITY CRITERIA

Route Length

The route lengths for the Preliminary Proposed Corridor, and the corridor alternatives around and through Mishkeegogamang are 303 kilometres (km), 293 km, and 293 km respectively. The difference between these route lengths is less than 4% and was not considered to be a differentiating factor, therefore all three corridors were awarded the criteria score of 1.

Access Roads

The total access road lengths (existing, upgraded, and new) for the Preliminary Proposed Corridor, and the corridor alternatives around and through Mishkeegogamang are 343 km (85.6 km new), 180 km (32.0 km new), and 158 km (14.9 km new) respectively. The Corridor Alternative Through Mishkeegogamang has the shortest access road requirements according to the current Project design and was assigned the criteria score of 1 because it would have the least effect on cost and constructability of the Project based on the amount of access roads required, as well as the least disturbance to traffic from construction.

Large Water Crossings

A large waterbody crossing was considered to have a span between 200 m and 400 m based on bankfull width. The Preliminary Proposed Corridor has four large waterbody crossings and the corridor alternatives would each have 13. The Preliminary Proposed Corridor has the least number of large waterbody crossings and was assigned the criteria score of 1 because it would have the least effect to cost and constructability of the Project and effects on waterbodies; each alternative was assigned a 0.

Very Large Water Crossings

A very large waterbody crossing was considered to have a span over 400 m. The Preliminary Proposed Corridor crosses one very large waterbody, an unnamed lake/pond in the Otoskwin watershed (waterbody ID 1770.0-WC-P). The Corridor Alternative Around Mishkeegogamang crosses three very large waterbodies, two unnamed ponds or lakes in the Upper Albany – Cat watershed (waterbody ID 3180.0-WC-A, 3710.0-WC-AA) and Lake St. Joseph (3590.0-WC-AA). The Corridor Alternative Through Mishkeegogamang crosses two very large waterbodies, an unnamed pond/lake in the Upper Albany – Cat watershed (waterbody ID 3180.0-WC-A) and Eric Lake in the Upper Albany – Cat watershed (3250.0-WC-AT). The Preliminary Proposed Corridor has the least number of very large waterbody crossings with one, compared to the corridor alternatives around and through Mishkeegogamang which cross three and two respectively, and was assigned the criteria score of 2 because it would have the least effect on cost and constructability of the Project and effects on waterbodies; each alternative was assigned a 0.

Infrastructure Crossings

Infrastructure crossings include highways, rail lines, gas, and hydro-electric lines. The Preliminary Proposed Corridor will require six infrastructure crossings, the Corridor Alternative Around Mishkeegogamang will require 19, and the Corridor Alternative Through Mishkeegogamang will require 27. The appreciable difference between alternatives is five crossings. Therefore, the Preliminary Proposed Corridor and the Corridor Alternative Around Mishkeegogamang were considered equal and the most favourable resulting in a criteria score of 1. The Corridor Alternative Through Mishkeegogamang was considered the least favourable resulting in a criteria score of 0.

Angle Points

The Preliminary Proposed Corridor has 25 angle points that are greater than 10 degrees, the Corridor Alternative Around Mishkeegogamang has 50, and the Corridor Alternative Through Mishkeegogamang has 45. Angle pointes greater than 10 degrees require three-pole structures which result in larger local disturbance and have the potential for greater construction challenges, impact management measures, and schedule risk. The Preliminary Proposed Corridor has the least number of angle points and was assigned the criteria score of 1, the corridor alternatives were assigned 0.

Relative Cost

The relative cost for the Preliminary Proposed Corridor and corridor alternatives around and through Mishkeegogamang are $221M, $211M, and $216M respectively. The difference between the relative costs for each corridor is less than 5% and was not considered to be a differentiating factor, therefore all three corridors were awarded the criteria score of 3.

Alignment that is located on First Nation Reserves

The Preliminary Proposed Corridor and the Corridor Alternative Around Mishkeegogamang will not be located on First Nation Reserve land. Approximately 17.7 ha of the alignment for the Corridor Alternative Through Mishkeegogamang will be located on First Nation Land. Therefore, the Preliminary Proposed Corridor and the Corridor Alternative Around Mishkeegogamang were considered most favourable and were assigned a criteria score of 2. The Corridor Alternative Through Mishkeegogamang was assigned a criteria score of 0.

Crown Land

The alignments for the three corridors will consist of approximately 99.7%, 98.4%, and 90.8% of Crown land (or one, six, and nine Crown leases) for the Preliminary Proposed Corridor, the Corridor Alternative Around Mishkeegogamang, and the Corridor Alternative Through Mishkeegogamang, respectively. The appreciable difference between corridors is 1%. Therefore, the Preliminary Proposed Corridor was considered most favourable and assigned the criteria score of 2. The two alternatives were considered less favourable and were assigned the criteria score of 0.

Private Land

The Preliminary Proposed Corridor 40-m-wide transmission line alignment ROW will traverse approximately 3.6 ha of private land, including four private parcels. The Corridor Alternative Around Mishkeegogamang 40-m-wide transmission line alignment ROW will traverse approximately 18.6 ha of private land, including 19 private parcels and one full taking. The Corridor Alternative Through Mishkeegogamang 40-m-wide transmission line alignment ROW will traverse approximately 36.8 ha of private land, including nine private parcels and one full taking. The appreciable difference between corridors is 5 ha. Therefore, the Preliminary Proposed Corridor is considered most favourable and assigned the criteria score of 2. The corridor alternatives were considered less favourable and assigned a criteria score of 0.

TECHNICAL CRITERIA

Pickle Lake Short Circuit Level

Wataynikaneyap has not yet received the draft system impact assessment (SIA) report from Independent Electricity System Operator (IESO), which will indicate expected short circuit levels at Pickle Lake. As part of the application, the following parameters were provided:

- 230 kilovolt (kV) transmission line rated at 1164A (winter) and 912A (summer);
- 230kV bus at Pickle Lake TS rated at 1200A;
- 115kV bus at Pickle Lake TS rated at 2000A; and
- 230/115kV transformer at Pickle Lake TS rated at 250 Megavolt Ampere (MVA).

Without updated information the short circuit levels from the analysis in the ToR were used which were 282 MVA and 285 MVA for the Preliminary Proposed Corridor and corridor alternatives respectively. The appreciable difference is 10 MVA, therefore all three corridors were assigned the criteria score of 3.

Length of Corridor close to E1C

The Preliminary Proposed Corridor is close to the E1C line for approximately 33 km. Neither of the corridor alternatives are near the E1C line. Proximity, within 1 km of the existing E1C line, has a higher potential for a loss of both lines from the risk of forest fire. The Preliminary Proposed Corridor was therefore not assigned the criteria score and the corridor alternatives were each assigned the criteria score of 2.

Connection to Dryden Transformer Station

As currently designed, the southern terminus of the Preliminary Proposed Corridor will be a new 230 kV tap (with associated switching facilities) along Hydro One Networks Inc.'s (HONI's) D26A 230 kV transmission line in the Dinorwic area. If the corridor alternatives are selected the tap will be located in the Ignace area. No connection to the Dryden TS is currently planned, therefore all three corridors were assigned the criteria score of 1.

Potential New Load Customers

For IESO and HONI purposes, other new load customers are outside the scope of the SIA or customer impact assessment (CIA) process, as they are evaluating only the requirements to interconnect and serve the remote Aboriginal communities to be served by the Phase 2 Project. However, HONI will evaluate in the CIA the impact on existing customers of upgrading the delivery capabilities to Pickle Lake. Additionally, IESO in its North of Dryden report notes the potential for serving new loads (e.g., mines) by increasing delivery capabilities to Pickle Lake.

No new load customers have been identified for the Preliminary Proposed Corridor or corridor alternatives, therefore all three corridors were assigned the criteria score of 2.

Distance of Tap from Dryden Transformer Station

It is expected that the new tap and Dinorwic sub-station for the Preliminary Proposed Corridor will be approximately 30 km from the Dryden TS and the corridor alternatives are approximately 90 km from the Dryden TS. This distance is not considered appreciable for this technical criteria, therefore the three corridors were assigned the criteria score of 1.

Waterpower Potential within 30 kilometres

The waterpower potential within 30 km for the Preliminary Proposed Corridor is 42.7 Megwatts (MW), for the Corridor Alternative Around Mishkeegogamang is 40.7 MW, and for the Corridor Alternative Through Mishkeegogamang is 44.7 MW. A difference of 10 MW is considered appreciable for waterpower potential within 30 km, therefore all three corridors were assigned the criteria score of 2.

13.1.2.5 Step 6 – Compare Ranked and Weighted Criteria Results for the Corridors and Identify Preferred Corridor

Table 13.1-8 summarizes the category scores for each category by corridor.

Table 13.1-8: Category Scores by Corridor

Category	Preliminary Proposed Corridor	Corridor Alternative Around Mishkeegogamang	Corridor Alternative Through Mishkeegogamang
Environmental Assessment	34.9%	30.8%	35.6%
Cost and Constructability	26.3%	15.0%	13.1%
Technical	16.4%	20.0%	20.0%
TOTAL	**77.5%**	**65.8%**	**68.7%**

% = percent.

The Preliminary Proposed Corridor has scored the highest overall with 77.6% and there is more than an 8% difference between the score for the Preliminary Proposed Corridor and the next highest scored corridor.

Under the cost and constructability category, the Preliminary Proposed Corridor scored highest with 26.3% because it will involve less large and very large watercourse crossings, angle points, and private land crossings than either of the corridor alternatives. The Preliminary Proposed Corridor also does not traverse a First Nation reserve which presents an additional logistical constraint to proceeding with the Project because of the permitting and approvals that would be required.

The Preliminary Proposed Corridor had the second highest score for the environmental assessment category with 34.9% compared to the Corridor Alternative Through Mishkeegogamang which scored 35.6%. The difference in these category scores is only 0.7% and so is considered marginal. The results of the environmental assessment for the corridors indicate that the Preliminary Proposed Corridor will have less direct loss of habitat for the little brown myotis, bald eagle, and olive-sided flycatcher criteria. The Preliminary Proposed Corridor will also have less effect on caribou ranges as it only traverses the Churchill and Kinloch ranges and completely avoids the Brightsand Range.

The scores for the corridors under the technical category are similar, with the Preliminary Proposed Corridor being somewhat less favourable because it has approximately 30 km of the proposed 40-m-wide transmission line alignment ROW close to the existing E1C transmission line.

The Preliminary Proposed Corridor has been identified as the preferred undertaking based on the final corridor analysis which compared results for environmental assessment criteria, cost and constructability criteria, and technical criteria by corridor.

13.1.2.6 Advantages and Disadvantages

This section identifies advantages and disadvantages of the adverse net environmental effects (direct, indirect, and cumulative) between the corridors. A comparison of the advantages and disadvantages is presented in Table 13.1-9.

Table 13.1-9: Comparison of Advantages and Disadvantages for the Corridors

Corridor	Advantages	Disadvantages
Preliminary proposed corridor	■ Least amount of caribou category 1 habitat (nursery and winter use areas) removed in the Churchill Range. ■ Least effect to caribou connectivity beyond Churchill Range. ■ Least effect to predation risk to caribou in Churchill Range. ■ No effect to caribou Brightsand Range. ■ Least amount of maternity roost habitat for little brown myotis removed. ■ Least amount of bald eagle habitat removed. ■ Least amount of olive-sided flycatcher habitat removed. ■ Lowest number of large and very large waterbody crossings by the 40-m-wide transmission line alignment ROW, which increases the constructability of the Project and reduces the need for permits that may delay the construction schedule. ■ Lowest number of infrastructure crossings along the 40-m-wide transmission line alignment ROW, which reduces the need for permits that may delay construction schedule. ■ Lowest number of angle points, which increases the feasibility of the Project. ■ Does not cross First Nation Reserve land. ■ Low proportion of private land within the 40-m-wide transmission line alignment ROW.	■ Highest amount of upland ecosystem area removed. ■ Highest amount of riparian ecosystem area removed. ■ Highest amount of wetlands and rare vegetation communities removed. ■ Highest need of the new access for construction of the 40-m-wide transmission line alignment ROW.
Corridor alternative around Mishkeegogamang	■ Least effect to caribou connectivity within Churchill Range. ■ Least amount of caribou winter use area habitat removed in the Kinloch Range. ■ Least effect to predation risk to caribou in the Kinloch Range. ■ Least amount of eastern whip-poor-will habitat removed. ■ Least amount of common nighthawk habitat removed. ■ Short route length.	■ Highest amount of category 1 (nursery and winter use areas) caribou habitat removed in the Churchill Range. ■ Highest number of large and very large waterbody crossings by the 40-m-wide transmission line alignment ROW, which reduces the constructability of the Project and increases the need for permits that may delay the construction schedule.

Table 13.1-9: Comparison of Advantages and Disadvantages for the Corridors

Corridor	Advantages	Disadvantages
Corridor alternative through Mishkeegogamang	■ Least amount of upland ecosystem area removed. ■ Least amount of riparian ecosystem area removed. ■ Least amount of wetlands and rare vegetation communities removed. ■ Least effect to caribou connectivity within Churchill Range ■ Least amount of caribou nursery area habitat removed in the Kinloch Range. ■ Least effect to predation risk to caribou in the Kinloch Range. ■ Least amount of moose habitat removed. ■ Least amount of wolverine habitat removed. ■ Least amount of Canada warbler habitat removed. ■ Short route length.	■ Highest amount of category 1 (nursery and winter use areas) caribou habitat removed in the Brightsand Range. ■ Highest number of infrastructure crossings along the 40-m-wide transmission line alignment ROW that may require additional permits, increase costs and delay construction schedule. ■ Highest number of angle points, which limits the feasibility of the Project.

m = metres; ROW = right-of-way.

13.2 Conclusions

Transmission reliability and expansion to Pickle Lake has been identified in Ontario's *Achieving Balance Long-Term Energy Plan* (released in November 2013) as a key priority for the connection of Aboriginal communities in northwestern Ontario to the provincial grid Ministry of Energy 2013). A new line to Pickle Lake will help serve new demand in the area north of Dryden and provide increased capacity to connect remote communities (Ministry of Energy 2013). Construction of the Phase 1 Project is required for the Phase 2: Connecting 17 Remote First Nations Project to proceed. The Phase 2 Project includes the construction, operation and maintenance of approximately 1,500 km of 115 kV and 44 kV transmission lines for subsystems north of Pickle Lake and Red Lake to connect 17 remote First Nation communities, currently powered by diesel generation, to the provincial electrical grid.

Wataynikaneyap will own, construct, operate, and maintain the Phase 1 New Transmission Line to Pickle Lake Project. Wataynikaneyap is a licenced transmission company formed by 22 First Nation communities and partnered with FortisOntario. The Project is undergoing an Individual EA in accordance with the approved Amended ToR and MOECC guidance, including the Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario (MOECC 2014a) and the Code of Practice: Consultation in Ontario's Environmental Assessment Process (MOECC 2014b).

As described above in Section 13.1, an analysis of the Preliminary Proposed Corridor, two corridor alternatives, and associated Project components, was completed to identify the preferred corridor, based on environmental assessment, cost and constructability and technical criteria and indicators. Based on this analysis and the advantages and disadvantages comparison provided in Table 13.1-9, the Dinorwic (east of Dryden) to Pickle Lake corridor (Preliminary Proposed Corridor) and associated Project components is identified as the preferred undertaking for which Wataynikaneyap seeks approval. The Project will therefore include the construction, operation, and maintenance of:

- An overhead 230 kV Alternating Current (AC) transmission line originating in Dinorwic and extending north to terminate at Pickle Lake.
- A connection facility in the Dryden area to serve as a 230 kV interconnection station to deal with the various requirements of new and existing transmission lines, as well as Hydro One Networks Inc. (HONI) requirements.
- A transformer station and ancillary components is proposed at Pickle Lake to provide for connection and switching of the 230 kV AC transmission line to the existing HONI (E1C) and the Musselwhite Mine (M1M) transmission lines.
- Structures associated with construction, including construction camps, access roads and trails, laydown areas, watercourse crossings, and waste management and staging areas.

Proceeding with the Project will have environmental effects. Based on the Project Description (Section 3.0) prepared at the time of submission of this report, the existing environment (Base Case), and taking into account the implementation of the impact management measures described in the draft ESMP (Section 9.0), the incremental effects associated with the Project can be effectively mitigated by standard and specific environmental protection measures.

Net adverse environmental effects of the Project in combination with past, existing, and reasonably foreseeable developments, have been predicted to be not significant for all EA criteria, except for two wildlife criteria: woodland caribou in the Churchill and Brightsand ranges and little brown myotis. The Churchill and Brightsand caribou populations are not considered self-sustaining, and therefore significantly impacted at Base Case. Little brown myotis in the RSAs has been conservatively considered as not likely to be self-sustaining in the Base Case and significantly impacted because of the presence of white-nose syndrome. For both criteria, combined effects from the Project and existing developments are predicted to remain significant in the Project Case; however Project contribution to effects to these species are predicted to be minor.

The Project is expected to provide the following net benefits:

- Increase in labour demand from direct employment, indirect employment, and induced employment.
- Contracting opportunities and spending by local and regional consumers and service oriented businesses of wages and income from the Project will support economic development in the LSA and RSA.
- Positive contribution to government net revenues through income and other taxes.

By enabling the Phase 2 Project connecting 17 remote First Nation communities, the following additional benefits will be realized:

Environmental Benefits:

- Fewer Fuel Spills and Contamination: Reduced risks and lower number/volume of transport, storage and consumption based oil spills and contamination due to substantive reduction in the use of diesel fuel for electricity and space/water heating.
- Reduced Greenhouse Gas (GHG) Emissions: Major reduction in GHG emissions due to replacement of diesel fuel requirements with grid-based electricity.
- Enhanced Environmental Resilience: Enhanced environmental reliance in northern Ontario due to:
  - reduced reliance on ice road and transport infrastructure and fuel storage;
  - elimination of emergency fuel deliveries by air related to poor ice road conditions (climate change); and
  - substantial reduction in GHG emissions from diesel generation.

First Nation Social and Community Development Benefits:

- **Reduced Health Risk:** Diesel fuel increases risks to human health. The transport and storage of fuel is an occupational health risk. Diesel-based power generation and furnace emissions from fuel oil, lead to poor indoor air quality, which can exacerbate respiratory, heart and other ailments.
- **Community Quality of Life:** The effect of replacing unreliable, poor quality diesel electricity with cleaner, cheaper and much more reliable grid power has a range of positive benefits on community quality of life (e.g., noise).
- **Community Infrastructure:** The positive effects of continued operations, lower maintenance costs and longer infrastructure lifespans as a consequence of introducing grid power to replace local diesel electricity.
- **Residential Development:** Allows for residential development to accommodate a growing population.

First Nations and Regional Economic Development Benefits:

- **Employment and Jobs:** Direct construction, operating and management jobs created through the Project.
- **Skills Development:** Skills development, job qualifications and experience obtained by First Nation peoples through development, planning, construction, operation and ownership/management of the Project.
- **Economic Development (Energy and Business):** Transmission infrastructure investment leads to three types of beyond construction types of economic development:
  - the opportunity to develop clean energy projects to feed into the system;
  - community-based economic development based on the availability of clean, reliable grid power; and
  - commercially driven economic development by small businesses: that utilizes grid power for their operations.

Ontario and Canada Economic Development Benefits:

- **Infrastructure and Natural Resource Competitiveness:** The benefits associated with having grid power infrastructure to support natural resources development and competitiveness in northwestern Ontario.
- **Tax Revenue:** A projection of provincial and federal tax revenue generated through the Wataynikaneyap Project, including income (personal, corporate and payroll) and consumption (sales and excise) taxes.
- **Infrastructure Investment Multipliers:** A projection of the additional economic benefits arising from the Project through multiplier effects from investment and job creation.

Further justification of proceeding with Phase 1 to enable Phase 2 project from a socioeconomic benefit have been identified as follows:

- A Sustainable Return on Investment[2] of approximately $2 billion (Canadian dollars), which includes the following:
  - Financial return on investment - $1.071 billion;
  - Present value of avoided greenhouse gas emissions - $472 million;
  - Present value of reduced adverse health impacts - $304 million;
  - Present value of damage to vegetation - $35 million; and
  - Present value of avoided diesel spills - $21 million (PWC 2015).

[2] Sustainable Return on Investment (SROI) – an enhanced form of Cost-Benefit Analysis (CBA). It provides a triple-bottom line view of a project's economic results, incorporating state-of-the-art risk analysis. SROI monetizes (converts to monetary terms) all relevant social and environmental impacts related to a given project, and provides the equivalent of traditional financial metrics.

