ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an application by Henvey Inlet Wind GP Inc. on behalf of Henvey Inlet Wind LP for an Order or Orders pursuant to Section 92 of the *Ontario Energy Board Act, 1998* (as amended) granting leave to construct transmission facilities between Henvey Inlet First Nation Reserve No. 2 and Parry Sound, Ontario.

APPLICATION FOR LEAVE TO CONSTRUCT

HENVEY INLET WIND GP INC.

on behalf of HENVEY INLET WIND LP

October 14, 2016

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AND IN THE MATTER OF an application by Henvey Inlet Wind GP Inc. on behalf of Henvey Inlet Wind LP for an Order or Orders pursuant to Section 92 of the *Ontario Energy Board Act, 1998* (as amended) granting leave to construct transmission facilities between Henvey Inlet First Nation Reserve No. 2 and Parry Sound, Ontario.

APPLICATION

1. Henvey Inlet Wind GP Inc. ("**Henvey Wind GP**") is an Ontario corporation and the general partner of Henvey Inlet Wind LP ("**Henvey Wind LP**"), an Ontario limited partnership established for the purposes of developing, owning and operating the Henvey Inlet Wind Energy Centre ("**HIWEC**") on Henvey Inlet First Nation Reserve No. 2 (the "**Reserve**"), with transmission facilities running off the Reserve to deliver electricity generated by the HIWEC to the Ontario electricity grid.

2. The HIWEC is being developed through a joint venture partnership between Nigig Power Corporation ("**Nigig**") and Pattern Renewable Holdings Canada ULC ("**Pattern Canada**"), a wholly owned indirect subsidiary of Pattern Energy Group LP ("**Pattern Development**"). The shares of Henvey Wind GP are held 50% by Nigig and 50% by Pattern Canada. The limited partnership interests in Henvey Wind LP are held 49.99% by Nigig, 49.99% by Pattern Canada, and 0.02% by Henvey Wind GP.

3. Nigig is an Ontario corporation that is wholly owned by Henvey Inlet First Nation ("**Henvey Inlet FN**"), which is an Anishinabek community comprised of three reserve properties, one of which is the Reserve located on the northeast shore of Georgian Bay, approximately 70 km north of Parry Sound.

4. Pattern Development is a leader in developing renewable energy and transmission assets through its expertise and experience in wind resource analysis, site development, finance, construction, operations and asset management. Pattern Development also owns a minority interest in, and provides management services to Pattern Energy Group Inc. ("**PEGI**"), a publicly listed renewable energy company that owns, manages and operates 18 wind power facilities, including one it has agreed to acquire, with a total owned capacity of 2,644 MW.

5. Henvey Wind GP on behalf of Henvey Wind LP (the "**Applicant**") hereby applies to the Ontario Energy Board (the "**Board**") pursuant to Section 92 of the *Ontario Energy Board Act, 1998* (the "**Act**") for an order or orders granting leave to construct the following transmission and interconnection facilities:

   (a) a substation located on the Reserve, sited approximately 0.4 km north of the Henvey Inlet and 6 km west of Provincial Highway 69, at which power from the 34.5 kV collection system associated with the northern portion of the HIWEC will be transformed from 34.5 kV to 230 kV by means of one 230 kV/34.5 kV step-up transformer rated at 105/140/175 MVA, with under load tap changer ("**North Project Substation**");

   (b) a substation located on the Reserve, sited approximately 1.2 km south of the Henvey Inlet and 6.5 km west of Provincial Highway 69, at which power from the 34.5 kV collection system associated with the southern portion of the HIWEC will be transformed from 34.5 kV to 230 kV by means of one 230 kV/34.5 kV step-up transformer rated at 105/140/175 MVA, with under load tap changer ("**South Project Substation**");

   (c) an approximately 103 km single circuit, overhead, 230 kV transmission line (the "**Transmission Line**"), comprised of:

      (i) an approximately 8 km segment running from the North Project Substation, and an approximately 6 km segment running from the South

Project Substation, to a point on the Reserve where these two segments join together (the "**Tap Point**"); and

(ii) an approximately 89 km segment that runs from the Tap Point to the Switching Station (described below);

(d) a 230 kV switching station located on BLK B, C, D, E, F PL 295; PT LT 129 FOLEY PT 1 42R3535 E of PT 1, 2 42R14465; S/T RO89192; S/T RO31587, RO44832, in the Township of Seguin (PIN 52182-1013), adjacent to the existing Hydro One Networks Inc. ("**Hydro One**") circuits E26 and E27, and located approximately 0.6 km east of Hydro One's existing Parry Sound TS (the "**Switching Station**"); and

(e) an approximately 180 m line tap from the Switching Station to Hydro One's E26 and E27 circuits (the "**Line Tap**").

6. The facilities described in paragraph 5 are collectively referred to in this Application as the "**Proposed Transmission Facilities**".

7. The Applicant further requests approval of the Board pursuant to Section 97 of the Act for the forms of land agreements it has offered or will offer to directly affected landowners.

8. Moreover, the Applicant requests approval of the Board pursuant to Section 101 of the Act for authority to construct portions of the Proposed Transmission Facilities upon, under or over a highway, utility line or ditch.

9. The Applicant is developing and planning to construct and operate a 300 MW wind generation facility, known as the HIWEC, on the Reserve pursuant to a contract issued by the former Ontario Power Authority under the Feed-in Tariff ("**FIT**") Program (the

"**Generation Project**"). The Applicant requires the Proposed Transmission Facilities to enable it to convey electricity to the Independent Electricity System Operator ("**IESO**") controlled grid from the Generation Project, consistent with its obligations under its FIT contract, the objectives of the FIT Program and the renewable energy policies of the Province of Ontario.

10. The Applicant proposes to locate each of the North Project Substation and the South Project Substation on the Reserve. The Applicant has acquired the relevant land rights through a lease entered into with Henvey Inlet FN (the "**Henvey Lease**"). The Applicant proposes to locate the Switching Station on private lands that are owned by the Township of Seguin and has initiated discussions with the Township of Seguin to purchase a portion of the relevant property.

11. The Applicant proposes to locate the Transmission Line along a combination of on-Reserve lands and off-Reserve lands. With respect to the portion of the Transmission Line that will be situated on the Reserve, the Applicant has acquired the necessary land rights through the Henvey Lease.

12. With respect to the portion of the Transmission Line that will be situated off of the Reserve, the Transmission Line will be located on a combination of Crown lands, public highway rights-of-way and private lands. In addition, portions of the Transmission Line may be located on the reserve lands of the Magnetawan First Nation ("**Magnetawan FN**") and the reserve lands of the Shawanaga First Nation ("**Shawanaga FN**"). The Applicant's planned routing would run through each of the Magnetawan FN Reserve and the Shawanaga FN Reserve.

13. For the portions of the Transmission Line to be situated on Crown lands, Magnetawan FN and Shawanaga FN reserve lands and public highway rights-of-way, the Applicant has initiated discussions with the relevant governmental authorities and First Nations bands in an effort to secure the necessary land rights. For those portions of the Transmission Line to be situated on private lands, the Applicant has offered or intends to offer easement option agreements to the directly affected landowners, which options would be exercised prior to commencing construction.

14. The Applicant received a System Impact Assessment ("**SIA**") Final Report from the IESO dated June 30, 2015. In the SIA Final Report, the IESO concludes that the proposed connection of the Generation Project to the IESO-controlled grid, by means of the Proposed Transmission Facilities and subject to the requirements specified in the SIA Final Report, is expected to have no material adverse impact on the reliability of the integrated power system. The IESO issued a Notification of Conditional Approval for Connection concurrently with the SIA Final Report.

15. In late October 2015, the Applicant requested amendments to the SIA Final Report due primarily to a change in the turbine model, changes to the Generation Facility's collector system design and certain modifications to the substation design. On September 30, 2016 the IESO issued a final SIA Addendum Report, which indicates that the IESO remains of the view that the proposed connection, as modified, is expected to have no material adverse impacts on the reliability of the integrated power system.

16. The Applicant received a Customer Impact Assessment ("**CIA**") Final Report from Hydro One dated June 30, 2015. The CIA Final Report concludes that the connection of the Generation Project to Hydro One's system, by means of the Proposed Transmission Facilities, will not adversely impact existing Hydro One customers in the vicinity of the project. As noted, the Applicant requested a minor amendment to its SIA Final Report in late October 2015. As part of the SIA amendment process, the IESO advised Hydro One so that Hydro One could determine if the changes required any corresponding

amendments to the CIA Final Report. Hydro One confirmed that no amendments to the CIA Final Report were required.

17. The Applicant has completed an Environmental Review under the Category B Environmental Screening Process pursuant to Ontario Regulation 116/01, under the *Environmental Assessment Act* (Ontario) for the off-Reservation portion of the Proposed Transmission Facilities. The relevant process is described in the Ontario Ministry of the Environment and Climate Change *Guide to Environmental Assessment Requirements for Electricity Projects*. This process includes a review of potential environmental effects associated with the construction, operation and decommissioning of the relevant Proposed Transmission Facilities. The Applicant is in the process of completing a minor amendment to its environmental assessment to reflect revisions to the areas to be affected by the construction footprint for the Proposed Transmission Facilities and associated laydown areas and access roads. In addition, the Applicant has obtained an Environmental Assessment Permit from Henvey Inlet FN for the on-Reserve portions of the Proposed Transmission Facilities. Henvey Inlet FN has the authority to issue its own Environmental Assessment Permit for the HIWEC, including the on-Reserve portions of the Proposed Transmission Facilities, pursuant to the *First Nations Lands Management Act*.

18. Subject to receipt of all necessary permits and approvals, as well as land rights, the Applicant plans to commence construction of the Proposed Transmission Facilities in Q2 of 2017. Construction is expected to take approximately 18 months to complete. The Proposed Transmission Facilities would then be commissioned and be ready for service by approximately Q4 of 2018, which is generally aligned with the anticipated commencement of operations for the Generation Project.

19. The cost of the Proposed Transmission Facilities will be borne by the Applicant. As such, the project will not affect electricity transmission rates in Ontario.

20. The evidence in support of this Application has been prepared in accordance with the requirements set out in the Board's *Filing Requirements for Electricity Transmission Applications - Chapter 4, Applications Under Section 92 of the Ontario Energy Board Act*, as amended July 31, 2014.

21. The Applicant requests that copies of all documents filed with or issued by the Board in connection with this Application be served on the Applicant and it's counsel as follows:

Applicant:

Henvey Inlet Wind LP
c/o Pattern Renewable Holdings Canada ULC
355 Adelaide St. W., Suite 100
Toronto, ON M5V 1S2

Attention: Ms. Kim Sachtleben
Tel: 416-263-8028
Fax: 416-979-8428
Email: kim.sachtleben@patternenergy.com

Applicant's Counsel:

Torys LLP
Suite 3000, 79 Wellington St. W.
Box 270, TD Centre
Toronto, ON M5K 1N2

Attention: Mr. Jonathan Myers
Tel: 416-865-7532
Fax: 416-865-7380
Email: jmyers@torys.com

Mr. Charles Keizer
Tel: 416-865-7512
Fax: 416-865-7380
Email: ckeizer@torys.com

22. Additional written evidence, as required, may be filed in support of this Application, which may be amended from time to time prior to the Board's final decision.

23. The Applicant requests that the Board proceed by way of written hearing, pursuant to Section 32.01 of the Board's *Rules of Practice and Procedure*.

Dated at Toronto, Ontario, this 14th day of October, 2016.

HENVEY INLET WIND GP INC.
on behalf of HENVEY INLET WIND LP
By its counsel
Torys LLP

Jonathan Myers

PROCEDURAL ORDERS, CORRESPONDENCE & NOTICES

[This tab is provided as a placeholder for any Procedural Orders, correspondence and notices that may be filed in connection with the Application.]

PROJECT OVERVIEW

1. The Applicant

This Application is brought by Henvey Wind GP on behalf of Henvey Wind LP. Henvey Wind GP is an Ontario corporation and the general partner of Henvey Wind LP, an Ontario limited partnership. The Applicant was established for the purposes of developing, owning and operating the HIWEC on the Reserve, with transmission facilities running off the Reserve to deliver electricity generated by the HIWEC to the Ontario electricity grid. The HIWEC is a proposed 300 MW wind generation facility being developed pursuant to a contract issued by the former Ontario Power Authority under the FIT Program.

The HIWEC, including the Proposed Transmission Facilities, is being developed through a joint venture partnership between Nigig and Pattern Canada, a wholly owned indirect subsidiary of Pattern Development. The shares of Henvey Wind GP are held 50% by Nigig and 50% by Pattern Canada. The limited partnership interests in Henvey Wind LP are held 49.99% by Nigig, 49.99% by Pattern Canada, and 0.02% by Henvey Wind GP.

Nigig is an Ontario corporation, established in 2010, that is wholly owned by Henvey Inlet FN. Henvey Inlet FN is an Anishinabek community comprised of three reserve properties, one of which is the Reserve located on the northeast shore of Georgian Bay, approximately 70 km north of Parry Sound. The sole focus of Nigig's business has been the development of the HIWEC project.

Pattern Development is a global leader in developing renewable energy and transmission assets. Pattern Development was formed in 2009 and has been active in the United States, Canada, Mexico, Chile and Japan. Through its expertise and experience in wind resource analysis, site development, finance, construction, operations and asset management, its team has collectively brought more than 4,000 MW of renewable power projects to market and is currently advancing a 5,900 MW pipeline of projects. Pattern Development also owns a minority interest in, and provides management services to PEGI, a publicly listed renewable energy company that owns,

manages and operates 18 wind power facilities with a total owned capacity of 2,644 MW. PEGI is an independent power company listed on the NASDAQ and Toronto Stock Exchange.

Within Ontario, PEGI has 4 operating generation facilities and Pattern Development has 3 additional generation facilities that are under construction or in the late stages of development. The 4 operating facilities are K2 Wind (a 270 MW facility in which PEGI holds a 33% interest), Grand Renewable Wind (a 149 MW facility in which PEGI holds a 45% interest), South Kent Wind (a 270 MW facility in which PEGI holds a 50% interest), and Armow Wind (a 180 MW facility in which PEGI holds a 50% interest). Leave to construct has previously been granted by the Board in respect of transmission facilities associated with three of these four facilities.[1] The 3 facilities under construction or in the late stages of development, each of which has a power purchase agreement or FIT contract with the IESO, are Belle River Wind (a 100 MW facility in which Pattern Canada holds a 50% interest), North Kent 1 Wind (a 100 MW facility in which Pattern Canada holds a 50% interest) and the Henvey Inlet Wind Energy Centre (a 300 MW project in which Pattern Canada holds a 50% interest), having a total capacity of 500 MW, with Pattern Development's net ownership (by virtue of its ownership of Pattern Canada) being equivalent to 250 MW.

In Canadian jurisdictions other than Ontario, PEGI has 1 operating facility, being the 138 MW St. Joseph Wind facility in Manitoba that is wholly owned, and Pattern Development has 2 facilities under construction or in the late stages of development, being the Meikle Wind Project in British Columbia (a 180 MW project that is wholly owned) and the Mont Sainte-Marguerite Wind Project in Quebec (a 147 MW project that is wholly owned).

Outside of Canada, PEGI has 12 wind power facilities (2,117 MW total capacity, 1,572 MW owned capacity) that are either operational, under construction or in the late stages of development. In addition, Pattern Development has experience with two electricity transmission

[1] Leave to construct was granted (a) in respect of K2 Wind for 5.1 km of 230 kV transmission line and associated facilities on October 8, 2013 in EB-2012-0458, (b) in respect of Grand Renewable for 19 km of 230 kV transmission line and associated facilities on December 8, 2011 in EB-2011-0063, and (c) in respect of South Kent for 32.7 km of 230 kV transmission line and associated facilities on October 11, 2011 in EB-2011-0217. The Armow Wind project did not involve the development of a transmission line.

projects. The Trans-Bay Cable project is an 85 km long, 200 kV DC submarine cable with 400 MW of transmission capacity in San Francisco completed in November 2010.[2] The Southern Cross project is a 650 km long, high voltage DC transmission line with 2000 MW of capacity running between Texas and Alabama, scheduled for completion in 2021.

2. Approvals Sought

The Applicant applies to the Board pursuant to Section 92 of the Act for an order or orders under Section 96 of the Act granting leave to construct the following transmission and interconnection facilities:

(a) a substation located on the Reserve and sited approximately 0.4 km north of the Henvey Inlet and 0.6 km west of Provincial Highway 69, at which power from the 34.5 kV collection system associated with the northern portion of the HIWEC will be transformed from 34.5 kV to 230 kV by means of one 230 kV/34.5 kV step-up transformer rated at 105/140/175 MVA, with under load tap changer ("**North Project Substation**");

(b) a substation located on the Reserve and sited approximately 1.2 km south of the Henvey Inlet and 6.5 km west of Provincial Highway 69, at which power from the 34.5 kV collection system associated with the southern portion of the HIWEC will be transformed from 34.5 kV to 230 kV by means of one 230 kV/34.5 kV step-up transformer rated at 105/140/175 MVA, with under load tap changer ("**South Project Substation**");

(c) an approximately 103 km single circuit, overhead, 230 kV transmission line (the "**Transmission Line**"), comprised of:

(i) an approximately 8 km segment running from the North Project Substation, and an approximately 6 km segment running from the South

[2] Developed by Babcock & Brown, a predecessor to Pattern, with a management team that is generally the same as Pattern's.

Project Substation, to a point on the Reserve where these two segments join together (the "**Tap Point**"); and

(ii) an approximately 89 km segment that runs from the Tap Point to the Switching Station (described below);

(d) a 230 kV switching station located on BLK B, C, D, E, F PL 295; PT LT 129 FOLEY PT 1 42R3535 E of PT 1, 2 42R14465; S/T RO89192; S/T RO31587, RO44832, in the Township of Seguin (PIN 52182-1013), adjacent to Hydro One's existing E26 and E27 circuits, and located approximately 0.6 km east of Hydro One's existing Parry Sound TS (the "**Switching Station**"); and

(e) an approximately 180 m line tap from the Switching Station to Hydro One's E26 and E27 circuits (the "**Line Tap**").

The Applicant's planned routing for the Transmission Line segment described in (c)(ii), above, would run through each of the Magnetawan FN Reserve and the Shawanaga FN Reserve.

The North Project Substation, the South Project Substation, the Transmission Line, the Switching Station and the Line Tap are collectively referred to in this Application as the "**Proposed Transmission Facilities**".

The Applicant further requests approval of the Board pursuant to Section 97 of the Act for the forms of land agreements it has offered or will offer to directly affected landowners, which forms of agreements are included in Exhibit E, Tab 1, Schedule 2.

Moreover, the Applicant requests approval of the Board pursuant to Section 101 of the Act for authority to construct portions of the Proposed Transmission Facilities upon, under or over a highway, utility line or ditch, as further discussed in Exhibit E, Tab 1, Schedule 1.

While this Application concerns all of the Proposed Transmission Facilities in respect of the Board's consideration of the interests of consumers with respect to prices and the reliability and quality of electricity service, as well as consistency with provincial renewable energy policies, there are certain limitations on the Board's authority with respect to the portions of the Proposed Transmission Facilities that will be situated on First Nations reserve lands. In particular, the Applicant's acquisition of land rights on First Nations reserves has or is in the process of being pursued under the relevant federal statutory framework. Moreover, the location of Proposed Transmission Facilities and routing on reserve lands, as well as access and entry upon those lands, are governed by land agreements entered into or to be entered into under that federal statutory framework. To the extent that these aspects are subject to the exclusive jurisdiction of the federal government, or by delegation to the relevant band councils, the Board's authority will be limited. These aspects are described more fully in Exhibit C, Tab 1, Schedule 1 and Exhibit E, Tab 1, Schedule 1.

3. Need for the Project

On February 25, 2011, the former Ontario Power Authority issued a contract under the FIT Program in respect of the Generation Project. The Proposed Transmission Facilities are needed to convey electricity from the Generation Project to the Switching Station, which will in turn be connected to Hydro One's transmission system which forms part of the IESO-controlled grid. As the development of the Generation Project promotes the use of renewable energy sources in a manner consistent with the policies of the Government of Ontario, the Proposed Transmission Facilities are in the public interest pursuant to paragraph 96(2)2 of the Act.

4. Project Location and Components

This section provides a high-level description of the locations for the routing of the Proposed Transmission Facilities, as well as the locations of facilities that are ancillary to the Proposed

Transmission Facilities, including in particular the Generation Project and its collection system. The location and general routing for the Proposed Transmission Facilities is shown in a project location map at Exhibit C, Tab 2, Schedule 1, Figure 1. In addition, in accordance with the Board's filing requirements this Project Overview includes at **Appendix 'A'**, a draft drawing suitable for publication with the Notice of Hearing and at **Appendix 'B'**, a single line drawing of the Proposed Transmission Facilities.

(a) *The Generation Project and Collection System*

The 300 MW Generation Project will be situated entirely on lands forming part of Henvey Inlet First Nation Reserve No. 2, which is located approximately 70 km north of Parry Sound and approximately 80 km south of Sudbury, along the eastern shore of Georgian Bay. The Generation Project will include approximately 91 wind turbines installed on lands within the Reserve, as well as a 34.5 kV above-ground collection system. The Generation Project, including the collection system, is ancillary to the Proposed Transmission Facilities and is not the subject of this Application.

(b) *The Proposed Transmission Facilities*

The main components of the Proposed Transmission Facilities are the North Project Substation, the South Project Substation, the Transmission Line, the Switching Station and the Line Tap, the locations of which are as follows.

(i) North Project Substation

The North Project Substation will be located on the Reserve, approximately 0.4 km north of the water body known as Henvey Inlet and 6 km west of Provincial Highway 69. The North Project Substation will have an area of approximately 0.6 acres. At the North Project Substation, electricity conveyed from six feeders serving the northern portion of the Generation Project will be transformed from 34.5 kV to 230 kV.

(ii) South Project Substation

The South Project Substation will be located on the Reserve, approximately 1.2 km south of the water body known as Henvey Inlet and 6.5 km west of Provincial Highway 69. The South Project Substation will have an area of approximately 0.6 acres. At the South Project Substation, electricity conveyed from six feeders serving the southern portion of the Generation Project will be transformed from 34.5 kV to 230 kV.

(iii) Transmission Line

The Transmission Line consists of three main segments. First is an approximately 8 km segment running from the North Project Substation to a point on the Reserve where it meets the second segment. Second is an approximately 6 km segment running from the South Project Substation to the point on the Reserve where it meets the first segment. The point on the Reserve where these segments meet is referred to in the Application as the "Tap Point". The third segment runs from the Tap Point to the Switching Station, for a distance of approximately 89 km. Along this third segment, after crossing the Reserve boundary near the town of Still River, the Transmission Line route runs south through the Unincorporated Townships of Henvey, Wallbridge and Harrison (under jurisdiction of the Archipelago Planning Board), before entering the Township of The Archipelago, Unincorporated Township of Shawanaga (under jurisdiction of the Parry Sound Area Planning Board), Carling Township, Municipality of McDougall, and ending in Seguin Township.

Within the area comprising the Unincorporated Township of Wallbridge, the planned routing for the Transmission Line would pass through the Magnetwawan First Nation Reserve No. 1 ("**Magnetawan FN Reserve**"). In the vicinity of the Unincorporated Township of Shawanaga, the planned Transmission Line route would pass through the Shawanaga Reserve No. 17 ("**Shawanaga FN Reserve**"). The Magnetawan FN and the Shawanaga FN, respectively, have the

rights to exclusive use and occupation over each of their reserve lands and exercise authority over their reserves pursuant to Land Codes established under the *First Nations Lands Management Act* (Canada).

Approximately 2/3 of the route, from the town of Still River to Carling Township, runs generally along the existing Highway 69 corridor or the Ontario Ministry of Transportation's ("**MTO**") proposed realignment of the Highway 69 corridor. Upon reaching Carling Township, the route heads east toward an existing Hydro One 500 kV corridor. This aspect of the routing was selected so as to avoid more heavily populated areas. The Transmission Line then runs south alongside and adjacent to an existing Hydro One 500 kV transmission corridor until reaching the Switching Station. A more detailed description of the Transmission Line routing is provided in Exhibit C, Tab 1, Schedule 1.

(iv) Switching Station

The Switching Station will be located in the Township of Seguin on a property that is situated approximately 600 m east of Hydro One's existing Parry Sound TS. The Switching Station, which will have an area of approximately 3-4 ha, will include an Applicant-owned area with circuit breakers and other protection equipment operating only at a single voltage level, in this case 230 KV. The location has been selected as it is in close proximity to the interconnection point, is easily accessible for maintenance crews and is available for purchase or lease from the existing municipal owner.

The Switching Station will include a total of 3 breakers and associated switches and relays. The Switching Station will be physically divided into two parts, with one area to be constructed and owned by the Applicant and the remainder to be constructed and owned by Hydro One. The land on which the Hydro One portion of the Switching Station is to be situated will be leased or sold to Hydro One. The portion of the Switching Station to be constructed and owned by the Applicant will include the revenue meter and a single breaker controlled by the Applicant, including associated switches. A portion of the Applicant-owned area will be reserved for reactive devices to allow the project to meet applicable IESO requirements for voltage control

and reactive support. The portion of the Switching Station to be owned by Hydro One will include 2 circuit breakers and associated switches along with its required protection equipment.

(v) Line Tap

The Line Tap will run approximately 180 m from the Switching Station to the point of interconnection, which is located between Tower 1 (Latitude: 45.302195, Longitude: -79.938455) and Tower 2 (Latitude: 45.300017, Longitude: -79.937436) on Hydro One's existing E26 and E27 circuits, approximately 600 m from Hydro One's existing Parry Sound TS. While the cost of constructing the Line Tap will be paid for by the Applicant, it will be constructed, owned and operated by Hydro One.

5. **Land Matters**

The Applicant proposes to locate each of the North Project Substation and the South Project Substation on the Reserve. The Applicant has acquired the land rights necessary for the development, construction and long-term operation of these facilities through the Henvey Lease, which was entered into pursuant to Henvey Inlet FN's Land Code and which in turn was established in accordance with the *First Nations Land Management Act* (Canada). The Applicant proposes to locate the Switching Station on private lands that are owned by the Township of Seguin and has initiated discussions with the Township of Seguin to purchase a portion of the relevant property.

The Applicant proposes to locate the Transmission Line along a combination of on-Reserve lands and off-Reserve lands. With respect to the portion of the Transmission Line that will be situated on the Reserve, the Applicant has acquired the necessary land rights through the Henvey Lease pursuant to Henvey Inlet FN's Land Code.

With respect to the portion of the Transmission Line that will be situated off of the Reserve, the Transmission Line will be located on lands with a broad range of circumstances and varied means by which the necessary rights may be secured, as follows:

(a) For portions of the Transmission Line to be situated on Provincial Crown lands under the authority of the MTO, the Applicant will require either an encroachment permit (such as for crossings or for interests in lands not considered to be excess to the Ministry's needs) or a lease (for interests in lands considered excess to the Ministry's needs). The Applicant has initiated discussions with the MTO in an effort to secure these rights.

(b) For portions of the Transmission Line to be situated on Provincial Crown lands other than where under the authority of the MTO, where the interest will be permanent the Applicant will require a Ministry of Natural Resources and Forestry ("**MNRF**") Land Use Permit and where the interest will be temporary the Applicant will require a MNRF Work Permit. The Applicant has initiated discussions with the MNRF in an effort to secure each of these permits.

(c) For portions of the Transmission Line to be situated on the Magnetawan FN Reserve and the Shawanaga FN Reserve, the Applicant has initiated discussions with the Chief and Council of each community to secure the necessary land rights in the form of easements pursuant to their respective Land Codes.

(d) For a small portion of the Transmission Line to be situated on federal Crown lands that are not First Nation reserve lands, the Applicant will require an easement from the federal Department of Fisheries and Oceans. The Applicant has initiated discussions with this agency.

(e) For portions of the Transmission Line to be situated on private lands, other than lands owned by Hydro One, the Applicant has offered or intends to offer transmission easement option agreements to the directly affected landowners, which options would be exercised prior to commencing construction. With respect to lands owned by Hydro One, the Applicant has initiated discussions and anticipates that the necessary easement rights will be acquired pursuant to Hydro One's standard form of easement agreement.

(f) For the portions of the Transmission Line that will cross existing utility lines, the Applicant will enter into crossing agreements based on the standard forms used by the relevant electricity, telecommunications, rail and gas utilities. For municipal road crossings or portions of the Transmission Line that will run along municipal road rights-of-way, the Applicant will seek easements unless the relevant municipalities express a preference for an alternative form of agreement. The Applicant is also mindful of its rights under s. 41 of the *Electricity Act*. The Applicant has initiated discussions with the affected municipalities.

6. Environmental Assessment

The Applicant has completed an Environmental Review under the Category B Environmental Screening Process pursuant to Ontario Regulation 116/01, under the *Environmental Assessment Act* (Ontario) for the off-Reservation portion of the Proposed Transmission Facilities. The relevant process is described in the Ontario Ministry of the Environment and Climate Change *Guide to Environmental Assessment Requirements for Electricity Projects*. This process includes a review of potential environmental effects associated with the construction, operation and decommissioning of the relevant Proposed Transmission Facilities. The Applicant is in the process of completing a minor amendment to its environmental assessment to reflect revisions to the areas to be affected by the construction footprint for the Proposed Transmission Facilities and associated laydown areas and access roads.

In respect of the on-Reserve portions of the Proposed Transmission Facilities, the Applicant has obtained an Environmental Assessment Permit from Henvey Inlet FN. Henvey Inlet FN has the authority to issue its own Environmental Assessment Permit for the HIWEC, including the on-Reserve portions of the Proposed Transmission Facilities, pursuant to its Land Code under the *First Nations Lands Management Act*.

