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NATION RISE WIND FARM

Project Description Report

Nation Rise Wind Farm Limited Partnership

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Issue	Date	Reason for Issue	Prepared by	Verified by	Approved by
A	9 September 2016	Draft	G. Constantin	M. Roberge	E. Crivella
B	22 March 2017	Updated Draft Report to present Project updates	G. Constantin	M. Roberge	E. Crivella
C	12 April 2017	Updated Draft Report to present Project updates	G. Constantin	M. Roberge	E. Crivella
D	13 July 2017	Updated for final REA submission	G. Constantin	M. Roberge	E. Crivella
E	4 August 2017	Minor changes	G. Constantin	M. Roberge	E. Crivella
F	29 November 2017	Rectify the number of petroleum wells within 75m of the Project to 0	G. Constantin	M. Roberge	E. Crivella

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List of abbreviations

Abbreviation	Meaning
APRD	Approval and Permitting Requirements Document
CAC	Criteria Air Contaminants
CEAA	*Canadian Environmental Assessment Act*
DFO	Department of Fisheries and Oceans Canada
DNV GL	GL Garrad Hassan Canada Inc.
EDPR	EDP Renewables Canada Ltd
ESA	*Endangered Species Act*
EPA	Ontario *Environmental Protection Act*
HONI	Hydro One Network Inc.
IESO	Independent Electricity System Operator
MNRF	Ontario Ministry of Natural Resources and Forestry
MOECC	Ontario Ministry of the Environment and Climate Change
MTCS	Ontario Ministry of Tourism, Culture and Sport
MTO	Ontario Ministry of Transportation
MW	Megawatt
NIA	Noise Impact Assessment
OEB	Ontario Energy Board
O. Reg	Ontario Regulation
PDR	Project Description Report
PSWs	Provincially Significant Wetlands
RABC	Radio Advisory Board of Canada
REA	Renewable Energy Approval
ROCC	Remote Operations Control Centre
SCADA	Supervisory Control and Data Acquisition
SNCA	South Nation Conservation Authority
SARA	Species at Risk Act
SWH	Significant Wildlife Habitat
TC	Transport Canada

1 PREAMBLE

Nation Rise Wind Farm Limited Partnership (the "Proponent") is proposing to develop the Nation Rise Wind Farm (the "Project") which is subject to *Ontario Regulation* (*O. Reg.*) 359/09 (Renewable Energy Approvals (REA) [1] under Part V.0.1 of the Ontario *Environmental Protection Act* (EPA)), as amended. The Proponent was awarded a contract for this Project in March 2016 from the Independent Electricity System Operator (IESO) under the Large Renewable Procurement (LRP), and is seeking a Renewable Energy Approval (REA) from the Ontario Ministry of the Environment and Climate Change (MOECC). The Project will be owned and operated by Nation Rise Wind Farm Limited Partnership, a wholly-owned subsidiary of EDP Renewables Canada Ltd (EDPR).

This Project will have a total nameplate capacity of approximately 100 megawatts (MW) and is considered to be a Class 4 wind facility. A total of 33 wind turbine locations are being permitted as part of the REA process.

This Project Description Report (PDR) has been prepared in accordance with Table 1 of *O. Reg 359/09* and the Technical Guide to Renewable Energy Approvals, Chapter 4: Guidance for preparing the Project Description Report [2]. Table 1-1 below presents the corresponding sections within this report that satisfy each PDR requirement, as per these guidelines.

Table 1-1: Project Description Report Requirements and Corresponding Sections

Requirement	Section
Any energy sources to be used to generate electricity at the renewable energy generation facility	Section 2.3
The facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity	Section 3.1
The class of the renewable energy generation facility	Section 2.3
The activities that will be engaged in as part of the renewable energy project	Section 3.2
The nameplate capacity of the renewable energy generation facility	Section 2.3
The ownership of the land on which the project location is to be situated	Section 3.4, Appendix B
Negative environmental effects that may result from engaging in the project	Section 4
An unbound, well-marked, legible and reproducible map that is an appropriate size to fit on a 215 millimetre by 280 millimetre page, showing the project location and the land within 300 metres of the project location	Section 3.3, Appendix A

2 GENERAL INFORMATION

2.1 Project Name and Project Proponent

The name of the Project is Nation Rise Wind Farm (hereafter referred to as "the Project") and Nation Rise Wind Farm Limited Partnership is the Project Proponent (hereafter referred to as the "Proponent").

2.2 Location of Project

The Nation Rise Wind Farm is located in eastern Ontario, within the Township of North Stormont and the United Counties of Stormont, Dundas and Glengarry, Ontario. More specifically, the Project is located in the western portion of North Stormont bounded to the south by the Township of South Stormont and to the west by the boundary of the Township of North Dundas. The north portion of the Project is delimited by the municipality boundaries of Russell and the Nation. Courville Road and MacMillan Road are the east boundaries of the Project. The Project has a total study area of approximately 8,974 hectares.

Project components will be installed predominantly on privately-owned agricultural lots. It is anticipated that the electrical collector lines will be partially sited within public road allowances to connect to the substation that is located in the northern section of the Project study area. There is no proposed transmission line for the Project.

The proposed Project study area is located on private and public lands; the geographic coordinates of the extreme points of the Project study area are presented in Table 2-1 and Figure 2-1.

The location of the study area was defined early in the planning process and was selected based on the availability of wind resources, the approximate area required for the proposed Project, and availability of existing infrastructure for connection to the electrical grid. The Project substation is located along the existing L24A 230 kV transmission line just south of County Road 13. Most of the agricultural fields are planted annually with common crops (e.g. corn, soybeans and winter wheat) or are used as pasture lands.

Table 2-1: Geographic coordinates of Project study area

Site Location	Easting	Northing
North	483970	5008222
East	480929	5004950
West	494722	5001252
South	487941	4992782

The Project Location, situated within the broader Project study area, is defined in *O. Reg. 359/09* as "...*a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the projec*t". As described therein, the Project Location boundary is the outer limit of where site preparation and construction activities will occur (i.e., *Disturbance Areas* described below) and where permanent infrastructure will be located, including the air space occupied by turbine blades.