13.3 References

Beanlands, G.E. and P.N. Duinker. 1983. *An Ecological Framework for Environmental Impact Assessment in Canada.* Institute for Resource and Environmental Studies, Dalhousie University, Halifax, Nova Scotia.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC) 2012*. Canadian Wildlife Species at Risk.* October 2012. Ottawa, Ontario. 98 p.

Environment Canada. 2013. *How Much Habitat is Enough? Third Edition*. Environment Canada, Toronto, Ontario. 130 pp.

Golder (Golder Associates Ltd.). 2014. Amended Terms of Reference for the New Transmission Line to Pickle Lake Project Environmental Assessment. Submitted to the Ministry of Environment and Climate Change. Available at: wataypower.ca

Ministry of Energy (Ontario Ministry of Energy). 2013. *Achieving Balance: Ontario's Long-Term Energy Plan*. November 2013.

MOECC (Ministry of Energy and Climate Change). 2014a. Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario. Published January 2014.

MOECC. 2014b. Code of Practice: Consultation in Ontario's Environmental Assessment Process. Published January 2014.

PWC (Price Waterhouse Coopers). 2015. Wataynikaneyap Power Project Socioeconomic Impact Analysis of Building Grid Connection to Ontario's Remote Communities. Document on file at Golder Associates Ltd.

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Schedule B

8.0 ABORIGINAL AND TREATY RIGHTS AND INTERESTS

8.1 Introduction

The Ministry of Energy has delegated procedural aspects of Aboriginal engagement on the Project to Wataynikaneyap through two instruments; a letter dated February 13, 2013 and a letter dated November 28, 2016 and executed Memorandum of Understanding (MOU) dated November 23, 2016. In these documents, the Crown identified the Aboriginal communities that should be consulted on the basis that they have or may have constitutionally protected Aboriginal or Treaty Rights that may be adversely affected by the Project.

The February 13, 2013 delegation letter and the MOU also instruct Wataynikaneyap to engage with any communities that have non-rights based interests in the Project. Non-rights based engagement is extended to communities that may not be named in the delegation letter or MOU.

Wataynikaneyap prepared an Aboriginal Engagement Plan as part of the amended Terms of Reference that identified the communities that may have Aboriginal and Treaty Rights that are potentially affected by the Project. This list was based on advice in the delegation instruments and potential effects to Aboriginal and Treaty Rights that were identified through community engagement by Wataynikaneyap. These communities were identified as Group 1 communities in the Aboriginal Engagement Plan.

This section focuses on the Project effects on Aboriginal and Treaty Rights on the following Group 1 communities:

- Eagle Lake First Nation;
- Lac Seul First Nation;
- Mishkeegogamang First Nation;
- Ojibway Nation of Saugeen;
- Slate Falls Nation;
- Wabigoon Lake Ojibway Nation (Waabigoniiw Saaga'iganiiw Anishinaabeg); and
- Métis Nation Ontario Region 1 Consultation Committee[1] (MNO R1CC).
- Eabametoong First Nation, which has a shared land use planning area with Mishkeegogamang First Nation. Because the communities jointly define this as a shared use area, they have been engaged with respect to effects on Aboriginal and Treaty Rights.
- Cat Lake First Nation, which shares their traditional land area with Slate Falls Nation. Because the communities jointly define this as a shared use area, they have been engaged with respect to effects on Aboriginal and Treaty Rights.

[1] Métis Nation Ontario Region 1 Consultation Committee (MNO R1CC) has been identified by the MNO and in the Ministry of Energy MOU as the Aboriginal group for engagement. R1CC includes members from the Atikokan and Area Métis Council, Kenora Métis Council, Northwest Métis Council and Sunset Country Métis Council.

Lac des Milles Lacs First Nation (LDMLFN) is not a Group 1 community; however they have indicated that they may have traditional land and resource use that is potentially affected by the Project within the Local Study Area. Therefore, a discussion on the status of traditional land and resource use data collection with LDMLFN at the time of submission of this report is provided. The Ministry of Energy has been informed by Wataynikaneyap of the assertion of a potential effect.

Section 8.0 also includes information received regarding Aboriginal communities' interests as of May 31, 2017. Aboriginal interests are not protected through Treaty or as Aboriginal Rights under Section 35 of the *Constitution Act* 1982, but are matters of concern or interest to Aboriginal people. A number of matters were identified through engagement with Aboriginal communities that are discussed below. The identified interests are addressed in other sections of this report and are therefore not discussed in detail in Section 8.7.2.1.

8.2 Aboriginal Rights and Treaty Rights

Aboriginal Rights are constitutionally protected rights held by Aboriginal people that relate to activities that are an element of a practice, custom, or tradition integral to the distinctive culture of the Aboriginal group claiming such rights, and have continuity with the practices, customs and traditions that existed prior to contact with European society. They may include (but are not limited to) rights related to activities such as hunting, fishing, trapping and harvesting, and include Aboriginal title (Slattery 2000).

Treaty Rights refer to rights set out in a Treaty. They have a relationship to Aboriginal Rights in that many treaty provisions reflect pre-existing Aboriginal Rights. In other instances, a Treaty may alter Aboriginal Rights, as by consolidating them, redefining them, sharing them, ceding them, or reshaping them. In this sense, often treaties provide an extra layer of security to Aboriginal Rights (Slattery 2000).

Wataynikaneyap Power Limited Partnership (Wataynikaneyap) recognizes that Aboriginal Rights are grounded in historical and ongoing customs, practices and traditions to the land. Aboriginal people live, work, hunt, fish, trap and harvest throughout their traditional lands and rely on them for their individual as well as their community's overall cultural, social, spiritual, physical and economic well-being. Traditional lands are inextricably connected to a community's shared identity and culture.

The relationship between Aboriginal communities and their traditional lands is a symbiotic one and the health of the community is tied to the health of the land. As such, what happens to lands in relation to use, development, ecosystems and sustainability is of fundamental importance to the survival of communities. First Nations and Métis are stewards of their traditional lands and have the responsibility to protect them.

Wataynikaneyap has made efforts to better understand how Aboriginal and Treaty Rights of Aboriginal communities for Group 1 communities may be affected through community engagement, including by conducting traditional land and resource use (TLRU) studies with communities.

8.2.1 Treaties

The Project passes through two treaty areas, each with associated specified rights that may be affected by the Project: Treaty 3 (1873, Adhesions 1874 and 1875) and Treaty 9 (1905-1906). The treaties in relation to the Project are presented in Figure 8.0-1.

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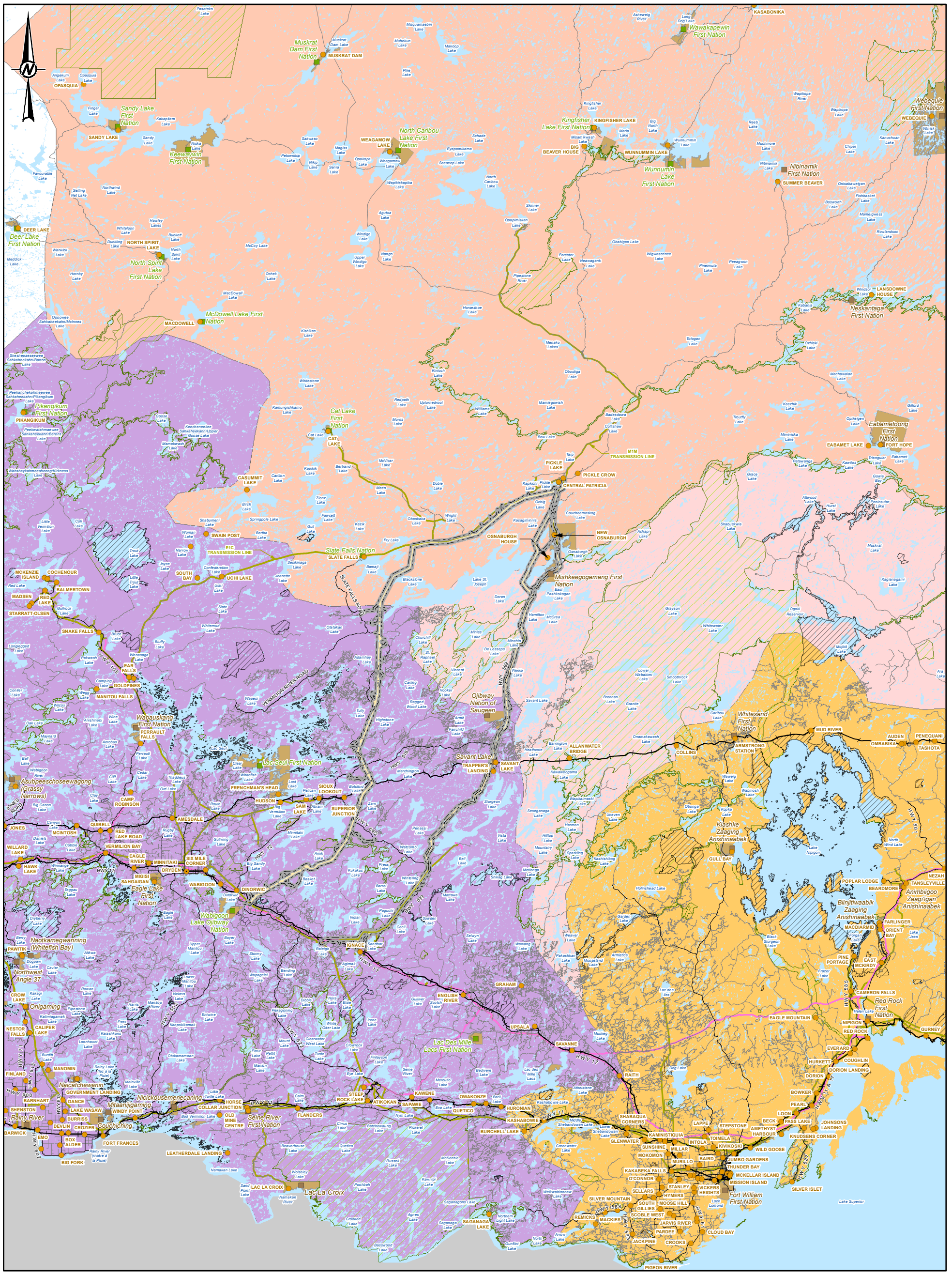

LEGEND

- ● City
- ● Town
- 🟩 Wataynikaneyap Power Community (First Nation Community)
- 🟫 First Nation Community
- Railway
- Road
- Highway
- Waterbody
- ▨ Provincial Park
- ▨ Conservation Reserve
- First Nations Reserve

Utility Lines

- Existing Electrical Transmission Line
- Natural Gas Pipeline

- Aboriginal and Treaty Rights Local Study Area

Historical Indian Treaties

- Robinson-Superior Treaty
- Treaty 3
- Treaty 9 (1905)
- Treaty 9 (1929-1930)

NOTE(S)

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

DRAFT

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 POWERTEL. POWTEL ACCESS STUDY 2015-06-26.ZIP, CAMPS PREFERRED ROUTE.KMZ, 599 ROUTE ACCESS.KMZ
5. CONNECTION FACILITY & TRANSFORMER STATION - PROVIDED BY POWERTEL. STATIONS PREFERRED ROUTE.KMZ
6. FIRST NATION COMMUNITIES FROM INDIGENOUS AND NORTHERN AFFAIRS CANADA (WWW.AINC-INAC.GC.CA)
7. HISTORICAL TREATIES OF CANADA - DIGITIZED BY GOLDER ASSOCIATES LTD. HTTP://WWW.AADNC-AANDC.GC.CA/ENG/1100100032297/1100100032309
8. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2008
9. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15

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CLIENT
WATAYNIKANEYAP POWER L.P.

PROJECT
PHASE 1 NEW TRANSMISSION LINE TO PICKLE LAKE PROJECT

TITLE
ABORIGINAL AND TREATY RIGHTS LOCAL STUDY AREAS AND TREATIES

CONSULTANT

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Golder Associates

YYYY-MM-DD	2017-06-21
DESIGNED	JMC
PREPARED	JMC
REVIEWED	MH
APPROVED	MH

PROJECT NO.	CONTROL	REV.	FIGURE
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Treaty 3 (1873, Adhesions 1874-1875)

Treaty 3 encompasses a large part of land in northwestern Ontario and a smaller portion of land in Manitoba. The Treaty was initially entered into in 1873 and after further negotiations with Ojibway peoples, adhesions were signed between 1874 and 1875. Communities that are signatories and adhesions to this Treaty that are potentially affected by the Project include:

- Eagle Lake First Nation;
- Lac Seul First Nation;
- Wabigoon Lake Ojibway Nation
- Ojibway Nation of Saugeen; and
- Lac des Mille Lacs First Nation.

Representatives of the Métis Nation of Ontario (MNO) have stated that they also consider themselves signatories to Treaty 3 through the "Halfbreed Adhesion to Treaty #3". This Adhesion was signed in 1875 by a member of the "Halfbreed" community living near Rainy Lake and Rainy River (Daugherty 1986). "Halfbreed" was the term used for the descendants of both the Ojibway and European fur traders, now known as the Métis. The Métis consider this Adhesion as providing them the same rights under Treaty 3 as First Nations (Appendix 2.3A Aboriginal Engagement Summary Report).

The Treaty 3 documents detail a number of agreements that define reserves and provisions to the signatories. The reserves and other provisions, such as the annuities provided to signatories, are not affected by the Project and not considered with respect to effects to rights. The ability of Aboriginal people to exercise their rights may be affected by the Project such as the ability to hunt, fish and harvest resources on the land. Treaty 3 addresses these rights:

> *"Her Majesty further agrees with Her said Indians that they, the said Indians, shall have right to pursue their avocations of hunting and fishing throughout the tract surrendered as hereinbefore described, subject to such regulations as may from time to time be made by Her Government of Her Dominion of Canada, and saving and excepting such tracts as may, from time to time, be required or taken up for* settlement, mining, lumbering or other purposes" (Duhamel 1964).

This statement speaks to the Treaty Rights that may be affected by the Project; more specifically, the ability of Aboriginal people to exercise these rights to harvest resources on off-reserve lands.

The Government of Canada version of Treaty 3 sets out a non-Aboriginal interpretation of the terms; however, First Nations people kept notes that were not brought into the version recorded by the Government. The Paypom Treaty provides additional interpretation from the First Nations and includes the right to hunt, harvest rice and use roads for access to resources. Effects to rights will be considered broadly, reflecting Aboriginal peoples' views on rights to harvest and the effects to resources.

Treaty No. 9 (1905-1906 and 1929 and 1930 Adhesions)

Treaty 9, also known as the James Bay Treaty covers another portion of the land that the proposed transmission line will cross. In this historic treaty, initially established in 1905 through 1906 with further adhesions in both Cree and Ojibway communities in 1929 and 1930, the terms of the treaty were determined by the governments of the Dominion of Canada and Ontario. Like other early treaties, the terms were fixed and the commissioners tasked with offering them to Aboriginal communities were not permitted to alter or add to them to accommodate any First Nations interests.

First Nations who may be affected by the Project and are signatories to Treaty 9 are:

- Slate Falls Nation;
- Cat Lake First Nation;
- Mishkeegogamang First Nation; and
- Eabametoong First Nation.

Under the Agreement set out in Treaty 9 the First Nations were assured of their right to pursue hunting, trapping, and fishing throughout the surrendered lands, except where lands were taken up for settlement, mining, lumbering, trading or other purposes (Treaty No. 9, 1964) .

> *In exchange for the reserves and the other provisions of the treaty the First Nations "cede, release, surrender, and yield up to the government …all their rights, titles and privileges to the lands"*
>
> (Treaty No. 9, 1964)

Whether the First Nation had the terms of the Treaty fully explained to them has been called into question (Long 2010). The recent discovery of Commissioner Daniel George MacMartin's journal has indicated that the complete terms of the document were not translated and explained to First Nations prior to signing (Long 2010). Translation problems and the inflexibility of the terms imposed by the Crown bodies of the day limited First Nations negotiation powers. While some concerns of the First Nations were noted in the Treaty document, such as the concern that First Nations would be able to support themselves with the resources on the land, it is likely that other concerns were also expressed but not acknowledged in the document written by the commissioners. First Nations continue to exercise their treaty rights to fish, hunt, trap, harvest and use the land and disagree that they surrendered all jurisdiction over their homelands.

8.3 Input from Engagement

Issues pertaining to Aboriginal and Treaty Rights were raised by Aboriginal communities and Aboriginal groups during engagement and how they were addressed in the environmental assessment (EA) are listed in Table 8.3-1. Comments, responses and follow-up actions are provided in Appendix 2.3A Aboriginal Engagement Summary Report and Appendix 2.4A Stakeholder Engagement Summary Report.

Schedule C

3.5.1.2 Construction Infrastructure

Access

Access to the transmission corridor will be required for the transportation and distribution of personnel, equipment and materials to the work sites. Existing roads and trails will be used where practical to limit disturbance resulting from construction of new access roads and trails. All vehicle movement on Project access roads or trails will be in accordance with applicable regulations and guidelines. Ground access for materials, equipment and personnel distribution may also be supplemented by helicopter transport.

There are existing provincial highways and other roads that will be used as access to the transmission corridor. The southern portion of the transmission corridor near Dinorwic and Ignace can be accessed via Highway 17; the central portion of the Preliminary Proposed Corridor can be accessed via Highway 516, Slate Falls Road, and Vermilion River Road; and the corridor alternatives will primarily be accessed along Highway 599.

Additional access roads or trails will be required along the transmission corridors. The specific number, location and characteristics of all new access roads or trails for the Project will be finalized as part of ongoing Project engineering and design, and will be planned and developed in compliance with applicable legislation, regulations and requirements identified in permits and authorizations. After Project construction is finished, a select number of access roads and trails will remain in place to provide access for transmission line maintenance activities.

Access Roads or Trails

Access roads or trails will be approximately 6 m wide, but could be wider to allow for safe movement of equipment. Approximately 343 km, 180 km, and 158 km of access roads or trails will need to be constructed or maintained for the Preliminary Proposed Corridor and corridor alternatives around and through Mishkeegogamang respectively. Approximately 52 ha, 19 ha, and 9 ha of new access roads or trails are anticipated to be constructed for the Preliminary Proposed Corridor, Corridor Alternative Around Mishkeegogamang and Corridor Alternative Through Mishkeegogamang, respectively.

The construction of access roads or trails will require a link between existing roads to the transmission corridor for the transport of equipment and manpower. Construction of the access roads or trails will be coordinated and follow Ontario Ministry of Natural Resources and Forestry (MNRF) guidelines for access roads or trails. In some areas where terrain conditions may not allow access trail construction, it may be necessary to locate the access road or trail outside of the transmission corridor. Portions of the access road or trail system may be left to revegetate until the road or trail requires re-clearing for maintenance. Wataynikaneyap will be required to request a permit before conducting any re-clearing effort on access roads or trails.

It is assumed that 30% of all access roads or trails (existing and new access), excluding those within the 40-m-wide transmission line alignment ROW, will be permanent (i.e., retained after construction for maintenance). Permanent access roads or trails will be constructed from aggregate, wood chips or logs using bulldozers and gravel trucks. Geo-textile material will be used for temporary access roads or trails that are to be removed following construction. Dust control may be required for the access roads and trails and will likely be in the form of water spraying. An access trail will be established within the transmission corridor for permanent use during operation and maintenance. The access trail will be located, for the most part, within the cleared 40-m-wide transmission line alignment ROW. However, in some places (e.g., where the ROW spans a waterbody or crosses difficult terrain)

the trail may lie outside the cleared 40-m-wide transmission line alignment ROW. The trails will use locally sourced material (i.e., gravel pits) where practical to create a stable surface for travel (e.g., cleared wood, logs and swamp mats may be used as a base for travel across wetlands, bogs and/or low-lying areas). Crushed rock is not expected to be placed on the trail surface, but may be required for specific purposes, such as sanding trails in the winter for traction.

Turn-around areas for vehicles will also be included in final Project design and will be included along the access roads and trails, where needed. Turn-around areas will be approximately 10 m by 30 m and be placed every kilometre along new access roads and trails. Approximately 2.5 ha, 0.9 ha, and 0.4 ha of turn-around area is anticipated to be required for the Preliminary Proposed Corridor, Corridor Alternative Around Mishkeegogamang and Corridor Alternative Through Mishkeegogamang, respectively.

Waterbody Crossings

During construction, existing access roads or trails will be used as much as possible. Existing culverts will be repaired or replaced as appropriate. Where the construction of new access infrastructure for the Project will involve waterbody crossings, these will be minimized to the extent practical. The waterbody crossings will involve temporary bridges (i.e., clear-span bridges, rig mats), ice bridges/snow fills (for winter construction) and may include culverts are proposed as contingency crossing structures.