The Final Draft Environmental Assessment Report for the on-Reserve portion of the project, as well as the Final Environmental Review Report for the off-Reserve portion of the project, were

issued on September 30, 2015 for public review under the environmental assessment processes described above. That process was completed on June 7, 2016.

7. Construction and In-Service Schedule

Subject to receipt of all necessary permits and approvals, the Applicant plans to commence construction of the Proposed Transmission Facilities in Q2 of 2017. Construction is expected to take approximately 18 months to complete. The Proposed Transmission Facilities would then be commissioned and be ready for service by approximately Q4 of 2018, which is generally aligned with the anticipated commencement of operations for the Generation Project.

8. Impact Assessments

The Applicant received an SIA Final Report from the IESO dated June 30, 2015. In the SIA Final Report, the IESO concludes that the proposed connection of the Generation Project to the IESO grid, by means of the Proposed Transmission Facilities and subject to the requirements specified in the SIA Final Report, is expected to have no material adverse impact on the reliability of the integrated power system. The IESO issued a Notification of Conditional Approval for Connection concurrently with the SIA Final Report.

In late October 2015, the Applicant requested amendments to the SIA Final Report due primarily to a change in the turbine model, changes to the Generation Facility's collector system design and certain modifications to the substation design. On September 30, 2016 the IESO issued a final SIA Addendum Report, which indicates that the IESO remains of the view that the proposed connection, as modified, is expected to have no material adverse impacts on the reliability of the integrated power system.

The Applicant received a CIA Final Report from Hydro One dated June 30, 2015. The CIA Final Report concludes that the connection of the Generation Project to Hydro One's system, by means of the Proposed Transmission Facilities, will not adversely impact existing Hydro One customers in the vicinity of the project. As noted, the Applicant requested a minor amendment to its SIA Final Report in late October 2015. As part of the SIA amendment process, the IESO

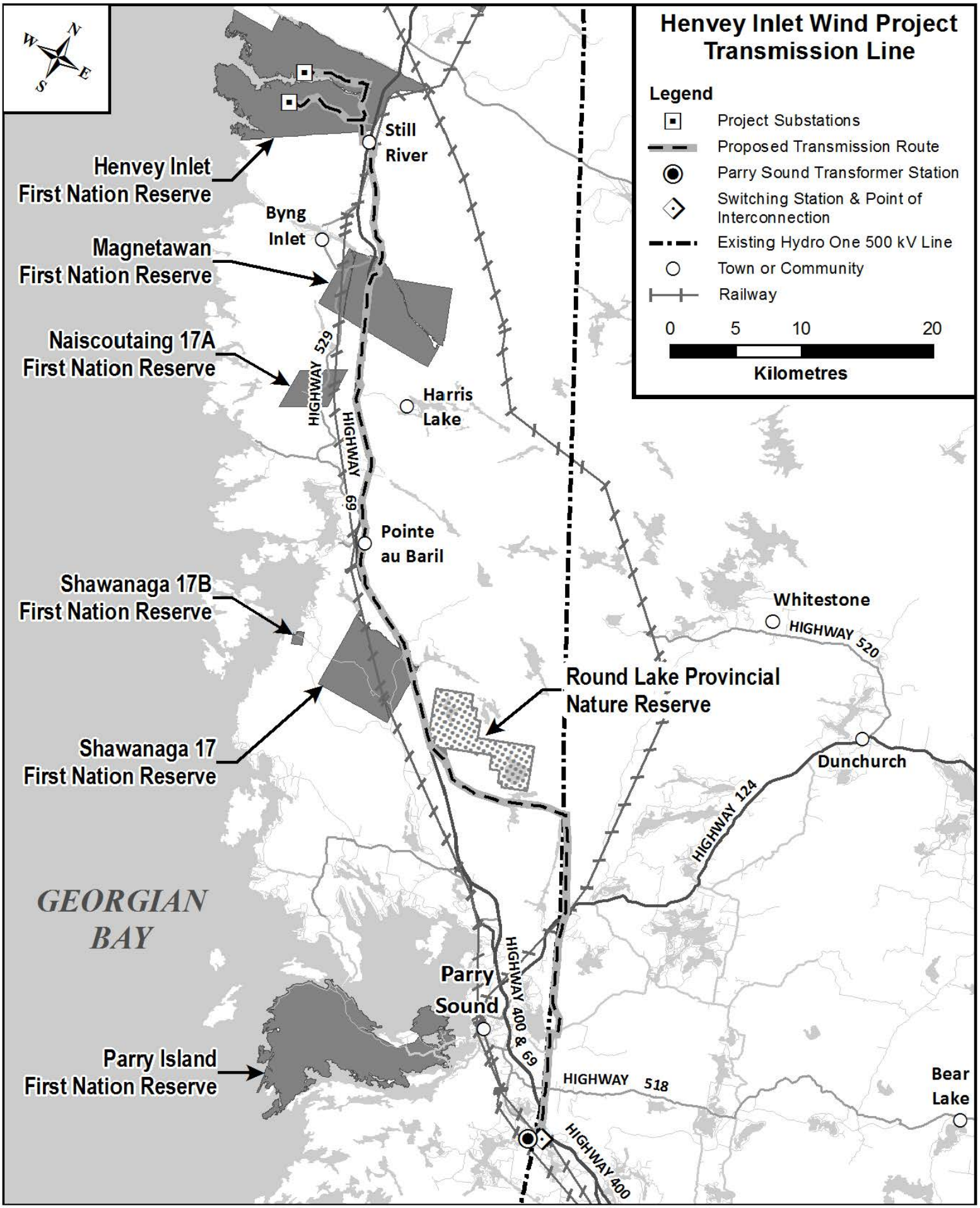
advised Hydro One so that Hydro One could determine if the changes required any corresponding amendments to the CIA Final Report. Hydro One confirmed that no amendments to the CIA Final Report were required.

9. Project Costs

The cost of the Proposed Transmission Facilities will be borne by the Applicant. As such, the project will not affect electricity transmission rates in Ontario.

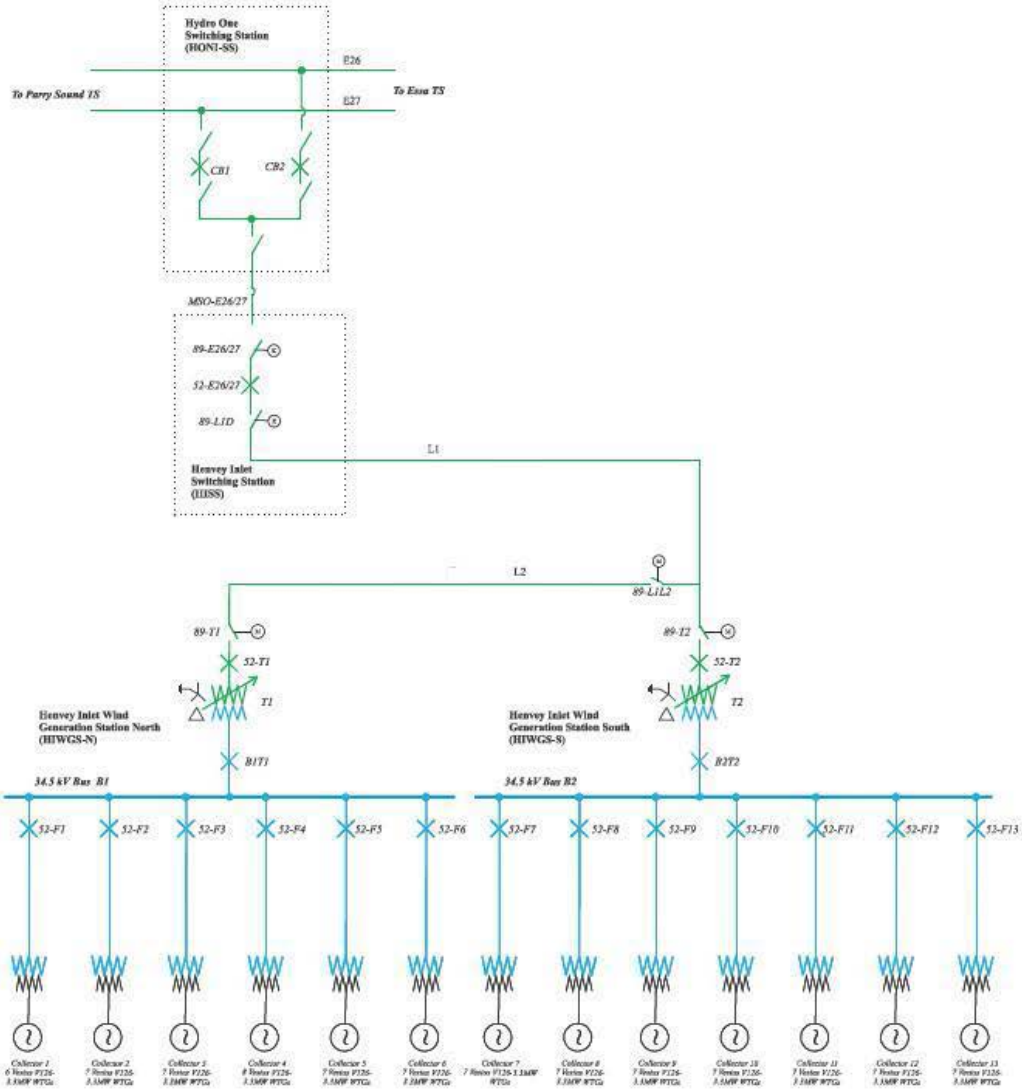
<u>Appendix 'A'</u>

Draft Project Drawing for Publication with Notice of Hearing


Henvey Inlet Wind Project
Transmission Line
Legend
Project Substations
Proposed Transmission Route
Parry Sound Transformer Station
Switching Station & Point of Interconnection
Existing Hydro One 500 kV Line
Town or Community
Railway
0 5 10 20
Kilometres
N
W
E
S
Still River
Henvey Inlet First Nation Reserve
Byng Inlet
Magnetawan First Nation Reserve
Naiscoutaing 17A First Nation Reserve
HIGHWAY 529
HIGHWAY 69
Harris Lake
Pointe au Baril
Shawanaga 17B First Nation Reserve
Whitestone
HIGHWAY 520
Round Lake Provincial Nature Reserve
Shawanaga 17 First Nation Reserve
Dunchurch
HIGHWAY 124
GEORGIAN BAY
HIGHWAY 400 & 69
Parry Sound
Parry Island First Nation Reserve
HIGHWAY 518
Bear Lake
HIGHWAY 400

Appendix 'B'

Single Line Drawing


Hydro One
Switching Station
(HONI-SS)
E26
To Parry Sound TS
E27
To Essa TS
CB1
CB2
MSO-E26/27
89-E26/27
52-E26/27
89-L1D
L1
Henvey Inlet
Switching Station
(HISS)
L2
89-L1L2
89-T1
89-T2
52-T1
52-T2
T1
T2
Henvey Inlet Wind
Generation Station North
(HIWGS-N)
Henvey Inlet Wind
Generation Station South
(HIWGS-S)
B1T1
B2T2
34.5 kV Bus B1
34.5 kV Bus B2
52-F1
52-F2
52-F3
52-F4
52-F5
52-F6
52-F7
52-F8
52-F9
52-F10
52-F11
52-F12
52-F13

NEED FOR THE PROJECT

On February 25, 2011, the Ontario Power Authority (now the IESO) issued a contract to Nigig under the FIT Program (Contract #F-001556-WIN-130-601) in respect of the HIWEC (formerly referred to as the Nigig Power Corporation project).[3] The FIT Contract, as amended, was assigned to Henvey Wind LP on November 4, 2014. The HIWEC will further the Government of Ontario's policy objective of increasing the amount of renewable energy generation that forms part of Ontario's energy supply mix. This policy objective is embodied by the *Green Energy Act, 2009*, the preamble to which states that the Government of Ontario is committed to fostering the growth of renewable energy projects, to removing barriers to and promoting opportunities for such projects, and to promoting a green economy. In addition, this policy objective is central to Ontario's current Long-Term Energy Plan, issued in December 2013, which calls for 10,700 MW of wind, solar and bioenergy to be online by 2021 and for a total of 20,000 MW of renewable energy, including hydroelectric, to be online by 2025.[4] In particular, the HIWEC will contribute approximately 300 MW of renewable energy capacity towards these objectives. The Proposed Transmission Facilities are needed to connect the HIWEC to the Hydro One transmission system, which forms part of the IESO-controlled grid. As the development of the HIWEC promotes the use of renewable energy sources in a manner consistent with the policies of the Government of Ontario, the Proposed Transmission Facilities are in the public interest pursuant to paragraph 96(2)2 of the *Ontario Energy Board Act, 1998*, which provides as follows:

> **96.** (2) In an application under section 92, the Board shall only consider the following when, under subsection (1), it considers whether the construction, expansion or reinforcement of the electricity transmission line or electricity distribution line, or the making of the interconnection, is in the public interest:
>
> 1. The interests of consumers with respect to prices and the reliability and quality of electricity service.
>
> 2. Where applicable and in a manner consistent with the policies of the Government of Ontario, the promotion of the use of renewable energy sources.

---

[3] See http://fit.powerauthority.on.ca/Storage/11216_FIT_Contract_Awards_-_Final_List_-_February_24,_2011.pdf for OPA Announcement of FIT Contract Offer.

[4] See p. 6 of the Long-Term Energy Plan at http://www.energy.gov.on.ca/docs/LTEP_2013_English_WEB.pdf

IMPACT ON RATE-REGULATED TRANSMITTER

The Applicant expects to enter into a Generator Customer Connection and Cost Recovery Agreement ("**CCRA**") with Hydro One. Hydro One's standard form of CCRA contemplates that the Applicant will be responsible for the costs of certain protection and controls work that needs to be undertaken in support of the interconnection. No network reinforcement work is contemplated on Hydro One's system and, as such, the CCRA is not expected to contemplate any work by Hydro One that is not chargeable to the Applicant. The Switching Station will have two sections separated by a fence. One section will be designed, constructed, owned, paid for and operated by the Applicant. The second section will be paid for by the Applicant, but designed, constructed, owned and operated by Hydro One. The Applicant will also pay for and Hydro One will construct, own and operate the line taps that will connect the Hydro One section of the Switching Station to the existing Hydro One 230 kV E26 and E27 transmission lines near Parry Sound.

ROUTE AND PHYSICAL DESIGN

This Exhibit provides a detailed description of the Transmission Line route, as well as of the locations and physical designs of the various components of the Proposed Transmission Facilities. In addition, to provide context, this Exhibit briefly describes the location and physical design of the Generation Project and its collection system, as well as the Hydro One transmission system to which the Proposed Transmission Facilities will be connected, all of which are related to the Proposed Transmission Facilities but outside the scope of this Application.

1. Wind Generation Facilities and Collection System

The HIWEC will be the source for the electricity that will be conveyed along the Proposed Transmission Facilities. The Generation Project will consist of approximately 91 Vestas wind turbine generators rated at 3.3 MW for a total installed capacity of 300 MW.[5] The Generation Project will be situated entirely on lands forming part of the Reserve, which is located to the southwest of the Town of Key River and to the northwest of the Town of Still River, Ontario. The electrical output from each wind turbine will be conveyed along a 34.5 kV above-ground collection system consisting of 12 feeders, each carrying the output from approximately 7-8 turbines. Six of the feeders will deliver electricity to the North Project Substation and the other six feeders will deliver electricity to the South Project Substation. The approximate locations of the wind generation facilities and collection system are depicted in the Generation Facilities Map at Exhibit C, Tab 2, Schedule 1, Figure 2.

2. Proposed Transmission Facilities

The Proposed Transmission Facilities that are the subject of this Application are comprised of the following:

[5] Some turbines may be permanently de-rated to remain within the contracted project capacity.

(a) *North Project Substation*

The North Project Substation will be located on the Reserve, approximately 0.4 km north of the water body known as Henvey Inlet and 6 km west of Provincial Highway 69. The North Project Substation will have an area of approximately 0.6 acres. At the North Project Substation, electricity conveyed from six feeders serving the northern portion of the Generation Project will be transformed from 34.5 kV to 230 kV by means of a 230 kV/34.5 kV step-up transformer rated at 105/140/175 MVA, with under load tap changer. The North Project Substation will also include grounding transformers, circuit breakers and disconnect switches, surge arrestors, instrument transformers, meters, a protection and control building and ancillary equipment, along with associated concrete foundations to mount the equipment and a below-grade grounding grid. The facility will be fenced and secured to prevent unauthorized entry and to maintain public safety. The location of the North Project Substation is shown in Exhibit C, Tab 2, Schedule 1, Figures 1 and 2. In addition, the North Project Substation Layout is provided in Exhibit C, Tab 3, Schedule 1, Figure 1.

(b) *South Project Substation*

The South Project Substation will be located on the Reserve, approximately 1.2 km south of the water body known as Henvey Inlet and 6.5 km west of Provincial Highway 69. The South Project Substation will have an area of approximately 0.6 acres. At the South Project Substation, electricity conveyed from six feeders serving the southern portion of the Generation Project will be transformed from 34.5 kV to 230 kV by means of a 230 kV/34.5 kV step-up transformer rated at 105/140/175 MVA, with under load tap changer. The South Project Substation will also include grounding transformers, circuit breakers and disconnect switches, surge arrestors, instrument transformers, meters, a protection and control building and ancillary equipment, along with associated concrete foundations to mount the equipment and a below-grade grounding grid. The facility will be fenced and secured to prevent unauthorized entry and to maintain public safety. The location of the South Project Substation is shown in Exhibit C, Tab 2, Schedule 1, Figures 1 and 2. In addition, the South Project Substation Layout is provided in Exhibit C, Tab 3, Schedule 1, Figure 2.

(c) *Transmission Line*

The Transmission Line will be an approximately 103 km, single circuit, 230 kV overhead line using either a single 1272 MCM ACSR (Bittern) conductor per phase or bundled 2 x 954 MCM ACSR conductors per phase, with counterpoise installed from pole/structure to pole/structure, below ground where possible, for grounding. Counterpoise is galvanized steel wool or copper clad aluminum that is buried in the ground under the conductors. It is installed to achieve grounding resistance levels and is common where ground resistance is high, such as in rocky areas or sandy soils.

An overview of the Transmission Line location and routing is provided in Exhibit C, Tab 2, Schedule 1, Figure 1. Detailed mapping of the Transmission Line location and routing is provided in Exhibit C, Tab 2, Schedule 1, Figure 3(a). Highly detailed plan and profile drawings are provided in Exhibit C, Tab 2, Schedule 1, Figure 4(a). Please note that the pole/structure locations along the proposed corridor, as shown in the plan and profile drawings, are approximate and may be subject to change. In addition, the range of pole/structure and framing designs that the Applicant expects to use for the Transmission Line, subject to final engineering design, is depicted in the drawings at Exhibit C, Tab 3, Schedule 1, Figure 3.

The Transmission Line will consist of three main segments, all of which are linked at a point near the southeast corner of the Reserve and which is referred to as the “Tap Point”. The Tap Point is situated at Pole/Structure #85 as shown in the plan and profile drawings at Exhibit C, Tab 2, Schedule 1, Figure 4(a), Sheets 6 and 15. From a technical perspective, the first segment and the third segment form one continuous line, with the second segment tapping into that line at the Tap Point. However, for simplicity, they are described below as three segments.

The **First Segment** will be approximately 8 km in length and will run east from the North Project Substation, generally along the north side of the water body known as Henvey Inlet, until

a narrow crossing point near Bekanon Road, at which point it runs south to the Tap Point, near the southeast corner of the Reserve. This segment, all of which will be situated on the Reserve, will consist of approximately 48 poles/structures, currently expected to be either steel monopoles or H-frame structures, each approximately 35 m in height and with spans of approximately 150 – 170 m.

The **Second Segment** will be approximately 6 km in length and will run east from the South Project Substation, generally along the south side of the water body known as Henvey Inlet, until reaching the Tap Point, near the southeast corner of the Reserve. This segment, all of which will be situated on the Reserve, will consist of approximately 37 poles/structures, currently expected to be either steel monopoles or H-frame structures, each approximately 35 m in height and with spans of approximately 160 - 180 m.

The **Third Segment** will be approximately 89 km in length and will run from the Tap Point to the Switching Station in the Township of Seguin. Based on the Applicant's planned routing, which runs through each of the Magnetawan FN Reserve and the Shawanaga FN Reserve, this segment will consist of approximately 506 poles/structures, currently expected to be either steel monopoles or H-frame structures, each approximately 35 m in height and with spans of approximately 150 - 170 m. The routing and location for the third segment of the Transmission Line can be described more specifically in eight parts, as follows:

(i) *Tap Point south to Reserve Boundary*, consisting of approximately 5 poles/structures over a distance of approximately 0.87 km. This part is entirely situated on lands entirely within the Reserve.

(ii) *Reserve Boundary southeast to MTO's Proposed Highway 69 Corridor near the Town of Still River*, consisting of approximately 9 poles/structures over a distance of approximately 1.58 km. This part is situated within the Unincorporated Township of Henvey. It is located

primarily on private lands, with crossings of a public road right-of-way and a rail line, as well as the MTO's proposed Highway 69 corridor.

(iii) *Highway 69 Corridor near the Town of Still River south to Entry into Magnetawan FN Reserve*, consisting of approximately 48 poles/structures over a distance of approximately 9.2 km. This part is situated partially within the Unincorporated Township of Henvey and partially within Unincorporated Township of Wallbridge. Approximately half is located on private lands and half on Provincial Crown lands adjacent to MTO's proposed Highway 69 corridor.

(iv) *Entry into Magnetawan FN Reserve south to Exit from Magnetawan FN Reserve*, consisting of approximately 31 poles/structures over a distance of approximately 5.7 km. This part is situated entirely on lands within the Magnetawan FN Reserve.

(v) *Exit from Magnetawan FN Reserve south to Entry into Shawanaga FN Reserve*, consisting of approximately 150 poles/structures over a distance of approximately 26.0 km. This part is situated partially within the

Unincorporated Township of Wallbridge, partially within the Unincorporated Township of Harrison (under the jurisdiction of the Archipelago Planning Board), and partially within the Township of The Archipelago. It is located primarily on Provincial Crown lands adjacent to MTO's proposed Highway 69 corridor, as well as on several privately owned parcels just north of the Shawanaga FN Reserve.

(vi) *Entry into Shawanaga FN Reserve southeast to Exit from Shawanaga FN Reserve*, consisting of approximately 12 poles/structures over a distance of approximately 2.2 km. This part is situated on lands entirely within the Shawanaga FN Reserve.

(vii) *Exit from Shawanaga FN Reserve southeast to Hydro One 500 kV Corridor*, around the southern boundary of Round Lake Provincial Park, consisting of approximately 101 poles/structures over a distance of approximately 17.8 km. This part is situated partially in the Unincorporated Township of Shawanaga, partially within Carling Township and partially within McDougall Township. It is located primarily on Provincial Crown lands, as well as on a relatively small

number of privately owned lands to the southwest of Round Lake Provincial Park.

(viii) *Hydro One Corridor south to Switching Station*, consisting of approximately 150 poles/structures over a distance of approximately 25.8 km. This part is situated partially within McDougall Township and partially within Seguin Township. The northern portion is located primarily on Provincial Crown lands and the southern portion is located primarily on privately owned lands. Along this segment, the Transmission line runs along the east side of the existing Hydro One 500 kV corridor. The Applicant's corridor is situated adjacent to and not within the Hydro One corridor.

(d) *Switching Station*

The Switching Station will be located in the Township of Seguin on a property that is situated approximately 600 m east of Hydro One's existing Parry Sound TS. The location of the Switching Station is shown in Exhibit C, Tab 2, Schedule 1, Figure 1 and on the last page of Figure 3(a). The Switching Station Layout is provided in Exhibit C, Tab 3, Schedule 1, Figure 4.

The Switching Station, which will have an area of approximately 3-4 ha, will include an Applicant-owned area with circuit breakers and other protection equipment operating only at a single voltage level, in this case 230 KV. The core function performed by the station is switching, which is the connecting and disconnecting of transmission lines or other components to and from the transmission system. Switching events may be "planned" or "unplanned", manual or automatic. The Transmission Line or other components may need to be de-energized for maintenance or for new construction. The location has been selected as it is in close proximity to the interconnection point, is easily accessible for maintenance crews and is available for purchase or lease from the existing municipal owner.

The Switching Station will include a total of 3 breakers and associated switches and relays. The Switching Station will be physically divided into two parts, with one area to be constructed and

owned by the Applicant and the remainder to be constructed and owned by Hydro One. The land on which the Hydro One portion of the Switching Station is to be situated will be leased or sold to Hydro One. The portion of the Switching Station to be owned by the Applicant will include the revenue meter and a single breaker controlled by the Applicant, including associated switches. A portion of the Applicant-owned area will be reserved for reactive devices to allow the project to meet applicable IESO requirements for voltage control and reactive support. The portion of the Switching Station to be owned by Hydro One will include 2 circuit breakers and associated switches along with its required protection equipment.

(e) *Line Tap*

A Line Tap will run approximately 180 m from the Switching Station to the point of interconnection, which is located between Tower 1 (Latitude: 45.302195, Longitude: -79.938455) and Tower 2 (Latitude: 45.300017, Longitude: -79.937436) on Hydro One's existing E26 and E27 circuits, approximately 600 m from Hydro One's existing Parry Sound TS. While the cost of constructing the Line Tap will be paid for by the Applicant, it will be constructed, owned and operated by Hydro One.

3. Rationale for Transmission Line Route and Station Location

The location and routing for the Proposed Transmission Facilities was determined based on a thorough analysis and consideration of the options available to the Applicant for connecting its Generation Facilities, which will be situated on the Reserve, to the point of interconnection, which as required under the Applicant's FIT Contract is situated on Hydro One's circuits E26 and E27 near Parry Sound TS. This point of interconnection, as specified in the Applicant's FIT Contract, was identified as the most suitable connection point for the HIWEC through processes under the FIT Program.

Given the location of the Generation Facilities and the location of the point of interconnection, the Applicant's preference in determining the Transmission Line routing was to follow, to the extent possible, established infrastructure corridors. The rationale for doing so is that this would minimize environmental impacts and aide in the constructability of the project. The Applicant

identified two key existing infrastructure corridors running from the area of the Reserve to the area of the interconnection point - Highway 69 (including a potential MTO expanded Highway 69 corridor) and an existing Hydro One 500 kV corridor.

In assessing these options, and based on consultations with the Ministry of Natural Resources and Forestry ("**MNRF**"), the Applicant ruled out the possibility of running along the existing Hydro One corridor for the entire length of the Transmission Line. That routing would have impacted a number of environmentally sensitive areas that were considered likely to be home to species of concern, particularly along the northern portion of that alternative route. Moreover, the area is very remote and very little data regarding natural heritage features and species habitats is available for that area. Consequently, MNRF cautioned that it would be a "monumental task" to complete assessments for all of the species at risk and their habitats along this corridor. The Applicant also ruled out the possibility of running along the Highway 69 corridor for the entire length of the Transmission Line based on its objective of minimizing the impacts on communities and individual landowners. In particular, that routing would have impacted areas with higher population densities towards the southern portion of that alternative route, particularly in Carling Township, the Township of Seguin and near Parry Sound. The Applicant also refined its routing to reflect plans by the MTO to expand and realign portions of Highway 69.

The proposed Transmission Line routing is a hybrid of the above alternatives. It runs along the Highway 69 corridor, or proposed MTO realignment thereof, from the Reserve to Carling Township, then after passing Round Lake Provincial Park it runs east to the Hydro One 500 kV corridor and then alongside that corridor to the Switching Station. This proposed routing minimizes potential environmental impacts while avoiding areas with higher population densities.

In parallel with its efforts to identify planned routing to the point of interconnection, the Applicant also undertook significant efforts in an attempt to amend the FIT Contract so as to provide for a different point of interconnection. Specifically, the Applicant applied to the OPA/IESO for an amendment that would have changed the point of interconnection to a point

along the existing Hydro One 500 kV transmission line at Highway 522, near the Town of Lost Channel. This would have significantly reduced the length of the transmission line needed to connect the HIWEC to the provincial grid. After proceeding to arbitration, the Applicant's request for the amendment was, however, refused.

4. Hydro One Transmission Facilities

The Proposed Transmission Facilities will connect to Hydro One's 230 kV circuits, E26 and E27, by means of an approximately 180 m tap between Tower 1 and Tower 2 between Parry Sound TS and Essa TS. While the cost of constructing the Line Tap will be paid for by the Applicant, it will be constructed, owned and operated by Hydro One.