Disturbance Areas surrounding various Project components have been identified; such areas correspond to the "Project Location" boundaries in the map in Appendix A. These areas denote zones where temporary disturbance during the construction phase may occur such as temporary Project component laydown and

storage areas. With the exception of the Project components described in section 3.1, no permanent infrastructure is proposed within these areas. Following construction activities, the land will be returned to pre-construction conditions.

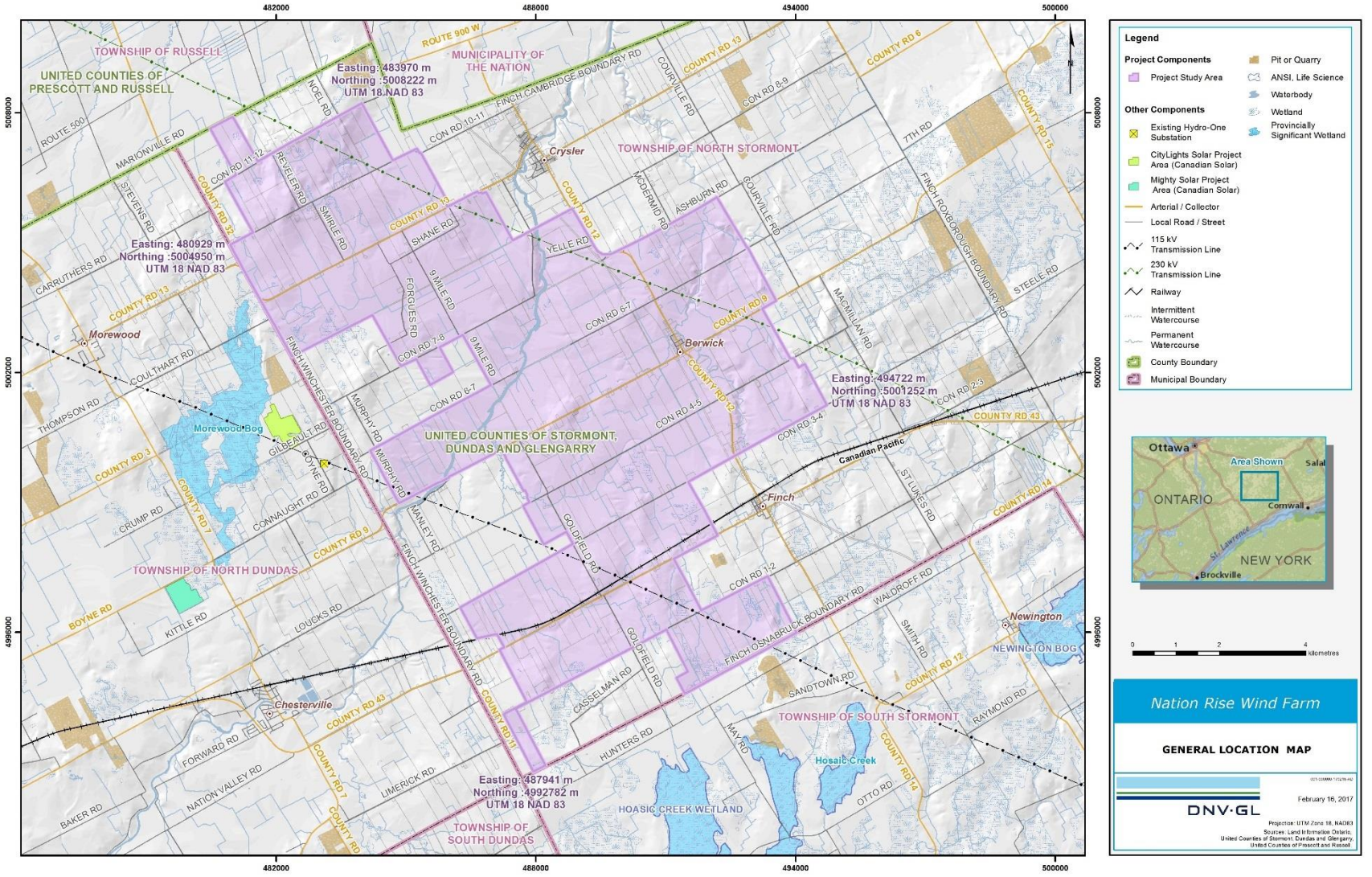


Figure 2-1: General Project study area

Figure 2-2 through Figure 2-5 are representative of current agricultural land use in the Project study area.



Figure 2-2: Corner of County Road 13 and Shane Road



Figure 2-3: Corner of Goldfield Road N. and Concession Road 5



Figure 2-4: Concession Road 7



Figure 2-5: Concession Road 3-4

2.3 Energy Source, Nameplate Capacity, and Class of Facility

The wind turbine generators of the Project will convert wind energy into electricity to feed into the Ontario IESO transmission system. This Project with a total nameplate capacity of approximately 100 MW is considered to be a Class 4 wind facility. A total of 33 wind turbine locations are being permitted and the Proponent is currently evaluating different wind turbine technologies for the Project. It is likely to be a 3.0 to 3.6 MW turbine and for the purposes of reference, the Vestas V136-3.45 MW turbine model will be considered in the Project REA application although an acoustically equivalent wind turbine may be chosen.

2.4 Contact Information

2.4.1 Project Proponent

The Project Proponent is the Nation Rise Wind Farm Limited Partnership, a renewable energy energy developer, owner and operator, with an office in Toronto, Ontario. The primary contact for this Project is:

Kenneth Little
Development Project Manager
Nation Rise Wind Farm Limited Partnership
110 Spadina Ave., Suite 609,
Toronto, ON M5V 2K4
(416) 502-9463
Project email: nationrise@edpr.com
Project website: http://nationrisewindfarm.com/

2.4.2 Project Consultant

GL Garrad Hassan Canada Inc. (hereafter referred to as "DNV GL"), a member of the DNV GL Group and part of the DNV GL brand, has been retained to lead the REA work for the Project. The Environmental and Permitting Services team of DNV GL has completed mandates throughout Canada, the United States and in many other parts of the world. These mandates include permitting management, permit applications, environmental impact assessment, and various environmental studies for more than 15,000 MW of wind and solar-PV projects.