Crossing over frozen waterbodies will only be carried out as necessary under safe conditions. For small waterbody crossings, temporary bridges (e.g., Bailey bridge) or culverts may be installed. Temporary bridges (e.g., rig mats) will be no greater than one lane in width and no part of the structure will be placed within the wetted portion of the waterbody. Wataynikaneyap will incorporate the Fisheries and Ocean Canada (DFO) and MNRF guidance for overhead line construction and temporary waterbody crossing during construction to the extent practical. If there is any circumstance under which this cannot be met, DFO and MNRF will be contacted to discuss next required steps.

Clearing of riparian vegetation will be limited to the extent practical, and to the requirement of the access road or trail width only. Clearing at waterbody crossings along the 40-m-wide transmission line alignment ROW will generally be limited to a 6-m-wide ROW for equipment access to waterbody crossing structures (e.g., temporary bridges). Where possible, Wataynikaneyap will use alternate means (e.g., boat, catapult) to install the transmission line across waterbodies to avoid construction of temporary crossing structures.

If culverts are installed as a contingency, culvert selection will consider site-specific conditions such as the width of the waterbody crossing, fish habitat characteristics, substrate type, and hydrologic characteristics of the waterbody. Culverts will be sized to handle peak flow, and aligned parallel to the waterbody channel on a straight section of uniform gradient.

Temporary crossing materials, if used, will be removed immediately following the completion of work as practical. Sediment and erosion control measures will be installed prior to commencing work. Upon removal of the crossing materials, the waterbody banks will be returned to their original profile if needed and disturbed areas will be stabilized, as necessary, to prevent soil erosion.

Temporary Construction Accommodations and Offices

Lodging for the construction work force may be required through small, temporary construction camps established along the transmission corridor. As particular construction activities are staged and completed, workers will move between the camps. Initially, it is anticipated that three temporary construction camps may be established. Each camp will be constructed and operated as the construction of the transmission line progresses. The preliminary locations of the camps are illustrated in Figures 3.0-2 to 3.0-29.

Each construction camp will occupy an area of approximately 400 m by 400 m. Table 3.5-2 provides a summary of the preliminary number and estimated area of construction camps for each of the Preliminary Proposed Corridor and corridor alternatives.

Table 3.5-2: Preliminary Number and Estimated Area of Construction Camps

Corridor	Preliminary Number of Construction Camps	Total Estimated Area (ha)
Preliminary Proposed Corridor	3	36
Corridor Alternative Around Mishkeegogamang	4	120
Corridor Alternative Through Mishkeegogamang	4	120

Note:
ha = hectare.

Each temporary construction camp will typically include the following:

- bunkhouse for approximately 100 to 150 workers;
- kitchen and dining hall;
- first aid station;
- communications system;
- wastewater treatment system;
- water supply;
- solid waste (hazardous and non-hazardous) handling and storage facility;
- waste recycling area;
- electricity supply from diesel generators; and
- fuelling areas.

Camp facilities will comply with the Ontario *Occupational Health and Safety Act*.

A typical layout of a temporary camp is shown in Figure 3.0-41. Specific features and/or layout may vary due to local topography and site conditions.

Potable water for most camps will be obtained from local suppliers via water tank trucks. Domestic effluent will be taken by tanker truck for disposal to an existing municipal wastewater treatment facility authorized to accept this type of waste. All permits and authorizations will be acquired for transport and disposal. Wells may be drilled at the construction camps if this option is more feasible.

Grey water will be discharged to leaching beds constructed at the construction camps. All required permits and authorizations will be acquired for construction and operation of the leaching beds. Leaching beds will be designed and constructed according to R.R.O 1990, Reg. 358: Sewage Systems design requirements.

Figure 3.0-41: Typical Layout of a Temporary Construction Camp

Organic solid waste disposal at the camps will be in compliance with applicable guidelines and regulatory requirements. Organic solid waste may be temporarily stored in bear-proof containers before being transported to an approved waste disposal site. A recycling program will be implemented at all camps to reduce the amount of solid waste generated as a requirement of the construction contract with Wataynikaneyap.

Electricity will be supplied to the camps using temporary diesel generators where there are no rural distribution powerlines. The diesel generators will be operated in compliance with applicable regulations and guidelines, including acquiring any necessary permits and approvals. For a camp of approximately 150 people, typically the electricity requirements would be supplied by a 250 kW diesel genset and there may be a second unit of the same size for backup.

Wataynikaneyap will establish construction offices and warehouses with access to all weather roads and communications. The exact locations and number will be determined by Wataynikaneyap. Typically these facilities are leased or rented and may be located in Pickle Lake, Sioux Lookout, Dinorwic or Ignace. Wataynikaneyap will choose sites with adequate space for offices and material storage.

Storage and Laydown Areas

Material will be stored in warehouses or storage areas established in local towns that have access to highways, such as Pickle Lake, Sioux Lookout, Dinorwic, and Ignace. The material will be transported by truck to laydown areas or to structure locations on the 40-m-wide transmission line alignment ROW where possible. Wataynikaneyap may choose to transport materials by helicopter to structure locations not accessible by ground vehicle. Existing sites with appropriate land use designations that can accommodate the Project requirements will be identified as priority locations for the storage areas. All appropriate permits and authorizations will be acquired prior to use.

Temporary laydown areas will be established at along the transmission corridor just outside the transmission corridor to receive and temporarily store materials and equipment during construction. Figures 3.0-2 to 3.0-29 show the preliminary locations of the laydown areas. Final locations will be determined by Wataynikaneyap.

The approximate size of a laydown area is approximately 20 m by 20 m; however, the size will ultimately depend on site characteristics, environmental constraints and contractor requirements. Table 3.5-3 provides a summary of the estimated area of laydown areas for each of the Preliminary Proposed Corridor and corridor alternatives.

Table 3.5-3: Estimated Area of Laydown Areas

Corridor	Total Estimated Area (ha)
Preliminary Proposed Corridor	185
Corridor Alternative Around Mishkeegogamang	65
Corridor Alternative Through Mishkeegogamang	68

Note:
ha = hectare.

Where practical, Wataynikaneyap will use existing disturbed areas as laydown areas. Materials stored at the laydown areas will typically include poles, steel cross arms, anchoring and guy wire material, structure materials, conductor and groundwire reels, insulators and conductor fittings, and miscellaneous hardware. The laydown areas will be cleared of vegetation, grubbed, and levelled (if required). Vegetation will generally be cleared using mechanical harvesters to remove the merchantable timber and bulldozers to remove the remaining woody vegetation. The laydown areas may be equipped with perimeter lighting and fencing for safety and security.

Wataynikaneyap will contact any directly affected landowners or government agencies and acquire all necessary permits and authorizations prior to establishment of laydown areas. Laydown areas will be located to meet similar constraints identified for the temporary construction camps identified above to avoid or limit potential environmental effects.

Fuelling Areas

During construction, fuel will be transported by tanker trucks, in drums, or other approved containers. Fuelling areas will be established at laydown areas and/or temporary construction camps, with self-dyked steel above-ground storage tanks (AST). The largest on-site fuel storage tank is anticipated to hold no more than 5,000 litres (L). A fuelling truck may also be used for refuelling vehicles and equipment and filling fuel tanks in construction camps. All ASTs will be registered under, and in compliance with, applicable federal and provincial legislation. Aboveground storage tanks will meet the Canadian Council of Ministers of the Environment (CCME) Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products (1994). Transport, storage and handling will be meet Ontario *Technical Standards and Safety Act* (Government of Ontario 2000) and Canada's *Transportation of Dangerous Goods Act* (Government of Canada 1992). The transport vehicles will be licensed and maintained according to safety requirements.

Fuelling areas at laydown areas and temporary construction camps may include drainage controls. Drainage will be retained in a sump where hydrocarbons can be captured and separated prior to the release of any rainwater run-off, as appropriate. Equipment with reduced mobility, such as heavy lift cranes and excavators, will have fuel delivered by a mobile tank and re-fuelling will take place on-site. All fuel transfers will follow safety procedures to prevent leaks and drips, and spill response kits will be available on all vehicles used to transport fuel. Generally, vehicles will be fueled at the camp; however, if fuelling of vehicles and other mobile equipment is required at the site then fuelling will not be permitted within 30 m of a waterbody, unless a spill prevention plan is in place.

Quarries and Borrow Material

The Project may require aggregate and borrow material. Engineered aggregate will be required for the construction of the TS and CF, access roads or trails, and for concrete mixing. The total quantity of aggregate required will be determined during the detailed design stage. Borrow material from pits may be required for backfilling during the construction of the TS and CF, access roads or trails and transmission structure foundations. The development of new quarries is not likely, as it is expected that the volume of material required can be obtained from existing pits. Aggregate will be sourced from local First Nation owned quarries or gravel pits; however if local pits are not available then borrow pits may be required at a few locations along the transmission corridor and/or purchased from local suppliers. If required, all borrow pits will be identified, established and decommissioned in accordance with applicable regulatory requirements.

Concrete Production

Concrete batch plants are anticipated to be developed for the Project if there is concrete in CF of TS structure foundation. It is not anticipated that batch plant concrete will be needed for transmission line foundations at this time. Construction water sources, methods of accessing water and volume of water for concrete production is not known at this stage of Project planning, but will be conducted in accordance with applicable regulatory requirements. Water used for dust suppression will be brought to the site by tanker truck. Permits for this will be acquired, if necessary. Washwater from the cleaning of mixers, mixer trucks, and concrete delivery systems will flow into closed system aggregate rinsing settling basins. In the event that water from the closed settling system

is intended for release, it will be tested first for parameters related to concrete additives, pH, and total suspended solids, and will meet Ontario Provincial Water Quality Objectives (PWQO) and CCME Canadian Water Quality Guidelines (CWQG) for the Protection of Aquatic Life prior to discharge.

3.5.1.3 Construction Activities

Transmission Line

Transmission line construction will typically include the following activities:

- surveying;
- construction of infrastructure (e.g., access roads or trails, bridges, turn-around areas, laydown areas and temporary construction camps);
- clearing of the 40-m-wide transmission line alignment ROW and construction of ROW access trails;
- staking of structure and guy locations;
- material distribution;
- installation of structure foundations;
- assembly and erection of transmission structures;
- installation of conductors; and
- counterpoise installation.

An overview of each transmission line construction activity is provided below.

Surveying

A Light Detection and Ranging (LiDAR) survey will be conducted along the transmission corridor using instruments fitted on aircraft. LiDAR will create a topographical map of the corridor with information on the precise land features and elevations within the corridor. From this survey, the exact location of the 40-m-wide transmission line alignment ROW, structures, access roads or trails, turn-around areas and laydown areas will be determined. Sensitive environmental features will be avoided to the extent practical.

A ground survey will be done after the LiDAR which will include staking of the 40-m-wide transmission line alignment ROW boundary and sensitive areas, as well as flagging of trees for trimming or removal. The ground survey will be done to support final detailed engineering and confirm conditions on the ground.

Construction of Infrastructure

Construction of the temporary camps, access roads or trails, turn-around areas and laydown areas will be conducted prior to transmission line construction. Areas for these temporary structures will be delineated, cleared of vegetation, and graded, as required. Sediment and erosion control measures will also be implemented. To the extent practical, these structures will be located within the 2-km-wide corridor; however, the precise locations will depend on detailed design, potential environmental, known heritage and archaeological constraints, and contractor preference.

Clearing of Transmission ROW and Construction of ROW Access

Clearing and grading, as required, will be completed along the 40-m-wide transmission line alignment ROW where required. The 40-m-wide transmission line alignment ROW preparation will be carried out in accordance with standard utility practices and procedures, and will involve the clearing of all non-compatible vegetation that exceeds 2 m at maturity.

Clearing will consist of cutting tree trunks parallel to, and within 15 cm of the ground or lower, as well as the removal of all shrubs, debris and other such materials. Grubbing may be required along the length of the 40-m-wide transmission line alignment ROW. Clearing of the 40-m-wide transmission line alignment ROW will take into consideration:

- widths of waterbodies;
- location of wetlands;
- locations of known archaeological and cultural heritage sites;
- areas of commercial timber and the method of cutting and storing commercial timber; and
- required riparian buffer zones (e.g., for waterbodies and other sensitive natural features).

Vegetation will generally be cleared using mechanical harvesters to remove the timber. Chainsaws may be used for small scale clearings (e.g., tree removal adjacent to a waterbody), as required. Small trees and branches will be chipped on-site, and the chips may be spread over the 40-m-wide transmission line alignment ROW. In some cases it may be more practical to burn cleared wood, and all required permits and authorizations will be acquired prior to burning. The remaining timber will be de-limbed, cut into lengths and stacked along the edge of the 40-m-wide transmission line alignment ROW in neat piles for short-term storage. Wataynikaneyap will work with Aboriginal communities and forest management units to dispose of merchantable timber cleared by the Project. Slash and debris will be chipped, or will be burned in accordance with provincial *Forest Fires Prevention Act* and the Regulation 207/96 Outdoor Fires under this Act. Diseased or damaged trees located at the edge of the 40-m-wide transmission line alignment ROW that may fall onto the overhead line conductors or structures will also be removed. Wataynikaneyap will make arrangements to dispose of any wood left on-site during the 40-m-wide transmission line alignment ROW clearing.

Staking of Structure and Guy Anchor Locations

Following the 40-m-wide transmission line alignment ROW clearing, field survey crews will physically mark (i.e., stake) the specific locations of the structures, foundations and guy anchors using Global Positioning System (GPS) technology, data from the LiDAR survey, and detailed design.

Material Distribution

Laydown areas will be used to receive and temporarily store materials and equipment during construction. Material will be transported to the corridor using line trucks and flatbed transport trucks where possible. Off-road track units will be used where trucks cannot drive if possible. Helicopters may be used to transport material, equipment and personnel in areas that are difficult to access by ground vehicle. If concrete is required, it may be prepared on-site or transported to the corridor using ready-mix trucks.

Construction materials will be distributed from the laydown areas using trucks, or other appropriate equipment as dictated by the terrain or other environmental considerations. Distributed materials may include foundation material, structure sections, guy wires, conductors and other required hardware, among others.

Installation of Structure Foundations

Foundation types will be determined in detailed design. Foundation drawings will be prepared based on maximum load on the structure and soil condition at the structure location. The preliminary structure type is a 2-pole H-frame structure. Poles for this structure are generally direct buried with native backfill.

Geotechnical studies will be completed to finalize the design of the pole foundation and embedment. The foundation design will be specific to each soil type (e.g., wet or low bearing soils, rock) determined through the geotechnical investigations. Structure foundations including guy anchors will be designed and constructed to meet structure load requirements for soil conditions at the structure locations. Guy anchors will be installed within the 40-m-wide transmission line alignment ROW to the extent practical.

For structure locations with adequate overburden, an excavator is typically used to create holes for embedment of the poles. In these areas, the poles are expected to be embedded to a depth of approximately 3 to 5 m, depending on site conditions, pole height, and structure design. For drilling into rock, a track mounted drill will be used. Anchor rods will be grouted into the rock. An excavator will be used to excavate a hole for the poles in wet locations. Where conditions require, blasting may be used to excavate structure foundations and level areas for roads.

Assembly and Erection of Transmission Structures

Once the materials are distributed to the transmission structure locations and any required foundations are in place, structure assembly and erection will commence. Depending on structure type and contractor preferences, the structure components may be installed either on the ground or once the structure is erected. If assembly is to be done on the ground, cranes can be used to attach the structure sections and lift the structure into place. The structure will then be embedded in the ground, as applicable. If the assembly is to be done after erection, generally a combination of cranes, aerial bucket devices and climbing is used to finish assembly. As required, guy wires will be attached to the structure, attached to previously-installed anchors, and tensioned to keep the structure in place. Hardware such as insulators may then be attached to the structures in preparation for the installation of the conductor. This may also be done prior to erection of the structure. Generally, structure assembly will occur at the site where the structure is to be erected. Where helicopter slinging is required, the structures may be assembled in laydown areas and flown to site.

Installation of Conductors

Conductors (Section 3.4.2.3) will be installed on the structures (Figure 3.0-42). The conductor will be rolled onto the line using stringing blocks (i.e., pulleys used to string the conductor from structure to structure). The conductors are then tensioned and sagged to ensure that the correct design tension is applied and the necessary ground clearance is maintained. Tension stringing requires pulling a light messenger wire or rope through travellers (pulleys) and the wire is then attached to the conductor. The messenger wire or rope is then rolled back using specially designed tensioners and pullers, which pulls in the conductors from the reel stands. A ground vehicle may be used to pull or lay out a messenger wire or rope. A helicopter may be used for stringing the messenger wire over large water crossings and areas with road access constraints. Conductor and ground wire stringing

typically takes place within the 40-m-wide transmission line alignment ROW. Puller tension stringing equipment may be set up at up to 10 km intervals along the 40-m-wide transmission line alignment ROW to pull in the conductor and ground wire. Temporary rider poles will be used at infrastructure crossings to keep the conductors clear of the infrastructure during stringing. Project infrastructure will be inspected prior to commissioning the system. This will include a structure by structure inspection of the transmission line hardware, conductors and insulators.

Counterpoise Installation

Counterpoise (Section 3.4.2.5) grounding arrangements may be installed near the TS, CF, and at areas of naturally high electrical resistance to reduce electrical ground resistance. The counterpoise wire may be copper-clad steel wire, which is typically buried at least 0.50 m below grade.

Figure 3.0-42: Illustration of Typical Conductor Installation

Transformer Station

The construction of the TS will include the following primary activities:

- installation of perimeter fencing;
- site clearing, grubbing and grading and rock compaction;
- excavation for foundation footings;
- installation of forming followed by foundation concrete pour;
- installation of buried cable ducts (typically concrete);
- a ground mat will buried for the stations to provide safe grounding of the electrical equipment and for personal safety;
- installation of major structures on foundations;
- installation of oil containment facilities;
- placement of control and protection building;
- installation of electrical bus work, conductors, transformers, breakers, switches, cabling and wiring;
- inspection, testing and commissioning of all equipment;
- connection of the transmission line to the TS; and
- initiate start-up and complete testing.

Connection Facility

The CF construction will include the following primary activities:

- installation of perimeter fencing;
- site clearing, grubbing and grading and rock compaction;
- excavation for foundation footings;
- installation of forming followed by foundation concrete pour;
- installation of buried cable ducts (typically concrete);
- a ground mat will buried for the stations to provide safe grounding of the electrical equipment and for personal safety;
- installation of major structures on foundations;
- placement of control and protection building;
- installation of electrical bus work, conductors, transformers, breakers, switches, cabling and wiring;
- inspection, testing and commissioning of all equipment;
- connection of the CF to the existing 230 kV transmission line; and
- initiate start-up and complete testing.

Decommissioning of Temporary Construction Infrastructure

Construction infrastructure that is not required for Project operation will be decommissioned upon completion of construction. This will include the decommissioning of temporary construction camps, some access roads or trails and bridges, borrow pits, staging areas, turn-around areas and laydown areas, and clean-up rehabilitation of construction infrastructure sites.

Temporary Construction Camps and Offices

All temporary construction camps and offices will be decommissioned upon completion of Project construction. All buildings will be removed. Water and sewer systems, and all in-ground infrastructures will be decommissioned in accordance with applicable regulatory requirements.

Temporary Access Roads, Trails and Bridges

A limited number of access roads and trails will remain in place to provide access for operation and maintenance activities. All others will be decommissioned and rehabilitated using applicable and appropriate methods and standards. Access road or trail materials will be removed and any access road or trail ditches will be backfilled. Waterbody crossings will be removed and sediment and erosion control measures will be installed prior to their removal. Upon removal of waterbody crossings, the waterbody banks will be returned to a stable condition if necessary.

Borrow Pits

If required, all borrow pits will be decommissioned as work is completed in that area if opened by Wataynikaneyap constructing the transmission line. Decommissioning will include, but not be limited to, the replacement of unused excavated material, the replacement of topsoil, and installation of erosion control structures, as appropriate.

Staging and Laydown Areas

All surface infrastructures will be removed from the staging and laydown areas. All in-ground infrastructures will be decommissioned in accordance with applicable regulatory requirements.

Clean-up and Rehabilitation

Clean-up and rehabilitation will be conducted after temporary construction infrastructure has been decommissioned and removed. These activities will include, but not be limited to, removing refuse, grading disturbed areas, contouring disturbed slopes to a stable profile, and re-establishing natural drainage patterns. Rehabilitation will also include site-specific measures to promote the natural revegetation of disturbed areas. All waste disposal/recycling, including hazardous and excavated materials, will comply with applicable regulations and disposed of at authorized facilities.