MAPS

The following maps are provided in this schedule:

Figure 1	Project Location Map
Figure 2	Generation Facilities Map
Figure 3(a)	Proposed Transmission Facilities Maps
Figure 4(a)	Plan and Profile Drawings - Planned Transmission Line Route

<u>Figure 1</u>

Project Location Map

FRENCH RIVER PROVINCIAL PARK
HENVEY FIRST NATION RESERVE NO. 2
HIGHWAY 522
Still River
Parry Sound, Unorganized, Centre Part
NOGANOSH LAKE PROVINCIAL PARK
HIGHWAY 526
Britt
HIGHWAY 645
MAGNETAWAN FIRST NATION RESERVE NO. 1
MAGNETAWAN RIVER PROVINCIAL PARK
HIGHWAY 529
NAISCOUTAING FIRST NATION RESERVE NO.17A
HIGHWAY 520
HIGHWAY 529A
STURGEON BAY PROVINCIAL PARK
HIGHWAY 69
The Archipelago
Whitestone
Georgian Bay
SHAWANAGA FIRST NATION NO. 17B
SHAWANAGA FIRST NATION RESERVE NO. 17
ROUND LAKE PROVINCIAL PARK
HIGHWAY 124
REGIONAL RD 559
McDougall
Carling Township
Nobel
LIMESTONE ISLANDS PROVINCIAL NATURE RESERVE
KILLBEAR PROVINCIAL PARK
Parry Sound
HIGHWAY 400
HIGHWAY 518
OASTLER LAKE PROVINCIAL PARK
PARRY ISLAND FIRST NATION
Seguin Township
THE MASSASAUGA PROVINCIAL PARK

Legend

- City / Town
- Roads
- Trails
- HONI Corridor
- Municipal Boundary
- Waterbodies
- Provincial Parks
- Aboriginal Communities
- Project Substations
- Switching Station & Point of Interconnection
- Proposed Transmission Route

N

0 2.5 5 10
Kilometers

Henvey Inlet Wind Project
Leave to Construct

Project Location Map

November 2016	1:215,000	Datum: NAD 83, Zone 17 Source: AECOM, MNRF, MTO
P#: 60341251	V#: 002	

C-2-1
Figure 1

Henvey Inlet

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Map location: C:\Users\crane\Documents\ArcGIS\Packages\ProjectLocationMap_32A\p48\p48_ETC\42fc\9\24\8b7/1\84E\31\0\1\1\ProjectLocationMap.mxd
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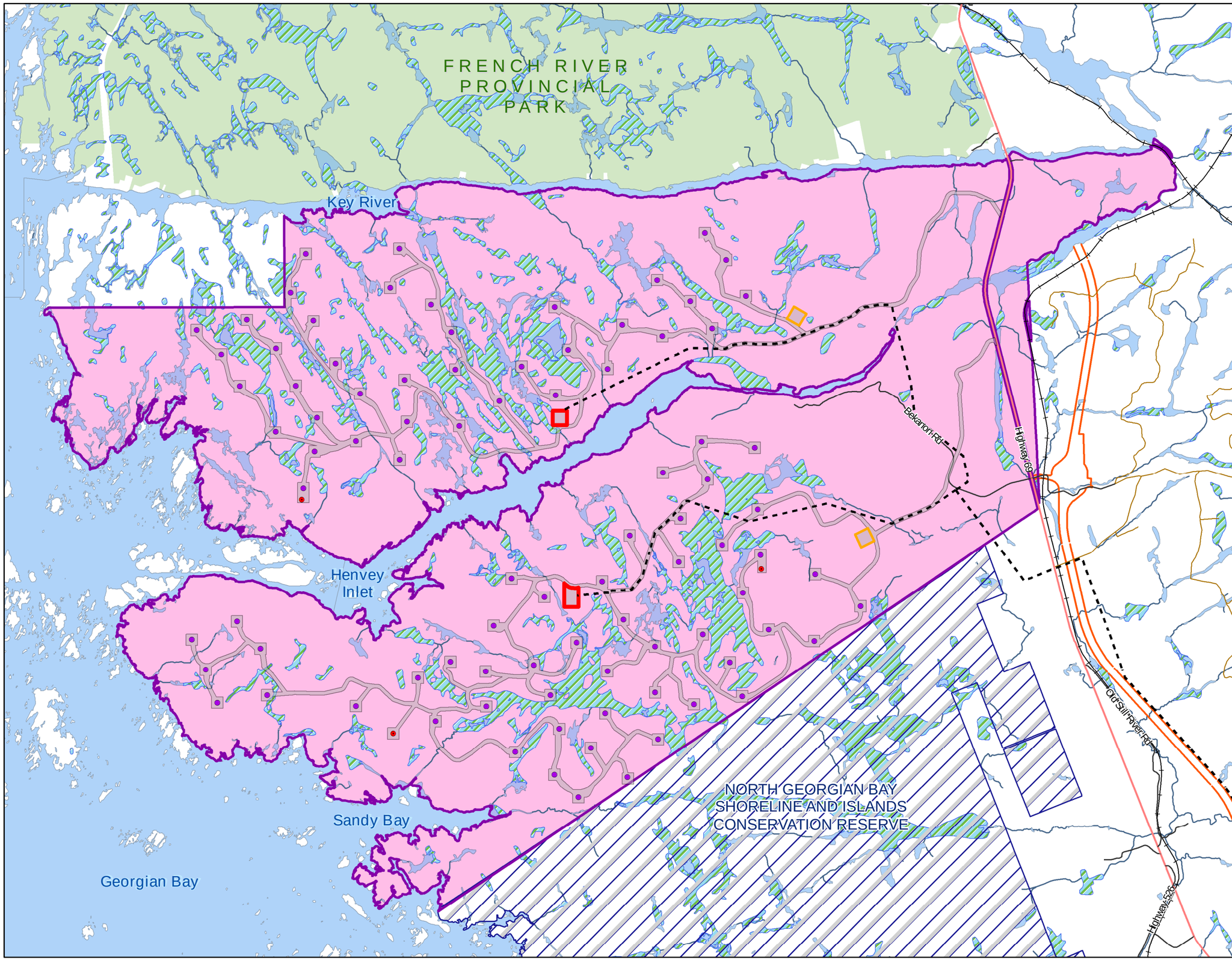
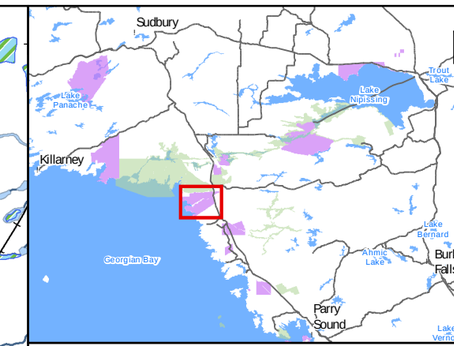
<u>Figure 2</u>

Generation Facilities Map





N

Generation Facilities Infrastructure

- Wind Turbine Generators
- Meteorological Towers
- Proposed Transmission Route
- Access Roads
- Construction Compounds & Laydown Yards
- Project Substations

Base Layers

- Railway
- MTO Proposed Hwy 69 Relocation
- Major Roads
- Highway
- Trails
- Watercourses
- Waterbodies
- Wetlands
- Provincial Park
- Henvey Inlet First Nation Reserve No.2
- Conservation Reserve

0 0.5 1 2
Kilometers

Henvey Inlet Wind Project
Leave to Construct

Generation Facilities Map

September 2016	1:50,000	Datum: NAD 83, Zone 17 Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	
C-2-1 Figure 2		

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Date Saved: 2016-09-28 4:38:03 PM

<u>Figure 3(a)</u>

Proposed Transmission Facilities Maps

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FRENCH RIVER PROVINCIAL PARK
GRUNDY LAKE PROVINCIAL PARK
HENVEY INLET FIRST NATION RESERVE NO. 2
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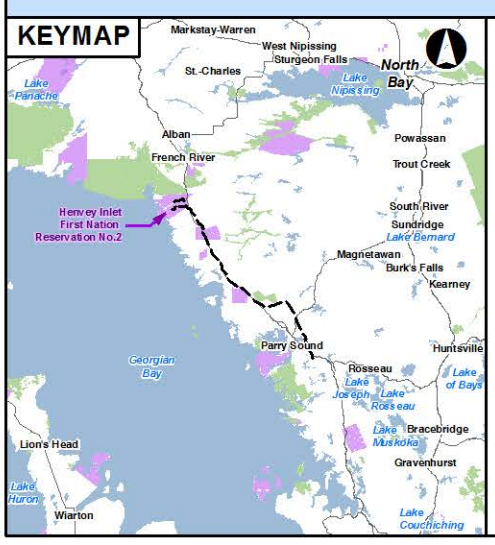
25
26
27
28
29
30
31
69
Dollars Lake
Big Caribou Lake
Kawigamog Lake
Highway 522
Wauquimakog Lake
Noganosh Lake
NOGANOSH LAKE PROVINCIAL PARK
MAGNETAWAN FIRST NATION RESERVE NO. 1
MAGNETAWAN RIVER PROVINCIAL PARK
Island Lake
NAISCOUTAING FIRST NATION RESERVE NO. 17A
The Top Lake
Kashegaba Lake
Wahwashkesh Lake
STURGEON BAY PROVINCIAL PARK
Highway 520
SHAWANAGA FIRST NATION RESERVE NO. 17B
SHAWANAGA FIRST NATION RESERVE NO. 17
ROUND LAKE PROVINCIAL NATURE RESERVE
124
Balsam Road
Lorimer Lake
LIMESTONE ISLANDS PROVINCIAL NATURE RESERVE
Georgian Bay
Highway 559 West
400
Hurdville Road
Centre Road
McDougall Road
Blackwater Road
KILLBEAR PROVINCIAL PARK
Mill Lake
PARRY ISLAND FIRST NATION
Highway 518
Star Lake Road
Tally Ho Swords Road
Spider Lake
THE MASSASAUGA PROVINCIAL PARK
Otter Lake
Horseshoe Lake
141

KEYMAP



Legend

- Proposed Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- MTO Proposed Hwy 69 Relocation
- Aboriginal Land
- Provincial Park
- Waterbody
- Map Extents

Roads

- Freeway
- Expressway / Highway
- Major Road
- Railway

0 2 4 8 12
Kilometres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands Overview Map

November 2016	1:250,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3

Henvey Inlet

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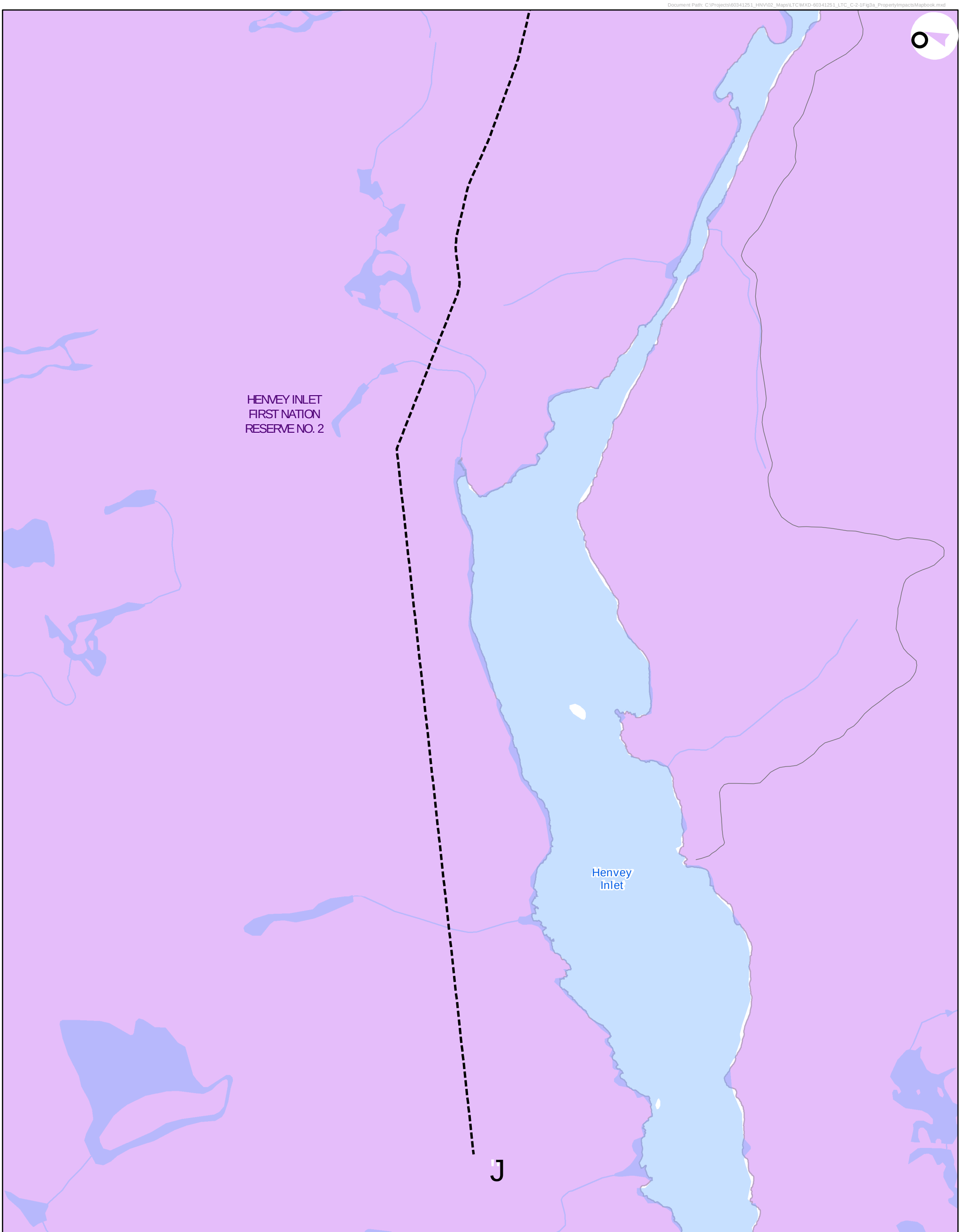

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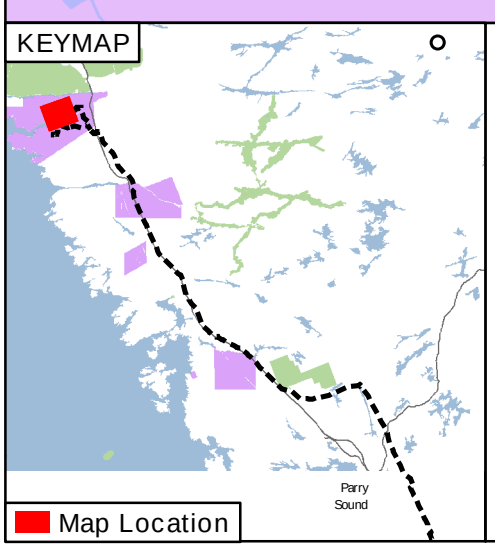

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Local Road
- Railway

Transmission Line Infrastructure
- J Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	
C-2-1 Figure 3a.01		

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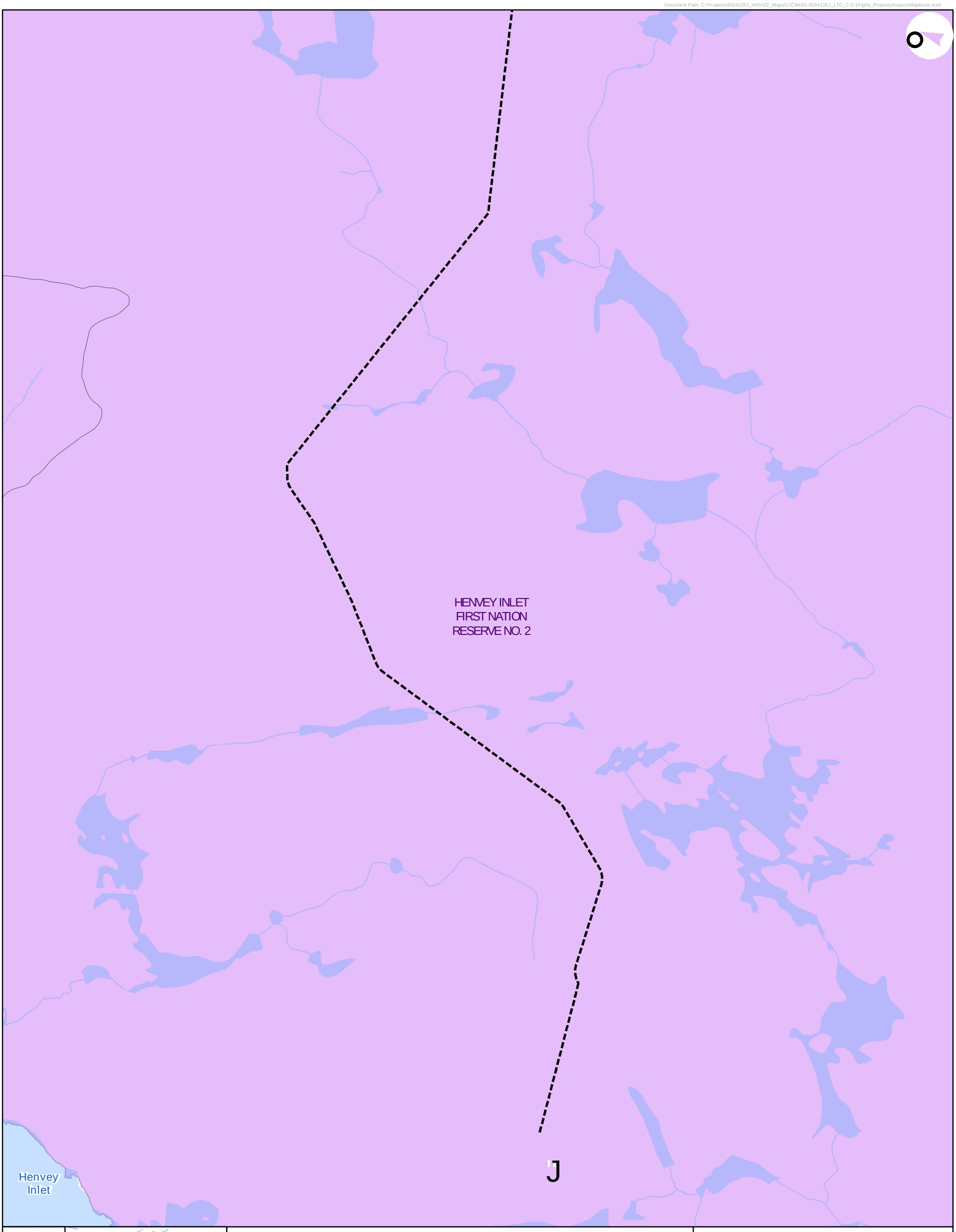

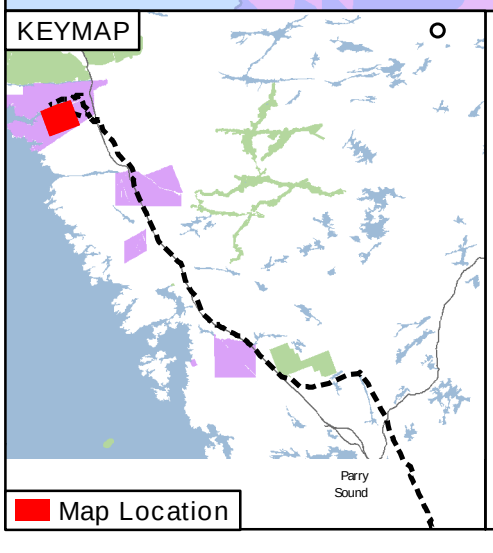

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
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- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

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- Railway

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- Proposed Transmission Route Easement
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- Switching Station

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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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P#: 60341251	V#: 001	

C-2-1
Figure 3a.02

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Henvey Inlet

HENVEY INLET
FIRST NATION
RESERVE NO. 2

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.03

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HENVEY INLET
FIRST NATION
RESERVE NO. 2

522380214
522380107
522380330
522380371
522380084
522380068
522380372
522380369
522380108
522380370
522380081
522380086
522380331
522380111
522380097
522380110
Old Still River Road
522380387
522380386

KEYMAP

Map Location

Parry Sound

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Local Road
- Resource / Recreation
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.04

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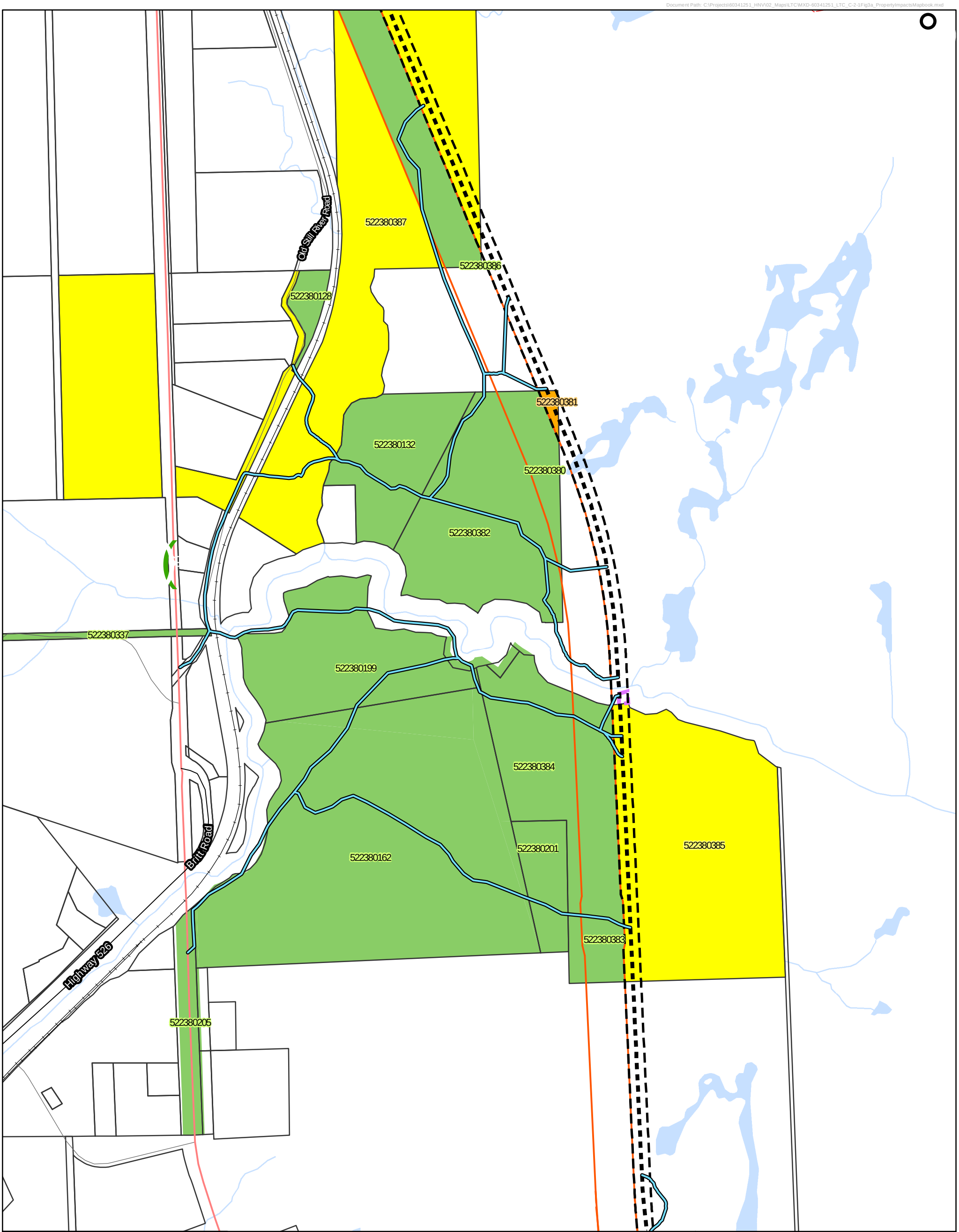

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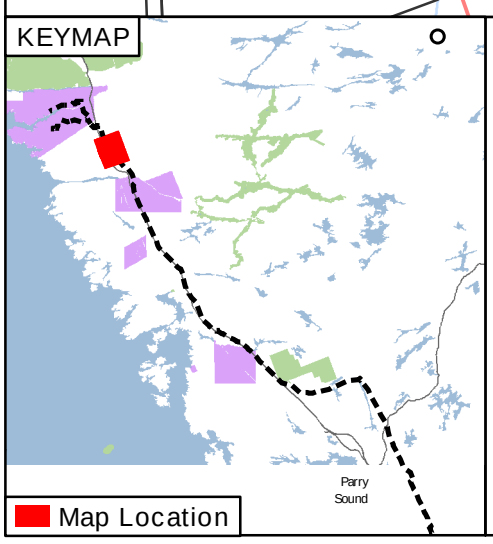

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Major Road
- Local Road
- Resource / Recreation
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.05

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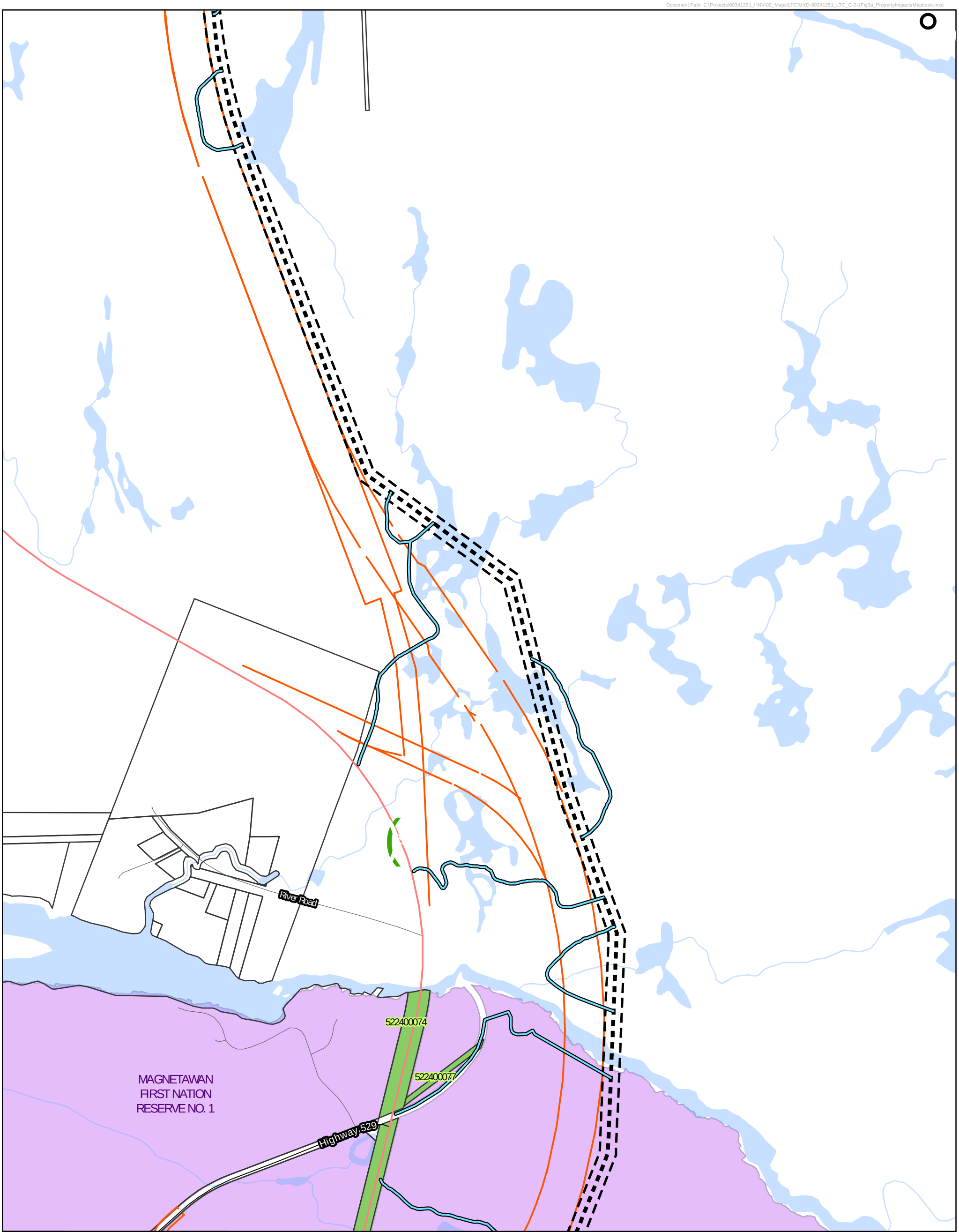

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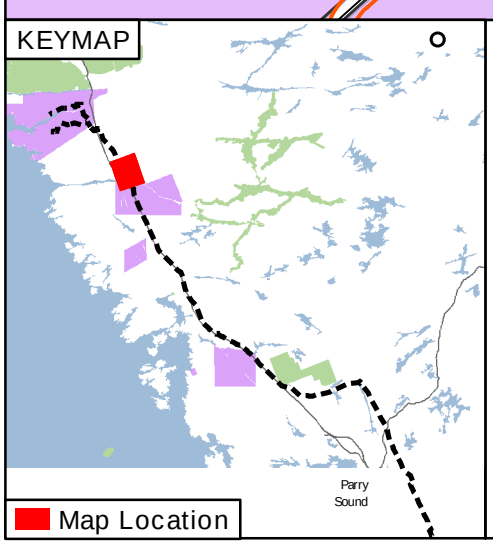

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Major Road
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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Figure 3a.06