DNV GL's environmental team is composed of over 20 environmental professionals, including environmental impact specialists, planners, GIS, technicians and engineers. DNV GL has no equity stake in any Project, distinguishing it from many other players and underscoring its independence.

DNV GL's contact information is as follows:

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DNV GL – Energy Advisory
4100 Molson Street, Suite 100,
Montreal (QC), H1Y 3N1, Canada
(416) 320-4636

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2.5 Other Approvals Required

The Project is subject to the provisions of the *Environmental Protection Act* and *O. Reg. 359/09*, as amended. The issuance of an approval by the MOECC will require approval by the Ministry of Natural Resources and Forestry (MNRF) and the Ministry of Tourism, Culture and Sport (MTCS).

In addition to the approvals required under *O. Reg. 359/09*, as amended, the Project will require additional approvals such as municipal building permits, as well as South Nation Conservation Authority (SNCA) permits where potential disturbances to watercourses are anticipated. The Project may also require a permit under the *Endangered Species Act* (ESA), upon completion of an Approval and Permitting Requirements Document (APRD).

The Project may also require the following provincial or municipal authorizations:

- Fill, Construction and Alteration to waterways (SNCA)
- Encroachment Permit (Ministry of Transportation (MTO));
- Building Land Use Permit / Entrance Permit (MTO);
- Special Vehicle Configuration Permit (MTO);
- Oversize / Overweight Permits (MTOn);
- Notice of Project (Ministry of Labor);
- Connection assessment and approvals (IESO);
- System impact assessment (IESO); and
- Leave to construct (Ontario Energy Board (OEB)); and
- Entrance permits, building permits, road use agreement and drainage permit (Municipality).

2.5.1 Federal Involvement

This Project is not expected to trigger the *Canadian Environmental Assessment Act* (CEAA), as no federal authority will be expected to provide a license, permit, certificate or other regulatory authorization. The Project will however be required to obtain land use clearance from NAV CANADA and an aeronautical obstruction clearance from Transport Canada (TC) for obstruction marking and lighting.

If Project infrastructures cross navigable waters, approval from TC may be required. While unlikely for this Project, if the Department of Fisheries and Oceans Canada (DFO) determines that any project activities can potentially cause serious harm to fish or adversely impact any aquatic species at risk listed under the Species at Risk Act (SARA), or their critical habitat, the Proponent is required to apply for an authorization under the *Fisheries Act* and/or SARA.

3 PROJECT INFORMATION

3.1 Facility Components

The Project will be made up of the following main components:

- Wind turbine generators;
- Meteorological towers;
- Access roads and crane pads;
- Electrical collector lines, substation and switchyard; and
- Construction staging and laydown areas (including temporary staging areas).

3.1.1 Wind Turbines

At the time of this report, the wind turbine technology has not been confirmed; it is likely to be a 3.0 to 3.6 MW turbine. For the purposes of reference, the Vestas V136-3.45 MW turbine will be considered although an acoustically equivalent wind turbine may be chosen. The proposed turbine will be a 3-bladed and horizontal-axis turbine.

The total rotor diameter of the V136 is 136 m, resulting in a swept area of 14,527 m^2. The turbine rotors and nacelles will be mounted on 132 m tubular towers consisting of several sections, although other hub heights are being evaluated. Depending on the turbine technology selected, a pad mounted transformer will be installed adjacent to the tower or alternatively, an up-tower transformer may be used.

The complete technical specifications for the selected technology are available in the Wind Turbine Specification Report, as part of the complete REA submission package.

The acoustic emissions data, including the sound power level and frequency, can be found within the Noise Impact Assessment(NIA) that has also been produced as part of the complete REA submission package.

All Project turbines will meet specifications as directed by Transport Canada.

3.1.2 Permanent Meteorological Tower(s)

Wind speed, wind direction, temperature and humidity will be measured by up to three (3) meteorological towers that will be constructed on small concrete pad(s) and extend to a maximum of up to 140 m in height. The tower type selected will either be lattice or monopole and the tower(s) may be supported by guy wires (monopole only).

While only up to three (3) meteorological towers will be installed, six (6) potential locations are being permitted for the Project; the exact locations will be determined prior to construction. The tower(s) will remain on site for the duration of the Project for wind turbine performance testing.

3.1.3 Access Roads

Transportation of machinery, turbine components and other equipment will use existing municipal roads and private access roads. New access roads will be constructed on private lands to provide access for

components and equipment to the private properties during the construction phase and for maintenance activities during operation. Typically access roads will be constructed to be up to 20 m wide during construction. Areas adjacent to the access road within the larger disturbance area may be utilized during the construction phase in order to accommodate cranes, transportation equipment and other construction activities. After construction, these roads may be reduced in size to approximately 5-6 m in width, to allow access to turbines and associated infrastructure for maintenance and repairs.

3.1.4 Collector Lines, Substation and Switchyard

Energy generated by the Project will be collected via underground cabling and overhead lines and directed to a substation.

3.1.4.1 Electrical Collector Lines

The power generated at each of the wind turbine generators will be transported through 34.5 kV underground or overhead cables to the Project substation. Electrical collector lines will generally be located on private property as well as some sections along public road allowances to reach the Project substation. Moreover, fiber optic lines will run with the collection system to the Project substation.

Junction boxes will also be installed below or above ground where needed along the collection circuit.