Post-Construction Monitoring

Post-construction environmental monitoring will be conducted after the completion of the construction activities and continue into the operation and maintenance stage and will include such activities as examining and documenting the success of revegetation and rehabilitation measures. A post-construction monitoring plan is provided in Section 9.3.2.1. Typically, a one to two-year period will be specified for correction of any construction defects for the transmission line.

Schedule D

PHASE 2

PHASE 1

Sachigo Lake First Nation
Bearskin Lake First Nation
SEVERN RIVER PROVINCIAL PARK
Kitchenuhmaykoosib Inninuwug
FAWN RIVER PROVINCIAL PARK
Wapekeka First Nation
Kasabonika Lake First Nation
MANITOBA
OPASQUIA PROVINCIAL PARK
Muskrat Dam First Nation
Wawakapewin First Nation
WINISK RIVER PROVINCIAL PARK
Webequie First Nation
North Caribou Lake First Nation
Kingfisher Lake First Nation
Nibinamik First Nation
Sandy Lake First Nation
Keewaywin First Nation
Wunnumin Lake First Nation
Deer Lake First Nation
PIPESTONE RIVER PROVINCIAL PARK
North Spirit Lake First Nation
McDowell Lake First Nation
Poplar Hill First Nation
Neskantaga First Nation
Cat Lake First Nation
OTOSKWIN-ATTAWAPISKAT RIVER PROVINCIAL PARK
Marten Falls First Nation
Pikangikum First Nation
Eabametoong First Nation
Pickle Lake
ALBANY RIVER PROVINCIAL PARK
WOODLAND CARIBOU PROVINCIAL PARK
TROUT LAKE PROVINCIAL PARK
Red Lake
Slate Falls Nation
SLATE FALLS ROAD
Mishkeegogamang First Nation
WABAKIMI PROVINCIAL PARK
OGOKI RIVER PROVINCIAL PARK
SEDGMAN LAKE PROVINCIAL PARK
LITTLE CURRENT RIVER PROVINCIAL PARK
PAKWASH PROVINCIAL PARK
Ear Falls
VERMILLION RIVER ROAD
WHITESAND PROVINCIAL PARK
Whitesand First Nation
WEST ENGLISH RIVER PROVINCIAL PARK
Wabauskang First Nation
Ojibway Nation of Saugeen
Aroland
TIDE LAKE PROVINCIAL PARK
Wabaseemoong Independent Nations
Lac Seul First Nation
WINDIGO BAY PROVINCIAL PARK
NAKINA MORAINE PROVINCIAL PARK
Savant Lake
KOPKA RIVER PROVINCIAL PARK
Sioux Lookout
Long Lake No.58 First Nation
Asubpeeschoseewagong (Grassy Narrows)
Ochiichagwe'babigo'ining First Nation
BRIGHTSAND RIVER PROVINCIAL PARK
Kiashke Zaaging Anishinaabek
LIVINGSTONE POINT PROVINCIAL PARK
OJIBWAY PROVINCIAL PARK
MINNITAKI KAMES PROVINCIAL PARK
BLUE LAKE PROVINCIAL PARK
Anishinabe of Wauzhushk Onigum First Nation
LOLA LAKE PROVINCIAL PARK
OBONGA-OTTERTOOTH PROVINCIAL PARK
KABITOTIKWIA RIVER PROVINCIAL PARK
Ginoogaming First Nation
Animbiigoo Zaagi'igan Anishinaabek
EAST ENGLISH RIVER PROVINCIAL PARK
Obashkaandagaang Bay
WINNANGE LAKE PROVINCIAL PARK
Eagle Lake First Nation
Dryden
Dinorwic
LAKE NIPIGON PROVINCIAL PARK
EAGLE-DOGTOOTH PROVINCIAL PARK
GULL RIVER PROVINCIAL PARK
SANDBAR LAKE PROVINCIAL PARK
Wabigoon Lake Ojibway Nation
BONHEUR RIVER KAME PROVINCIAL PARK
Ignace
Biinjitiwaabik Zaaging Anishinaabek
BLACK STURGEON RIVER PROVINCIAL PARK
Northwest Angle 37
Naotkamegwanning (Whitefish Bay)
Naongashiing (Big Island)
Onigaming
TURTLE RIVER-WHITE OTTER LAKE PROVINCIAL PARK
ALBERT LAKE MESA PROVINCIAL PARK
Red Rock First Nation
STEEL RIVER PROVINCIAL PARK
RUBY LAKE PROVINCIAL PARK
Pays Plat
LAKE OF THE WOODS PROVINCIAL PARK
Big Grassy River First Nation
SABLE ISLANDS PROVINCIAL PARK
Naicatchewenin
RAINBOW FALLS PROVINCIAL PARK
NEYS PROVINCIAL PARK
AGASSIZ PEATLANDS PROVINCIAL PARK
Nigigoonsiminikaaning
Mitaanjigamiing
Couchiching
Lac Des Mille Lacs First Nation
OUIMET CANYON PROVINCIAL PARK
SILVER FALLS PROVINCIAL PARK
SHESHEEB BAY PROVINCIAL PARK
SLATE ISLANDS PROVINCIAL PARK
Ojibways of the Pic River First Nation
KASHABOWIE PROVINCIAL PARK
SANDPOINT ISLAND PROVINCIAL PARK
Seine River First Nation
Rainy River
LITTLE GREENWATER LAKE PROVINCIAL PARK
SLEEPING GIANT PROVINCIAL PARK
QUETICO PROVINCIAL PARK
MATAWIN RIVER PROVINCIAL PARK
KAKABEKA FALLS PROVINCIAL PARK
Thunder Bay
Fort William First Nation
Lac La Croix
LA VERENDRYE PROVINCIAL PARK
FRALEIGH LAKE PROVINCIAL PARK

LEGEND

- City
- Town
- Wataynikaneyap Power Community
- First Nation Reserve Land

Phase 2

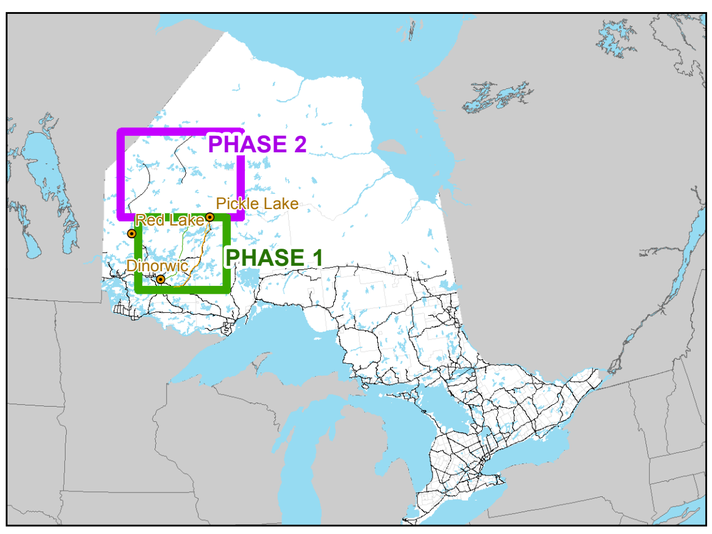
- Preliminary Proposed 2-km-wide Study Corridor 115 kV
- Preliminary Proposed 2-km-wide Study Corridor 44 kV
- Preliminary Proposed 2-km-wide Study Corridor 25 kV

Phase 1

- Preliminary Proposed 2-km-wide Corridor
- Corridor Alternatives 2-km-wide Corridor
- Existing Electrical Transmission Line
- Major Roads and Highways
- Winter Roads
- Railway
- River
- Waterbody
- Provincial Park

Dedicated Protected Areas

- Lake County Weeskayjahk Ohtahzhoganeeng (Provincial Park)
- Pringle Lake Sahkeesuhkuh Weesuhkaheegahn (Provincial Park)
- Valhalla-Trough Lake Kahnahmaykoosayseekahk (Provincial Park)
- Cultural Landscape Waterways Beekahncheekahmeeng Deebahncheekayweehn Eenahohnahnuhn (Provincial Park)
- Sampson Lake Pahngwahshahshk (Provincial Park)



PROJECT LOCATION

REFERENCE

Base Data - MNR LIO, obtained 2016, NTDB
Transmission Routes - Provided by Wataynikaneyap Power L.P. and SENES
First Nation Communities from Indigenous and Northern Affairs Canada
(www.ainc-inac.gc.ca)
Produced by Golder Associates Ltd under licence from Ontario Ministry of Natural Resources, © Queens Printer 2016
Projection: Transverse Mercator Datum: NAD 83
Coordinate System: UTM Zone 15

Wataynikaneyap Power

Golder Associates
Thunder Bay, Ontario

0 25 50 100

SCALE 1:1,300,000 KILOMETRES

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Schedule E

EB-2017-0258

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15 (Schedule B);

AND IN THE MATTER OF an appeal under section 7 of the *Ontario Energy Board Act, 1998* of a Decision and Order of the Board Registrar in EB-2016-0017, regarding an application for leave to construct by Sagatay Transmission LP.

AFFIDAVIT OF CHIEF DAVID MASAKEYASH

I, Chief David Masakeyash, of Mishkeegogamang First Nation, in the Province of Ontario, MAKE OATH AND SAY:

1. I am the Chief of Mishkeegogamang First Nation ("**Mishkeegogamang**"). I was elected Chief of Mishkeegogamang on August 3, 2017. Prior to this most recent band election, I was Councillor for the previous term and for several terms over the course of numerous years. As such, I have knowledge of the matters that I have set out in my affidavit.

2. The members of Mishkeegogamang are Ojibway. Mishkeegogamang is a signatory to Treaty No. 9 (1905-1906). We assert that we possess Aboriginal and Treaty rights to and over our traditional territory that are recognized and affirmed by the *Constitution Act (*1982). Our band membership is comprised of approximately 1,825 members, 1,105 who reside on reserve lands, and 720 residing off reserve.

3. Mishkeegogamang is one of the partners of Sagatay Transmission LP ("**Sagatay**").

4. I have reviewed a copy of Procedural Order No. 3 dated October 3, 2017 of the Ontario Energy Board. I understand the Board has permitted Sagatay to file evidence on whether the Dinorwic Route and Corridor Alternatives will traverse through the traditional, ancestral and reserve lands of Mishkeegogamang and Ojibway Nation of Saugeen.

5. I believe that the construction of a transmission line along the Dinorwic Route or Corridor Alternatives proposed by Watayanikaneyap Power LP ("**Watayanikaneyap**") will have significant impacts on the Aboriginal and Treaty rights of the Mishkeegogamang. I also believe that we have not been adequately consulted by the Crown on this project. But I will not comment further on these issues as I understand that the Ontario Energy Board has decided not to permit Sagatay to file any evidence on these issues.

6. The "Dinorwic Route" and "Corridor Alternatives" proposed by Wataynikaneyap for Phase 1 of its project are shown on the map available on Wataynikaneyap's website, www.wataypower.ca, a copy of which I attach hereto as **Exhibit "A"**.

7. The route identified in this map as Preliminary Proposed Corridor starts at Dinorwic and terminates at Pickle Lake. I will refer to this route as the Dinorwic Route.

8. I confirm that most, if not all of, the Dinorwic Route proceeds through the traditional and ancestral lands of Mishkeegogamang and will have serious negative impacts on our ability to exercise all of our Aboriginal and Treaty rights, in addition to the serious and adverse impacts on the Woodland Caribou.

9. I confirm that Mishkeegogamang are actively involved, in collaboration with Eabametoong First Nation, in finalizing a Land Use Plan known as Taashikaywin, which

encompasses portions of the area defined under the recently proclaimed *Far North Act*. This Land Use Planning process is entirely endorsed and supported by the Ontario Government and is being undertaken in collaboration with the Ministry of Natural Resources and Ministry of Environment. The northern portion of the proposed Dinorwic Route is situated within the area defined by the *Far North Act* and is located within the Treaty and traditional and ancestral lands of Mishkeegogamang. I attach hereto as **Exhibit "B"** a copy of the map from the Watayanikaneyap website, www.wataypower.ca, which illustrates the area included within the Far North.

10. With regard to both Corridor Alternatives shown on this map, I also confirm that most, if not all, of both proceed through the traditional and ancestral lands of my people and will have significant negative impact on our Aboriginal and Treaty rights.

11. I also confirm that one Corridor Alternative proceeds through both of Mishkeegogamang's reserves known Reserves 63A and 63B.

SWORN BEFORE ME at the City of , in the Province of Ontario on October 17, 2017.

Jamie Lee Thiessen, a Commissioner, etc., Province of Ontario, for the Corporation of the Township of Pickle Lake Expires September 13, 2019

Commissioner for Taking Affidavits
(or as may be)
October 18, 2017

CHIEF DAVID MASAKEYASH

EXHIBIT “A”

Jamie Lee Thiessen, a Commissioner, etc.,
Province of Ontario,
for the Corporation of the Township of Pickle Lake
Expires September 13, 2019

Jamie L Thiessen
October 18/17

LEGEND

- City
- Town
- Wataynikaneyap Power Community
- First Nation Reserve Land

Phase 2
- Preliminary Proposed 2-km-wide Study Corridor 115 kV
- Preliminary Proposed 2-km-wide Study Corridor 44 kV
- Preliminary Proposed 2-km-wide Study Corridor 25 kV

Phase 1
- Preliminary Proposed 2-km-wide Corridor
- Corridor Alternative 2-km-wide Corridor
- Existing Electricity Transmission Line
- Major Roads and Highways
- Winter Roads
- Railway
- River
- Waterbody
- Provincial Park

Dedicated Protected Areas
- Lake County Wiindaajgahk Gkiigthigaanenig (Provincial Park)
- Pringle Lake Sahkeesuhkuh Wiiwiiuhkwagahn (Provincial Park)
- Valhalla-Trough Lake Kahwahnmaaswayeeskahk (Provincial Park)
- Cultural Landscape Waterways Bimbaamchiwaadahmeeng Dasbaahchiwaayaawahn Ezoshchnahnahnh (Provincial Park)
- Sandpoint Lake Pahngwahnishahchk (Provincial Park)

PROJECT LOCATION

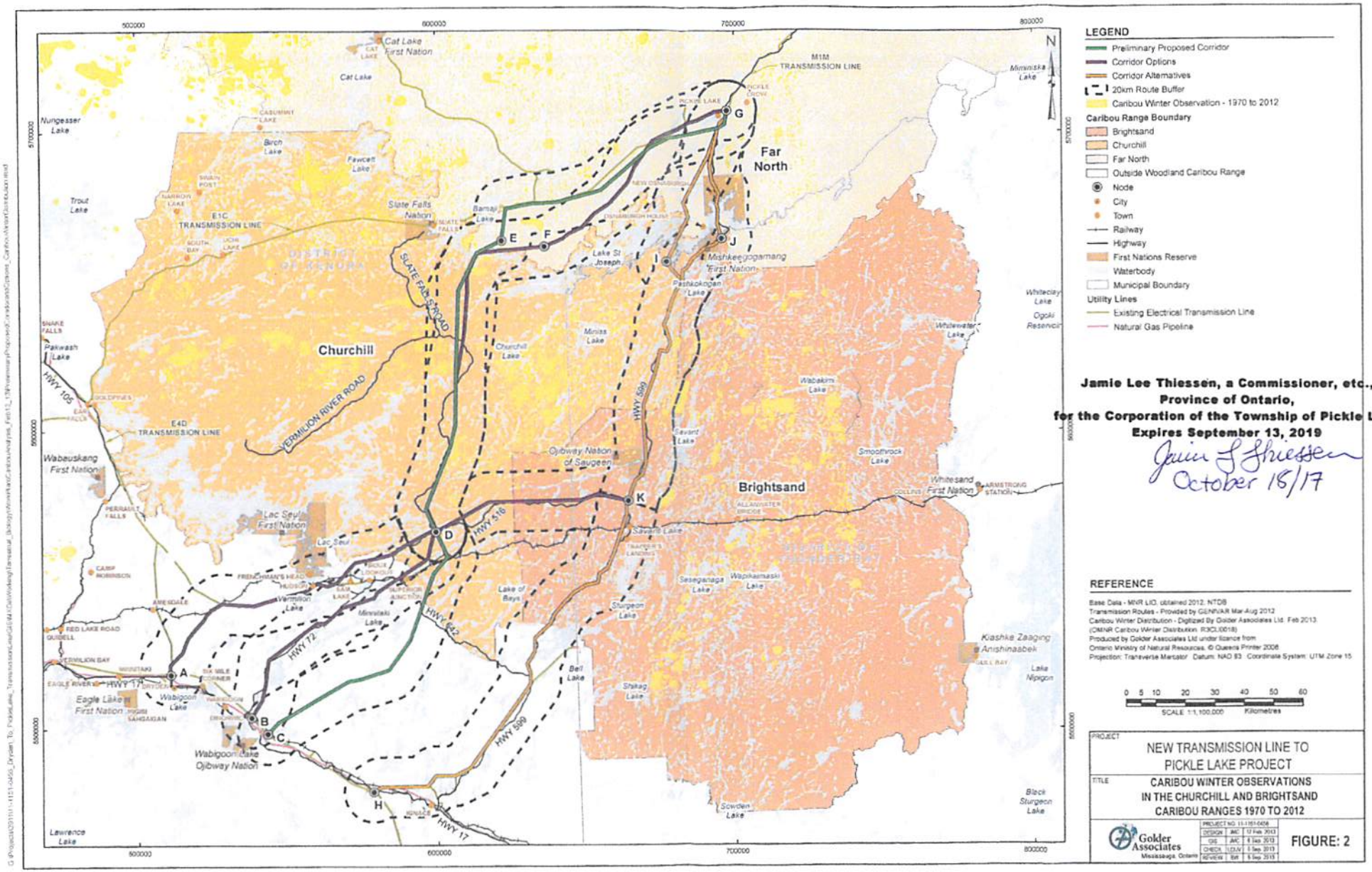
REFERENCE

Base Data - MNR LIO, obtained 2016, NTDB
Transmission Routes - Provided by Wataynikaneyap Power LP, and SENES
First Nation Communities from Indigenous and Northern Affairs Canada
(www.ainc-inac.gc.ca)
Produced by Golder Associates Ltd under licence from Ontario Ministry of Natural Resources, © Queens Printer 2016
Projection: Transverse Mercator Datum: NAD 83
Coordinate System: UTM Zone 15

Golder Associates
Thunder Bay, Ontario

0 25 50 100
SCALE 1:1,300,000 KILOMETRES

EXHIBIT “B”



Jamie Lee Thiessen, a Commissioner, etc.,
Province of Ontario,
for the Corporation of the Township of Pickle Lake
Expires September 13, 2019

Jamie L Thiessen
October 18/17

Schedule F

EB-2017-0258

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15 (Schedule B);

AND IN THE MATTER OF an appeal under section 7 of the *Ontario Energy Board Act, 1998* of a Decision and Order of the Board Registrar in EB-2016-0017, regarding an application for leave to construct by Sagatay Transmission LP.

AFFIDAVIT OF CHIEF EDWARD MACHIMITY

I, Chief Edward Machimity, of the Ojibway Nation of Saugeen, in the Province of Ontario, MAKE OATH AND SAY:

1. I am the Chief of the Ojibway Nation of Saugeen ("**Saugeen**"), a position I have held since 1985 when Saugeen was recognized as a band under the *Indian Act* and 1990 when it was allotted its reserve lands. As such, I have knowledge of the matters I have set out in my affidavit.

2. Saugeen is located approximately 20 kilometres east of Savant Lake in Northern Ontario. The nearest significant service centre is Sioux Lookout, approximately 75 kilometres to the southwest. The reserve land base consists of approximately 5,986 hectares.

3. Saugeen is situated within the boundaries identified in Treaty #3, which was executed in October 1873. Saugeen possesses Aboriginal and Treaty rights to and over our traditional territory that are recognized and affirmed by the *Constitution Act* (1982).

4. Saugeen is one of the partners of Sagatay Transmission LP ("**Sagatay**").

5. I understand that under Procedural Order No. 3 dated October 3, 2017 by the Ontario Energy Board, Sagatay is permitted to provide evidence on whether the "Dinorwic Route" and "Corridor Alternatives" proposed by Wataynikaney Power LP ("**Wataynikaneyap**") for its transmission line to Pickle lake traverses the traditional, ancestral and reserve lands of my people.

6. While I believe that the construction of a transmission line along the Dinorwic Route or Corridor Alternatives will have significant impacts on the Aboriginal and Treaty rights of Saugeen, and that we have not been adequately consulted by the Crown, I will not comment further on this topic since I understand that the Ontario Energy Board has decided not to permit Sagatay to file evidence on this topic.