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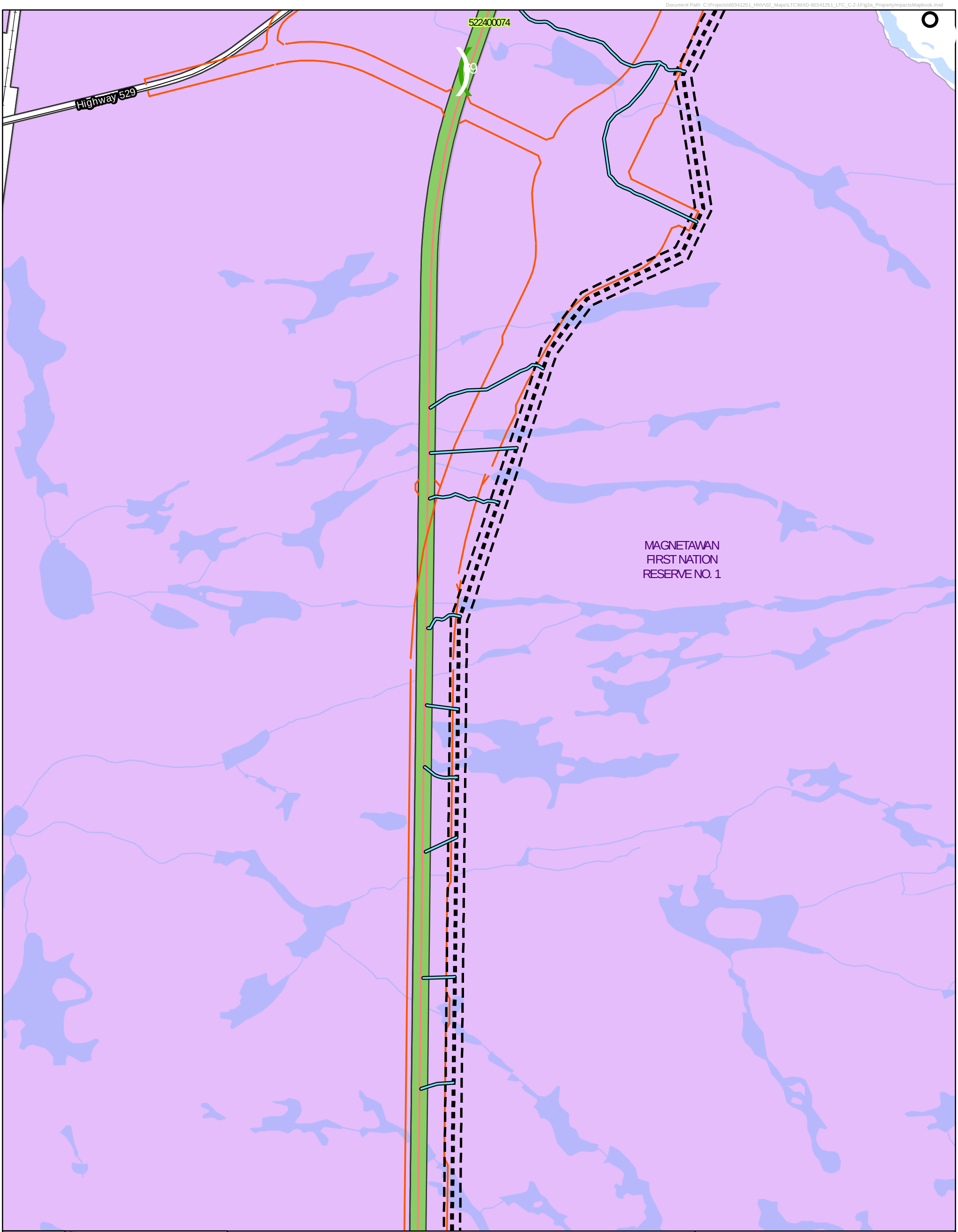

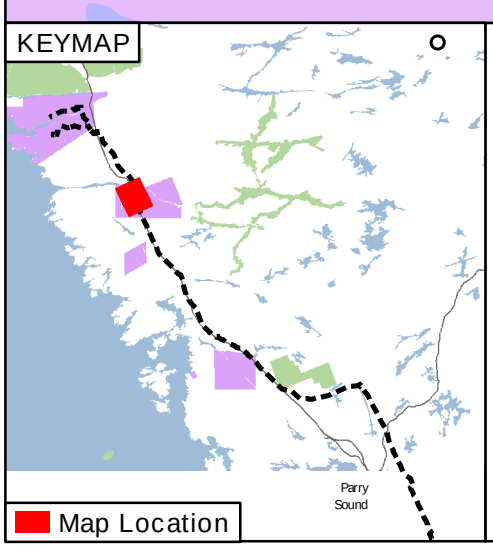

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
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- Railway

Transmission Line Infrastructure
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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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Figure 3a.07

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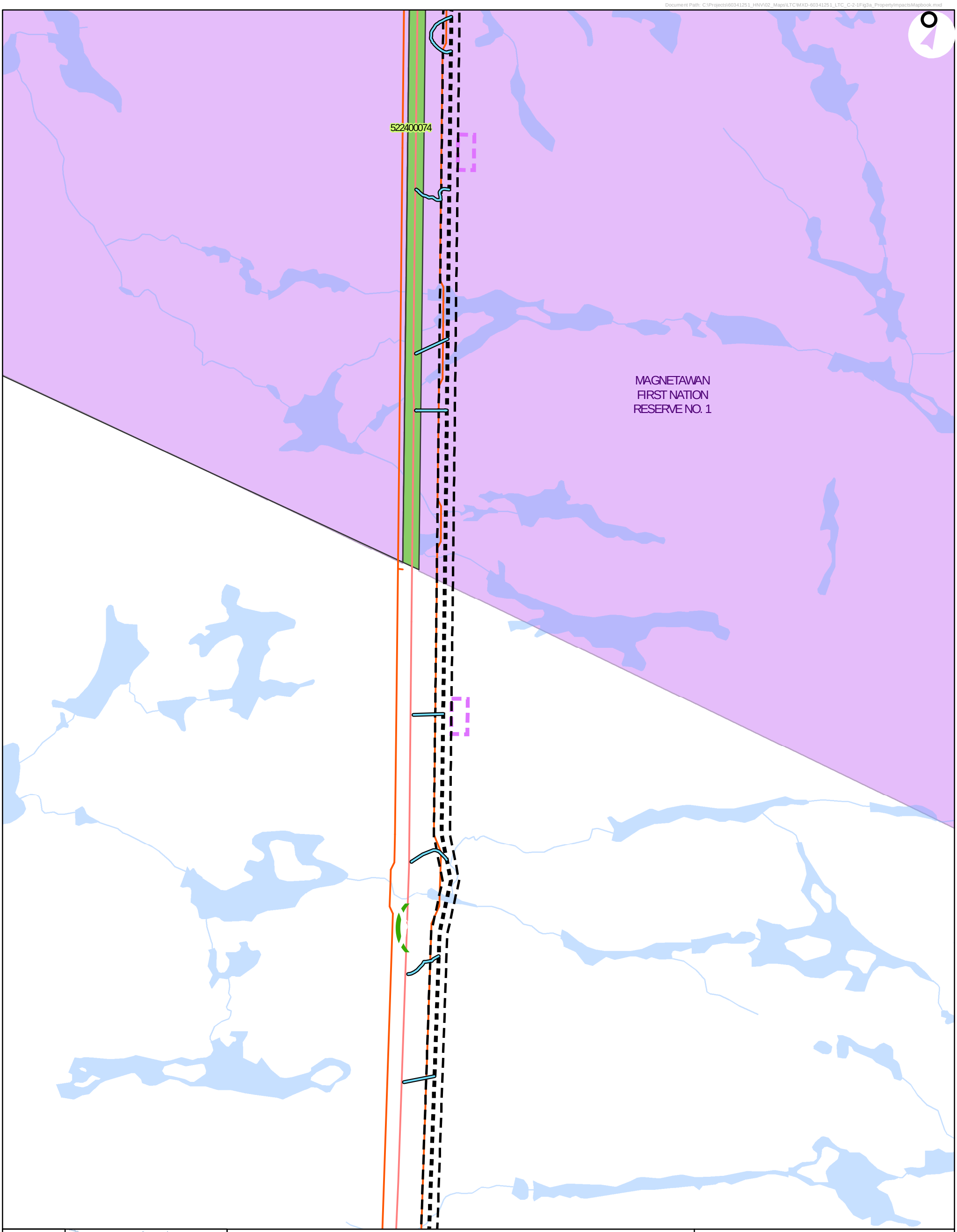

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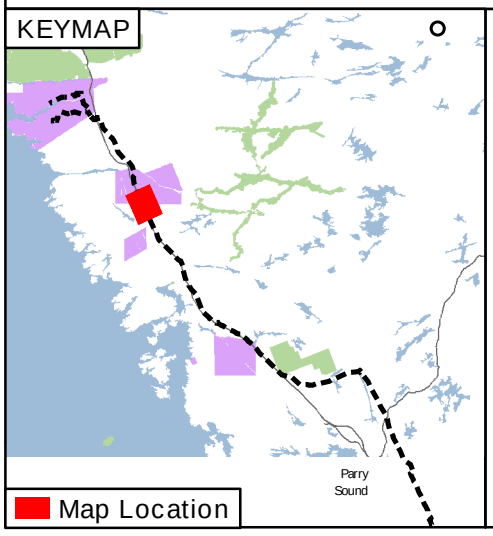

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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Figure 3a.08

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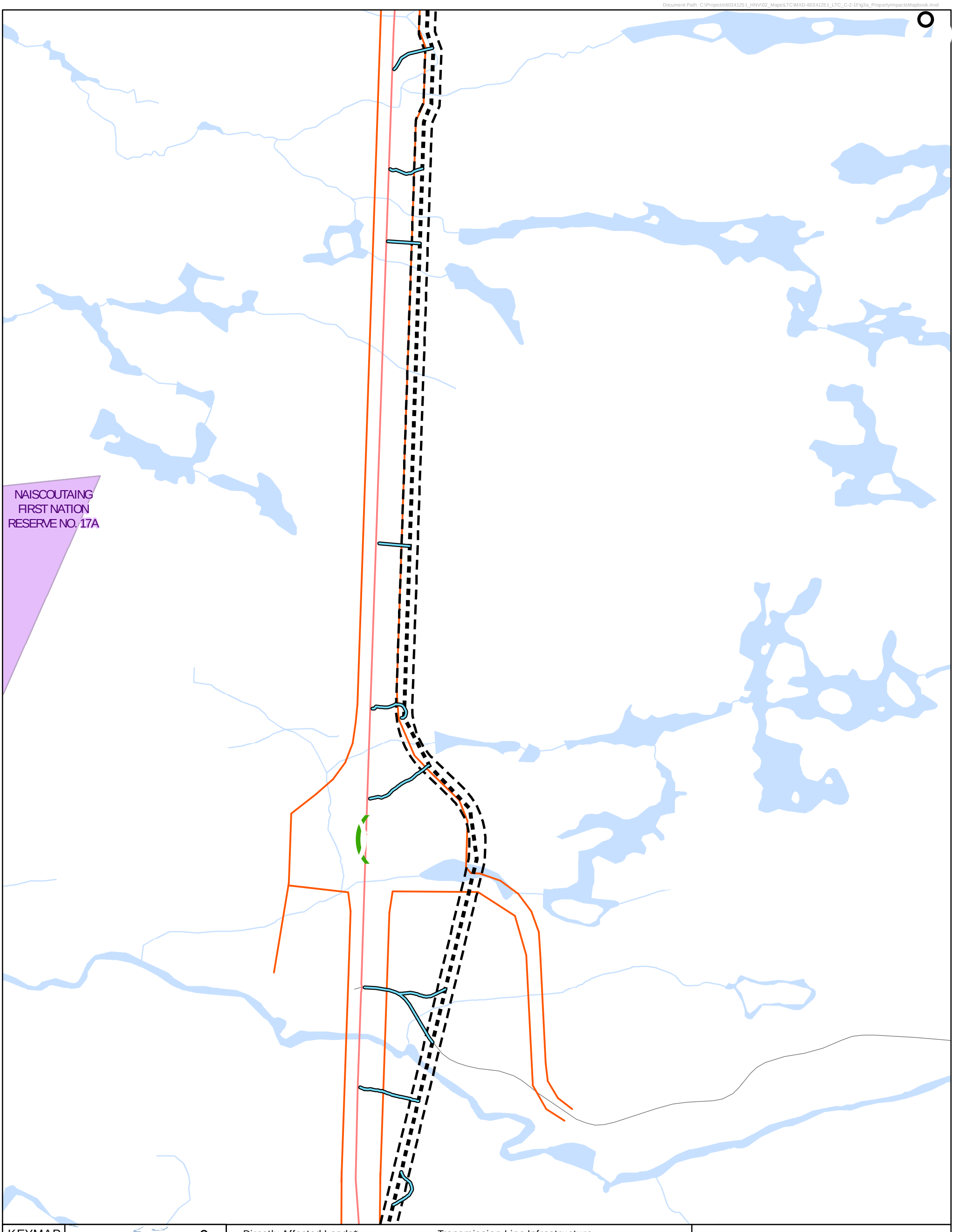

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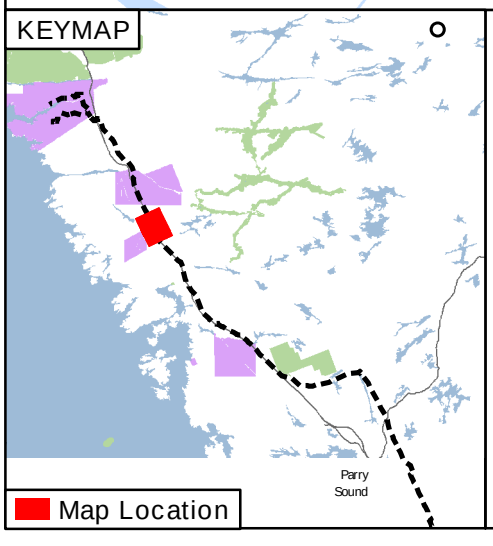

Directly Affected Lands*
- Permanent
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Base Layers
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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.09

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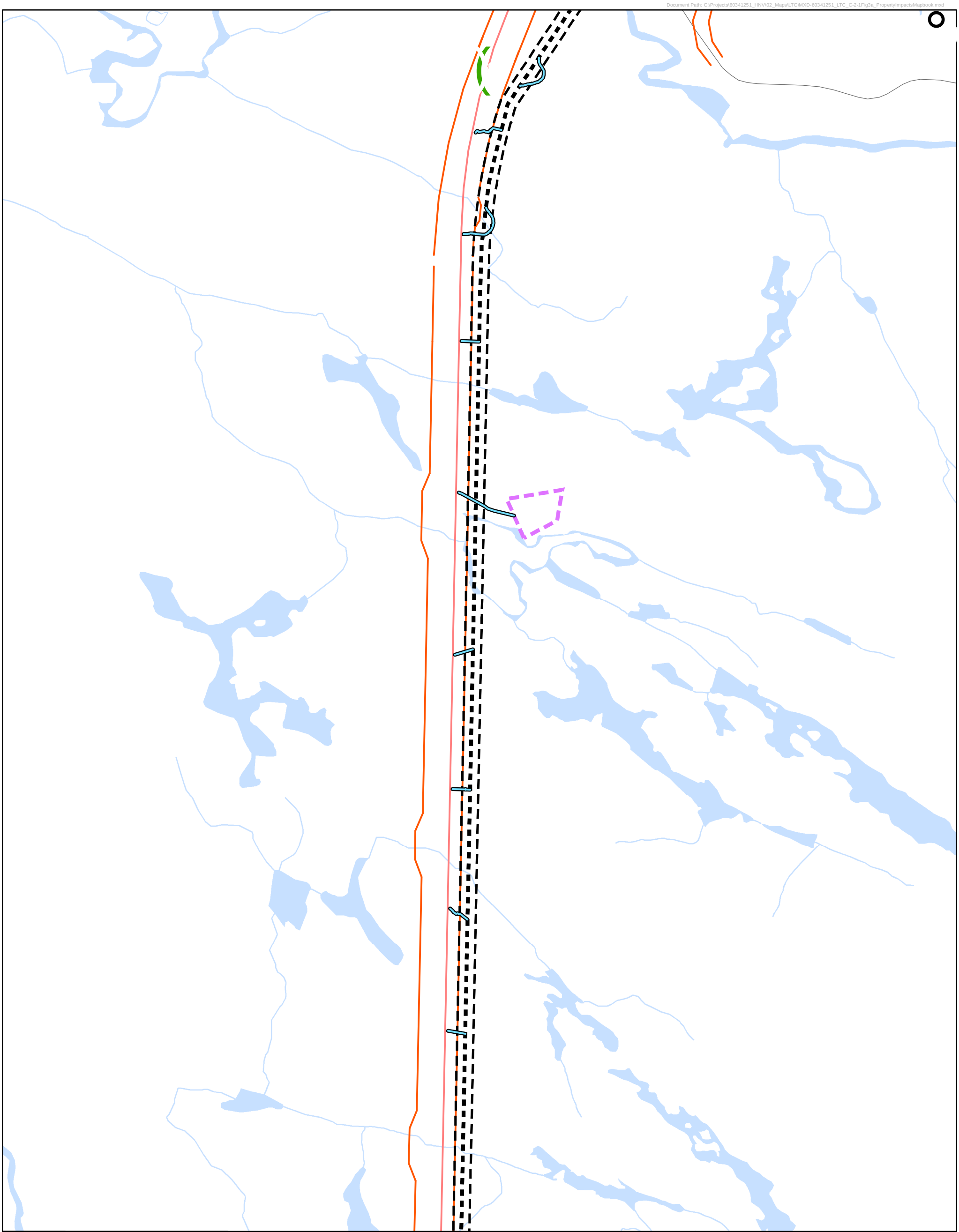

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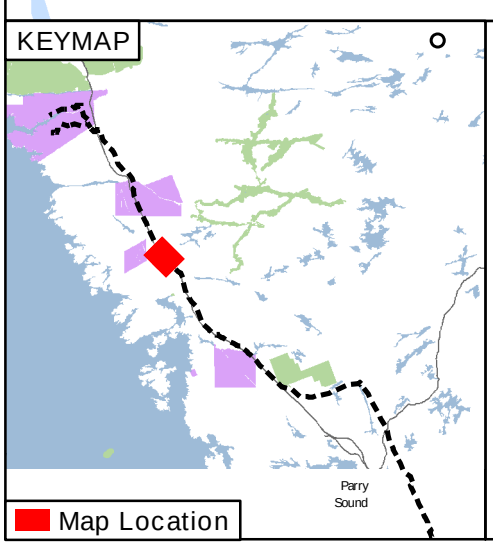

Directly Affected Lands*
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Base Layers
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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.10

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Rabys Road

Wood Duck Trail

Teal Trail

Naiscoot Lake

Blue Heron Trail

Flicker Trail

522460542

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
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0 100 200 400
Metres

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Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.11

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522460542

522460543

522460152

Highway 529

Moose Lake

Bird Lake

522460444

522460443

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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Figure 3a.12

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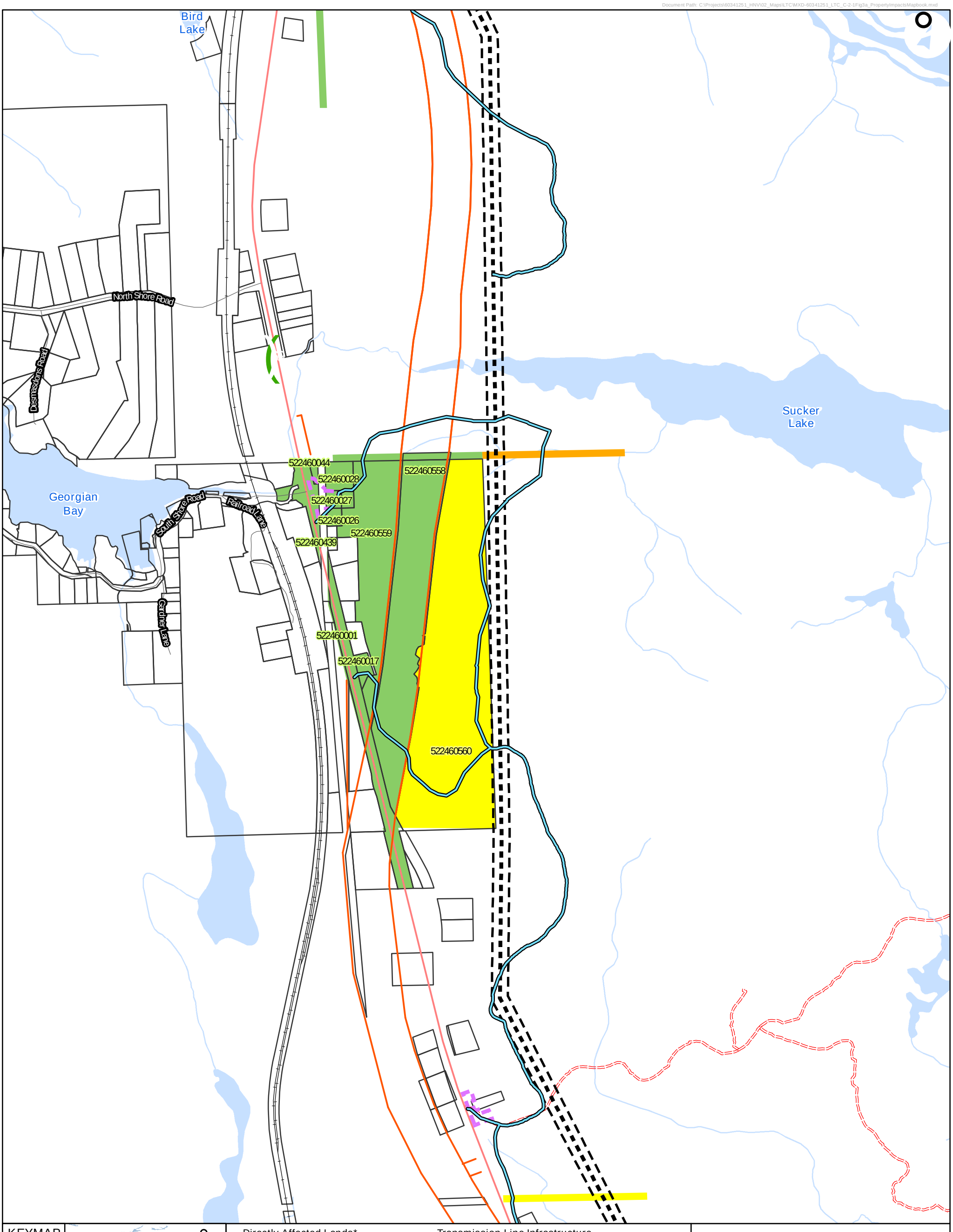

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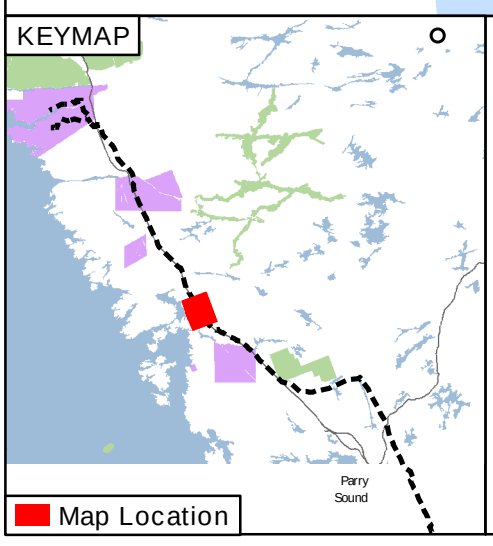

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
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Transmission Line Infrastructure
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0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.13

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522460565
522460566
522460003
520930336
522460521

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Resource / Recreation
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.14

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520930084
520930450
520930446
Site 9 Road
520930322
520930333
520930465
520930464
520930466
Dumont Road
SHAWANAGA
FIRST NATION
RESERVE NO. 17
520930459
520930458
520930460
520930461
520930462
520930441
520930071

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.15

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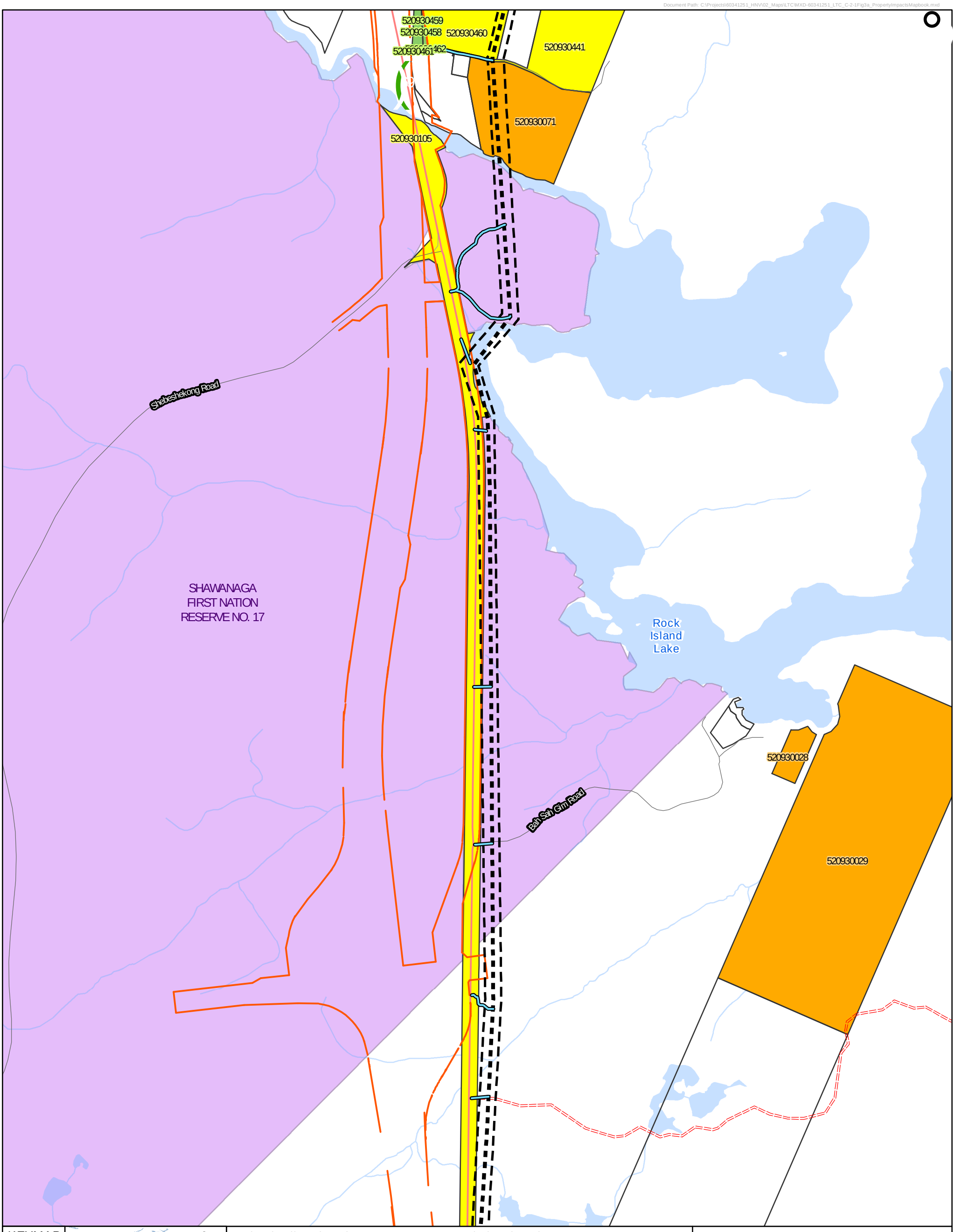

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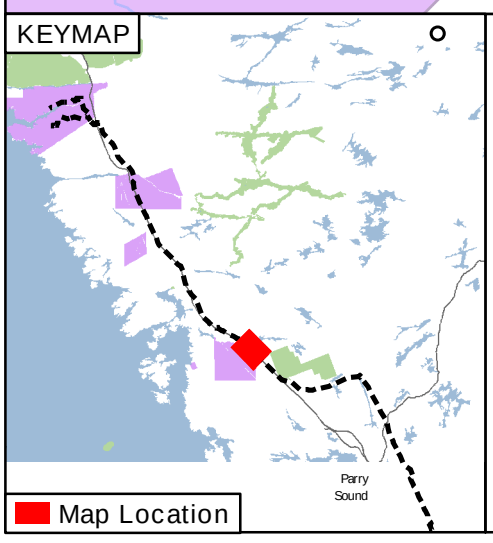

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Local Road
- Ramp
- Resource / Recreation
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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P#: 60341251	V#: 001	

C-2-1
Figure 3a.16

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SHAWANAGA
FIRST NATION
RESERVE NO. 17

Apple
Lake

Rainy
Lake

Wiwassasegen
Lake

520930105

KEYMAP

Parry
Sound

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.17

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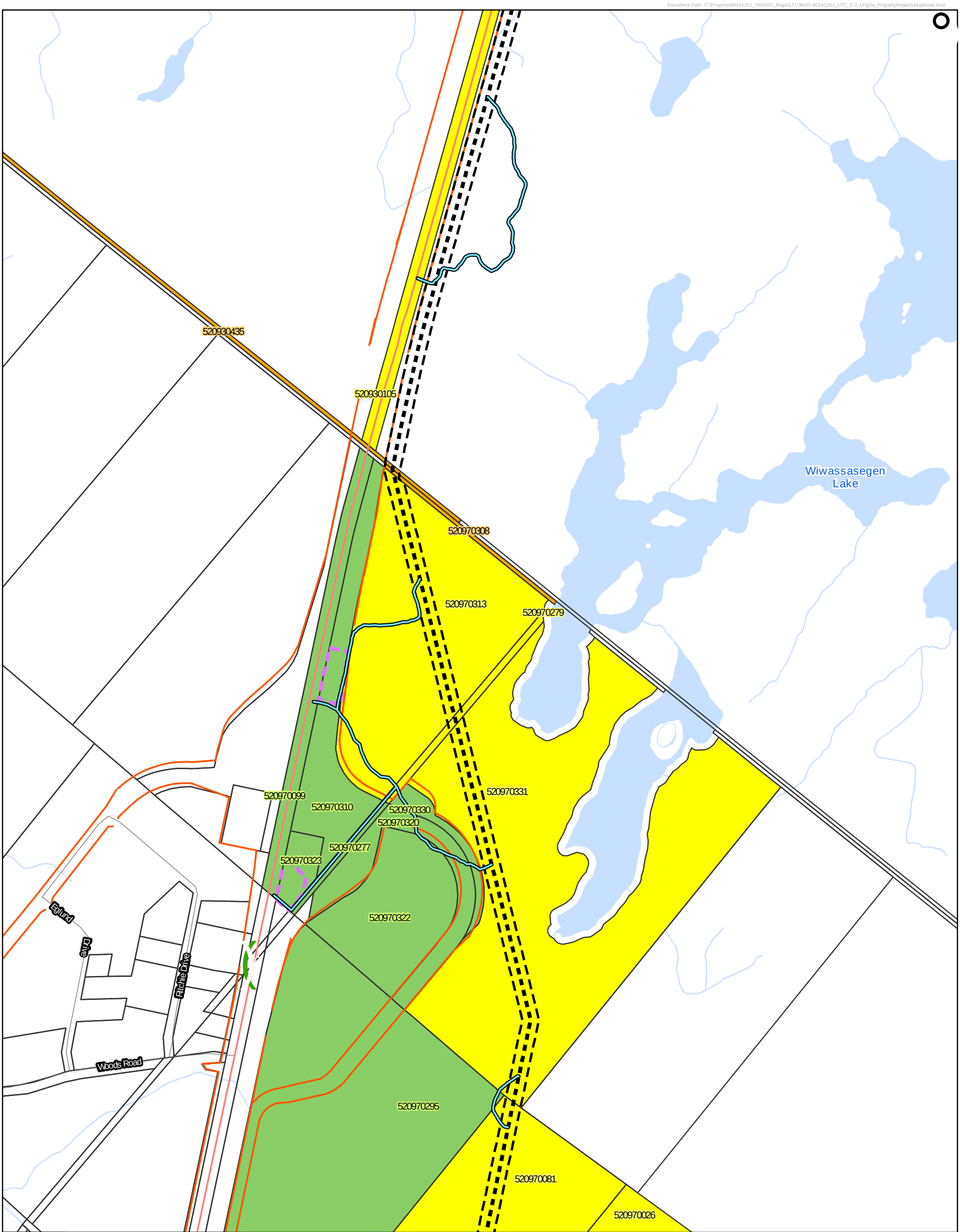