3.1.4.2 Substation and Switchyard

Measuring a total footprint of approximately 4-7 ha, the electrical substation and switchyard for the Project will be adjacent to each other and located on privately owned property. The substation and switchyard may be comprised of, but not limited to the following components:

- Isolation switch(es);
- Circuit breaker(s);
- Step-up power transformer(s);
- Reactive compensation equipment with harmonics filter if required;
- Instrument transformers;
- Grounding (consistent with Ontario Electrical Safety Code Standards);
- Containment system;
- Oil/water separator;
- Revenue metering;
- Communication tower and associated equipment;
- Control building;
- Grounding transformer;
- Neutral grounding reactor;
- Support steel;
- Busbar;
- Sound barrier; and
- Fence.

A secondary containment system will be included to prevent soil contamination in the event of a leak from the main transformer. Power will be stepped up to a transmission voltage 230 kV at the substation and will be fed into the existing Hydro One Network Inc. (HONI) transmission system adjacent to the Project substation.

3.1.5 Construction Staging and Laydown Areas

It is anticipated that up to three temporary construction staging areas will be constructed on privately owned lands for the purposes of staging and storing equipment during the construction phase. Activities and facilities within these staging areas will include material storage, equipment refuelling, construction offices, a parking lot, temporary toilet facilities, rinsing and water facilities, and communications equipment. Each temporary staging area will have a footprint of approximately 2-7 ha.

In addition to this, a temporary area of approximately 3 ha around each wind turbine will be established for the laydown and assembly of the wind turbine components. These temporary areas will be restored following the construction phase to agricultural uses.

3.2 Project Activities

A wind energy project consists of three main phases: (i) development, site preparation and construction, (ii) operations, and (iii) decommissioning. This section presents an overview of the activities of each phase. Additional information will be provided in the Design and Operation Report, Construction Plan Report and the Decommissioning Plan Report that are included as part of the REA application.

3.2.1 Development, Site Preparation and Construction Phase

The Development, Site Preparation and Construction Phase includes all activities from initial work planning to testing of the wind energy project before commissioning. The Proponent will obtain all approval requirements, undertake site surveys, conduct a geotechnical assessment, complete preliminary and detailed engineering and complete equipment procurement (wind turbines, substation components, cabling, etc.) during the pre-construction period. Nation Rise Wind Farm Limited Partnership The Proponent will continue to engage with First Nation and Aboriginal communities, the Public, local landowners, federal, provincial and municipal authorities.

The following activities will be undertaken during the Development, Site Preparation and Construction Phase:

- Mobilization on site;
- Clearing and grubbing of vegetation within construction limits;
- Site grading;
- Application of erosion mitigation measures;
- Preparation of the construction staging area;
- Installation of culverts;
- Construction of new private access roads or upgrading existing public roads, as necessary;
- Delivery of equipment and vehicles;
- Trenching and installation of electrical collector lines;
- Excavation and pouring of concrete turbine foundation;
- Construction of crane pads;
- Wind turbine assembly and installation;
- Construction of the substation and switchyard;
- Installation of the permanent meteorological towers;
- Installation of communication tower and associated equipment;

- Clean-up and reclamation of agricultural lands; and
- Turbine Commissioning.

More specific details about the Site Preparation and Construction phase will be provided in the Construction Plan Report, as part of the complete REA application package.

3.2.2 Operations Phase

The Project will require full-time technical and administrative staff to maintain and operate the facility. The primary workers will be wind turbine technicians along with a site supervisor. The wind turbines will be operating and generating electricity when the wind speed is within the operating range for the turbine and there are no component malfunctions.

Each turbine has a comprehensive control system that monitors the subsystems within the turbine and the local wind conditions to determine whether the conditions are suitable for operation. If an event occurs which is considered to be outside the normal operating range of the turbine (such as low hydraulic pressures or high generator temperatures), the wind turbine will immediately take itself out of service and report the condition to the Remote Operations Control Centre (ROCC). A communication line connects each turbine to the ROCC, which closely monitors and, as required, controls the operation of each turbine. The Project will be integrated with EDPR's portfolio of Supervisory Control and Data Acquisition (SCADA) systems to ensure that the Project critical controls, alarms, and functions are properly monitored and coordinated for safe, secure, and reliable operation.

The following activities will be undertaken during the operations phase:

- Operation of wind turbines and substation;
- Routine turbine maintenance and inspections;
- Unplanned turbine maintenance;
- Conduct natural heritage and noise compliance surveys;
- Follow-up with any complaints from neighbors;
- Meter calibrations; and
- Road maintenance.

More specific details about the operations phase will be provided in the Design and Operations Report that is included in the REA application package.

3.2.3 Decommissioning Phase

The anticipated operational life of the Project is estimated to be a minimum of 20 years. If the facility is to be decommissioned and the turbines are to be removed at the end of its service life, the procedures will be similar to the construction phase, but in reverse sequence.

- Mobilization on site;
- Preparation of temporary staging areas;
- Upgrading access roads to allow access to dismantling equipment;
- Dismantling or removal of Project components (wind turbines, meteorological towers, communication tower and associated equipment);
- Removal of wind turbine foundation:

    - The top 1 m of the turbine foundations will be removed and replaced with clean fill and stockpiled topsoil. This will be contoured to allow cultivation in the case of agricultural lands;
- Underground electrical collector lines will be cut, the ends buried to 1 m below grade, and left in place;
- Overhead electrical lines and poles, if any, that are not shared with HONI or otherwise being utilized, will be removed and the holes will be filled with clean fill;
- Transportation of equipment and material:
    - All materials will be recycled, where possible, or disposed off-site at an appropriate facility; and
- Reclamation of agricultural lands (conditional to approval from landowner).

The substation may not be decommissioned if IESO or HONI require the infrastructure to be left in place at the time of decommissioning. More specific details on the Decommissioning Phase will be provided in the Decommissioning Plan Report that is included as part of the REA application package.

3.2.4 Hazardous Waste Disposal, Sewage and Stormwater Management and Water-Taking Activities

All hazardous material will be treated using best practices. Hazardous material including fuel, oils, and grease may not be stored on site, but off site in a designated safe storage area. Disposal of hazardous wastes may be required in the event of an accidental spill or equipment maintenance. The effect of accidental spills will be minimized by ensuring that relevant and applicable industry regulations are followed including (i) refueling construction equipment only at crane pads or designated areas, (ii) storing hazardous materials off site at designated safe storage areas, and (iii) maintaining emergency spill kits on the Project site.