7. I attach hereto as **Exhibit "A"** a copy of a map available on Wataynikaneyap's website, which shows the proposed "Preliminary Proposed Corridor" (which I will refer to as the "Dinrowic Route") commencing at Dinorwic and two "Corridor Alternatives" commencing near Ignace. The Dinorwic Route and Corridor Alternatives terminate at Pickle Lake.

8. I confirm that most, if not all, of the Dinorwic Route proceeds through the traditional and ancestral lands of Saugeen and that as a result, there will be significant adverse impacts to our ability to exercise our Aboriginal and Treaty rights should this route be selected.

9. I also confirm that most, if not all, of both Corridor Alternatives proceed through the traditional and ancestral lands of my people.

SWORN BEFORE ME at the Town of Sioux Lookout, in the Province of Ontario on October 17, 2017.

Commissioner for Taking Affidavits
(or as may be)

CHIEF EDWARD MACHIMITY

This is Exhibit "A" referred to in the Affidavit of Chief Edward Machimity sworn October ....17...., 2017

Doug McLean LL.B.

Commissioner for Taking Affidavits (or as may be)

This is Exhibit to the Affidavit of Chief Edwin Rachuk
Sworn the 17 day of Oct
2017 A.D.
Before me: [illegible]

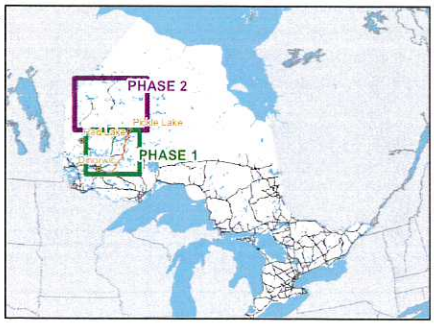
LEGEND

- City
- Town
- Wataynikaneyap Power Community
- First Nation Reserve Land

Phase 2
- Preliminary Proposed 2-km-wide Study Corridor 115 kV
- Preliminary Proposed 2-km-wide Study Corridor 44 kV
- Preliminary Proposed 2-km-wide Study Corridor 25 kV

Phase 1
- Preliminary Proposed 2-km-wide Corridor
- Corridor Alternatives 2-km-wide Corridor
- Existing Electrical Transmission Line
- Major Roads and Highways
- Winter Roads
- Railway
- River
- Waterbody
- Provincial Park

Dedicated Protected Areas
- Lake County Wiisokayahk Ohtahzhoganeeng (Provincial Park)
- Pringle Lake Sahkesuhkah Weesuhkaheegahn (Provincial Park)
- Valhalla-Trough Lake Kahnahmaysaysekahk (Provincial Park)
- Cultural Landscape Waterways Beekahncheekahmoong Deebahncheekayweehn Eenahohnahnuhn (Provincial Park)
- Sampson Lake Pahngwahshahshk (Provincial Park)



PROJECT LOCATION

REFERENCE

Base Data - MNR LIO, obtained 2016, NTDB
Transmission Routes - Provided by Wataynikaneyap Power L.P. and SENES
First Nation Communities from Indigenous and Northern Affairs Canada
(www.ainc-inac.gc.ca)
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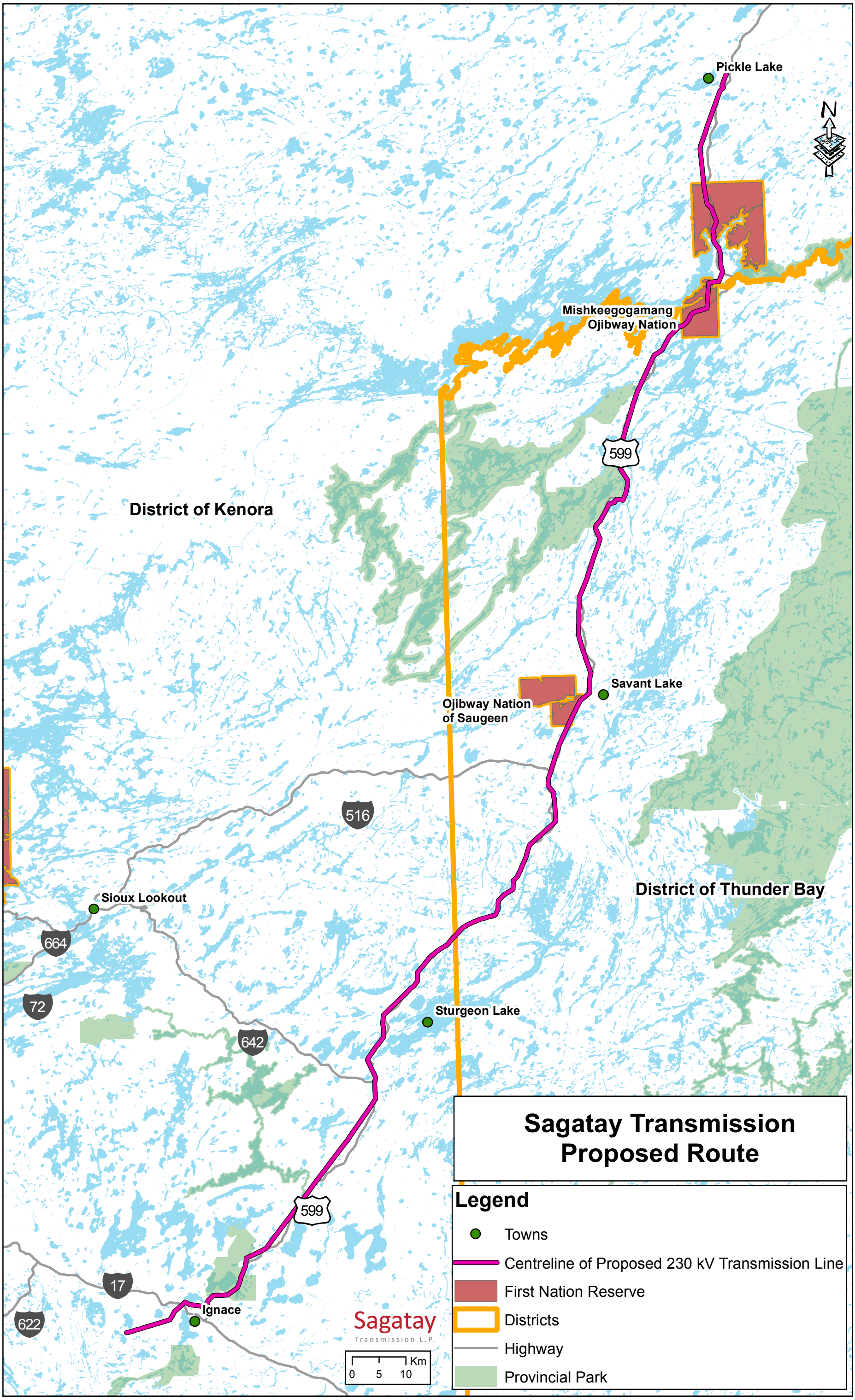
Projection: Transverse Mercator Datum: NAD 83
Coordinate System: UTM Zone 15

Wataynikaneyap Power

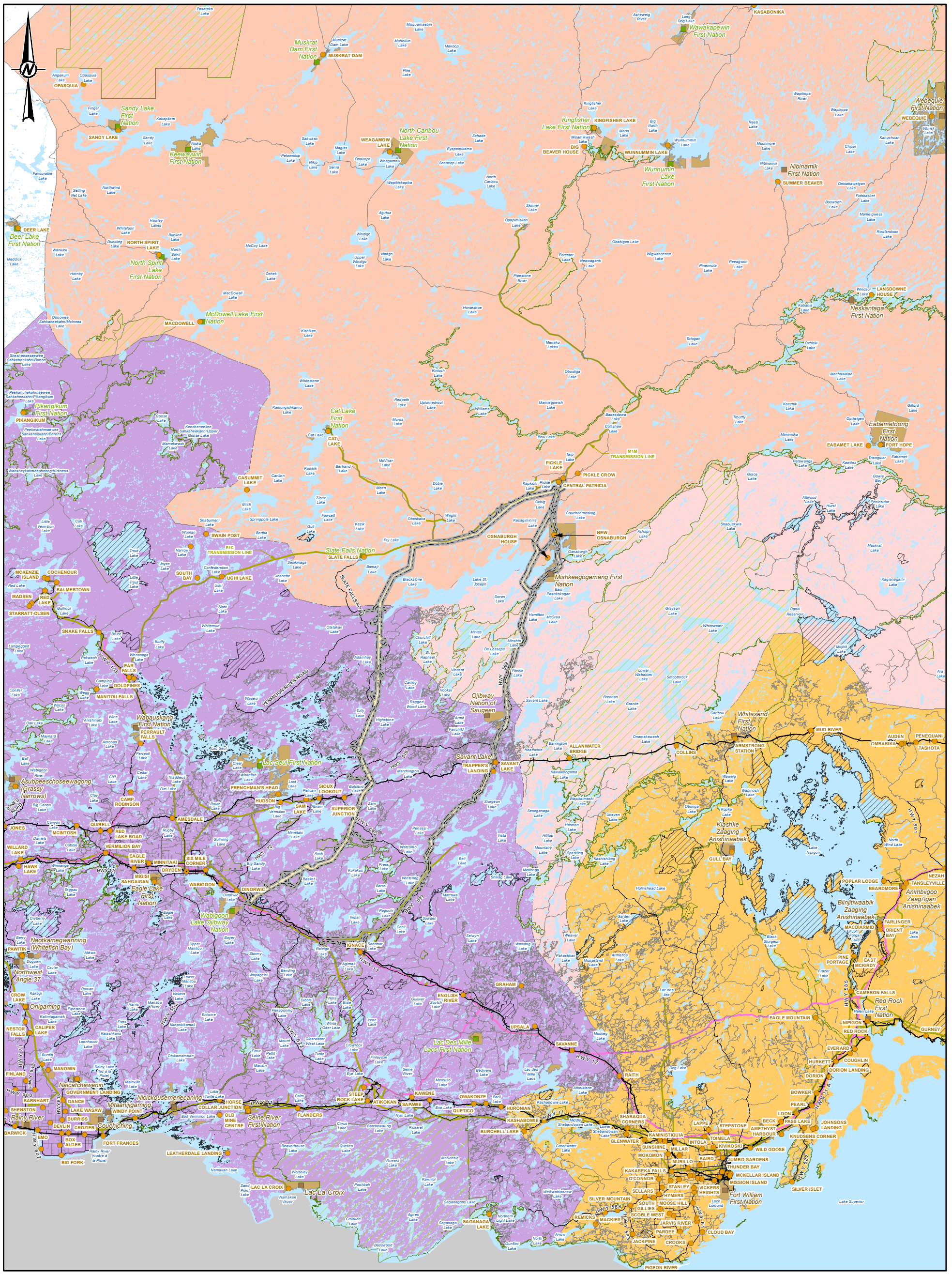
Golder Associates
Thunder Bay, Ontario

0 25 50 100
SCALE 1:1,300,000 KILOMETRES

Schedule G


Pickle Lake
N
Mishkeegogamang
Ojibway Nation
599
District of Kenora
Savant Lake
Ojibway Nation
of Saugeen
516
District of Thunder Bay
Sioux Lookout
664
72
642
Sturgeon Lake
599
17
622
Ignace
Sagatay
Transmission L.P.
Km
0 5 10
Sagatay Transmission
Proposed Route
Legend
Towns
Centreline of Proposed 230 kV Transmission Line
First Nation Reserve
Districts
Highway
Provincial Park

Schedule H



LEGEND

- ⊙ City
- ● Town
- 🟩 Wataynikaneyap Power Community (First Nation Community)
- ■ First Nation Community
- ┼ Railway
- — Road
- — Highway
- ■ Waterbody
- ▨ Provincial Park
- ▨ Conservation Reserve
- ■ First Nations Reserve
- ▭ Aboriginal and Treaty Rights Local Study Area

Historical Indian Treaties

- ■ Robinson-Superior Treaty
- ■ Treaty 3
- ■ Treaty 9 (1905)
- ■ Treaty 9 (1929-1930)

Utility Lines

- — Existing Electrical Transmission Line
- — Natural Gas Pipeline

NOTE(S)

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

DRAFT

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 POWERTEL. POWTEL ACCESS STUDY 2015-06-26.ZIP, CAMPS PREFERRED ROUTE.KMZ, 599 ROUTE ACCESS.KMZ
5. CONNECTION FACILITY & TRANSFORMER STATION - PROVIDED BY POWERTEL. STATIONS PREFERRED ROUTE.KMZ
6. FIRST NATION COMMUNITIES FROM INDIGENOUS AND NORTHERN AFFAIRS CANADA (WWW.AINC-INAC.GC.CA)
7. HISTORICAL TREATIES OF CANADA - DIGITIZED BY GOLDER ASSOCIATES LTD. HTTP://WWW.AADNC-AANDC.GC.CA/ENG/1100100032297/1100100032309
8. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2008
9. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15

0 40 80

1:1,800,000 KILOMETERS

CLIENT
WATAYNIKANEYAP POWER L.P.

PROJECT
PHASE 1 NEW TRANSMISSION LINE TO PICKLE LAKE PROJECT

TITLE
ABORIGINAL AND TREATY RIGHTS LOCAL STUDY AREAS AND TREATIES

CONSULTANT

ᐊᐧᐅᓂᑲᓂᔭᑊ Wataynikaneyap Power

Golder Associates

YYYY-MM-DD	2017-06-21
DESIGNED	JMC
PREPARED	JMC
REVIEWED	MH
APPROVED	MH

PROJECT NO.	CONTROL	REV.	FIGURE
1535751	####	####	8.0-1

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

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Schedule I

Eabametoong & Mishkeegogamang First Nations

Community Based Land Use Plan: Taashikaywin

2013 Terms of Reference

Eabametoong & Mishkeegogamang First Nations

Community Based Land Use Plan: Taashikaywin

2013 Terms of Reference

July 15, 2013

Eabametoong First Nation, Mishkeegogamang First Nation, and the Ministry of Natural Resources are pleased to sign the Terms of Reference for the Taashikaywin Community Based Land Use Plan. Approvals have been provided by:

- Eabametoong First Nation Band Council Resolution;
- Mishkeegogamang First Nation Band Council Resolution; and
- Ontario, by the Minister of Natural Resources administering the Far North Act.

As we begin this planning process, Eabametoong First Nation, Mishkeegogamang First Nation and the Ministry of Natural Resources affirm our commitment to work together with mutual respect and in good faith.

On behalf of Eabametoong First Nation	On behalf of Mishkeegogamang First Nation	On behalf of Ontario
Chief Elizabeth Atlookan Eabametoong First Nation	Chief Connie Gray-MacKay Mishkeegogamang First Nation	Honourable David Orazietti Minister of Natural Resources

Community Based Land Use Plan:
Taashikaywin

2013 Terms of Reference

Table of Contents

Contacts listed on page 22.

Figures:

Foreword:

Eabametoong First Nation and Mishkeegogamang First Nation have prepared this Terms of Reference to guide the preparation of a Community Based Land Use Plan, a project jointly led by the First Nations working together with Ontario, as represented by the Ministry of Natural Resources (MNR) in the context of Ontario's Far North Land Use Planning Initiative. The First Nations have given the name Taa Shi Kay Win ('Taashikaywin') to the project, which translates to "our places on the Earth and in nature's realm", and/or "our environment" to this planning initiative.

This document is titled *Terms of Reference Taashikaywin 2013 ('Terms-2013').* It is approved by the First Nations (via Band Council Resolution) and the Minister of Natural Resources under the *Far North Act,* effectively replacing a previously-approved Terms of Reference dated April 13, 2010. Commitments from the 2010-approved Terms are carried forward. The joint planning team has prepared *Terms-2013* and sought new approvals primarily to adopt and incorporate *Far North Act* provisions and requirements for planning that came into effect in 2011 and to revise the guidance for designation of a planning area. In addition, edits have been made where needed to ensure all contents are up to date.

The *Far North Act* is a key component of Ontario's Far North Land Use Planning Initiative as it provides a legal foundation for community based land use planning in the Far North that:

- sets out a joint planning process between the First Nations and Ontario;
- supports the environmental, social, and economic objectives for land use planning for the peoples of Ontario; and
- is done in a manner that is consistent with the recognition and affirmation of existing Aboriginal and treaty rights in section 35 of the *Constitution Act*, 1982, including the duty to consult.

Taashikaywin will be guided by the First Nations and by the emerging policies and processes established with the Far North Land Use Planning Initiative. Taashikaywin provides a framework for integrating economic, social and environmental values, and

will address all land use subjects within the communities' planning area. The resulting Community Based Land Use Plan ("The Plan") will be agreed to by the First Nations and Ontario. Nothing in this Community Based Land Use Plan shall be construed so as to abrogate or derogate from the protection provided for the existing aboriginal or treaty rights of the aboriginal people of Canada as recognized and affirmed in section 35 of the Constitution Act, 1982."

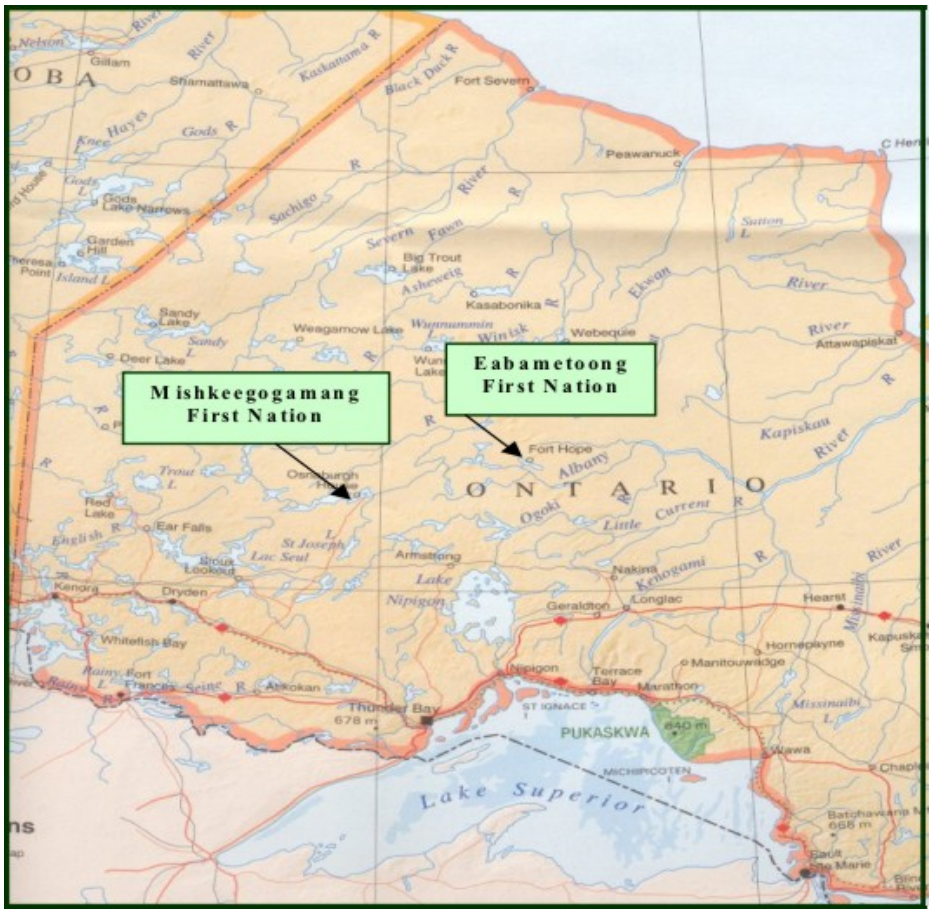

Figure 1: Taashikaywin Reference Map

The communities of Mishkeegogamang and Eabametoong First Nations are located in Northwestern Ontario as shown on the reference map, Figure 1

The planning partners of Mishkeegogamang, Eabametoong, and the MNR agree to work in good faith to provide a Community Based Land Use Plan following these Terms of Reference.

1.0 Purpose / Reasons for planning

On 21 February 2002, a Memorandum of Understanding was signed between Eabametoong First Nation and Mishkeegogamang First Nation confirming our intention to work cooperatively in land use and resource development planning within our respective and contiguous Traditional Use Areas. Eabametoong and Mishkeegogamang began working together with MNR in association with the Northern Boreal Initiative, an "orderly development framework" to address community interests through planning, including the potential to seek a Sustainable Forestry Licence. Eabametoong First Nation and Mishkeegogamang First Nation are now continuing this work in partnership with Ontario in the context of the Far North Land Use Planning Initiative.