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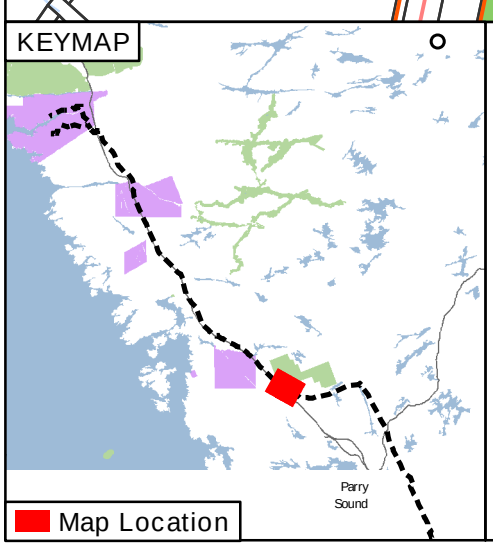

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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P#: 60341251	V#: 001	

C-2-1
Figure 3a.18

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520970331
520970295
520970081
520970326
520970328
520970026
520970097
520970008
520970325
520970083
520970004
520970220
520970082
520970003
520970301
Redfern Lake

KEYMAP

Map Location

Parry Sound

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Resource / Recreation
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.19

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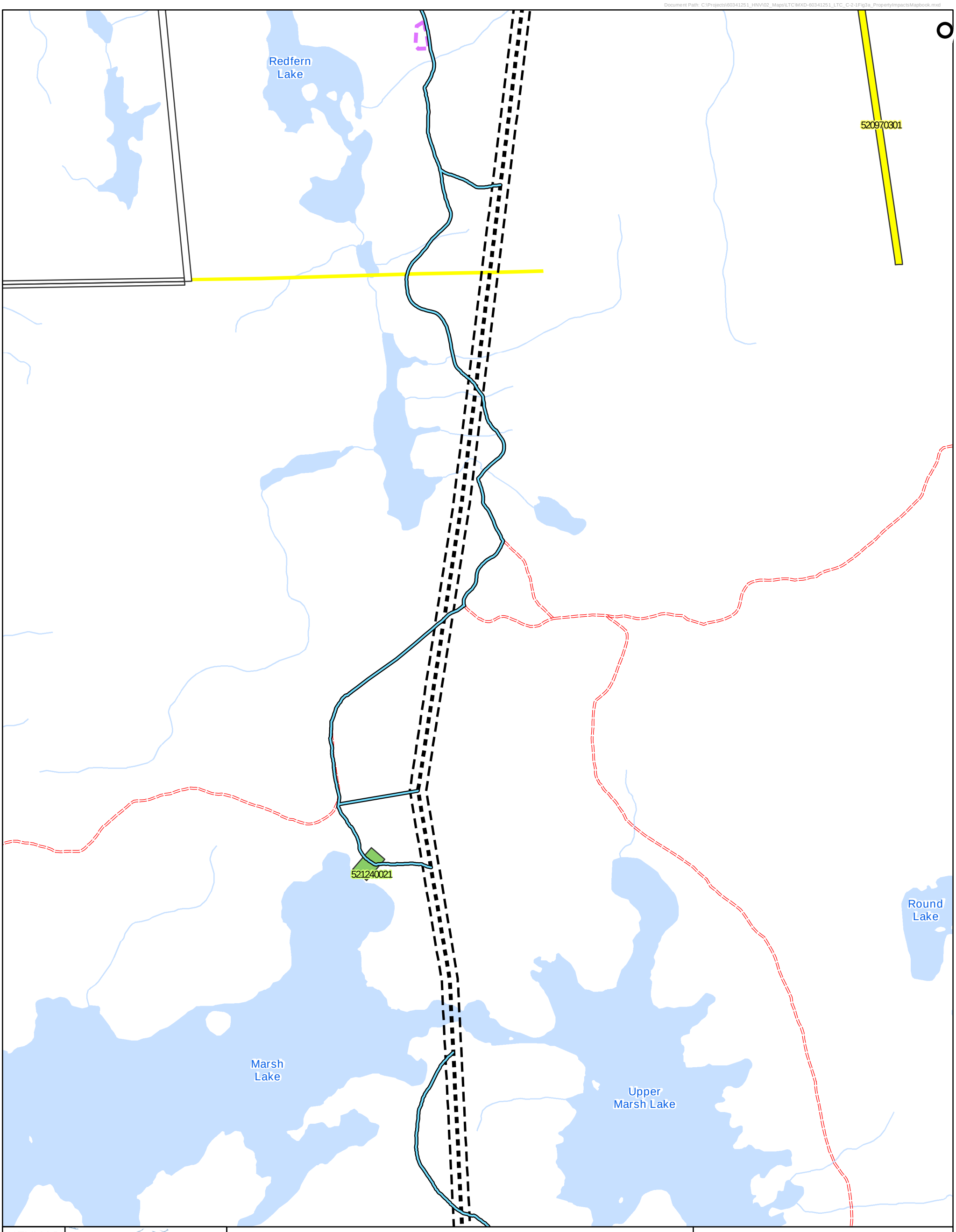

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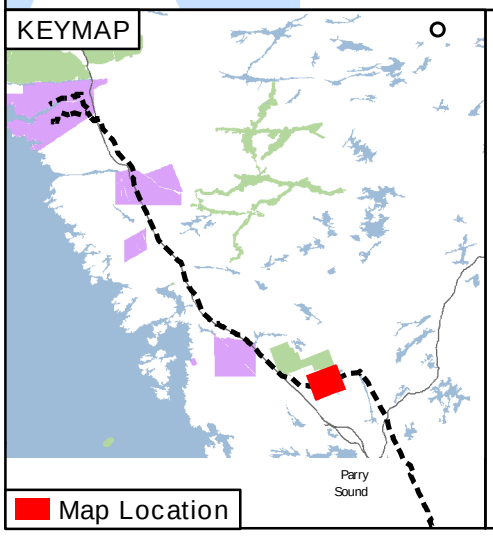

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Resource / Recreation
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.20

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Marsh Lake

Upper Marsh Lake

Nine Mile Lake

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*

- Permanent
- Permanent and Temporary
- Temporary

Base Layers

- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads

- Resource / Recreation
- Railway

Transmission Line Infrastructure

- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.21

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521250359

521250320

521250346

521250343

Fire Route 465

Bunny Trail

Bell Lake

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*

- Permanent
- Permanent and Temporary
- Temporary

Base Layers

- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads

- Local Road
- Resource / Recreation
- Railway

Transmission Line Infrastructure

- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.22

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Nine Mile Lake

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Resource / Recreation
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
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C-2-1
Figure 3a.23

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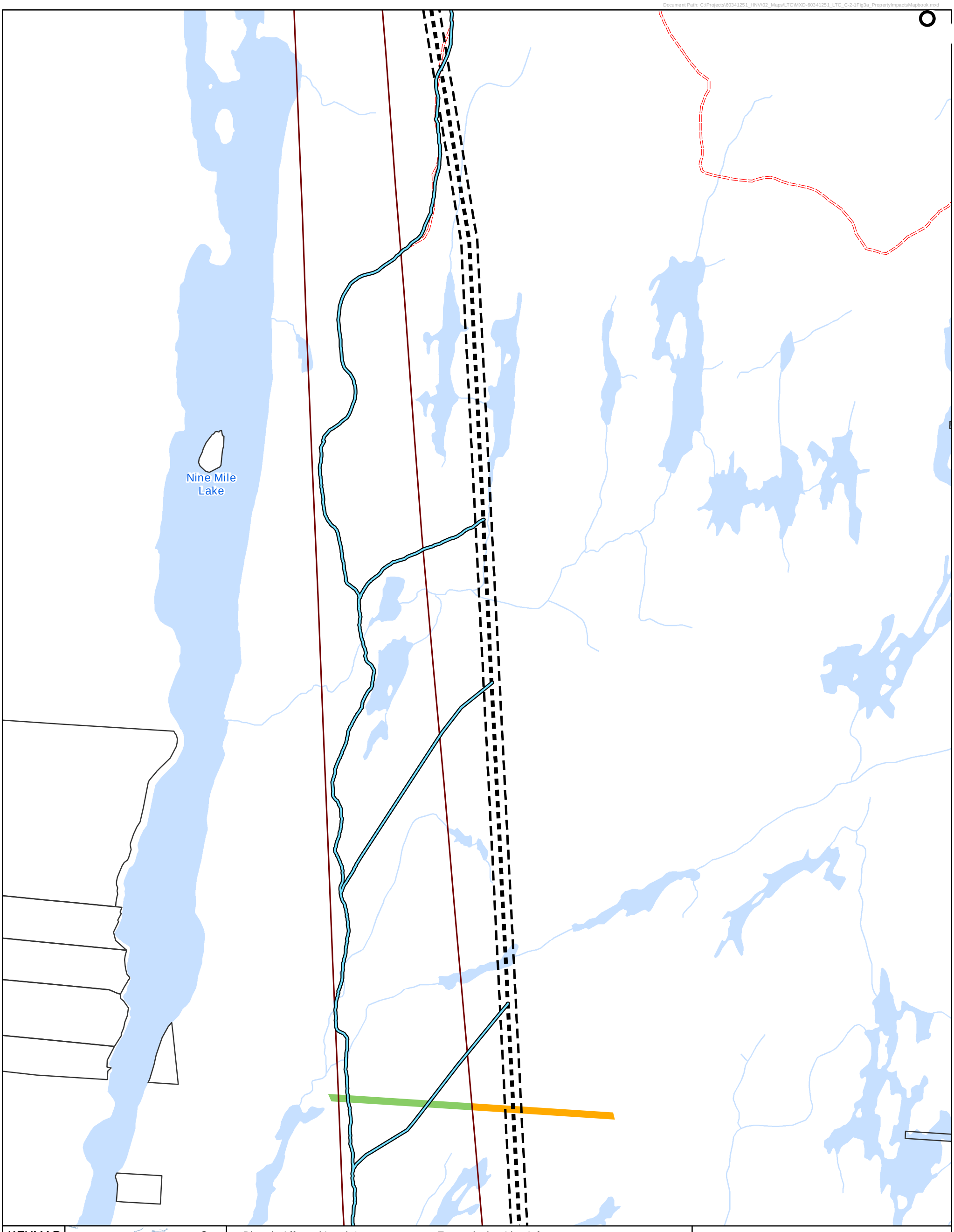

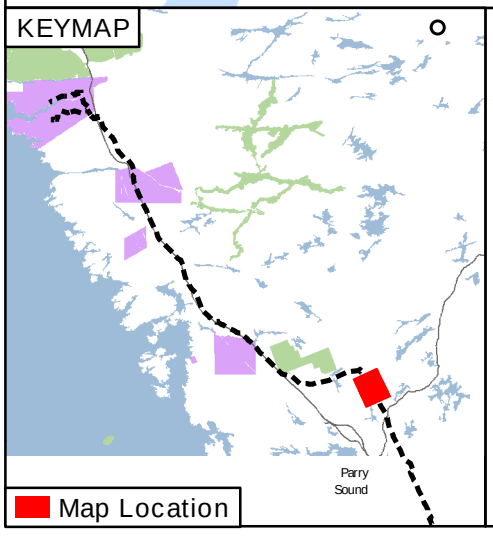

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Resource / Recreation
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

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C-2-1
Figure 3a.24

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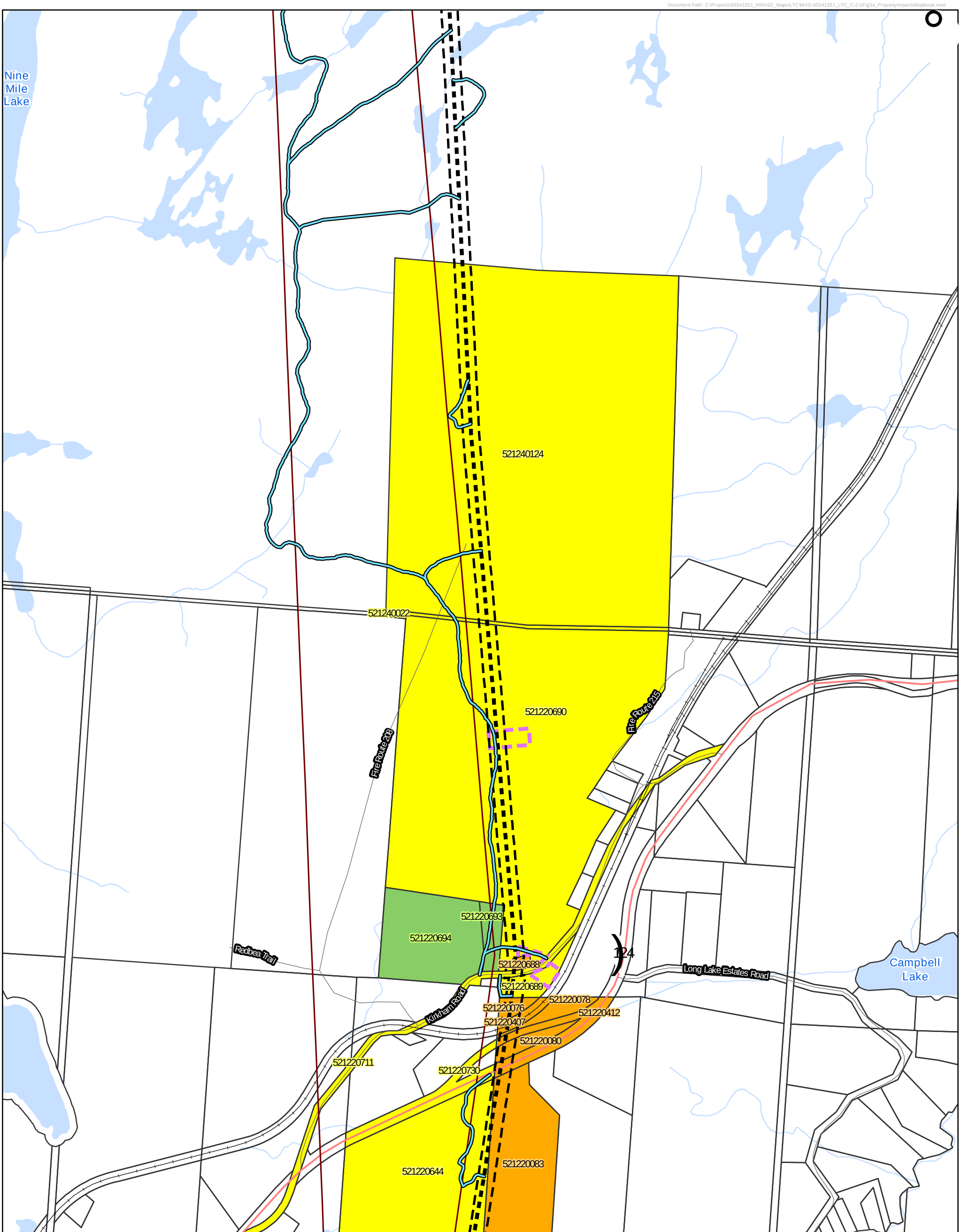
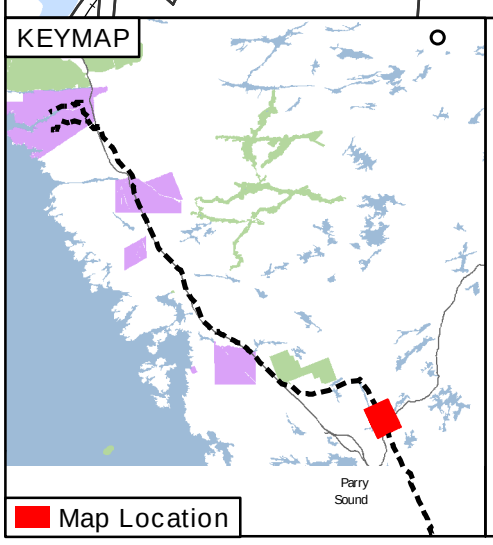


KEYMAP



Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.25

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Nine Mile Lake
521220711
521220644
521220083
521220718
Long Lake Estates Road
Strathdee Lake
Park Road
Squirrel Avenue
Beaver Trail
Miller Lake
Fire Route 212
Fire Route 209
9 Mile Lake Road
Pinewood Road
Cornflower Road
Buttercup Road
124
Boy Lake
Bell Lake
521220714
Corfe Lake
Bell Lake Road
521220008
Strawberry Lane
Greer Lake
Funston Lake

KEYMAP

Parry Sound

Map Location

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
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C-2-1
Figure 3a.26

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Mountain Basin Drive
Strawberry Lane
Fire Route 206
Napleridge Drive
Mountain Basin
Greer Lake
Funston Lake
521220008
521220007
521220703
521190071
521190072
521190069
521190070
521190065
521190290
521190274
521190277
521190278
521190085
521190073
521190083
521180480
521180481
521180272
Fire Route 204
Burnside Bridge Road
Avis Lake
Mill Lake

KEYMAP

Map Location

Parry Sound

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.27

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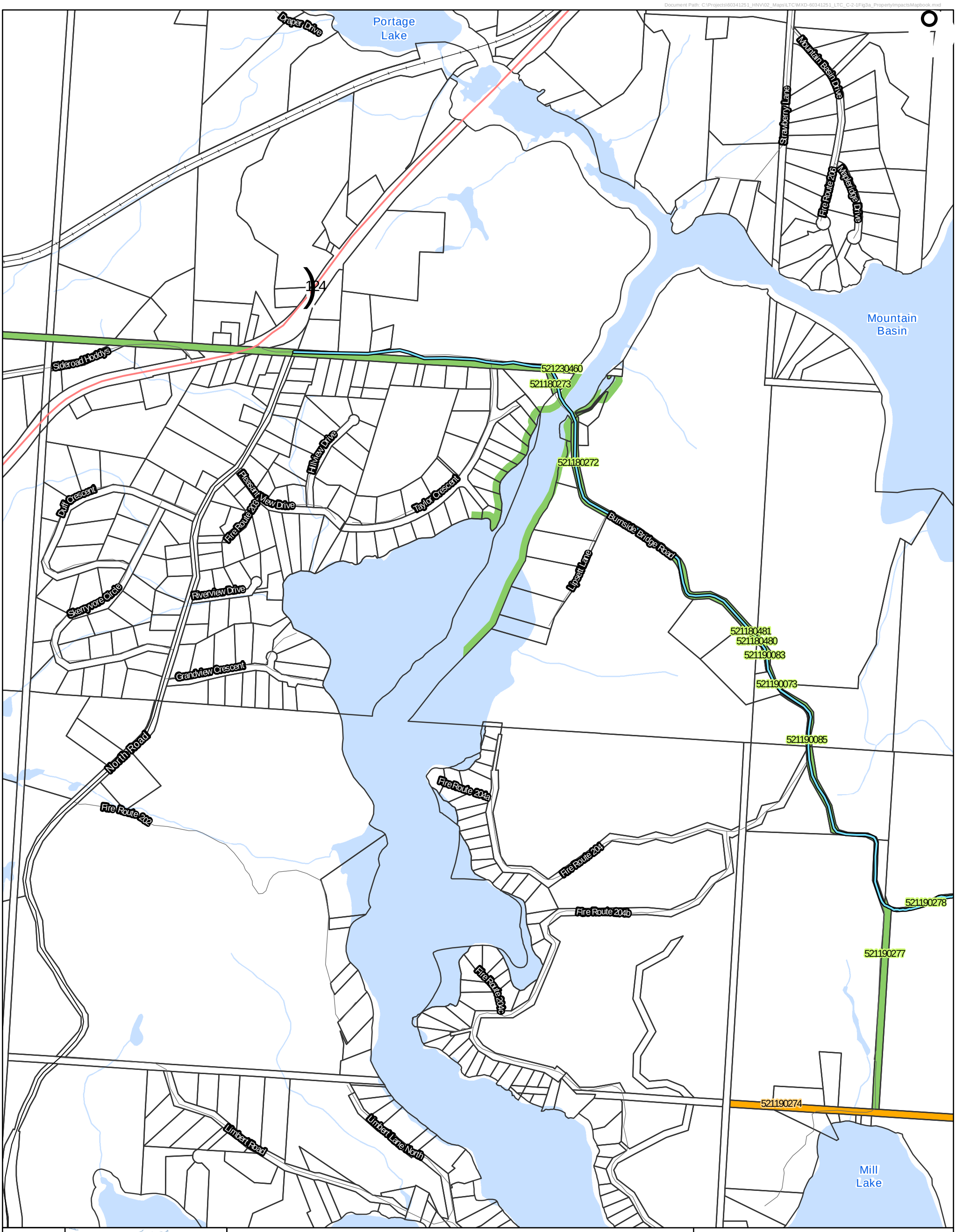
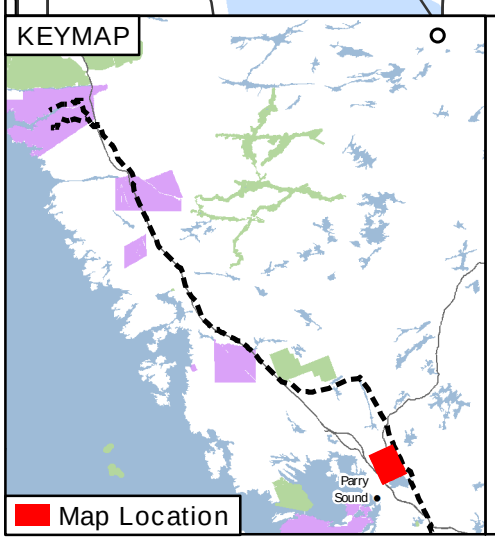


KEYMAP



Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Expressway / Highway
- Major Road
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.28

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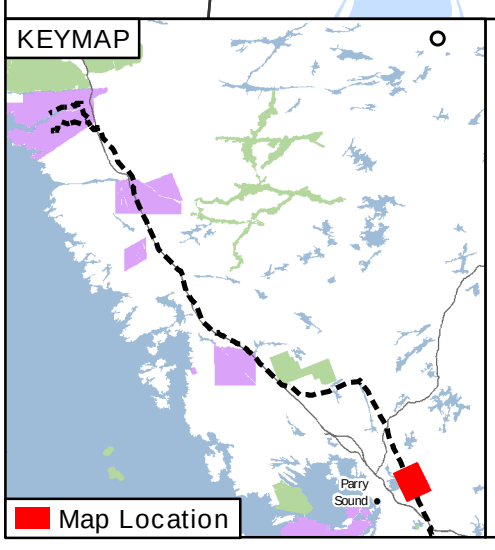
521190290
521190065
521190246
521190236
521190230
521190234
Mill Lake
521190256
Parton Road
Agnes Lake
521190245
Fire Route 308
521190244
521190240
521190020
521190023
Haines Creek
Ryder Lake
521190024
McDougall Road
Fire Route 309
Fire Route 307
521190080
521190002
521190221
521190003
521190215
521190004
Neville Lake
Haines Lake

KEYMAP



Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Major Road
- Local Road
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.29

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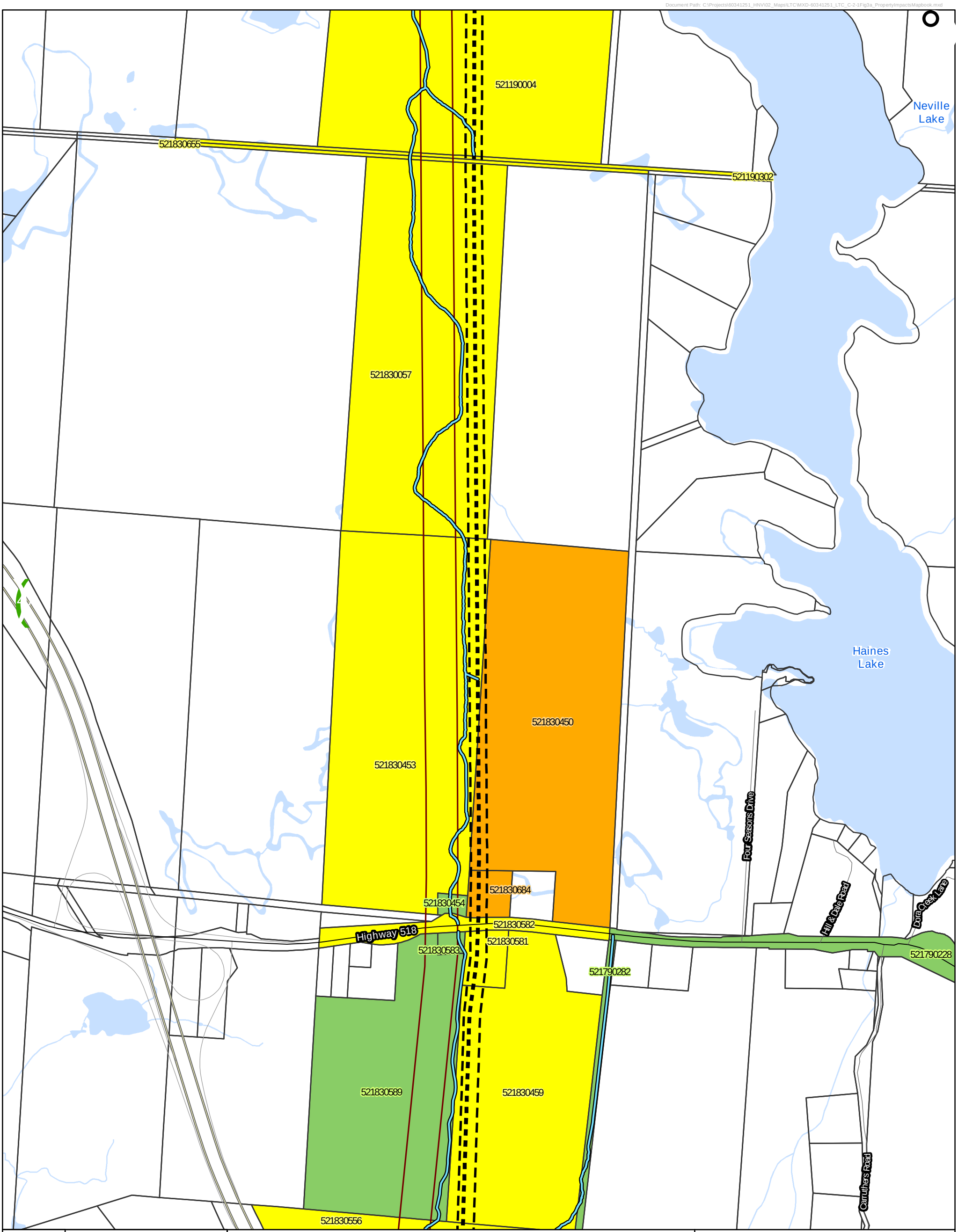
Document Path: C:\Projects\60341251_HNV\02_Maps\LTC\MXD-60341251_LTC_C-2-1Fig3a_PropertyImpactsMapbook.mxd



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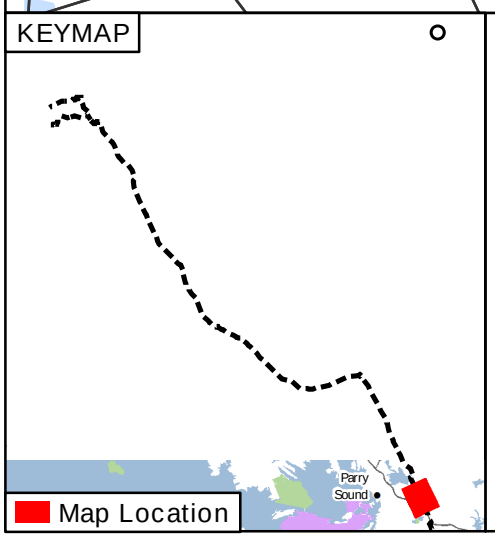

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Freeway
- Major Road
- Local Road
- Ramp
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.30

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Document Path: C:\Projects\60341251_HNV\02_Maps\LTC\MXD-60341251_LTC_C-2-1Fig3a_PropertyImpactsMapbook.mxd

521830459
521790282
521830556
Lyles Way
Brooks Road
521830573
Carruthers Road
Oastler Lake
521820806
521820793
521820805
Cochrane Lake
McNutt Lake
521821095
Bartlett Drive
Cochrane Lake Lane
521820808
521820819
521820792
Oastler Park Drive
Cochrane Lake Road
521820920
521820809
521821028
Industrial Boulevard
521821132
521820888
521820381
Badger Road
Jr Drive
Sand Dust Lane
Rankin Lake Road
521820889
Back Lake
Elliott House Road
521821076
521820779
521820743
521820780
521821012
Garden Court
521820781
Helens Way
521821013
Otter Lake
521820782
Ferris Road

KEYMAP

Map Location

Parry Sound

Directly Affected Lands*
- Permanent
- Permanent and Temporary
- Temporary

Base Layers
- HONI Corridor
- MTO Proposed Hwy 69 Corridor
- Private Land
- Aboriginal Land

Roads
- Freeway
- Major Road
- Local Road
- Ramp
- Railway

Transmission Line Infrastructure
- Project Substations
- Parry Sound Transformer Station & Point of Interconnection
- Proposed Transmission Route
- Construction Access Route
- Proposed Transmission Route Easement
- Construction Laydown Area
- Switching Station

*Note: Directly Affected Lands include Road Allowance and Shore Allowance Parcels which do not have Parcel Identification Numbers assigned to them.