The final decision on waste disposal or recycling will be the responsibility of the on-site contractor who will refer to the Ontario EPA before submitting a Generator Registration Report for each waste type produced at the facility.

Stormwater management will be practiced through the installation of erosion and runoff prevention measures during the construction, operation and decommissioning phases, where necessary. A conceptual Stormwater, Erosion and Sediment Management Plan has been developed with the aim of reducing contaminants in stormwater runoff associated with the Project and minimizing the erosion and sedimentation of natural habitat(s). This plan is included in Appendix B of Construction Plan Report, as part of the complete REA application package.

Water takings, if required, will be conducted as proposed within the Water Body and Water Assessment Reports that are included within Appendix F of the Design and Operations Report, as part of the complete REA application.

3.3 Project Location Map

The Project Location Map provided in Appendix A illustrates the Project study area and vicinity. This preliminary map identifies land uses and water bodies within the Project study area and within a radius of 300 m thereof. The Project Location is also displayed within the Site Plan Maps that are included in Appendix

A of both the Construction Plan Report and Design and Operations Report. The Site Plan Maps also display cultural and heritage features within the Project study area. .

3.4 Land Ownership

The Project turbines and substation will be located entirely on private land and the Proponent currently holds a lease agreement for the properties on which Project components are proposed. Public road allowances (rights-of-way) will be used in some cases for electrical collector lines and access road entrance. Electrical collector lines will also cross the South Nation River via underground cabling or overhead lines.

A legal description of the land parcels is provided in Appendix B of this report.

4 DESCRIPTION OF ENVIRONMENTAL EFFECTS

This section presents a summary of potential effects, mitigation measures and residual effects associated with project-environment interactions during the construction, operations and decommissioning phases of the Project. The effects assessment has been completed in accordance with the requirements and recommendations outlined in the document Technical Guide to Renewable Energy Approvals, Chapter 4: Guidance for preparing the Project Description Report [2].

More detailed discussions relating to natural heritage impacts, archaeological and heritage impacts, noise impacts, land use impacts and water body impacts can be found in the NHA reports, Archaeological Assessment Reports, Heritage Report, NIA and Water Body Reports, as part of the complete REA application package.

As requested under REA, potential effects from the construction, installation, decommissioning and operation of the wind farm must be assessed while considering applicable mitigation and compensation measures. The Project *residual* effects (i.e. after considering mitigation/compensation measures) will be determined and their significance will be based on the level of concern and likelihood of each effect.

Depending on the outcome of the effects assessment, follow-up and/or monitoring programs could be proposed in order to further investigate the potential effects, or verify the significance of the effect following commissioning.

4.1.1 Construction and Decommissioning

Table 4-1: Potential Negative Effects and Mitigation Measures – Construction and Decommissioning

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Cultural Heritage (Protected Properties, Archaeological and Heritage Resources)				
Disturbance or displacement of archaeological resources by any ground disturbance activity.	Avoid disturbance/loss of archaeological sites.	Conduct Archaeological Assessment and apply recommended avoidance measures and other measures from licensed archaeologist or MTCS to project design. Details of the Archaeological Assessment can be found in the reports on this subject as part of the complete REA application package.	The Archaeological Assessment was undertaken as per MTCS guidelines and it is anticipated that the Project will receive confirmation from the MTCS. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Immediate notification of the Archaeologist and the MTCS in the event archaeological resources are found. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Construction vibrations to sensitive cultural heritage buildings	Minimize direct impacts from vibrations.	Apply avoidance and minimization measures recommended in the Cultural Heritage Assessment. Details of the Cultural Heritage Assessment can be found in the reports on this subject as part of the complete REA application package.	The Cultural Heritage Assessment was undertaken as per MTCS guidelines and it is anticipated that the Project will receive confirmation from the MTCS. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: No monitoring required. Contingency: If the avoidance and minimization measures cannot be implemented, a more detailed vibration analysis will be undertaken by a qualified engineer.
Natural Heritage				
Disturbance of local wildlife (Amphibian Breeding Habitat)	Avoid disturbance and displacement of breeding amphibians.	Avoid construction and decommissioning activities in amphibian breeding habitat within the peak amphibian breeding season	The NHA was undertaken per MNRF guidelines and this Project is	Monitoring: Environmental supervision will be implemented during construction as part

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		(April 15 – June 15), in areas identified as being vulnerable to direct impact.	anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	of a routine inspection program to ensure adherence to the mitigation measures. Contingency: Schedule construction or decommissioning activities during daylight hours, wherever practicable, to limit potential impacts from light, noise, or vehicle interactions.
Disturbance of local wildlife (Bat Maternity Colony)	Avoid disturbance, displacement and mortality of roosting bats.	Avoid construction and decommissioning activities during the critical roosting period (June 1 – June 30) within designated areas that have been identified as being vulnerable to direct impact.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental supervision will be implemented during construction as part of a routine inspection program to ensure adherence to the mitigation measures. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Butterfly Species of Conservation Concern Habitats)	Avoid disturbance and displacement of butterflies within significant butterfly species of conservation concern habitats.	Avoid construction and decommissioning activities during the flight season (May 1 – September 30) within significant butterfly species of conservation concern habitats that have been identified as being vulnerable to direct impact. Schedule construction and decommissioning activities to occur during daylight hours, wherever practicable, to avoid excessive noise and/or light disturbances to butterflies. If construction and decommissioning activities must occur outside of daylight hours, spotlights will be directed downward and/or away from the features.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental supervision will be implemented during construction as part of a routine inspection program to ensure adherence to the mitigation measures. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Bird Species	Avoid disturbance, displacement and	Avoid construction and decommissioning activities (including rock blasting, trenching,	The NHA was undertaken as per	Monitoring:

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
of Conservation Concern Habitats – Crepuscular Species)	mortality to birds that might be breeding within these habitats and that are active at night.	sawing, or hammering) during the breeding bird period (May 1 – July 31), within designated areas that have been identified as being vulnerable to direct impact. Where possible, schedule construction and decommissioning activities to occur during daylight hours to increase visibility and to avoid light pollution effects during the night. If an active bird nest is identified in the location where natural vegetation clearing is proposed, the area will be protected and no construction activities will occur until the young have fledged or until the nest is no longer active, as confirmed by a qualified biologist. If confirmed significant, where regular Project maintenance activities within 30 m of significant habitats must occur outside of daylight hours, spotlights will be directed downwards and/or away from the identified habitats.	MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	If construction or decommissioning vegetation removal activities must occur during the breeding bird period (May 1 – July 31), nest searches will be conducted in affected areas. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Bird Species of Conservation Concern Habitats – Diurnal Species)	Avoid disturbance, displacement and mortality to birds that might be breeding within these habitats and that are inactive at night.	Avoid construction and decommissioning activities (including rock blasting, trenching, sawing, or hammering) during the breeding bird period (May 1 – July 31) within designated areas that have been identified as being vulnerable to direct impact Schedule construction and decommissioning activities to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, wherever practicable. If an active bird nest is identified in the location where natural vegetation clearing is proposed, the area will be protected and no construction activities will occur until the young have fledged or until the nest is no longer active, as confirmed by a qualified biologist. If construction or decommissioning activities must occur outside of daylight hours,	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: If construction or decommissioning vegetation removal activities must occur during the breeding bird period (May 1 – July 31), a biologist will conduct nest searches in affected areas. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		spotlights will be directed downward and/or away from the features.		
Disturbance of local wildlife (Generalized significant wildlife habitats (SWHs))	Avoid disturbance, displacement or mortality to species that might be breeding within these habitats and that are not accustomed to nighttime disturbances.	Avoid construction and decommissioning activities (including Rock blasting, trenching, sawing, or hammering) during the breeding bird period (May 1 – July 31) within designated areas that have been identified as being vulnerable to direct impact. Schedule construction and decommissioning activities to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, wherever practicable. If an active bird nest is identified in the location where natural vegetation clearing is proposed, the area will be protected and no construction activities will occur until the young have fledged or until the nest is no longer active, as confirmed by a qualified biologist. If construction or decommissioning activities must occur outside of daylight hours, spotlights will be directed downward and/or away from the features.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: If construction or decommissioning vegetation removal activities must occur during the breeding bird period (May 1 – July 31), a biologist will conduct nest searches in affected areas. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Open Country Bird Breeding Habitat)	Avoid disturbance, displacement, and mortality to birds that might be breeding within these habitats, and that are relatively inactive at night and not accustomed to nighttime disturbances.	Avoid construction and decommissioning activities (including Rock blasting, trenching, sawing, or hammering) during the breeding bird period (May 1– July 31) within designated areas that have been identified as being vulnerable to direct impact. Schedule construction and decommissioning activities to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, wherever practicable. If an active bird nest is identified in the location where natural vegetation clearing is proposed, the area will be protected and no	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: If construction or decommissioning vegetation removal activities must occur during the breeding bird period (May 1 – July 31), a biologist will conduct nest searches in affected areas. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		construction activities will occur until the young have fledged or until the nest is no longer active, as confirmed by a qualified biologist. If construction or decommissioning activities must occur outside of daylight hours, spotlights will be directed downward and/or away from the features.		
Disturbance of local wildlife (Reptile Hibernacula)	Avoid disturbance to hibernating snakes.	Schedule construction and decommissioning activities (including rock blasting, trenching, sawing, or hammering) to occur outside of the snake hibernation period (September 15 – May 15) within designated areas that have been identified as being vulnerable to direct impact. If construction and decommissioning activities must occur during the snake hibernation period September 15 – May 15), install exclusionary fencing around the perimeter of the construction disturbance area within areas identified as being vulnerable to direct impact. If a snake is identified where construction or decommissioning activities are proposed, including during habitat removal, the area will be protected and no construction activities will occur until the snake can be relocated by a qualified biologist. If a snake is identified outside of the snake hibernation period (September 15 – May 15) where rock blasting, trenching, sawing, or hammering is proposed, including during habitat removal, the area will be protected and no construction activities will occur until the snake can be relocated by a qualified biologist.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: If construction or decommissioning activities must occur during the snake hibernation season (September 15 – May 15), a biologist will search the area of disturbance immediately prior to habitat removal. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Turtle Wintering Area)	Avoid disturbance to overwintering turtles.	Schedule construction and decommissioning activities to occur outside of the turtle overwintering period (October 15 – April 15) within designated areas that have been	The NHA was undertaken as per MNRF guidelines and this Project is	Monitoring: If construction or decommissioning activities must occur during the turtle overwintering season (October 15th –