Eabametoong First Nation and Mishkeegogamang First Nation have entered into this planning partnership with the Ministry of Natural Resources to achieve:

- **Community Based Land Use Planning in Their Respective Traditional Use Areas.** This includes land use planning for all values within the planning area including: timber and non-timber forest values; renewable energy potential values (e.g., wind, water and transmission): mineral values; cultural values; ecological values (e.g. wildlife, plant and aquatic); water quality; recreation & tourism values; and other values that become apparent during the course of the planning process. The process will seek to provide Cultural/Social, Environmental, and Economic balance and sustainability as determined via direct input from the communities, stakeholders and the broader public. This also includes the major task of the inventory of all of these values.

- **A Sustainable Forest Licence.** This includes the environmental assessments and sustainable forest management plans required for the granting of such a licence. The attainment of a sustainable forest licence will necessarily identify forest products opportunities and will provide the vehicle for their pursuit. Again, this planning initiative is designed to identify and initiate partnerships to achieve such

a result. All of this occurs upon the foundation of orderly development steps, beginning with community-led planning.

- **Capacity Building Opportunities**. During the planning process it is important to identify and take advantage of as many opportunities for capacity building as possible. These opportunities include, but are not limited to the following: professional and technical education, career development, and the involvement of First Nation members in the various phases of the further, lower level planning processes and the economic development opportunities that emerge from the planning process.

The communities have decided to use the approach called community based land use planning, as set out in the Far North Act. In response to the communities' expressed interest in planning, MNR is engaging in this joint planning project. Planning is to be led by the respective First Nations in a manner that expresses the communities' principals, values and direction.

Community based land use plans make decisions about where land use activities may take place. Once a land use plan is in place, activities on the landscape must be consistent with the plan's land use designations.

2.0 Community based land use planning overview

This Community Based Land Use Plan will be informed by First Nation Aboriginal traditional knowledge and interests, the best available information from all sources, science and emerging broad scale policy direction. The plan will provide for:

- the establishment of land use areas and their designations along with identification of the development, land uses and activities that permitted or are not permitted in those areas;
- the cultural, social and economic well-being of First Nation people and Ontario;
- the protection and management of ecosystems including consideration of:
    - areas of fragility/vulnerability requiring protection;
    - conservation of ecological features and functions;
    - species at risk (e.g. woodland caribou); and
    - strategies for maintaining carbon storage and sequestration functions;
- the identification of areas of resource potential and economic development opportunities that may support forestry, mineral sector activities, tourism, renewable energy, recreation and infrastructure, including transmission and road corridors;
- the identification of one or more protected areas, including consideration of opportunities to contribute to broader interconnected network of protected areas;
- the identification of a plan review period; and
- a description of how the plan has addressed the significant features and land uses for areas adjacent to the planning area.

The Plan will serve the First Nations and Ontario in future decision-making. In addition to the description of land use areas, the plan will provide an expression of vision, philosophy, goals and objectives related to lands and resource use, thereby providing a context for decision-making in the planning area. This context is expressed by Eabametoong and Mishkeegogamang First Nation in the statement in italics on the following page.

An expression of context for decision making:

The land is an integral part of the cultural, economic and spiritual existence of our First Nations. This relationship between the People and the land must be the cornerstone of all future decision making. This philosophy expresses our intention to maintain the Anishnawbe relationship to the land and to maintain the Anishinawbe way of life in harmony with new land use activities. These new activities will be integrated with traditional land uses in a way that is guided by our traditional values and principles.

Eabametoong First Nation and Mishkeegogamang First Nation

The *Far North Act* provides a legislative foundation to support Far North land use planning as a joint process between First Nations and Ontario. The *Far North Act* sets out planning matters including requirements for the planning process, contents of a plan, joint approvals and designation of the planning area. The Act also sets out objectives for land use planning:

- a significant role for First Nations in the planning;
- the protection of areas of cultural value and protection of ecological systems by including at least 225,000 square kilometres of the Far North in an interconnected network of protected areas designated in Community Based Land Use Plans;
- the maintenance of biological diversity, ecological processes and ecological functions, including the storage and sequestration of carbon in the Far North; and
- enabling sustainable economic development that benefits the First Nations.

These objectives have been taken into account in the preparation of the Terms of Reference, and will be taken into account in the preparation of the land use plan.

To enable activities which are identified in the approved Community Based Land Use Plan further requirements may exist such as an *Environmental Assessment Act* process, or resource management planning. In the case of forest management, new *Environmental Assessment Act* coverage is required, prior to the preparation of a forest management plan.

3.0 Planning Area:

In this Terms, Eabametoong and Mishkeegogamang First Nations have identified an Area of Interest for Planning (AIP) that encompasses 2,487,752 hectares. This AIP is defined by Eabametoong First Nation and Mishkeegogamang First Nation as a portion of the traditional land use area that lies north of the area of the undertaking (AOU), and is bordered primarily by the Albany River on the south and approximately along the height of land of the Attawapiskat watershed on the north (refer to map below). Traditional harvest areas have been used to help define the boundaries of the planning area, with respect for neighbouring First Nations.

The planning area is mapped in order for Eabametoong and Mishkeegogamang to lead preparation of a Community Based Land Use Plan for that area; the land use plan will not alter traditional understandings and relationships to the land by adjacent communities.

Dialogue between Eabametoong and Mishkeegogamang and the adjacent communities will support developing an understanding of shared areas, interests and participation in the planning process. Planning will strive to provide direction that considers the interests of and benefits for Eabametoong, Mishkeegogamang, and all First Nations.

First Nation communities located adjacent to this AIP are Cat Lake, Slate Falls, North Caribou Lake, Nibinamik, Neskantaga, Marten Falls and Aroland. Eabametoong and Mishkeegogamang have initiated dialogue with all adjacent communities and will provide for continued engagement in an ongoing dialogue during the planning process.

The planning team will confirm the final Taashikaywin Planning Area in the Draft Plan stage, document the final planning area in the Draft Plan, and will seek designation of the final planning area under the *Far North Act*. Approval of the Final Plan is contingent upon having a designated planning area.

The Mishkeegogamang First Nation has two reserves, Osnaburg 63A and Osnaburg 63B, and is located approximately 40 kilometres south of Pickle Lake on Highway 599. The on-reserve population in February 2007 was 851 people, while the off-reserve population

was 663 people. A nursing station, a community centre, and the Missabay Community School are components of the First Nation's infrastructure. Access to Mishkeegogamang is obtained from Highway 599, or the airport in Pickle Lake. Electricity is obtained from the provincial grid. Mishkeegogamang was the location of the initial signing of Treaty Nine in 1905.

The Eabametoong First Nation inhabits Fort Hope Reserve 64, which is located 362 kilometres north of Thunder Bay on Eabamet Lake, a portion of the Albany River. In March 2007, the on-reserve population was 1,178 people, while the off-reserve population was 1,006 people. Access to the First Nation is obtained year round by aircraft and seasonally using winter roads. A library, a community centre, a nursing station, and the John C. Yesno Education Centre are components of the First Nation`s infrastructure. Electricity is obtained from the diesel generators. Treaty Nine was signed at Eabametoong in 1905.

Eabametoong First Nation and Mishkeegogamang First Nation are members of the Nishnawbe Aski Nation. Eabametoong First Nation and Mishkeegogamang First Nation are members of the Matawa First Nation Tribal Council and the Independent First Nations Alliance, respectively.

Pickle Lake, an incorporated municipality with 425 residents according to the 2011 Census, is located entirely within the planning area. Pickle Lake is serviced by an airport and offers some services to the Mishkeegogamang First Nation. As well, Pickle Lake is an important winter road and air transportation centre for several First Nations located to the north.

A dialogue with Pickle Lake Mayor and council has been established to support the exchange of information and provide opportunities for involvement in the planning process. The Municipality of Pickle Lake has an Official Plan. Direction for Crown lands adjacent to the municipality will seek to complement the direction for Crown lands within the municipality.

While community based land use planning will focus on the traditional territories of Eabametoong First Nation and Mishkeegogamang First Nation, additional consideration will be given for landscape/eco-region planning and provincial context planning.

- Input from a provincial perspective will provide the communities with views on the broader economic, social and environmental implications of recommendations arising from the land use plan. As previously noted, the *Far North Act* provides objectives for planning. Additionally, the province will provide input and advice about local and broad-scale matters such as conservation of ecological features and functions, species at risk, networking of protected areas, strategies for maintaining carbon storage and sequestration functions, transmission and road corridors, and areas of high resource and economic development opportunities.
- The planning area lies within Eco-Region 3S and Eco-District 3S-4, and Ecoregion 2W and Ecodistrict 2W-3 following the Ontario's Ecological Land Classification system. The eco-regions are defined by distinct geological and geographical features and themes, with each eco-region having a particular combination of climate, topography, land forms and soil.

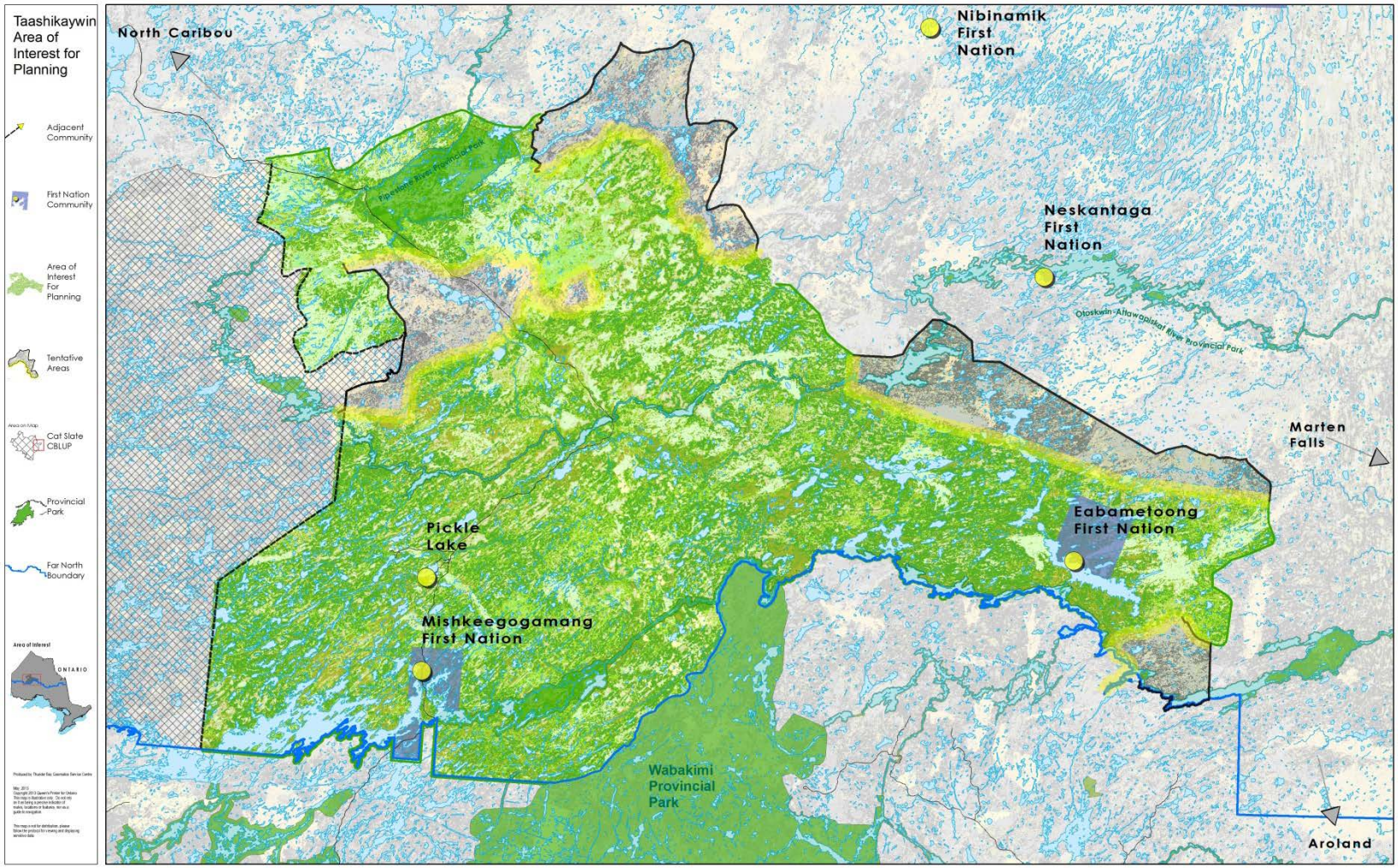

Figure 2: Taashikaywin Area of Interest for Planning

4.0 Desired outcomes for the Taa Shi Kay Win Land Use Plan

The Taa Shi Kay Win land use plan will provide goals, objectives, principles and direction that address the following land use subjects and outcomes:

- Traditional and Customary Use: Traditional and customary use information will be provided via both cultural inventory and input from the First Nations planning team members. Expected outcomes are:
    - Documentation of information and knowledge
    - Identification and protection of old grave sites and other sensitive traditional areas
    - Principles to guide land and resource use decisions.
- Conservation and Protection: The two First Nation communities have lived with and on this land area for uncounted generations and view themselves as the custodians of it. They will lead the process that describes the conservation and protection measures for the area, working together with Ontario. Conservation and protection measures will take into account the objectives for planning expressed in the *Far North Act* including for protection of areas of cultural value and the protection of ecological systems, the maintenance of biodiversity, ecological processes and functions, including protection of species at risk and their habitat and the storage and sequestration of carbon. The expected conservation and protection outcomes for *Taa Shi Kay Win* are:
    - Mapping of areas with high conservation/protection interest, including emphasis on areas of cultural importance and valued ecological systems
    - Strategic direction regarding the areas and manner in which they must be conserved and/or protected
    - Identification of areas and provision of management strategies for conservation and/or protection of their traditional and sustaining land base
    - Identification of one or more protected areas (e.g., Dedicated Protected Areas, Parks or Conservation Reserves) based upon Aboriginal traditional knowledge, design principles, landform/vegetation complex representation, and additional analysis or tools provided by broad scale policy direction
    - Recognition of existing protected areas (e.g., Albany River Park) and review within the planning process to determine potential recommendations concerning permitted uses and existing boundaries
    - Recognition and respect for traditional uses protected by Aboriginal and treaty rights
    - Provisions that will contribute to protection of Species at Risk, including woodland caribou, wolverine and lake sturgeon e.g. critical habitat protection.

- Forest Management (commercial forestry):
    - Provision of Forest Resource Inventory to support planning decisions and future resource management planning
    - Direction for areas desired and suitable for forest management
    - Strategic level direction guiding the manner in which forestry is to proceed (with details to be determined through *Environmental Assessment Act* coverage and forest management planning).

- Forest Management (non-timber forest products):
    - Provision of Forest Resource Inventory to support planning decisions and future resource management planning
    - Direction for areas desired and suitable for non-timber forest management
    - Strategic direction guiding the manner in which non-timber forest resource use is to proceed.

- Tourism (and Eco-tourism):
    - Mapping of existing tourism operations
    - Information on potential tourism opportunities
    - Strategic direction guiding tourism as a land use
    - Direction regarding overlapping uses/interests and the protection of tourism interests.

- Geoscience and the Mineral Sector (exploration and mining)
    - Information relevant to mineral exploration and development (e.g., maps of bedrock geology / areas of significant mineral potential)
    - Identification of existing mining claims
    - Explanations of mineral exploration and development (the mining sequence) and the implications of Mining Act modernization for future activities
    - Options for possible future mineral sector activities
    - Information relevant to public health and safety; the current state of the environment; infrastructure needs; and economic opportunities (e.g., environmental base-line data, and maps of surficial geology / aggregate resources)
    - Guidance for land use areas providing a balance of areas with access to mining sector opportunities and protected areas requiring withdrawal of mining sector activities.

- Recreation:
    - Mapping of recreation potential and interests
    - Strategic direction regarding the manner in which recreation interests will proceed
    - Provision of land use areas supporting recreation activities.

- Water Conservation and Protection:
    - Mapping of waterways and current and projected waterway developments (including, but not limited to hydroelectric power developments)
    - Strategic direction regarding the manner in which water use interests will proceed
    - Direction regarding overlapping uses/interests and the conservation and protection of water and waterways.

- Renewable Energy:
    - Identification of potential and land use designations to support community and/or provincial interests in opportunities that may include hydroelectric power development (see water conservation and protection) and wind power.

- Access and Infrastructure:
    - Mapping of existing access and infrastructure (e.g. transmission corridors)
    - Recognition of overlapping, broader access and infrastructure initiatives
    - Strategic direction guiding access and infrastructure interests
    - Identification and safeguarding of the important relationships that exist between access and infrastructure and current and future land use.

- Climate Change:
    - Consideration of opportunities to contribute to the adaptation to and mitigation of climate change, including the identification of areas that are important sources of carbon storage.

- Fire Management:
    - An understanding of the relationship between the Ontario Fire Management Strategy and existing or proposed land use activities
    - Land use direction and priorities for fire management (consideration of amendment(s) to the Ontario Fire Management Strategy may be needed).

5.0 Process and Phases

A planning process has been designed to support the preparation of this land use plan, incorporating the principles of fairness, openness and respect. The planning partners of Mishkeegogamang First Nation, Eabametoong First Nation, and MNR will strive to reach consensus on recommendations, building from the information, input and opinion provided during consultation opportunities. The planning process will proceed with respect for Aboriginal and treaty rights.

In addition to preparing and organizing for planning, there are three formal planning phases. In all planning phases, community dialogue and meetings will take place as needed for communities to build consensus and determine readiness to move forward. As well, MNR will facilitate dialogue within the ministry and with other agencies as needed to build a provincial consensus to move forward in each phase. The planning phases are:

Phase 1: Winter 2009/Spring 2013

- Prepare and approve Terms of Reference
- Assemble background information
- Prepare vision and goal statements
- Invitation to participate for adjacent communities
- Invitation to participate, sharing Terms, notification of process and public consultation opportunities on Environmental Registry posting and mail-outs
- 1st open houses and dialogue opportunities.

Phase 2: Fall/Winter 2013/14

- Prepare objectives and opportunities analysis
- Continue dialogue with adjacent communities
- Confirm final planning area
- Prepare Draft Land Use Plan

- Notice of public consultation opportunities on Environmental Registry posting update and mail outs
- 2nd open houses and dialogue opportunities
- Recommend designation of confirmed planning area.

Phase 3: Spring/Summer 2014

- Prepare summary of input received on Draft Plan
- Prepare Final Land Use Plan
- Recommend Final Land Use Plan for approval by the councils of Eabametoong and Mishkeegogamang First Nations and the Minister of Natural Resources
- Decision notice provided on Environmental Registry including summary of response to public input.

The planning process is supported by a decision-making framework of planning teams, a timeline and step-wise process and a number of protocols regarding information and liaison with various interests or agencies. Consultation is an essential element of the planning process.

Planning Teams:

The framework for planning includes a primary planning team and a planning support group:

- Primary Planning Team – community representatives of Eabametoong First Nation and Mishkeegogamang First Nation. Membership is composed of:
  - Eabametoong First Nation – six members
  - Mishkeegogamang First Nation – six members
  - Project Management/Facilitation Consultant
  - MNR/Far North Planners – Sioux Lookout District, Nipigon District
  - MNR Far North Senior Planner – Northwest Region

- **Planning Support Group** (provides background and information support and services for the planning team). Membership is composed of:
  - Eabametoong First Nation, project representative
  - Mishkeegogamang First Nation, project representative
  - Project Management/Facilitation Consultant
  - MNR District representatives

        - Sioux Lookout District, Area Supervisor
        - Nipigon District, Area Supervisor
    - Far North Planning Manager – Northwest Region
    - MNDM Representatives –
        - Northwest Regional Land Use Geologist
        - Northwest Regional Manager
    - MNR Natural Heritage Specialist, Northwest Region

Responsibilities:

Eabametoong First Nation and Mishkeegogamang First Nation have planning responsibilities that include the following:

- Leading planning dialogue
- Supporting opportunity for community engagement in planning and decisions
- Facilitating the understanding of, information on, and direction for traditional use, traditional Aboriginal knowledge and cross-cultural dialogue with agencies, stakeholders and the public.

MNR has planning responsibilities including:

- Facilitating discussion on lands and resources capabilities
- Discussing integrated resource management principles
- Facilitating consultation opportunities in the context of community based land use planning. Ontario respects and will address its requirements for consultation with First Nations.
- Addressing policy and legislation requirements associated with the *Far North Act*.

MNDM has planning responsibilities including:

- Providing information related to geoscience, including mineral potential, in the planning area
- Describing the mining sequence, and identifying areas of past and current mineral sector activity
- Giving advice on using this data to identify areas that may have social or environmental implications, or offer economic opportunities
- Assessing proposals for land use designations.

Authority:

The *Far North Act* identifies the requirements and authority for formal joint First Nation - Ontario approvals, including for:

- Terms of Reference; and
- Final Land Use Plan.