0 100 200 400
Metres

Henvey Inlet Wind Project
Leave to Construct

Proposed Transmission Facilities Directly Affected Lands

September 2016	1:10,000	Datum: NAD 1983 UTM Zone 17N Source: AECOM, MNRF, MTO
P#: 60341251	V#: 001	

C-2-1
Figure 3a.31

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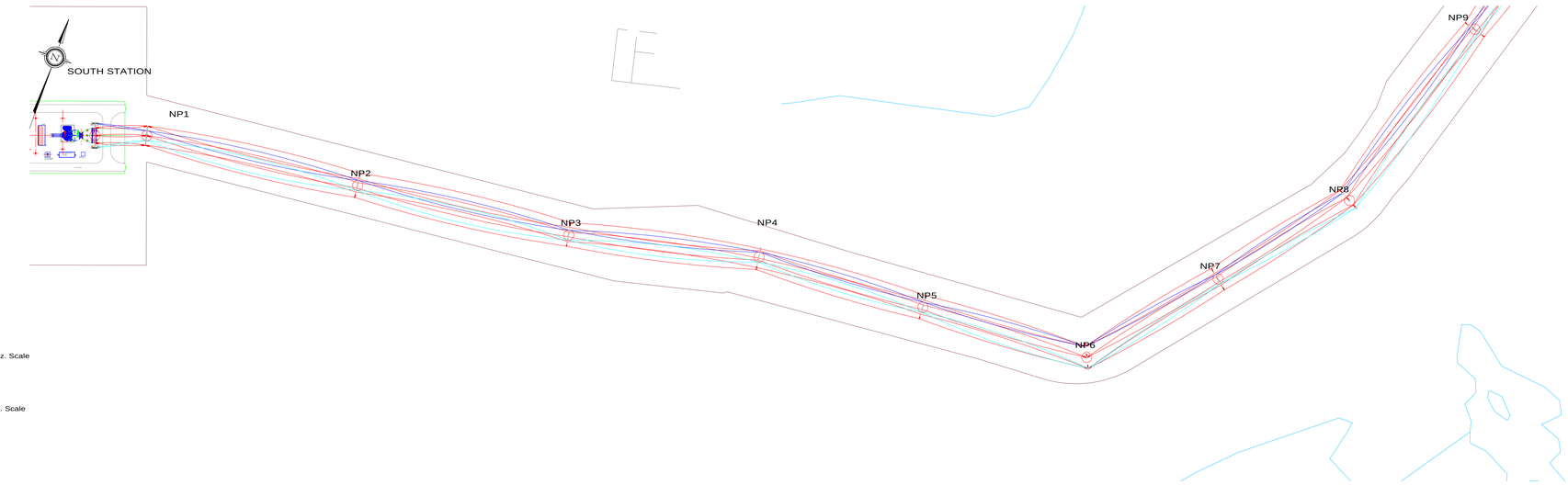
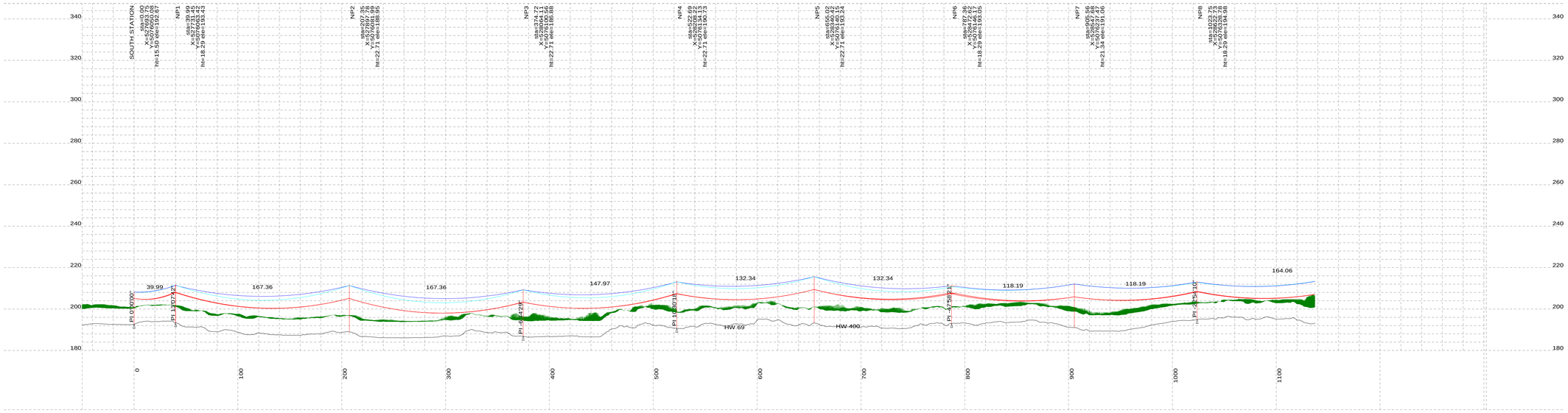
<u>Figure 4(a)</u>

Plan and Profile Drawings

(Planned Transmission Line Route)

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND

PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

Henvey Inlet

Pattern

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

REFERENCES

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS

SHEET 1

SCALE: N.T.S.

PACKAGE CODE

Chimax Inc.
Engineering Company
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Markham, On., L3R 0A9
Email: chimax@chimax.ca

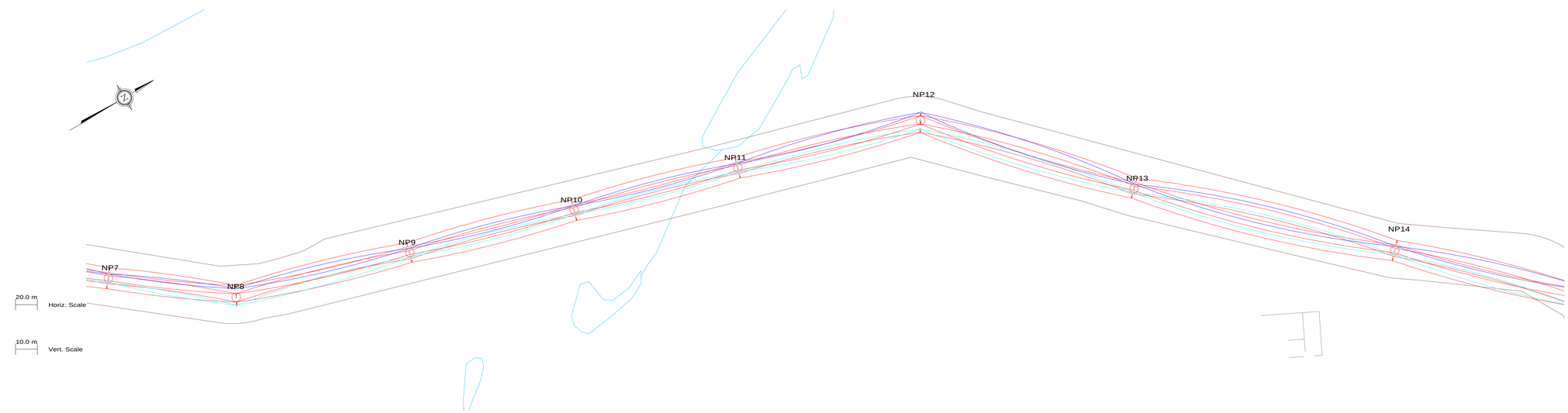
CLIENT DWG. NO.

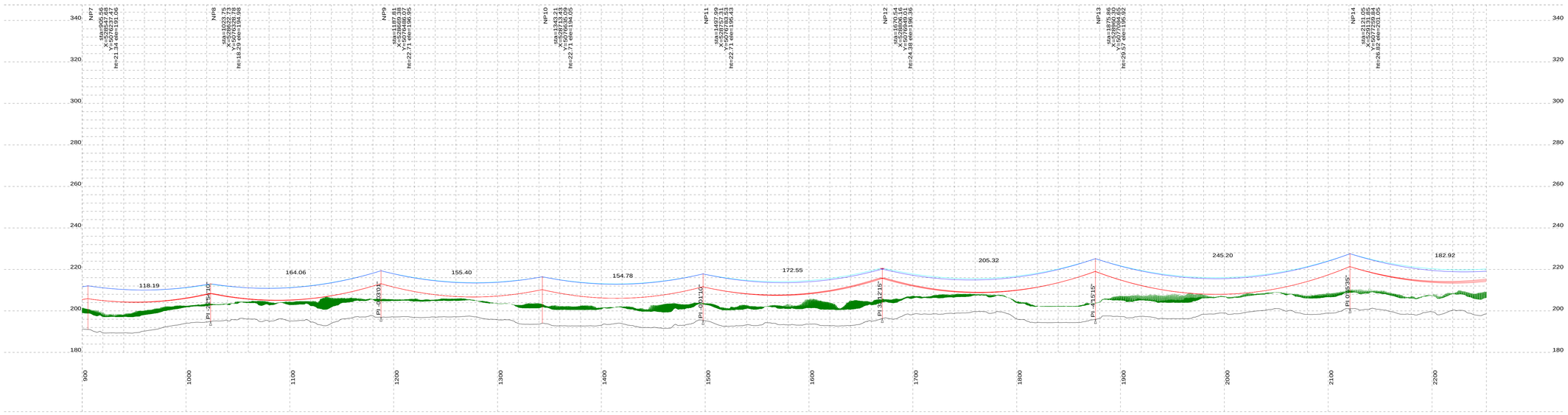
DRAWING NO. 1536-P002-S1

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND

PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

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I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

REFERENCES

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE: N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 2

Henvey Inlet

Pattern

Chimax Inc.
Engineering Company
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Email: chimax@chimax.ca

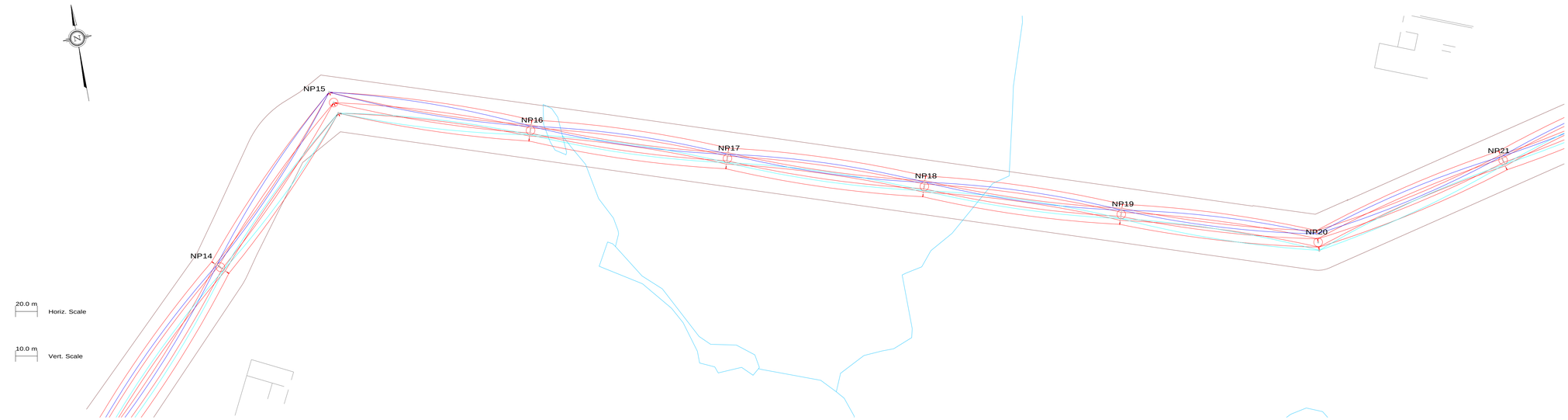
CLIENT DWG. NO.

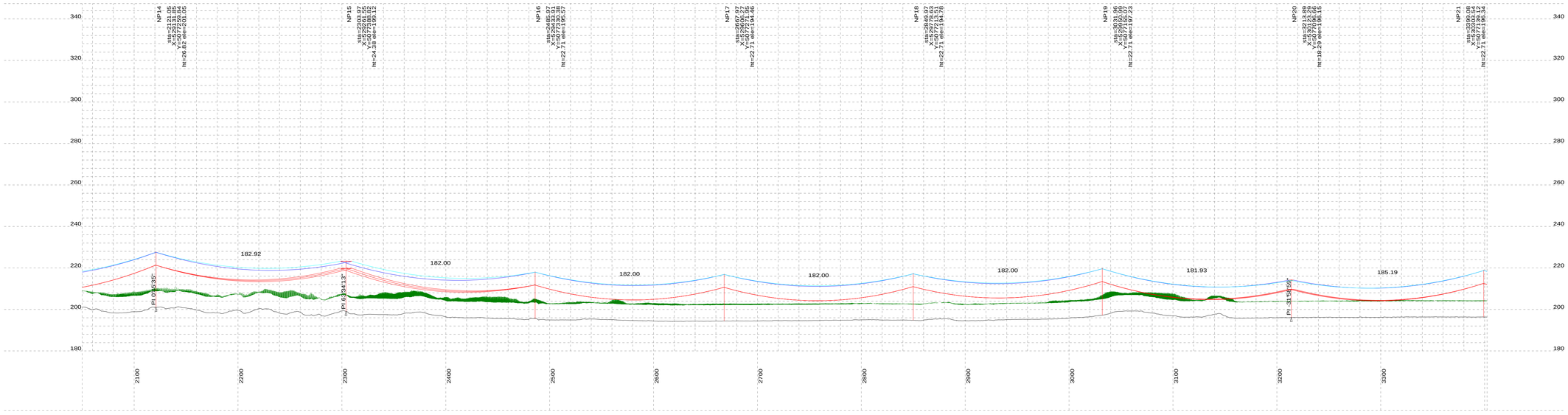
DRAWING NO. 1536-P002-S2

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

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I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

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PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 3

Henvey Inlet

Pattern

Chimax Inc.
Engineering Company
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Email: chimax@chimax.ca

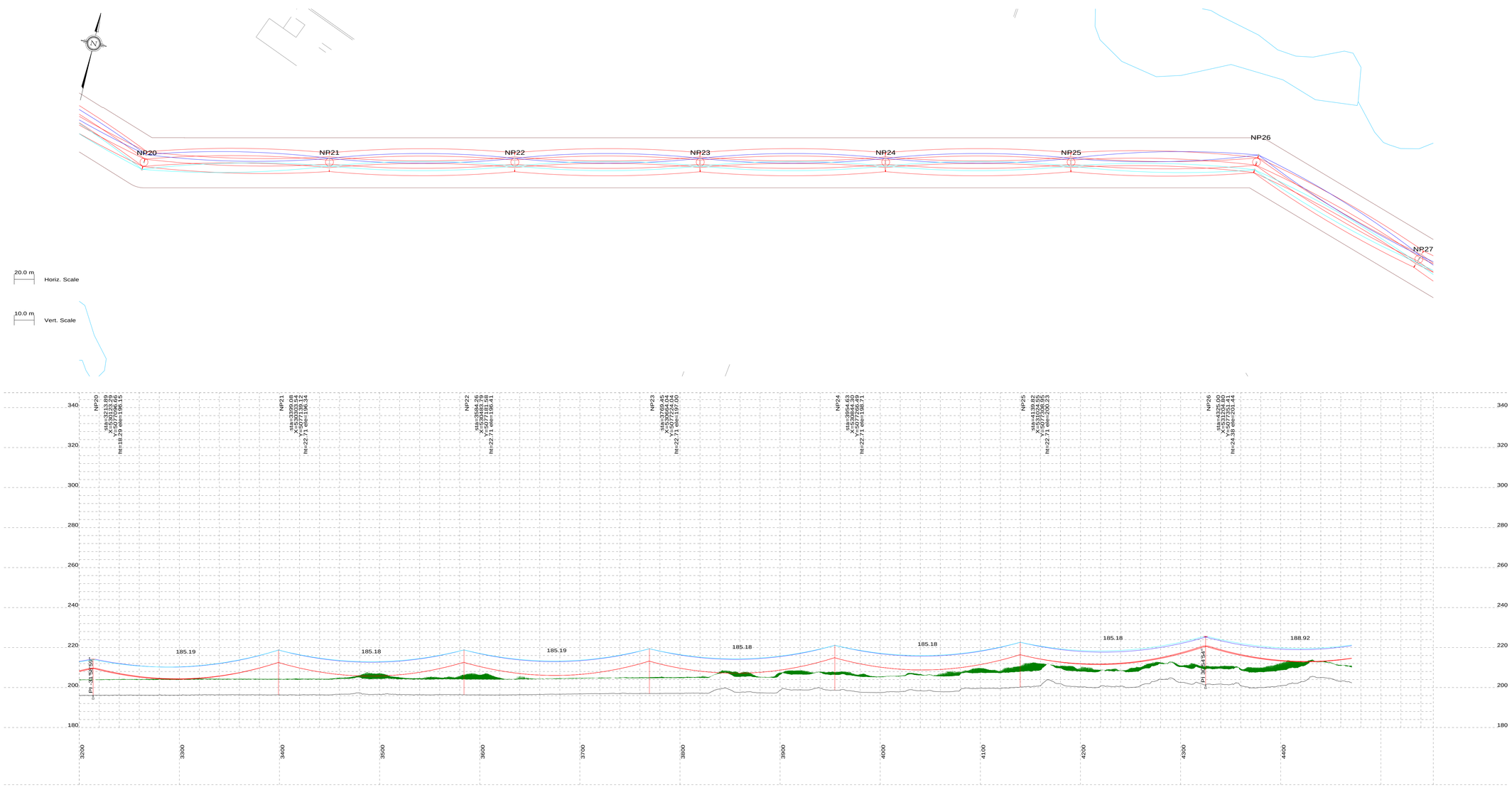
CLIENT DWG. NO.

DRAWING NO. 1536-P002-S3

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing



PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND

PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

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I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

REFERENCES

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE: N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 4

Henvey Inlet

Pattern

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Engineering Company
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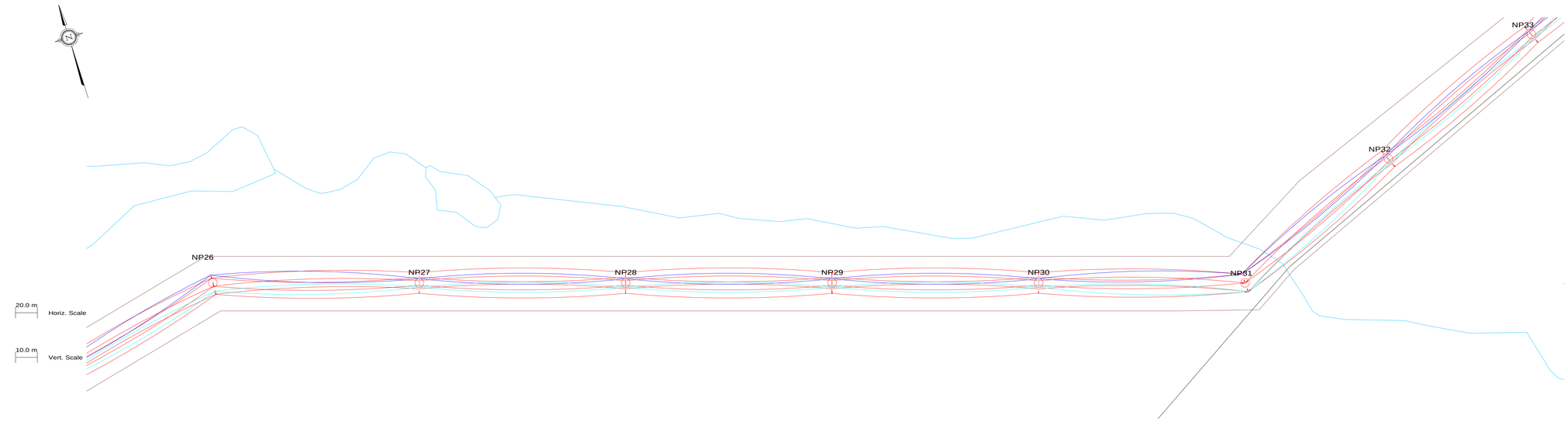
CLIENT DWG. NO.

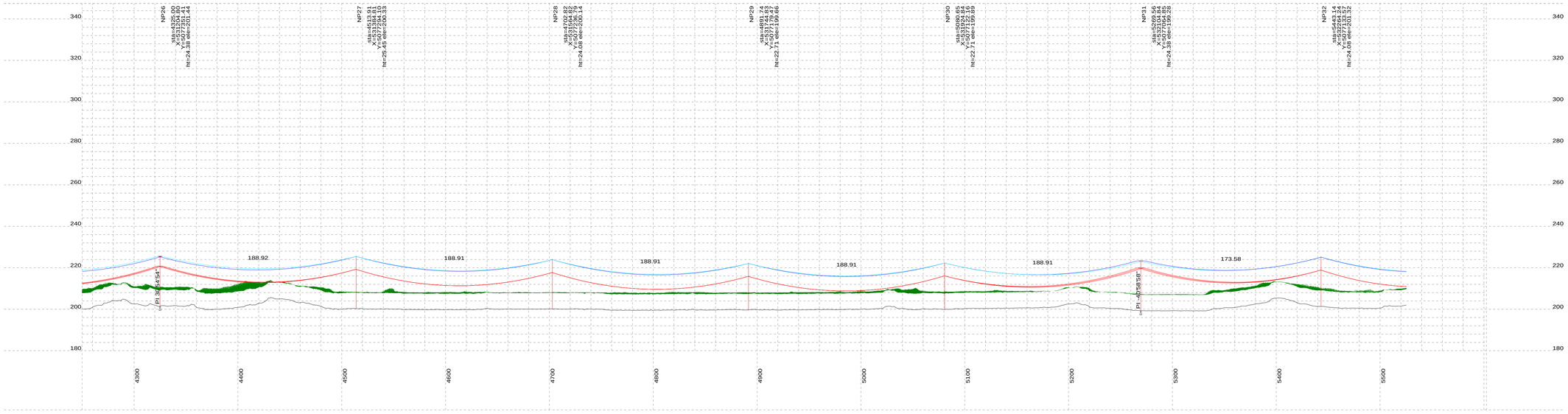
DRAWING NO. 1536-P002-S4

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 5

Pattern

Chimax Inc.
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Email: chimax@chimax.ca

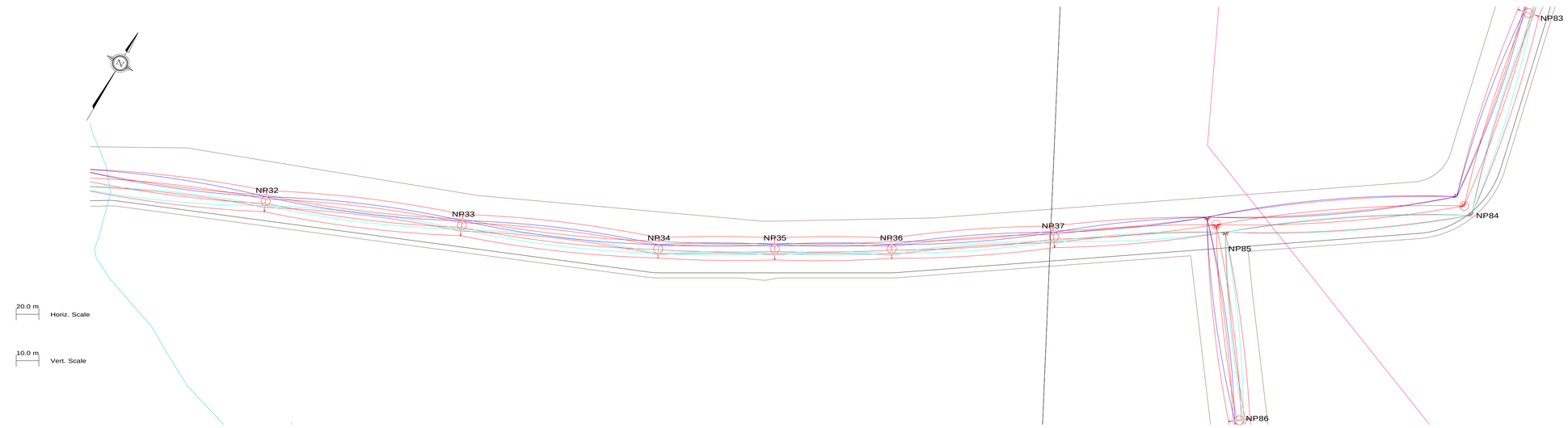
CLIENT DWG. NO.

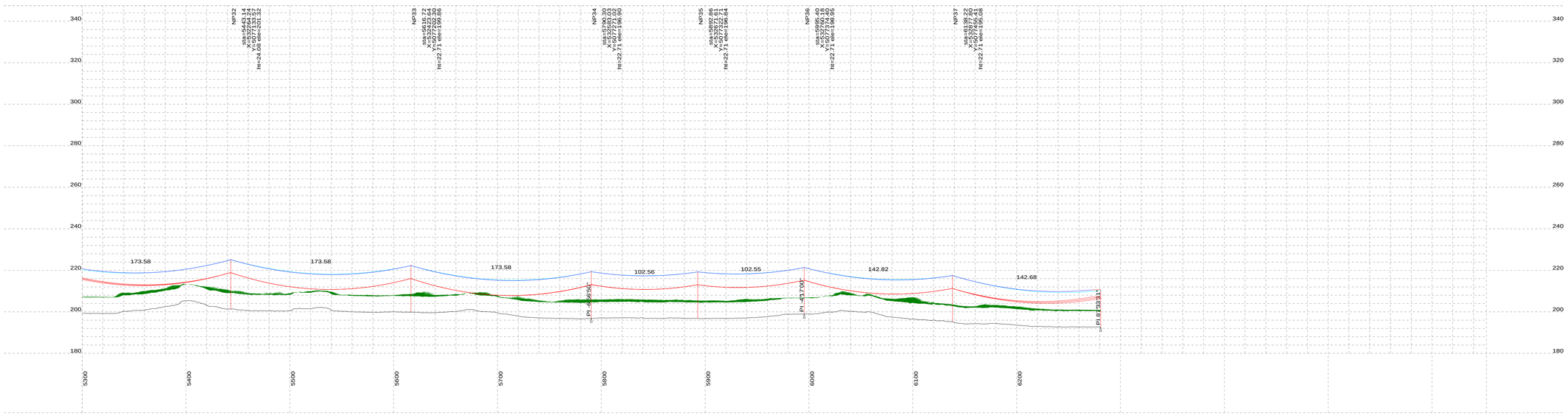
DRAWING NO. 1536-P002-S5

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

REFERENCES

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE: N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 6

Henvey Inlet

Pattern

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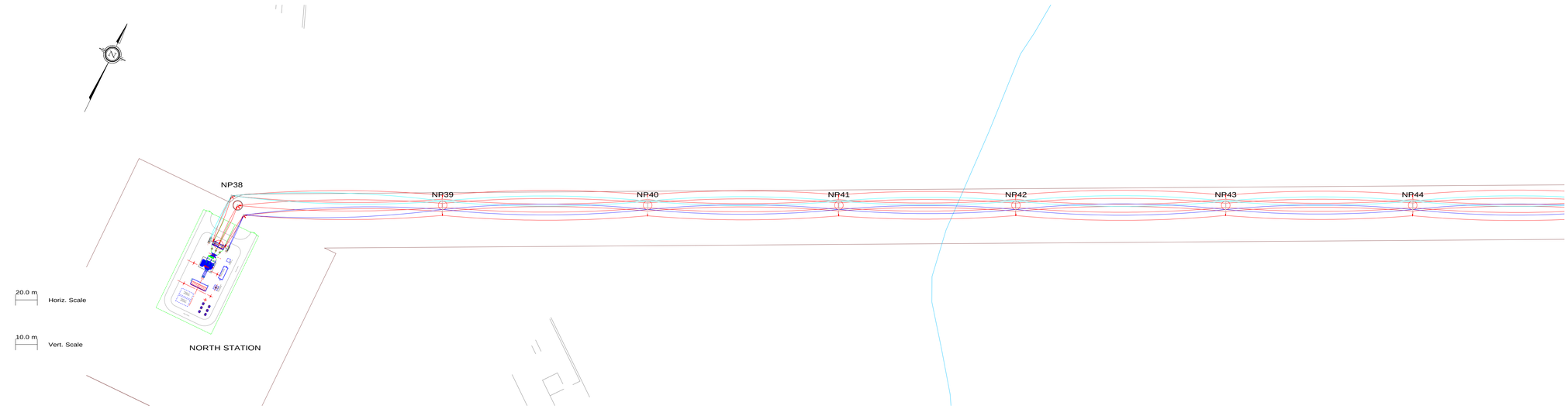
CLIENT DWG. NO.