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		identified as being vulnerable to direct impact. If construction and decommissioning activities must occur during the turtle overwintering season (October 15 – April 15, exclusionary fencing will be installed around the perimeter of the construction disturbance area to avoid directly impacting turtles within designated areas that have been identified as being vulnerable to direct impact. If a turtle is identified where construction or decommissioning activities are proposed, the area will be protected and no construction activities will occur until the turtle can be relocated by a qualified biologist.	anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	April 15th), a biologist will search the area of disturbance immediately prior to activities occurring. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Waterfowl Stopover and Staging Area)	Avoid disturbance, displacement, and mortality to staging waterfowl.	Schedule construction and decommissioning activities in Waterfowl Stopover and Staging Areas to occur outside of the most important period for staging waterfowl (March 1 – April 30) within designated areas that have been identified as being vulnerable to direct impact. Schedule construction or decommissioning activities during daylight hours, wherever practicable, to limit potential impacts from light, noise, or vehicle interactions. If construction or decommissioning activities must occur during the peak waterfowl staging season, a biologist will confirm that birds are not impacted by construction or decommissioning activities.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Regular biological monitoring of staging waterfowl will be conducted if construction or decommissioning activities will occur during the peak stopover and staging season. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Damage or removal of vegetation within significant woodlands, SWHs, and Generalized SWHs.	To avoid accidental damage or removal of vegetation within significant woodlands, SWHs, and Generalized SWHs.	Clearly delineate work areas using erosion fencing or other suitable barrier to avoid accidental damage or removal of retained species. The on-site environmental monitor may also consider substituting other demarcating types for fencing, such as staking and	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF.	Monitoring: Undertake weekly monitoring of the dripline when construction or decommissioning activities are anticipated within 10m of a significant woodland, SWH, or Generalized SWH.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		flagging, where it is determined that there is no apparent risk to significant woodlands, SWHs, or Generalized SWHs. This could include instances where the significant features are at a higher elevation than the occurring construction activity. The on-site environmental monitor will be a contractor with experience providing environmental recommendations on a large-scale construction site. Erect erosion fencing, or other barrier, to correspond to the disturbance area limits. Place the erosion fencing, or other barrier, as far away as practicable from the feature or SWH, and no closer than the dripline. Locate all directional drill entry and exit pits a sufficient distance from the edge of significant natural features, SWHs, and Generalized SWHs, to maintain a vertical depth of at least 1.5m at all times below the natural feature to protect the critical root zone.	The likelihood and magnitude of this residual effect is considered non-significant.	Undertake regular monitoring of the dripline to ensure the work area is clearly delineated and dripline boundaries are respected when construction is anticipated to occur within 10-30m of significant woodlands, SWHs, or Generalized SWHs, at a minimum frequency of once per month. Contingency: Prune any tree limbs or roots that are accidentally damaged by construction activities using proper arboricultural techniques. Accidental damage to trees, or unexpected vegetation removal, may require replanting of similar, native species, depending on the extent of damage incurred.
Damage to significant woodlands/wetlands, SWHs, and Generalized SWHs.	Avoid impacts to natural vegetation species in significant woodlands/wetlands, SWHs, and Generalized SWHs.	Avoid the use of herbicides (Project related activities only).	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: No monitoring required. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measure is applied.
Damage to retained trees within significant woodlands and wildlife habitats.	Avoid impacts to retained trees within significant woodlands and wildlife habitats.	Prune any tree limbs or roots that are accidentally damaged by construction activities using proper arboricultural techniques.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to	Monitoring: Depending on the amount of vegetation removal proposed and proximity to trees to be retained outside of public road allowances, the on-site environmental

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
			receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	monitor may recommend monitoring by a Certified Arborist during tree removal or pruning. Contingency: Accidental damage to trees, or unexpected vegetation removal, may require replanting of similar, native species, depending on the extent of damage incurred.
Erosion and sedimentation in significant natural features, SWHs, and Generalized SWHs.	Avoid impacts associated with erosion and sedimentation in significant natural features, SWHs, and Generalized SWHs.	The general contractor will develop and implement an erosion and sediment control (ESC) plan. Install, monitor, and maintain ESC measures (i.e. erosion fencing) around the Project Location for the duration of the construction or decommissioning activities, as identified within the ESC plan. Erect erosion fencing, or other barrier, to correspond to the construction disturbance area limits. Place the erosion fencing, or other barrier, as far away as practicable from the identified feature(s), and no closer than the dripline. Depending on site-specific conditions, such as steep topography and the presence of direct, or regular, surface water flow, the on-site environmental monitor may consider substituting other styles of fencing, when appropriate. Utilize erosion blankets, silt fencing, straw bales, etc. for construction. Store any stockpiled material more than 30m from significant natural features, SWHs, and Generalized SWHs throughout the construction and decommissioning phases. Schedule grading to avoid times of high run-off volumes, wherever practicable. Re-	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring and routine inspections to ensure proper installation of erosion control measures are in place. Monitor sediment and erosion control measures, such as erosion fencing, and check dams daily in areas where work is taking place and prior to and after any storm events. Monitor sediment and erosion control measures weekly in areas where active construction is not occurring until the construction phase is complete. Contingency: If deficiencies in sediment and erosion control measures are noted, the on-site environmental monitor will notify the general contractor and the Proponent and recommend remedial actions. Silt fencing, or other applicable sediment and erosion control measures, that is not working properly will be corrected. If sedimentation and erosion control measures fail or/and degradation of the natural feature occurs, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures,