Joint approvals for each of the above are required by:

- Eabametoong First Nation Chief and Council;
- Mishkeegogamang First Nation Chief and Council; and
- Minister of Natural Resources.

Approval of the Final Plan will be by Minister's Order under the *Far North Act, 2010* and by First Nation Band Council Resolution from each First Nation.

Prior to seeking approval of the Final Plan, the planning team will request that the planning area be designated under the *Far North Act* via Minister's Order.

These terms of reference can be amended if required, in accordance with the *Far North Act*.

The Eabametoong First Nation and Mishkeegogamang First Nation relationship to the lands and resources will continue and will be reaffirmed through this process.

Once a land use plan is in place, activities on the landscape must be consistent with the plan's land use designations.

Following approval of the Community Based Land Use Plan, the planning partners will address community and provincial obligations required to implement direction and activities.

Dispute Resolution

The land use planning process has been structured to incorporate on-going dialogue and feedback throughout the process. This offers a means to resolve issues and disputes concerning planning matters.

The approach to deliberate and offer solutions to resolve issues identified by parties external to the planning team or to resolve disagreements within the planning team, will be a step-wise process including a review of the issue by:

- The respective Chiefs of Mishkeegogamang and Eabametoong First Nations; and
- The respective District Managers of Sioux Lookout and Nipigon Districts.

A party bringing forward a dispute or issue shall provide it in writing, with a recommended solution. The Chief of each community will meet with the MNR District Managers to review and develop responses. A response may be expected within 30 days following the review of the dispute or issue.

Consultation

Consultation will be addressed by engaging all interested people and organizations in a dialogue on land use planning through a variety of mechanisms that include: meetings, environmental registry postings, open houses and mail outs. Initial efforts to invite consultation with other local First Nation communities, resource users (tourist operators, anglers, hunters, forest industry, mineral exploration/mining industry), government, municipalities and the general public having an interest in the planning area will occur by giving direct written notice of the intent to prepare this strategic land use direction. People not included on the initial mailing list, but who wish to become involved in the planning process, will at their request have their names added to the mail out list.

A general Public Notice will be placed in the local newspapers including: Sioux Lookout Bulletin, Times Star Geraldton, Thunder Bay Chronicle-Journal and Wawatay Newspaper.

The land use plan will be a policy posting on the Environmental Bill of Rights (EBR) Environmental Registry, beginning with a proposal at the invitation to participate stage, updating at Draft Plan stage, and concluding with a decision upon approval of the Final Plan. Additionally, the Terms, Draft Plan and Final Plan will be posted on the Far North website.

After the mail outs are distributed, meetings will be held to provide information on each phase of the planning process and to solicit input into the land use plan. Comments and submissions will be collected and the requirements of the following pieces of legislation will be met: *Far North Act*, the *Environmental Bill of Rights*, and the *Freedom of Information and Protection of Privacy Act*. Advance notice of Open Houses will be mailed to all names on the mail out list. Documents that are produced through this planning exercise will be made available for public review and comment. A summary of comments will be available to the public at appropriate locations.

Open Houses will be held in both Eabametoong First Nation and Mishkeegogamang First Nation (including the Municipality of Pickle Lake) and Thunder Bay. These Open Houses will provide both local and regional access to the consultation opportunities.

Interim Measures

The *Far North Act* provides for orderly development in the Far North. Under the *Far North Act*, Community Based Land Use Plans must be completed before most major development begins, including commercial timber harvest or opening a new mine. The Act does allow certain types of development to proceed in advance of a plan, provided certain criteria are met. A development may also be allowed to proceed if it is determined to be predominantly for community use or if it contributes directly to meeting community needs of the First Nations and takes into account the objectives of the Act.

While the Community Based Land Use Plan initiative is underway, MNR, and Mishkeegogamang and Eabametoong First Nations would expect that joint planning team input would be invited to the consideration of development proposals and that decisions would be consistent with the provisions of the Far North Act.

Information Management:

The planning process will require consideration of all available information to help support and inform joint planning discussions while respecting and protecting Indigenous Knowledge. A joint protocol between the community and MNR will be established that will outline what information will be brought forward by each party and how it will be used in the community based land use planning process.

All information provided by community members to support community input to the planning process (i.e., Aboriginal Traditional Knowledge) will remain with the community unless the community deems it shareable with the Province of Ontario.

Ontario will provide and support the planning team with its best available information and data, to be used for the purpose of community based land use planning.

In addition, the joint planning team will identify appropriate information management strategies for the information used to support the development of the CBLUP.

MNR will work with the joint planning team to ensure compliance with requirements for information under the authority of the *Far North Act*, *Freedom of Information and Protection of Privacy Act* and the *Archives and Recordkeeping Act*. Notices required for public consultation purposes under the *Far North Act* and the Environmental Bill of Rights will be the primary responsibility of the MNR. The subjects and results of all consultation will be considered by the planning team and incorporated into the planning process.

The joint planning team will oversee communications and delegate as required, including developing and ensuring public notices are submitted as required, compile the appropriate mailing list, initiate mail out of planning phase information, provide notice of meetings, and any other information deemed appropriate.

All formal input and comments received during the planning process will be documented and available as an official planning record. Copies of all formal input and comments received during the process will be provided to the joint planning team.

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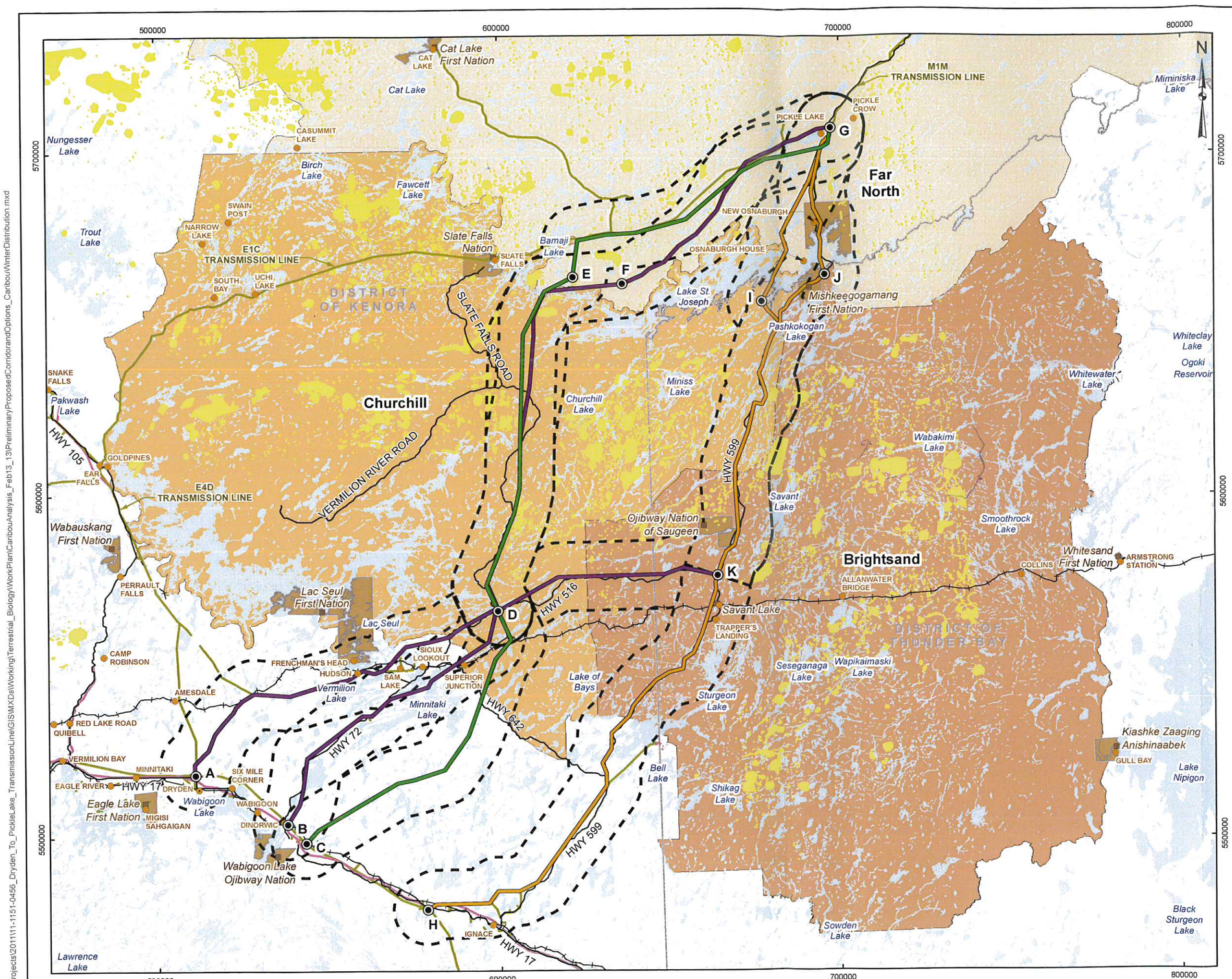
Schedule J



LEGEND

- Preliminary Proposed Corridor
- Corridor Options
- Corridor Alternatives
- 20km Route Buffer
- Caribou Winter Observation - 1970 to 2012

Caribou Range Boundary

- Brightsand
- Churchill
- Far North
- Outside Woodland Caribou Range
- Node
- City
- Town
- Railway
- Highway
- First Nations Reserve
- Waterbody
- Municipal Boundary

Utility Lines

- Existing Electrical Transmission Line
- Natural Gas Pipeline

REFERENCE

Base Data - MNR LIO, obtained 2012, NTDB
Transmission Routes - Provided by GENIVAR Mar-Aug 2012
Caribou Winter Distribution - Digitized By Golder Associates Ltd. Feb 2013.
(OMNR Caribou Winter Distribution. R3CU0018)
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 15

0 5 10 20 30 40 50 60
SCALE 1:1,100,000 Kilometres

PROJECT
NEW TRANSMISSION LINE TO PICKLE LAKE PROJECT

TITLE
CARIBOU WINTER OBSERVATIONS IN THE CHURCHILL AND BRIGHTSAND CARIBOU RANGES 1970 TO 2012

Golder Associates
Mississauga, Ontario

PROJECT NO. 11-1151-0456		
DESIGN	JMC	17 Feb. 2013
GIS	JMC	6 Sep. 2013
CHECK	LDJV	6 Sep. 2013
REVIEW	BW	6 Sep. 2013

FIGURE: 2

G:\Projects\2011\11-1151-0456_Dryden_To_PickleLake_TransmissionLine\GIS\MXDs\Working\Terrestrial_Biology\WorkPlan\CaribouAnalysis_Feb13_13\PreliminaryProposedCorridorandOptions_CaribouWinterDistribution.mxd

Schedule K

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July 17, 2017

RESS, EMAIL & COURIER

Ontario Energy Board
P.O. Box 2319
27th Floor, 2300 Yonge Street
Toronto, ON M4P 1E4

Attention: Ms. K. Walli, Board Secretary

Dear Ms. Walli:

Re: Wataynikaneyap Power LP (EB-2016-0262)
– Semi-Annual Report on the Wataynikaneyap Transmission Project

Enclosed on behalf of Wataynikaneyap Power LP is the July 17, 2017 edition of the *Semi-Annual Report on the Wataynikaneyap Transmission Project*. This report is being filed in accordance with the Board's March 23, 2017 Decision and Order in the above-referenced proceeding. A copy has also been filed on RESS.

Yours truly,

Jonathan Myers

Enclosure

cc: Ms. Margaret Kenequanash, WPLP
Mr. Tim Lavoie, WPLP
Mr. Charles Keizer, Torys LLP

ONTARIO ENERGY BOARD

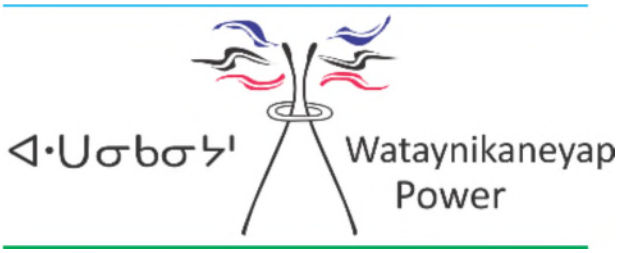
IN THE MATTER OF the *Ontario Energy Board Act, 1998,* C.S.O. 1998, c.15 (Sched. B); pursuant to section 78 of the *Ontario Energy Board Act.*

AND IN THE MATTER OF an Application by 2472883 Ontario Limited on behalf of Wataynikaneyap Power LP, for an Order or Orders to establish a deferral account, for the purposes of recording certain costs relating to development of the Wataynikaneyap Transmission Project.

WATAYNIKANEYAP POWER LP

Semi-Annual Report on the Wataynikaneyap Transmission Project

July 17, 2017



1. Executive Summary

Introduction

On March 23, 2017, the OEB issued a Decision and Order in EB-2016-0262 (the "Decision"), authorizing Wataynikaneyap Power LP ("WPLP") to establish a deferral account to record development costs for the Wataynikaneyap Transmission Project (the "Project"). The Decision requires WPLP to file a report on the progress of the Project with the OEB on July 17, 2017 and January 15, 2018, and every July 15 and January 15 following until the project is completed.

This report is intended to address the requirements reflected in the Decision by reporting on each of the following aspects:

- Overall Project Progress – Summary of work progress, cost and schedule status, emerging issues/risks and proposed mitigation
- Cost – Up-to-date project cost forecast and description of reasons for projected variances relative to last forecast provided, as well as updates on funding received, including amounts received, the source of the funding, the activity to which the funding is directed, and any prescribed restrictions on such funding
- Schedule – Up-to-date schedule to project in-service, as well as milestones completed and status of milestones in-progress, including reasons for any delays, impacts of delays and mitigating steps to be taken.
- Risks and Issues Log – Assessment of risks and issues, potential impacts on schedule, cost or scope, as well as potential options for mitigating or eliminating risks or issues.

In addition, as required by Decision, this initial report must identify the milestones that WPLP considers appropriate for the Project. These are presented in Section 3 of the report.

All information provided in this report related to project progress, milestones and risks is current to the close of business on June 30, 2017. Cost and funding information is based on a financial cut-off of March 31, 2017. WPLP expects that the next report, due January 15, 2018, will contain financial information to September 30, 2017, and all other information current to December 31, 2017.

Overall Project Progress

Significant progress has been made in a number of project areas since the OEB's approval of the deferral account.

As detailed in the Schedule and Milestones section below, the environmental team has advanced the environmental assessment process to achieve the critical milestone of "Submission of Draft Environmental Assessment Report" with respect to the Line to Pickle Lake. This milestone completed the final corridor analysis and identification of the preferred corridor (i.e., Dinorwic (east of Dryden) to Pickle Lake) for this component of the Project, and allows further design and lands activities to proceed with greater certainty. In parallel with this process, the engineering, environmental, and lands teams have worked collaboratively to further refine the proposed centerlines and limits of work for all segments of

the Project and corridor alternatives. The result of this process will allow for acquisition of LiDAR data for the remainder of the Project, and will allow preliminary design activities and the identification of required land rights to proceed in support of an anticipated application for Leave to Construct in Q4 of 2017.

Aboriginal engagement has also made significant progress in parallel with environmental assessment activities. A second round of community engagement on the Remotes Connection portion of the Project has been completed in the majority of communities. Also, traditional land resource use studies have been completed in most of the same communities. Efforts continue to attempt to engage a small number of outstanding communities. Early and ongoing engagement and communication has provided significant benefits as a result of the community feedback that has been received with respect to routing options, including traditional land and resource use, as well as with respect to existing winter road networks and plans for future all-weather roads. Land sharing discussions also continue with the aim of developing Land Sharing Protocols with respect to traditional lands impacted by the transmission corridors.

Government stakeholder engagement activities continue to progress on a number of fronts. WPLP has been successful in bringing together representatives of both federal and provincial governments for the purpose of negotiating a funding framework for the Project, and communicating the urgency of finalizing this framework. WPLP and various government representatives also continue to participate in a number of working groups for areas critical to the success of the Project, including funding, duty to consult, and Far North Act exemptions.

Ongoing dialogue also continues with Hydro One Networks and the IESO to address design and interconnection requirements, and environmental assessment requirements in relation to additional HONI infrastructure at interconnection points.

Cost Forecast and Variances

In the Decision, the OEB determined that costs shall be recorded in the deferral account starting November 23, 2010, and that start-up costs, even if incurred after November 23, 2010, should not be recorded in the account. As a result of this Decision, WPLP has presented an adjusted total development budget of approximately $71.8 million in Section 2 of this report.

Total project spending to date (excluding costs prior to November 23, 2010 and start-up costs) is $25.4 million, or 35% of the total development budget. WPLP's current total development spending forecast is $69.8 million, excluding contingencies. WPLP notes that an amount was budgeted in sub-account #12 to account for a reasonable level of contingency costs during the development period, however all actual costs and future forecasted costs are recorded in the remaining sub-accounts as appropriate. As a result, no actual or forecast spending is provided for sub-account 12.

The table in Section 2 provides a variance analysis at the sub-account level.

Funding

A summary of government funding received between November 2010 (i.e. the effective date of the deferral account) and March 31, 2017 is provided in Section 2. Approximately $9.5 million in funding has been received to date, with approximately $8.8 million spent to date.

Schedule and Milestones

The tables in Section 3 of this report provide a summary of major milestones completed to date, as well as forecasted completion dates for future milestones.

The major milestone completed since the OEB's approval of the deferral account is the submission of the Draft Environmental Assessment Report in respect of the Line to Pickle Lake. This report contains an effects assessment on three corridor alternatives, and identifies the preferred corridor for this component of the Project. A notice was issued on June 30, 2017 indicating that the report was available for public viewing and that it is subject to a five week comment period.

With respect to the Remote Connections Project, an update newsletter was issued in April 2017.

WPLP anticipates submitting an application for Leave to Construct the Project in Q4 of 2017. In support of this effort, a number of additional milestones are forecasted for completion in Q3 of 2017, including:

- Receiving Final System Impact Assessment(s) and Customer Impact Assessment(s) from the IESO and Hydro One Networks;
- Project Funding Framework between Canada and Ontario; and,
- Line to Pickle Lake - Round 3-Part 2 Engagement

Risks and Issues

The tables in Section 4 of this report provide a current summary of key issues and risks, including discussion of potential impacts on Project scope, cost and/or schedule. The most critical risks in the short-term are those that are generally related to the Q3 milestones listed above. A summary of mitigation efforts completed and planned for each significant identified risk is provided in Section 4.

2. Development Costs and Funding

Wataynikaneyap Power LP (Watay LP)
Deferral Account Spending for the Project
For the Reporting Period- November 2010 to March 31, 2017

Sub-account	Project Cost Category	Forecast Deferral Costs from EB-2016-0262*	Current Forecast Deferral Costs	Variance between EB-2016-0262 Forecast and Current Forecast	Total Spend as at Reporting Date	Percent of Current Forecast Spent	Variance Analysis
1	Engineering, design and procurement activity costs	$ 19,920,028	$ 19,907,996	$ 12,032	$ 2,147,996	10.79%	No material variance
2	Permitting and licensing costs	$ 1,850,000	$ 1,852,350	-$ 2,350	$ 2,350	0.13%	No material variance
3	Environmental and regulatory approvals costs, including costs of mitigating project impacts	$ 8,467,121	$ 8,448,926	$ 18,195	$ 5,553,926	65.74%	No material variance
4	Land rights acquisition costs and landowner engagement/negotiation costs (excluding Aboriginal Engagement costs)	$ 985,000	$ 1,101,130	-$ 116,130	$ 146,677	13.32%	The forecast includes amounts for legal fees, internal labour, survey work and payment to landowners to secure the required land rights. The primary driver for the variance is legal fees and internal labour as more time is being utilized to prepare legal documents and negotiate land options to secure land rights prior to the Leave to Construct. Once the Leave to Construct has been approved the land options will be converted to land rights at a reduced cost.
5	Aboriginal engagement and communication	$ 4,441,784	$ 6,572,438	-$ 2,130,654	$ 3,499,468	53.24%	The forecast includes additional labour, travel, engagement events, and First Nation capacity funding to effectively engage and review project documentation. In addition, some costs have been reallocated between sub accounts 5, 10 and 11. .
6	Community and other stakeholder engagement costs (excluding landowner and Aboriginal engagement costs)	$ 2,422,003	$ 3,175,676	-$ 753,674	$ 1,584,307	49.89%	The increase in cost is primarily driven by increased stakeholdering related to general public and government stakeholdering activities to arrive at a government funding framework.