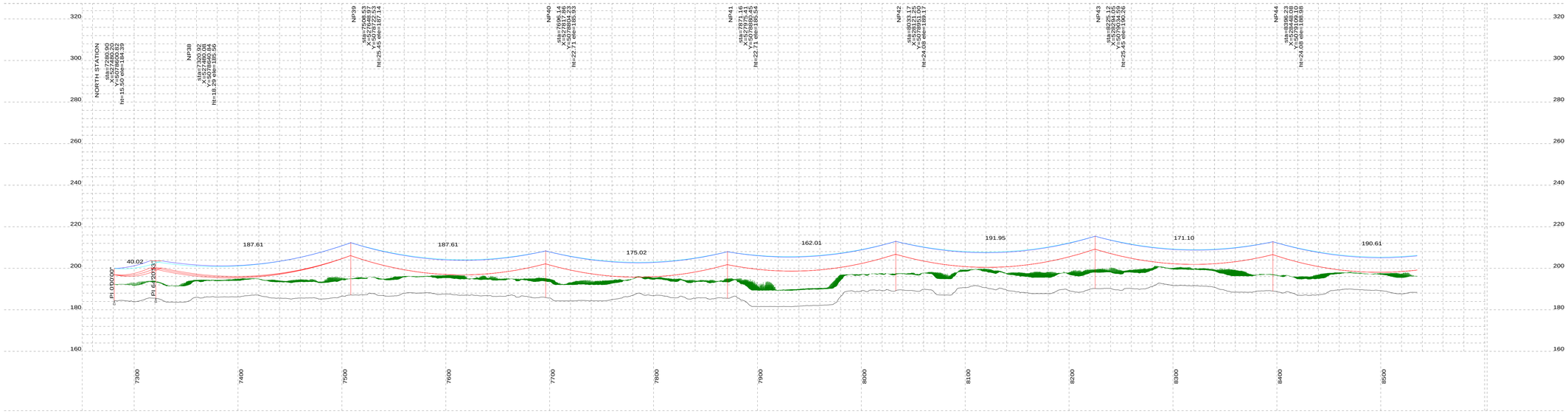
DRAWING NO. 1536-P002-S6

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

Henvey Inlet

Pattern

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

REFERENCES

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
THIS DRAWING IS THE PROPERTY OF CHIMAX INC. AND IS NOT TO BE LOANED OR REPRODUCED IN ANY WAY WITHOUT THE PERMISSION OF CHIMAX INC.

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS

SHEET 7

SCALE: N.T.S.

PACKAGE CODE

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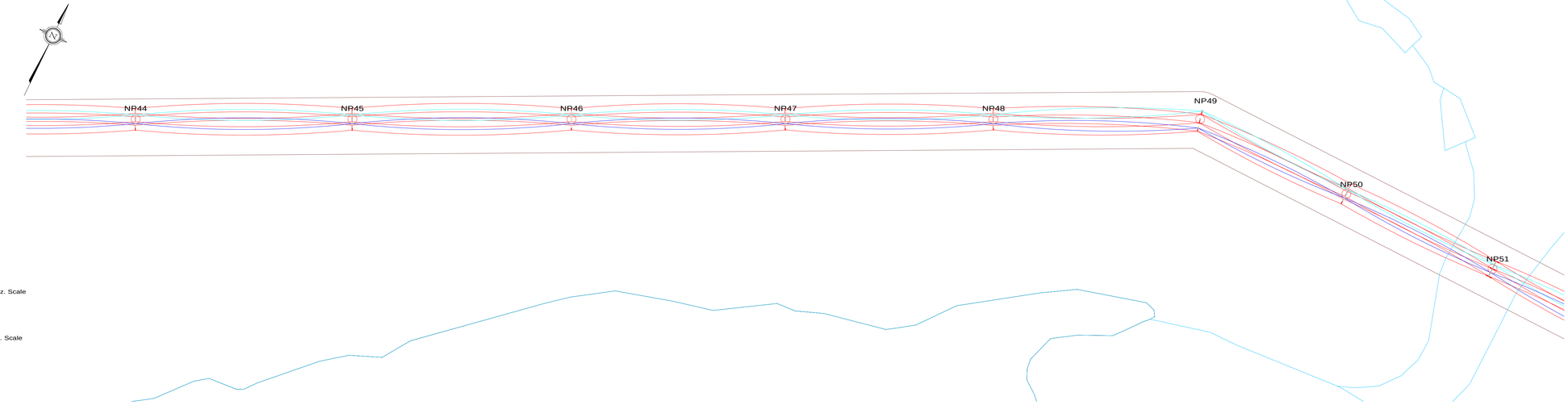
CLIENT DWG. NO.

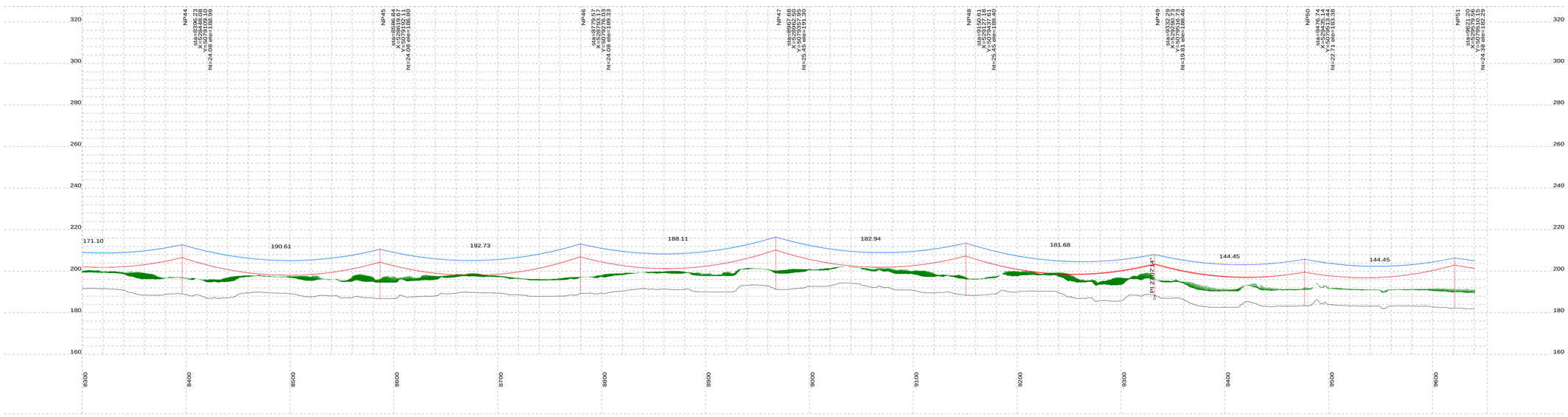
DRAWING NO. 1536-P002-S7

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100℃.
3. OPGW & OHGW SAG AT 50℃.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

Henvey Inlet

Pattern

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS

SHEET 8

SCALE: N.T.S.

PACKAGE CODE

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Engineering Company
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Markham, On., L3R 0A9
Email: chimax@chimax.ca

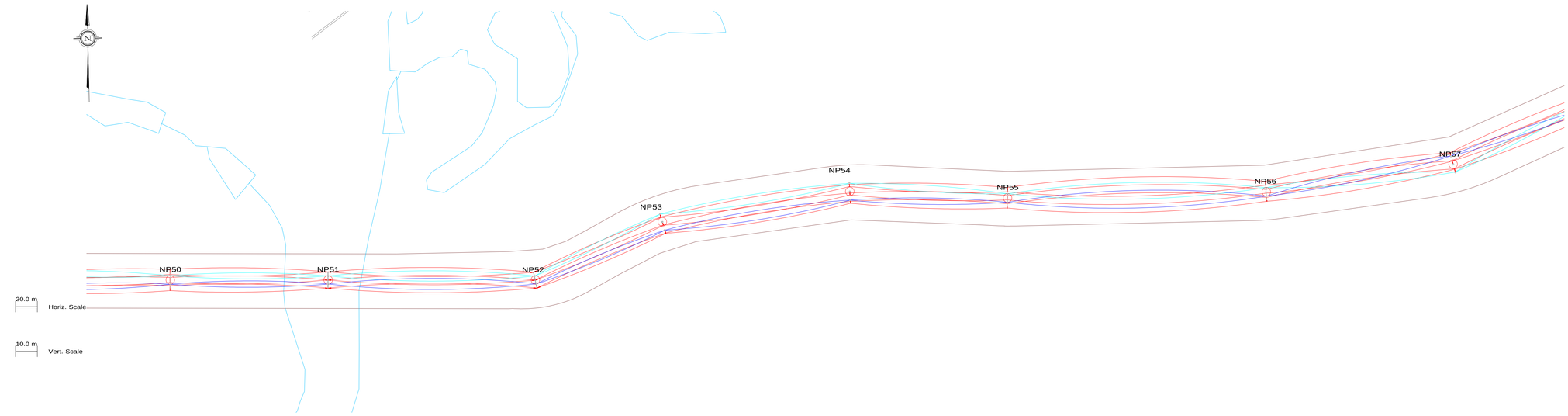
CLIENT DWG. NO.

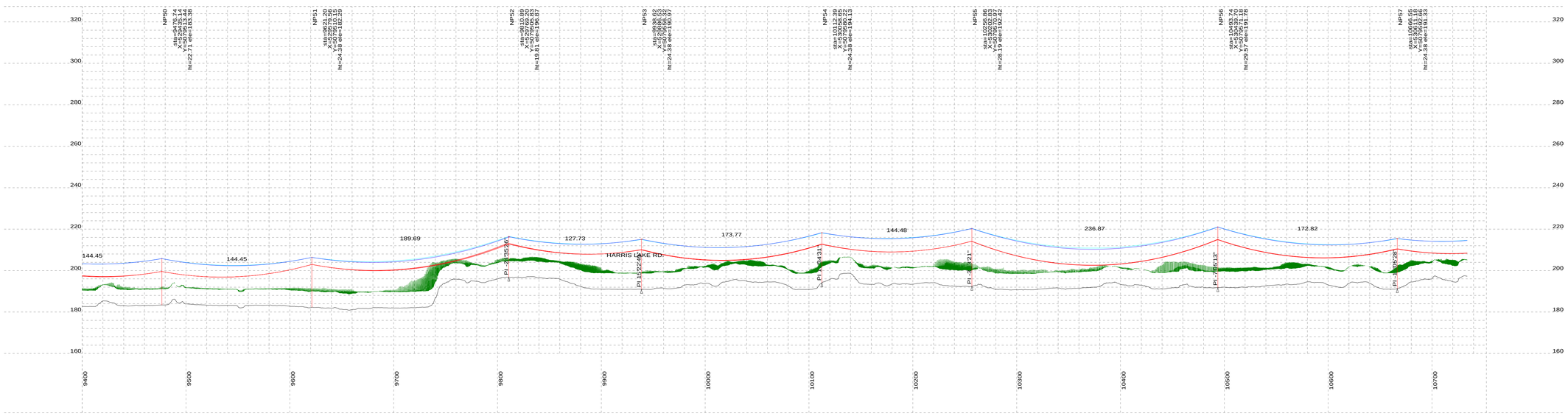
DRAWING NO. 1536-P002-S8

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100℃.
3. OPGW & OHGW SAG AT 50℃.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

Henvey Inlet

Pattern

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 9

SCALE: N.T.S.

PACKAGE CODE

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Email: chimax@chimax.ca

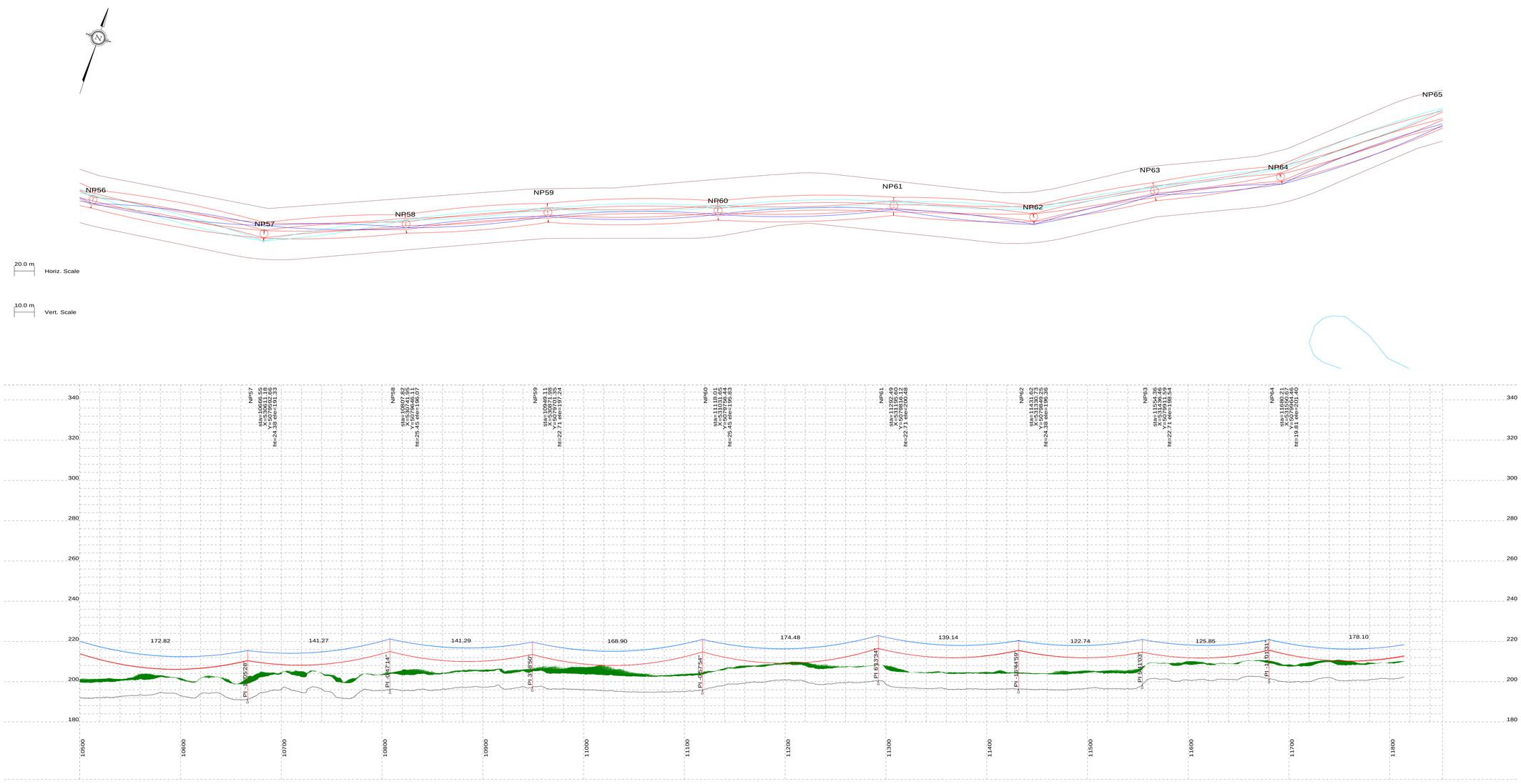
CLIENT DWG. NO.

DRAWING NO. 1536-P002-S9

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing



PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

Henvey Inlet

Pattern

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE: N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 10

Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

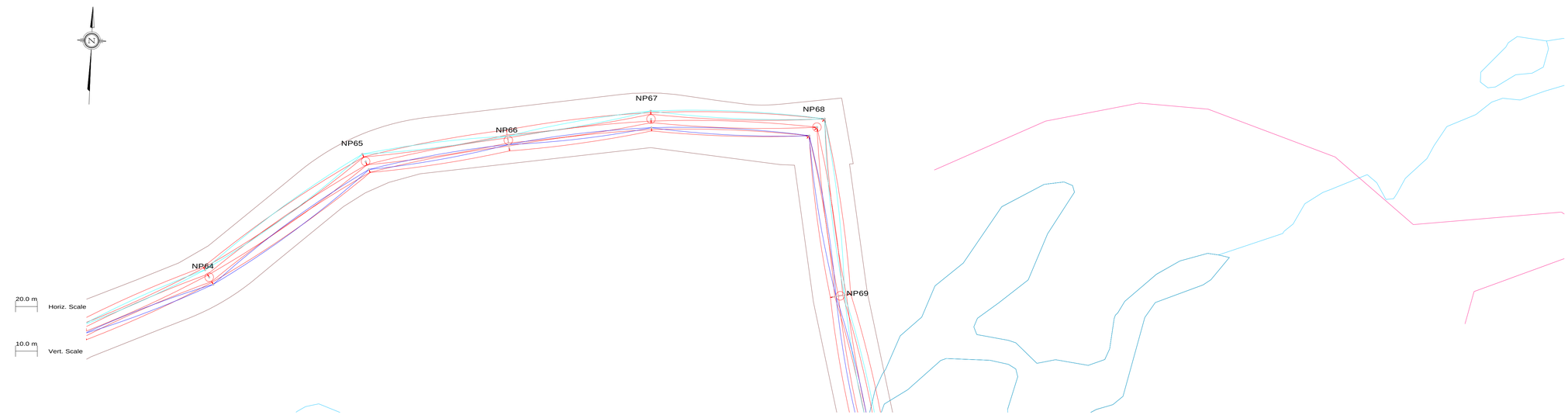
CLIENT DWG. NO.

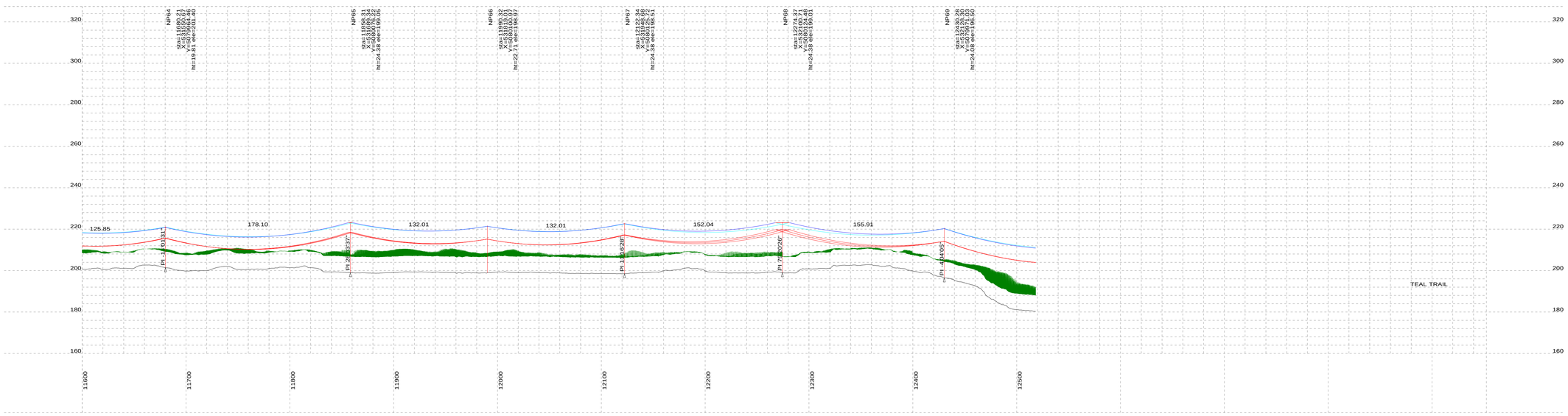
DRAWING NO. 1536-P002-S10

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100℃.
3. OPGW & OHGW SAG AT 50℃.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 11

SCALE: N.T.S.

PACKAGE CODE

Henvey Inlet

Pattern

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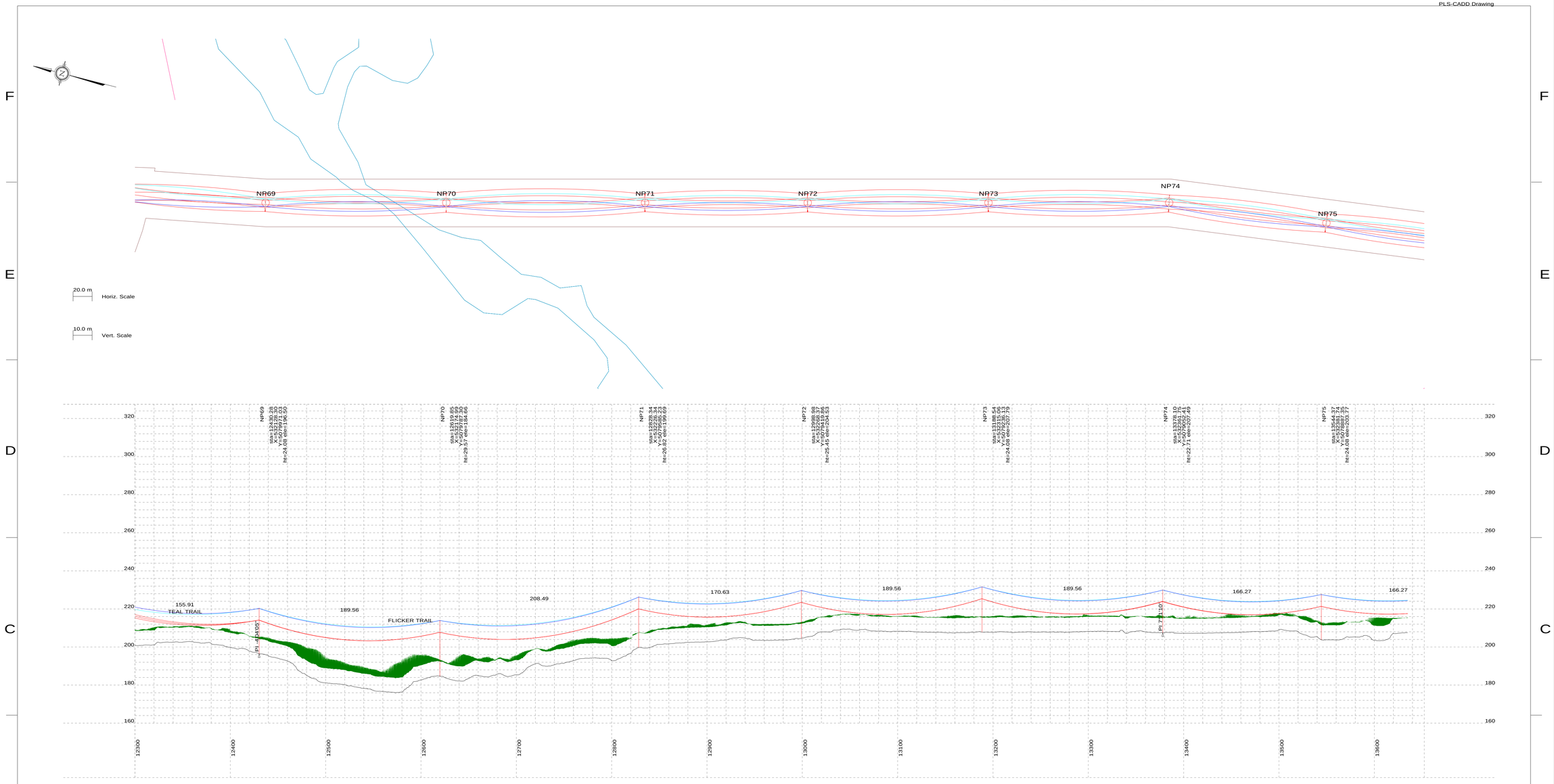
CLIENT DWG. NO.

DRAWING NO. 1536-P002-S11

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing



PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

Henvey Inlet

Pattern

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 12

SCALE: N.T.S.

PACKAGE CODE

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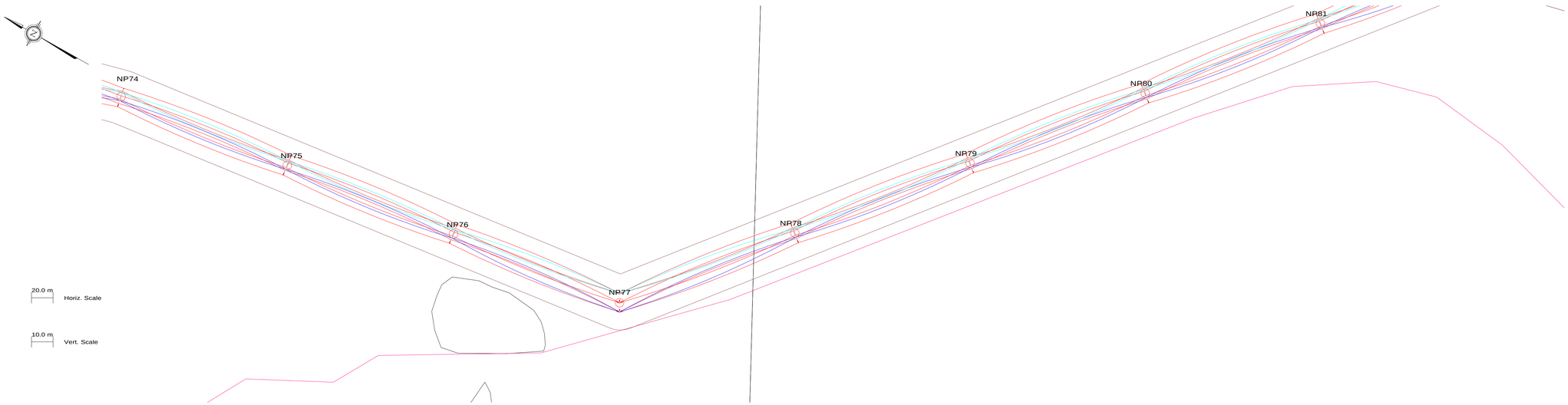
CLIENT DWG. NO.

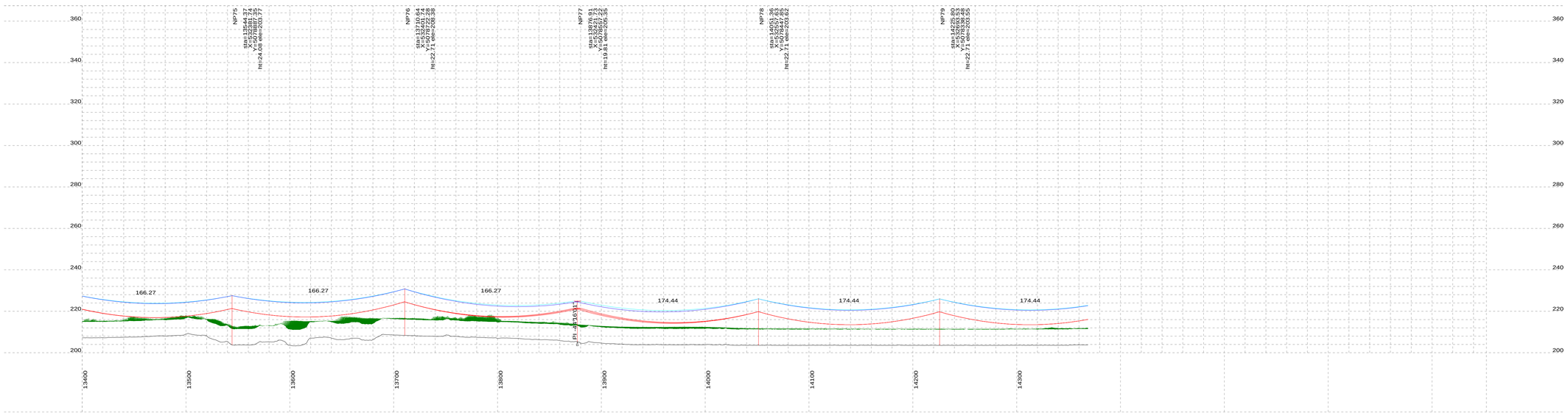
DRAWING NO. 1536-P002-S12

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 13

SCALE: N.T.S.

PACKAGE CODE

Henvey Inlet

Pattern

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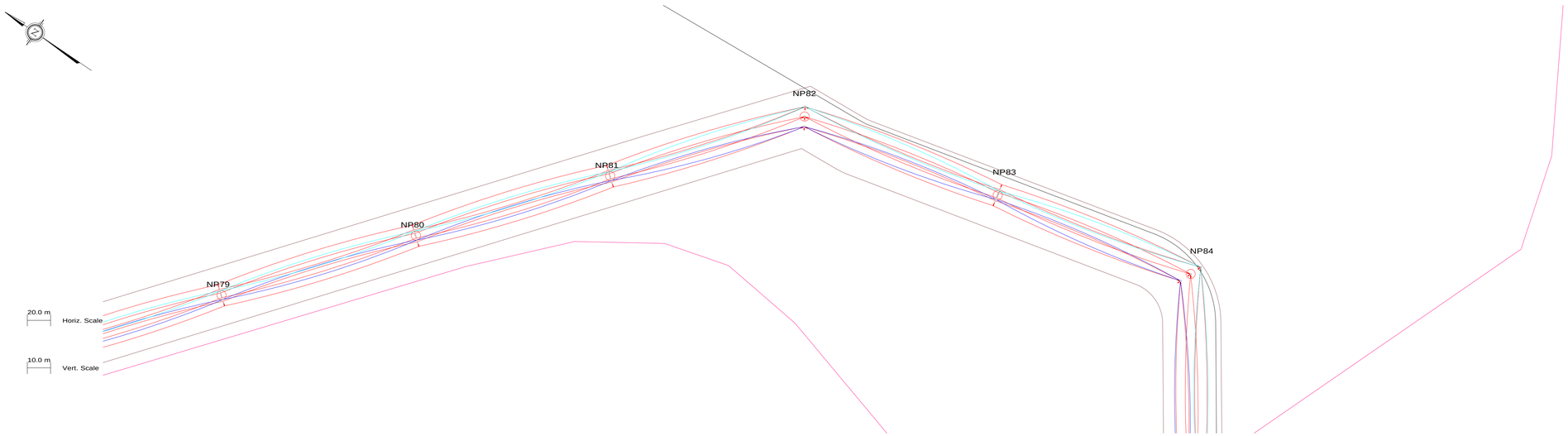
CLIENT DWG. NO.