Wataynikaneyap Power LP (Watay LP)
Deferral Account Spending for the Project
For the Reporting Period- November 2010 to March 31, 2017

Sub-account	Project Cost Category	Forecast Deferral Costs from EB-2016-0262*	Current Forecast Deferral Costs	Variance between EB-2016-0262 Forecast and Current Forecast	Total Spend as at Reporting Date	Percent of Current Forecast Spent	Variance Analysis
7	Costs for regulatory activities and filings, including legal support	$ 1,720,259	$ 1,913,136	-$ 192,877	$ 805,636	42.11%	The forecast is based on an estimate of time to complete the Leave to Construct, establishing a revenue framework with the OEB and completing the OEB reporting requirements. The variance is primarily driven by an increase in cost in EB-2016-0262 (Deferral Account Application) and estimated time required to complete future regulatory activities.
8	Interconnection study costs	$ 323,361	$ 332,551	-$ 9,189	$ 117,551	35.35%	No material variance
9	Accounting, administration and project management costs	$ 13,011,022	$ 13,103,876	-$ 92,854	$ 7,236,376	55.22%	The balance reflected in "Deferral cost Outlined in the Deferral Application EB-2016-0262" has been adjusted to reflect cost originally estimated in the start up as these costs are more aligned with Accounting, administration and project management. No material variance
10	Aboriginal land-related costs	$ 710,000	$ 897,588	-$ 187,588	$ 80,982	9.02%	Additional labour and travel required
11	Aboriginal participation, mitigation of project impact and local distribution planning	$ 13,468,512	$ 11,535,202	$ 1,933,310	$ 3,752,058	32.53%	Lower spend than anticipated; reduced training budget forecast to reflect ESDC approved budget and timing.
12	Contingency costs incurred in excess of budgeted costs	$ 3,498,199	$ -	$ 3,498,199	$ -	N/A**	Currently $1,516,574 of the contingency is being utilized amongst the other sub accounts
13	Development activity costs not reflected in other sub-accounts	$ 955,227	$ 950,024	$ 5,203	$ 475,024	50.00%	No material variance
14	Start-up costs (partnership formation)	$ -	$ -	$ -	$ -	N/A	Given the Decision and Order in EB-2016-0262, Waatynikaneyap Power LP does not record start up costs in the deferral account.
Grand Total		$ 71,772,516	$ 69,790,892	$ 1,981,625	$ 25,402,351	36.40%	

* Amount has been adjusted to remove the costs denied per the OEB Decision and Order in EB-2016-0262

** Sub-account 12 contains a budgeted amount of contingency on total development costs. Actual costs, even if higher than forecast, are recorded to the most relevant sub-accounts. The variances shown are therefore offset by the budgeted amount of contingency, such that the total indicated at the bottom of the variance column reflects the amount of budgeted contingency that to date is not expected to be needed.

Wataynikaneyap Power LP (Watay LP)
First Nations Partnership - Government Funding
For the Reporting Period- November 2010 to March 31, 2017

Source	Entity Receiving Funding	Type	Program	Activity	Prescribed Restrictions	Total New Funding Received from Source*	Funding Expended on Regulatory Assets within Watay LP**
Indigenous and Northern Affairs Canada (INAC)	Opiikapawiin Services LP (OSLP)	Federal	Strategic Partnerships Initiative	Aboriginal Participation	Subject to the terms of the funding agreement	$ 2,259,069	$ 1,914,617
Indigenous and Northern Affairs Canada (INAC)	Opiikapawiin Services LP (OSLP)	Federal	Build Canada Fund (BCF)	Aboriginal Engagement	Subject to the terms of the funding agreement	$ 1,000,000	$ 1,000,000
Indigenous and Northern Affairs Canada (INAC)	Opiikapawiin Services LP (OSLP)	Federal	Community Opportunities Readiness Program (CORP)	Environmental Assessment	Subject to the terms of the funding agreement	$ 650,160	$ 374,611
Indigenous and Northern Affairs Canada (INAC)	Central Corridor Energy Group (CCEG)	Federal	Strategic Partnerships Initiative	Aboriginal Participation	Subject to the terms of the funding agreement	$ 1,310,689	$ 1,310,689
Indigenous and Northern Affairs Canada (INAC)	Central Corridor Energy Group (CCEG)	Federal	Strategic Partnerships Initiative	Aboriginal Participation	Subject to the terms of the funding agreement	$ 875,000	$ 875,000
Indigenous and Northern Affairs Canada (INAC)	Central Corridor Energy Group (CCEG)	Federal	Regional Program Funds	Aboriginal Engagement / Participation	Subject to the terms of the funding agreement	$ 1,400,000	$ 1,400,000
Indigenous and Northern Affairs Canada (INAC)	Central Corridor Energy Group (CCEG)	Federal	Strategic Partnerships Initiative	Aboriginal Engagement / Participation	Subject to the terms of the funding agreement	$ 1,155,908	$ 1,155,908
Indigenous and Northern Affairs Canada (INAC)	Central Corridor Energy Group (CCEG)	Federal	Lands and Economic Development Services Program	Aboriginal Engagement / Participation	Subject to the terms of the funding agreement	$ 100,000	$ 100,000
FedNor	Central Corridor Energy Group (CCEG)	Federal	N/A	Aboriginal Engagement / Participation	Subject to the terms of the funding agreement	$ 430,011	$ 430,011
Independent Electricity System Operator (IESO)	Opiikapawiin Services LP (OSLP)	Provincial	Education & Capacity Building Program	Aboriginal Participation	Subject to the terms of the funding agreement	$ 150,000	$ 58,463
Northern Ontario Heritage Fund Corporation (NOHFC)	Central Corridor Energy Group (CCEG)	Provincial	N/A	Aboriginal Participation	Subject to the terms of the funding agreement	$ 50,000	$ 50,000
Ministry of Energy	Central Corridor Energy Group (CCEG)	Provincial	N/A	Aboriginal Participation	Subject to the terms of the funding agreement	$ 139,941	$ 139,941
Ministry of Energy	Central Corridor Energy Group (CCEG)	Provincial	N/A	Aboriginal Participation	Subject to the terms of the funding agreement	$ 26,704	$ 26,704
Total						$ 9,547,481	$ 8,835,943

*Third party funding received to fund start up and pre November 2010 costs have not been included as the corresponding costs have been denied pursuant to OEB Decision and Order EB-2016-0262.
** Funding expended on regulatory assets not recorded until spent by Wataynikaneyap Power LP.

3. Schedule and Milestones

The following tables provide a summary of major milestones completed to date, as well as forecasted completion dates for future milestones.

Item	Milestones Completed	Date
1	Formation of Central Corridor Energy Group (CCEG)	Q3 2008
2	Initiation of Environmental Assessment and Aboriginal Consultations for (a) Line to Pickle Lake and (b) Remote Connections	(a) Q1 2012 (b) Q4 2015
3	Formation of Wataynikaneyap Power corporation	Q2 2013
4	Approval of Environmental Assessment Terms of Reference for Line to Pickle Lake portion of the project	Q1 2015
5	Formation of Wataynikaneyap Power LP with FortisOntario/RES Canada	Q3 2015
6	Receiving Electricity Transmission License from OEB	Q4 2015
7	Submitting Impact Assessment Application in respect of Line to Pickle Lake Portion of the Project	Q1 2016
8	Approval of Deferral Account	Q1 2017
10	Submission of Draft EA Report (Line to Pickle Lake)	Q2 2017

Item	Milestones In Progress	Date
11	Receiving Final System Impact Assessment(s) and Customer Impact Assessment(s) from IESO and Hydro One Networks	Q3 2017
12	Project Funding Framework between Canada and Ontario	Q3 2017
13	Line to Pickle Lake - Round 3-Part 2 Engagement	Q3 2017
14	Stage 2 Archaeological Assessments complete (Line to Pickle Lake)	Q3 2017
15	Submitting Leave to Construct Application to OEB	Q4 2017

Item	Milestones In Progress	Date
16	Engineering, Procurement, Construction tender award	Q1 2018
17	Remote Communities Connections - Round 3 Engagement	Q1 2018
18	Minister's Decision on EA (Line to Pickle Lake)	Q2 2018
19	Stage 2 Archaeological Assessments complete (Remote Connections)	Q3 2018
20	Statement of Completion issued by MNRF for Environmental Assessment of Remote Connections Portion of the Project	Q3 2018
21	Leave to Construct Approval	Q4 2018
22	Financial Close	Q4 2018
23	Construction Start	Q4 2018
24	Asset Transfer Agreements between Independent Power Authority (IPA) communities and Hydro One Remote Communities	Q3 2019
25	Line to Pickle Lake in-service	Q3 2020
26	First Community Connected	Q3 2020
27	Construction Completion	Q3 2023

4. Issues and Risks

The following tables provide a current summary of key issues and risks, including discussion of potential impacts on Project scope, cost and/or schedule. For each risk, a summary of mitigation efforts completed and planned is provided, and the requirement to remove the risk has been identified.

ENGINEERING, DESIGN, PROCUREMENT, AND INTERCONNECTION				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk
1.	**SIA/CIA outstanding** The SIA and/or CIA reports may identify interconnection requirements, capacity constraints, and/or the need for upstream transmission enhancements not previously identified	- Any unexpected requirements arising from SIA/CIA will impact design scope and possibly impact project cost and/or schedule	- Early and ongoing dialogue with both IESO and HONI - Preliminary design and SIA/CIA application are based on consideration of IESO feasibility study, Remote Connection Plan and North of Dryden IRRP - Proposed interconnection requirements reviewed with HONI and IESO	- Receive Final SIA and CIA Reports
2.	**Geotechnical survey** Due to the size and scope of the project, completing detailed geotechnical surveys at 100% of the proposed structure locations is unlikely to be practical or cost-effective	- Differences between design assumptions and actual subsurface conditions could require design modifications	- Desktop geotechnical report commissioned and received - Findings of desktop report can be augmented using LiDAR data, high-resolution aerial imagery and other techniques - Consider cost/benefit of completing field geotechnical surveys at priority structure locations and representative locations that are readily accessible in advance of construction	- Construction completion

ENGINEERING, DESIGN, PROCUREMENT, AND INTERCONNECTION				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk
3.	**Interdependency on EA, engagement and lands activities** Changes to routing and/or design could be triggered by processes related to EA, engagement, and lands activities	- Impact will be proportional to the overall magnitude of any required changes.	- Early and ongoing community engagement - Significant interaction between engineering, EA, engagement and lands task leads, with coordination of efforts and processes where practical - Early identification of specific concerns - Prioritize design efforts on sections with least risk	- MOECC decision on EA (Line to Pickle Lake) - MNRF Statement of Completion issued (Remote Connection Lines) - Engagement activities completed - Land options/agreements in place (private, claims, crown and agency lands) - First Nation Land Sharing Protocol Agreements (similar to Impact Benefit Agreements) - Section 28(2) permits (Reserve Lands)
4.	**Changes to standards and/or related regulatory requirements** Standards underpinning the design and regulatory requirements governing the interconnection of the proposed project to the existing Ontario grid could be updated prior to construction	- Impact could range from minimal (review for compliance with no changes required) to significant (requirement to redesign a significant portion of the project or repeat certain permitting activities)	- Thorough documentation of all standards and assumptions underpinning the design to allow efficient assessment of any updates - Many aspects of the design are software-based, allowing efficient analysis of the impact resulting from changes to any assumptions or parameters	- Finalize connection agreements and initiate construction

ENVIRONMENTAL, PERMITTING, ENGAGEMENT, AND LAND RIGHTS				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk
1.	**Line to Pickle Lake Routing**	- A change in routing would increase costs related to archaeology, field surveys, design and acquisition of land rights	- Thorough evaluation of routing impacts through EA process - Ongoing discussions and attempts at engagement with various Aboriginal communities and stakeholders to resolve routing issues	- MOECC decision on EA - Engagement activities completed - Land options/agreements in place (private, claims, crown and agency lands) - First Nation Land Sharing Protocol Agreements (similar to Impact Benefit Agreements)
2.	**Findings during archaeology**	- Potential for delay and minor design/routing changes if areas must be avoided	- Stage 2 archaeological assessment initiated with respect to Line to Pickle Lake (Preliminary Proposed route only) - Preliminary design and land rights efforts include consideration for minor design/routing variations that may be required (e.g. LiDAR data acquisition covers wider corridor, possible adjacent land impacts considered)	- Completion of stage 2 archaeological assessment
3.	**Routing for Remote Connection Lines** Final routing is contingent on completion of EA and engagement processes	- A change in routing would increase costs related to archaeology and field surveys, design and acquisition of land rights - A request for elevation would cause significant schedule delay and would increase EA costs	- Early and ongoing engagement with impacted communities - Thorough evaluation of routing options and impacts through EA and engagement processes - Mitigate effects and provide accommodation to land users - Provide opportunity to review key EA documents	- MNRF Statement of Completion issued (Remote Connection Lines) - Engagement activities completed - Land options/agreements in place (private, claims, crown and agency lands) - First Nation Land Sharing Protocol Agreements (similar to Impact Benefit Agreements) - Section 28(2) permits (Reserve Lands)

ENVIRONMENTAL, PERMITTING, ENGAGEMENT, AND LAND RIGHTS				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk
			- Incorporate concerns and issues into ESR - Early and extensive engagement on EA workplan and Class EA process	
4.	**Non-Aboriginal Land rights**	- Potential for delay and minor design/routing changes if areas must be avoided	- Early and ongoing engagement with impacted land owners, claim holders, land tenure holders, MNRF and MTO	- Land options/agreements in place (private, claims, crown and agency lands)
5.	**Duty to Consult** Wataynikaneyap has been delegated the procedural aspects of the Crown's duty to consult	- Failure to carry out the procedural aspects of the Crown's duty to consult could impact project schedule and budget	- Indigenous Engagement Plans - Early and meaningful Indigenous engagement - Open and continuous dialogue with Crown agencies, including lead agency (Ministry of Energy)	- Project approvals - Land Sharing Agreements or letters of support

ABORIGINAL PARTICIPATION, MITIGATION OF PROJECT IMPACT, AND LOCAL DISTRIBUTION PLANNING				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk

1.	**Local Distribution Readiness**
	
	In order to connect to the provincial grid, the local distribution companies in the remote communities need to have distribution licenses from the Ontario Energy Board (OEB) and operate in accordance with the Distribution System Code
		- A community that does not meet these requirements cannot be connected to the provincial grid
		- Could impact construction timelines and cost for the portion of the line dedicated to that community
			- Wataynikaneyap is facilitating the transition of these communities to regulated utilities
			- Of the 16 communities to be connected to the Ontario electrical grid through the Wataynikaneyap Transmission Project:
			  - Nine (9) are already serviced by a licensed and regulated Local Distribution Company (LDC)– HORCI. These communities are already positioned to meet the requirements for connection to the grid.
			  - Seven (7) communities operate their own Independent Power Authority ("IPA") utilities which are not licensed or regulated to distribute power. Five (5) of these communities are in the process of transferring ownership/operation of the LDC to Hydro One Remote Communities Inc (HORCI). Two (2) communities must still make the decision to initiate this process
			- A 17th community (McDowell Lake), which will eventually be connected, does not currently have local
				- IPA community transfer of ownership / operation to a licensed local distribution company (e.g. HORCI)

			distribution service. It's connection to the grid will be dependent on the scope / timing of their community development plan	
2.	**Aboriginal Participation and Benefits from the Project** Aboriginal communities have clearly indicated expectation of participation on the project and sharing of benefits (e.g. training jobs, contracts, capacity building, ownership)	- Failure to demonstrate meaningful Aboriginal participation and sharing of benefits could result in loss of Aboriginal support, which could delay schedule and increase costs.	- 22 First Nations are majority owners in the project and activity involved in the management and decision making on the project - Indigenous Participation Guide (IPG) developed - Initiated Aboriginal education & training program - Initiated Aboriginal business readiness planning - Land Sharing Protocols	- Construction completion (although Aboriginal Participation and benefit sharing will be ongoing)

FINANCIAL, FUNDING, LEGAL AND REGULATORY				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk
1.	**Government funding framework** An appropriate funding framework or cost sharing agreement between WPLP and various levels of government is required.	- The funding framework will significantly affect the economic viability of the project, the ability to realize the socioeconomic benefits of the project, as well as the allocation of cost and benefits between the provincial and federal governments and Ontario ratepayers	- Early and ongoing dialogue with various ministries and government representatives - Completion of economic and socioeconomic studies - Provision of information to government as requested	- Federal and provincial commitment to funding framework

FINANCIAL, FUNDING, LEGAL AND REGULATORY				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk
2.	**Cost Recovery Framework** A commercially viable cost recovery framework, supported by OEB, Ministry and HORCI is required	- Impact the ability to attract private equity required for the investment to proceed - Impact ability to finance the project	- Early and ongoing dialogue with various ministries and government representatives - Completion of economic and socioeconomic studies - Provision of information to government as requested	- OEB, Ministry and HORCI agreement to an acceptable cost recovery framework

FINANCIAL, FUNDING, LEGAL AND REGULATORY				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk
3.	**Project financing** Wataynikaneyap Power LP (Watay LP) is arranging financing for construction of the transmission assets in line with OEB approved parameters. First Nation LP (FNLP) is seeking financing for the majority of its equity interest in the project.	- Funding for WPLP and FNLP is required for the project to proceed - Pricing on the WPLP financing will impact cost of the project - Amortization will impact financial viability of the project	- Run a competitive process with multiple lenders across a broad spectrum of financing institutions to ensure best pricing, terms and conditions can be achieved (the process has been initiated and includes Domestic and Foreign Banks and Insurance Companies). - Early and ongoing engagement with lenders on both credit facilities. (Request for Qualification process initiated and significant interest shown in both the WPLP and FNLP financing). - Do not tie funding of WPLP and FNLP financing requirements to ensure best terms and conditions at the WPLP level. (Based on results of Request for Qualifications, lenders do not require to tie the financing requirements). - Initiate Lender due diligence and preliminary approval process for both credit facilities with a goal to have lender(s) selected by Leave to Construct (process started with a goal to be completed in October 2017).	- Enter into binding agreements with lenders, which (excluding customary terms & conditions) requires: o Establishment of the government funding framework o [Establishment of commercially viable cost recovery framework] o Approval of the Leave to Construct o Acceptable engineering designs o Acceptable engineering and construction counterparty o Acceptable land rights

FINANCIAL, FUNDING, LEGAL AND REGULATORY				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk
4.	**Tender pricing** There is a potential for total project costs resulting from a competitive tender process to be higher than current project estimates	- Impact on cost will only be known once tenders have been received and evaluated	- Project estimates have been derived from multiple sources of information and methodologies - Estimated unit costs have been compared to other projects for reasonability - Accuracy limitations have been identified and disclosed – estimates to be refined as the level of project development progresses - Contingencies have been included in cost estimates	- Receipt and evaluation of tenders
5.	**Timing of Leave to Construct** WPLP anticipates filing an application for Leave to Construct by Q4 2017	- Delay in filing and/or processing the LTC application could result in the anticipated Q4 2018 construction start date being delayed - a slight delay in the start date could significantly delay the in-service date of the Line to Pickle Lake due to the loss of a full winter road season	- Project team identified with specific roles and responsibilities - Review of deliverables required to meet the OEB's filing requirements (milestones achieved, reports, drawings, etc.) - Application to reinforce the urgent social need associated with the project and proposed timelines for construction - Early and ongoing engagement to reduce opposition to project - Government support through legislative amendments confirming the priority of and the need for the proposed project	- OEB decision and order granting leave to construct the proposed project by Q4 2018

FINANCIAL, FUNDING, LEGAL AND REGULATORY				
Item	Description	Impact on Scope/Cost/Schedule	Actions/Mitigation	Requirement to Remove Risk

6.	**Backup Supply Planning**
	The IESO scope incorporated into WPLP's transmission licence requires facilitation of the arrangement of backup supply, consistent with Emergency Preparedness Plans of the remote communities.
		- Though WPLP is required to facilitate the arrangement of backup supply resources, actual implementation is beyond its scope as a transmitter – as a result, cost estimates for material investment in backup facilities have not been included in project cost estimates to date
		- A universal solution across all communities in unlikely due to differences in:
		  - the condition, capacity and ownership of existing diesel generators
		  - existing Emergency Preparedness Plans with respect to power outages
		  - community size, location and anticipated frequency and duration of outages
		  - critical facilities with individual backup generators
		  - community preferences with respect to ongoing use of diesel generation
			- Ongoing engagement with various stakeholders (remote First Nation communities, IESO, HORCI, INAC, etc.)
			- Draft work plan for backup power study completed with input from a wide range of stakeholders
			- Request for proposal for backup power study in progress
			- Backup power study to address reliability risks, potential solutions, and cost/benefit analysis
				- Completion of backup power study and identification of recommended solution(s) for each community
				- Stakeholder agreement on recommended solution(s), including commitments to funding and implementation