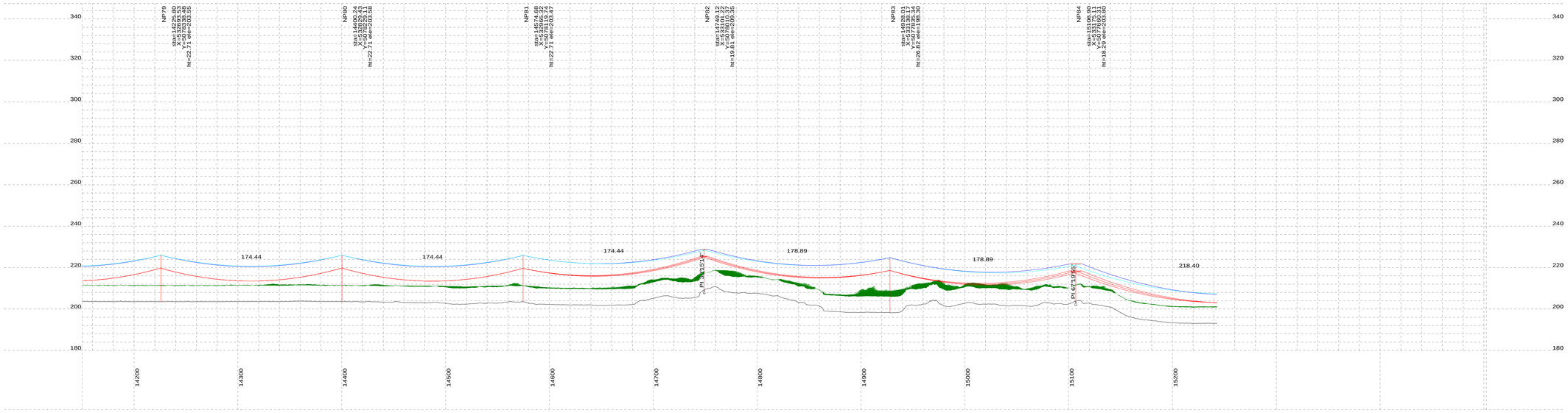
DRAWING NO. 1536-P002-S13

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

REFERENCES

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE: N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 14

Henvey Inlet

Pattern

Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

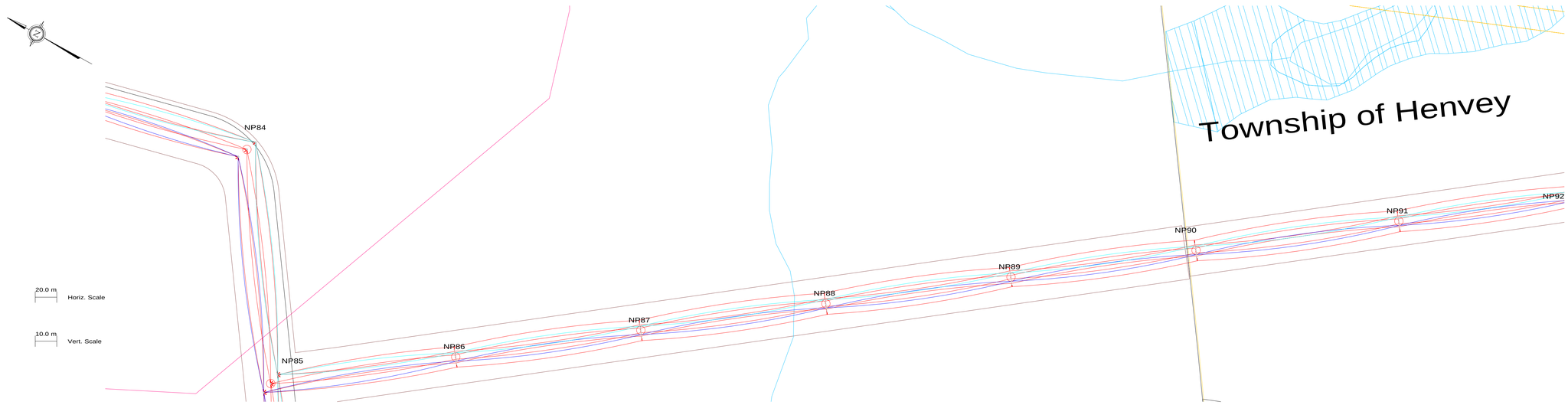
CLIENT DWG. NO.

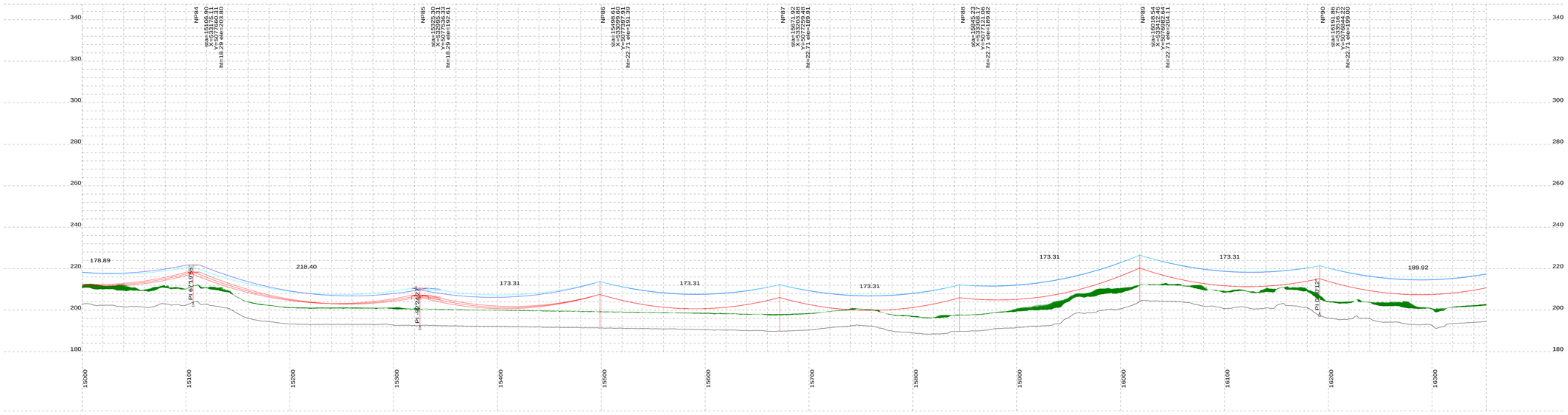
DRAWING NO. 1536-P002-S14

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

Henvey Inlet

Pattern

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 15

SCALE: N.T.S.

PACKAGE CODE

Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
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Email: chimax@chimax.ca

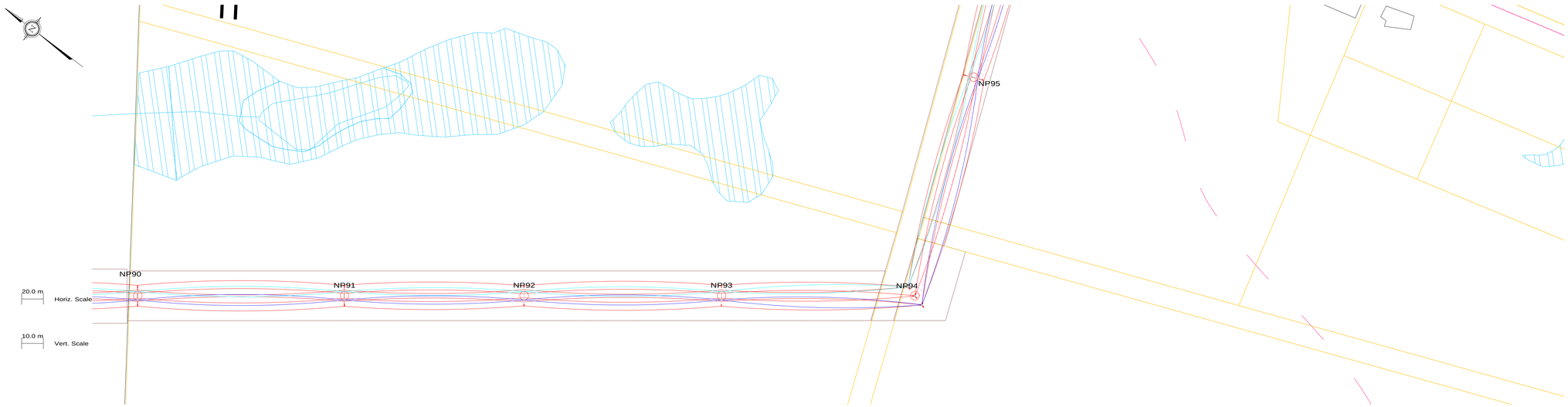
CLIENT DWG. NO.

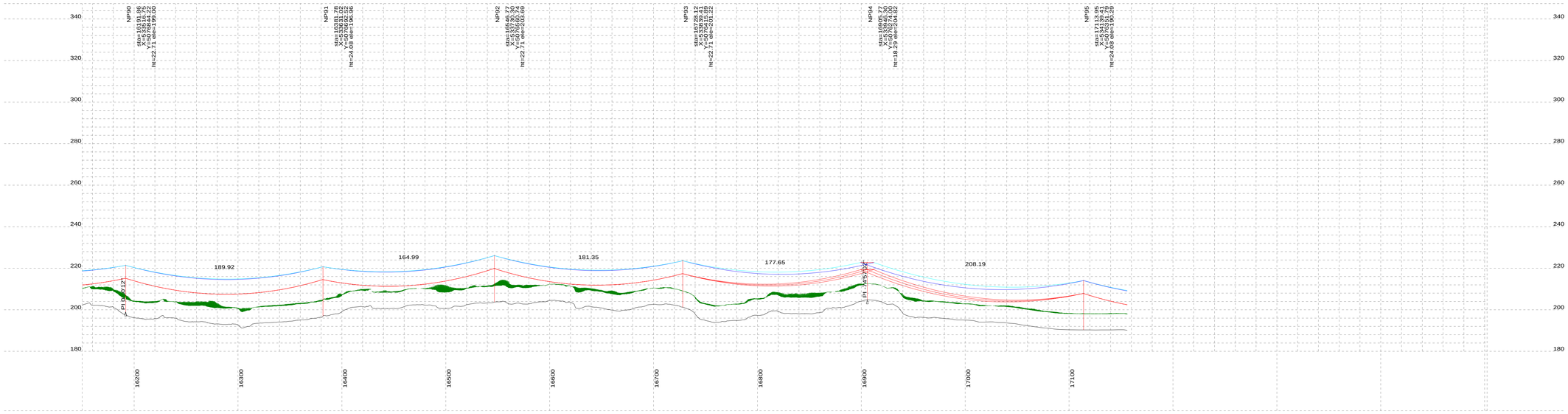
DRAWING NO. 1536-P002-S15

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 16

SCALE: N.T.S.

PACKAGE CODE

Henvey Inlet

Pattern

Chimax Inc.
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Markham, On., L3R 0A9
Email: chimax@chimax.ca

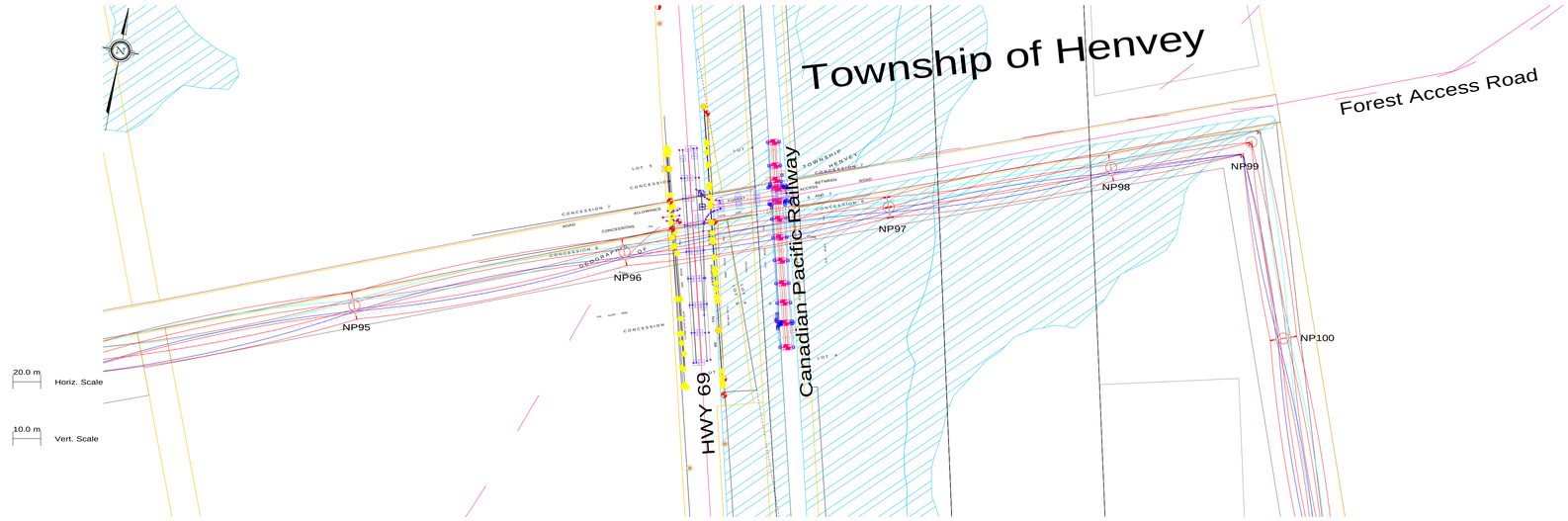
CLIENT DWG. NO.

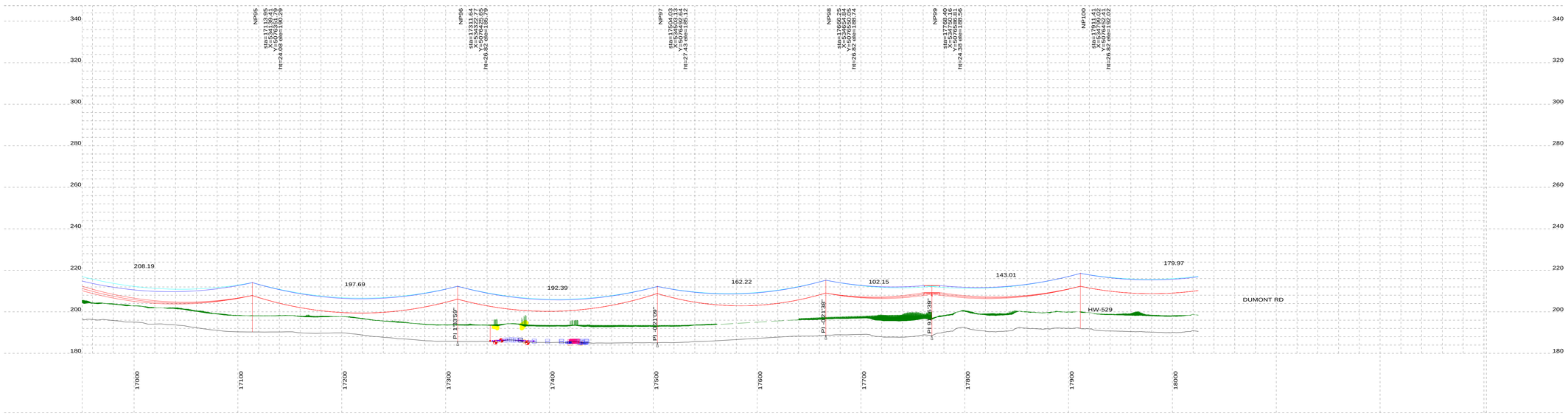
DRAWING NO. 1536-P002-S16

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND

PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

Henvey Inlet

Pattern

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. | DEPARTMENT MGR. | PROJECT MGR.

PROJECT PHASE

PROJECT NO. | ACTIVITY NO.

SCALE: N.T.S. | PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 17

Chimax Inc.
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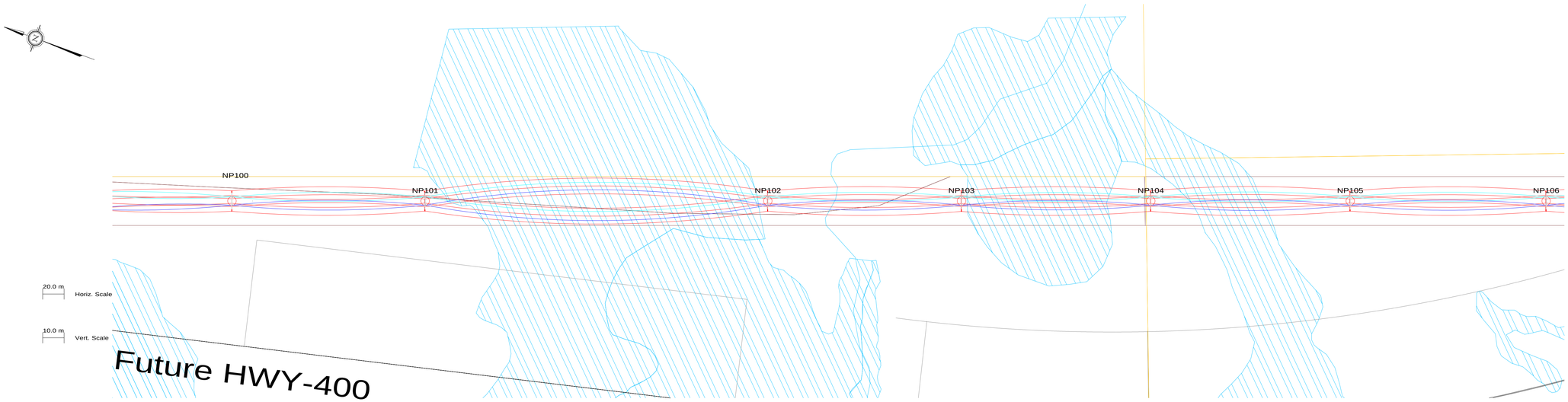
Email: chimax@chimax.ca

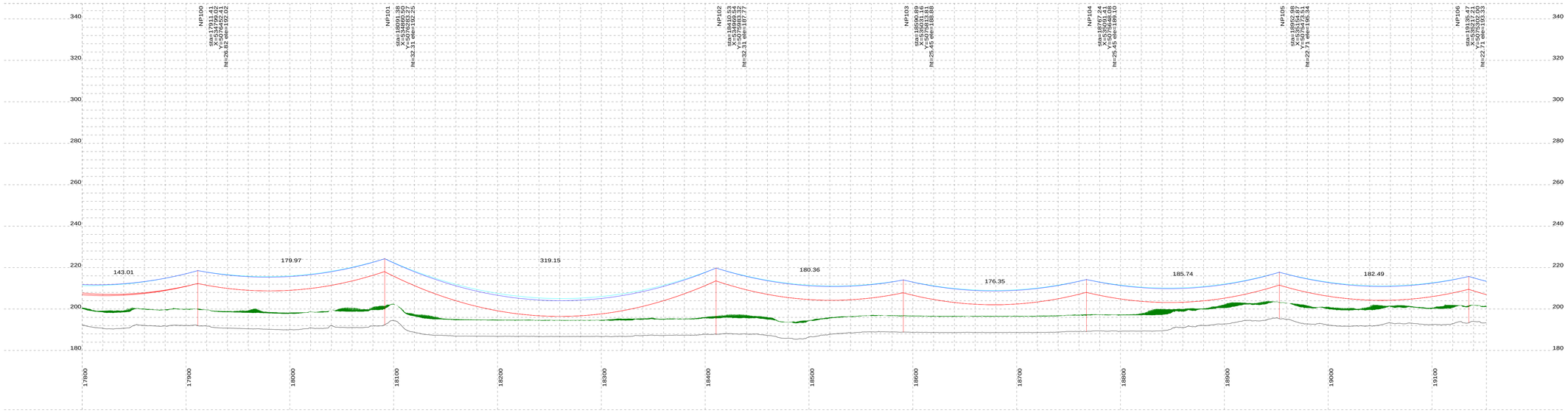
CLIENT DWG. NO.

DRAWING NO. 1536-P002-S17 | REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

PROJECT NO. ACTIVITY NO.

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 18

SCALE: N.T.S.

PACKAGE CODE

Pattern

Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

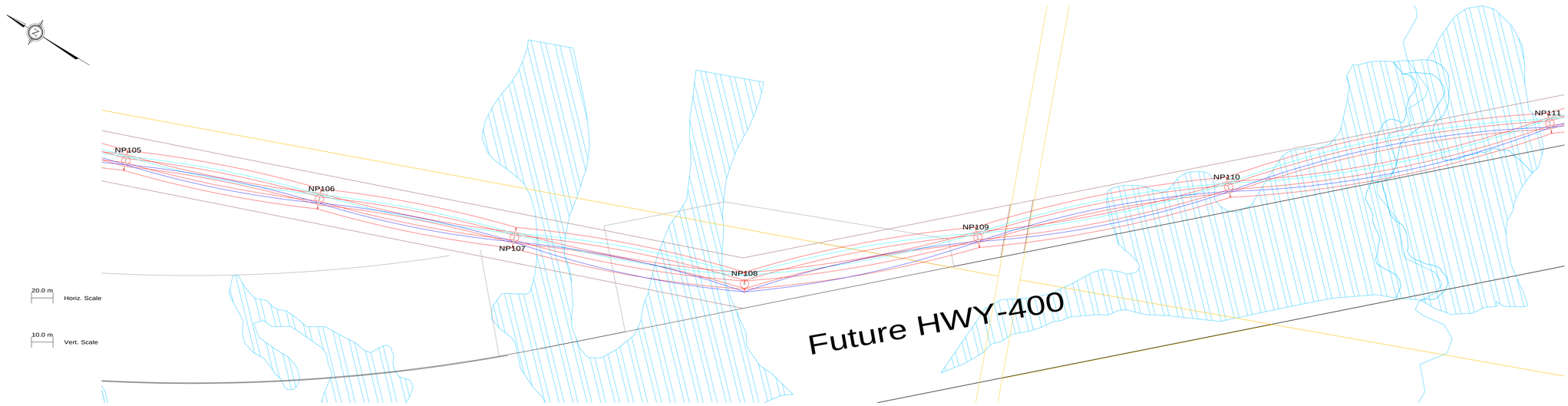
CLIENT DWG. NO.

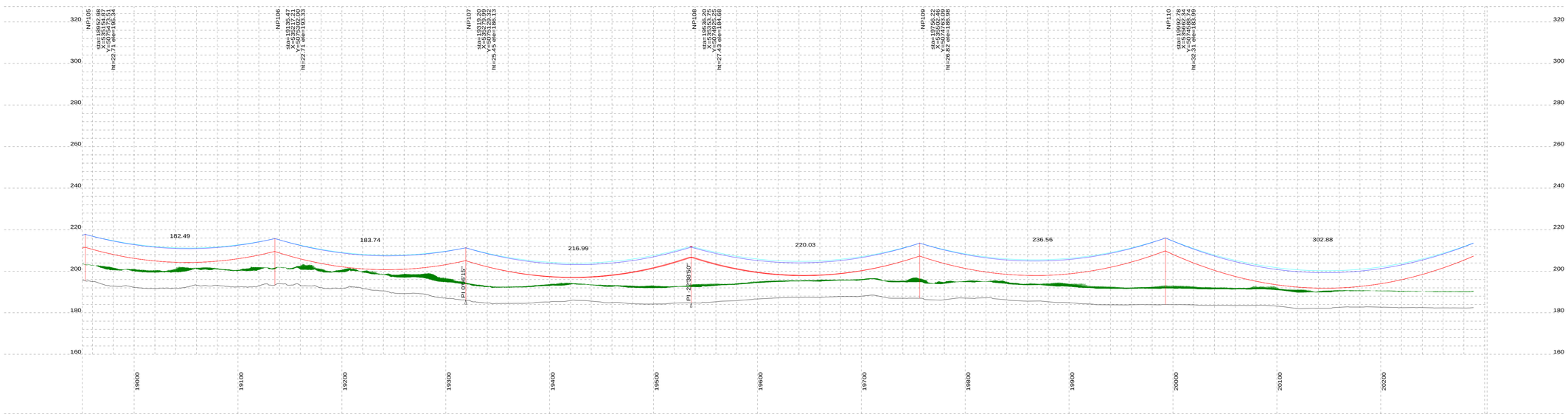
DRAWING NO. 1536-P002-S18

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

REFERENCES

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

PROPRIETARY INFORMATION:
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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE: N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 19

Henvey Inlet

Pattern

Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

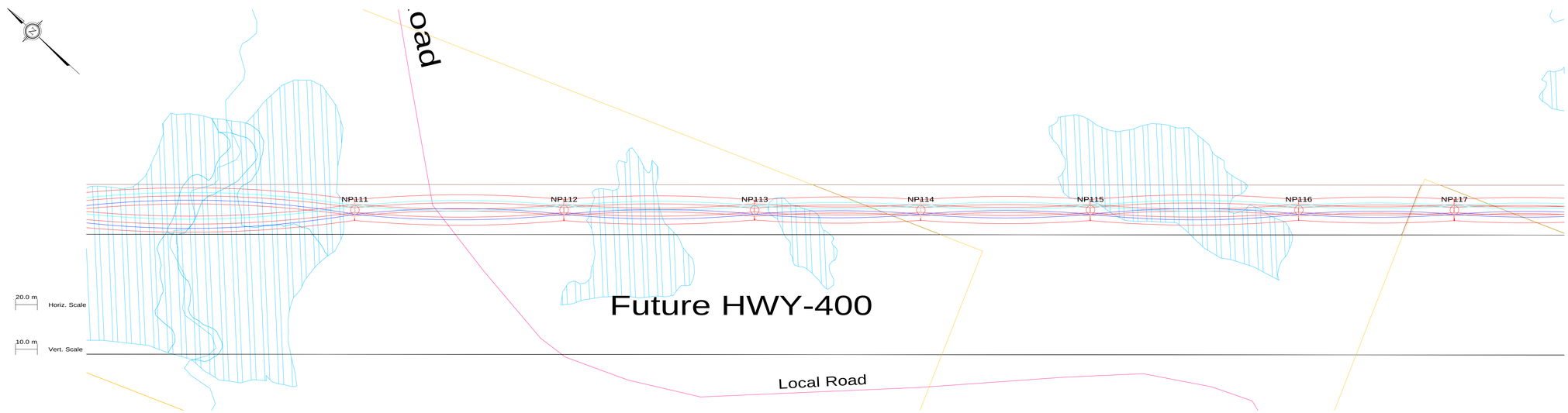
CLIENT DWG. NO.

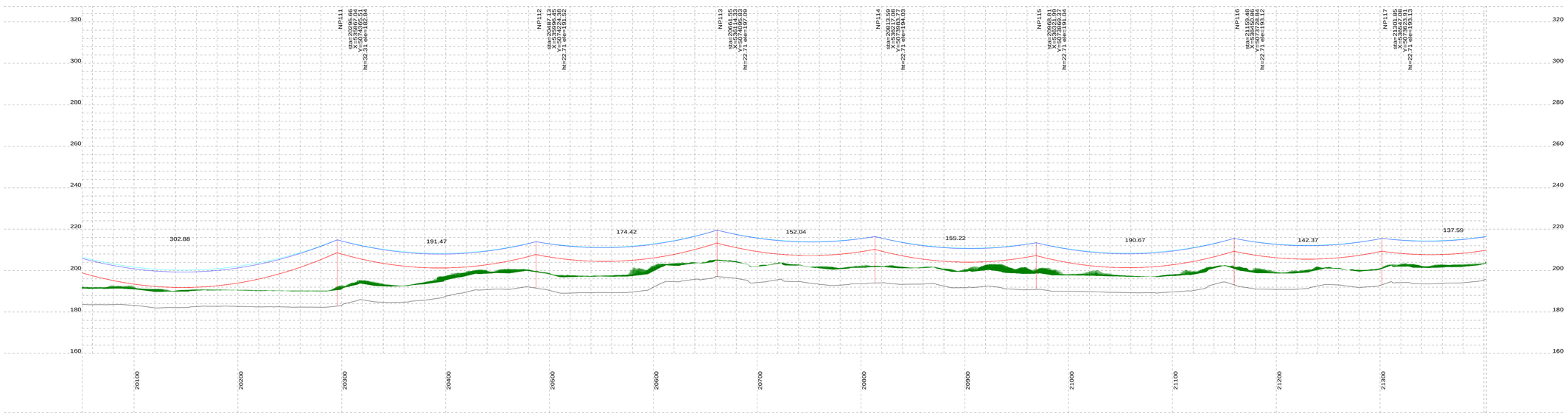
DRAWING NO. 1536-P002-S19

REV. I

CAD FILE: 1607-P002-A4

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 230kV TRANSMISSION LINE CONDUCTOR (1272MCM ACSR BITTERN)
- OPGW
- OHGW
- GROUND CLEARANCE LINE
- TRANSMISSION LINE EASEMENT
- WETLAND
- HAINES LAKE PSW
- MTO BOUNDARY
- PARCEL BOUNDARY
- ROAD CENTER LINE
- TRAIL CENTER LINE

STRUCTURE DESCRIPTION LEGEND:

NP001	NEW STRUCTURE NO.
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
P001	PREVIOUS STRUCTURE NO.

NOTES:

PLAN VIEW:
1. CONDUCTOR, OPGW & OHGW SWING AT 1/50 GUST WIND
PROFILE VIEW:
1. GROUND CLEARANCE LINE SHOWN AT 7.8M (FOR VEHICULAR TRAFFIC).
2. CONDUCTOR (1272MCM ACSR BITTERN) SAG AT 100°C.
3. OPGW & OHGW SAG AT 50°C.
4. ALL DIMENSIONS ARE IN METERS U.N.O.

NOT FOR CONSTRUCTION

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
I	16/09/30	ISSUED FOR LTC APPLICATION	T.L.	E.K.					I	16/09/30		ISSUED FOR LTC APPLICATION			

STAMP/SEAL: LICENSED PROFESSIONAL ENGINEER K. C. Y. WONG 50844117 2016-09-30 PROVINCE OF ONTARIO

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO.

SCALE: N.T.S.

PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	01/04/2015
DRN	M.HUANG	01/04/2015
CHK		
APP		

AREA: HENVEY INLET WIND PROJECT 230kV TRANSMISSION LINE

SUBJECT: 1CCT 230kV TRANSMISSION LINE PLAN & PROFILE DRAWINGS SHEET 20

Henvey Inlet

Pattern

Chimax Inc.
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3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

CLIENT DWG. NO.

DRAWING NO. 1536-P002-S20

REV. I

CAD FILE: 1607-P002-A4