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		vegetate areas adjacent to the feature(s) as soon as practicable after construction activities are complete. Collect directional drill cuttings as they are generated and placed in a soil bin or bag for off-site disposal. Restore and revegetate directional drill entry/exit pits to pre-construction conditions as soon as practicable after construction.		habitat remediation, and/or seeding of permanently damaged areas, depending on the extent of degradation incurred.
Fugitive dust within significant natural features, SWHs, and Generalized SWHs.	Avoid fugitive dust within significant natural features, SWHs, and Generalized SWHs.	On-site speed limits will be clearly posted, applied, and followed by construction staff. Apply dust suppressants to unpaved areas when necessary to suppress dust, as determined by the on-site environmental monitor and the general contractor. Application frequency will vary, but will be determined by site specific weather conditions, including recent precipitation, temperatures, and wind speeds. Re-vegetate cleared areas as soon as reasonably practicable after construction activities are complete. Install wind fences where determined to be necessary by the on-site environmental monitor. Installation of these fences will depend on site-specific conditions, including wind speeds, topography, land cover, and the extent of surrounding natural wind breaks.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring and routine inspections to ensure proper fugitive dust control measures are in place. Monitor dust control measures at least once per week in areas where work is taking place. Monitor dust control measures at least once per month in areas where active construction is not occurring until the construction phase is complete. Contingency: If fugitive dust is noted, the on-site environmental monitor will notify the general contractor and the Proponent and recommend remedial actions, if necessary. If fugitive dust control measures fail and degradation of the natural feature occurs, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures, habitat remediation, and/or seeding of permanently damaged areas depending on the extent of degradation incurred.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Fugitive dust and debris from blasting within significant natural features and SWHs.	Avoid fugitive dust and debris within significant natural features and SWHs.	Use blasting mats to contain debris and spray the surface of the blast site with water to reduce the amount of dust emitted.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Monitor to ensure proper fugitive dust and debris control measures for blasting are in place and functioning as intended for all blasting activities. Contingency: If fugitive dust or debris is noted, the on-site environmental monitor will notify the general contractor and the Proponent and recommend remedial actions, if necessary. If fugitive dust and debris control measures fail and degradation of the natural feature occurs, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures, habitat remediation, and/or seeding of permanently damaged areas depending on the extent of degradation incurred.
Loss of vegetation communities and significant wetlands.	Avoid direct impacts on vegetation communities and protect significant wetlands. Avoid impacts to hydrological connectivity of significant wetlands.	Clearly delineate work areas using erosion fencing, or other barrier, to minimize potential impacts to hydrological connectivity from loss of riparian vegetation. Depending on site-specific conditions, such as steep topography and the presence of direct, or regular, surface water flow, the on-site environmental monitor may consider substituting other styles of fencing for erosion fencing, when appropriate. Where the temporary construction area is proposed to be within 5m of, but not overlapping by a method other than directional drilling, a wetland (excluding along existing municipal roads), design any permanent infrastructure (i.e., access roads) to be 5m from the wetland edge and plant native vegetation in the 5m buffer between the infrastructure and wetland	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring of the identified features to ensure the work area is clearly delineated for the duration of the construction and decommissioning phases of the Project. Undertake monitoring at least once per week when activities are occurring within 10m of a feature. Undertake regular monitoring of the feature to ensure the work area is clearly delineated and respected when construction is anticipated to occur within 10-30m of the features, at a minimum frequency of once per month. Depending on the season and site-specific conditions, such as topography, surface water flow patterns, and the presence or absence of vegetative buffers, monitoring frequency will be

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		edge as soon as reasonably practicable after construction. Re-vegetate cleared areas as soon as reasonably practicable after construction activities are complete.		increased at the discretion of the on-site environmental monitor. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Change in groundwater discharge affecting significant wetlands and Generalized SWHs.	To minimize direct impacts on significant wetlands and Generalized SWHs.	Monitor rate of water pumping and timing to meet the requirement of less than 50,000L per day, or otherwise obtain an appropriate permit from the Ministry of the Environment and Climate Change (MOECC) that addresses increased water taking, if more than 50,000L per day is required. Restrict taking of groundwater and surface water during extreme low flow time periods. Control quantity and quality of stormwater discharge using best management practices, and avoid direct discharge into wetlands, SWHs, and Generalized SWHs.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring of significant wetlands and Generalized SWHs to ensure the work area is clearly delineated within 10m of construction activities for the duration of the construction and decommissioning phases of the Project. This monitoring will be conducted at least once per week when construction is anticipated within 10m of a significant wetland or Generalized SWH. Undertake regular monitoring of significant wetlands and Generalized SWHs to ensure the work area is clearly delineated and respected when construction is anticipated to occur within 10-30m of the features, at least once per month. Depending on the season and site-specific conditions, such as topography, surface water flow patterns, and the presence or absence of vegetative buffers, monitoring frequency will be increased at the discretion of the on-site environmental monitor. Contingency: If impacts to groundwater discharge occur as a result of construction activities, the MNRF will be notified of appropriate contingency measures that will be implemented.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Changes on infiltration affecting significant wetlands and Generalized SWHs.	To minimize impacts to infiltration within significant wetlands and Generalized SWHs.	Minimize the use of impervious surfaces where practicable, such as utilizing and contouring permeable surface material (e.g. aggregate) to increase infiltration, and reduce surface water run-off.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental supervision will be implemented during construction as part of a routine inspection program to ensure adherence to the prescribed mitigation measures. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Changes in soil moisture regime affecting vegetation species composition within significant natural features, SWHs, and Generalized SWHs.	Avoid changes in soil moisture regime and vegetation species composition within significant natural features, SWHs, and Generalized SWHs.	Minimize the use of impervious surfaces where practicable, such as utilizing and contouring permeable surface material (e.g. aggregate) to increase infiltration, and reduce surface water run-off. Minimize paved surfaces and design roads to promote infiltration.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental supervision will be implemented during construction as part of a routine inspection program to ensure adherence to the prescribed mitigation measures. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Change in water quality affecting significant wetlands	Avoid changes to water quality (i.e. associated with increased turbidity) within significant wetlands.	Clearly delineate work areas using erosion fencing, or other barrier, to minimize potential impacts to water quality which may result from accidental loss of riparian vegetation. Apply dust suppressants to unpaved areas when necessary to suppress dust, as determined by the on-site environmental monitor and general contractor. Application frequency will vary, but will be determined by site specific weather conditions, including recent precipitation, temperatures, and wind speeds.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring of significant wetlands to ensure the work area is clearly delineated within 10m of construction activities for the duration of the construction and decommissioning phases of the Project. This monitoring will be conducted at a minimum frequency of once per week when construction is anticipated within 10m of a significant wetland. Undertake regular monitoring of significant wetlands to ensure the work area is clearly delineated and respected

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		On-site speed limits will be clearly posted, applied, and followed by construction staff. Re-vegetate areas adjacent to significant wetlands as soon as practicable after construction activities are complete. Install wind fences where determined to be necessary by the on-site environmental monitor. Installation of these fences will depend on site-specific conditions, including wind speeds, topography, land cover, and the extent of surrounding natural wind breaks. No use of herbicides (Project related activities only) within significant wetlands.		when construction is anticipated to occur within 10-30m of significant wetlands, at a minimum frequency of once per month. Depending on the season and site-specific conditions, such as topography, surface water flow patterns, and the presence or absence of vegetative buffers, monitoring frequency will be increased at the discretion of the on-site environmental monitor. Contingency: If reduced water quality (i.e. increased turbidity) as a result of construction activities is observed, the MNRF will be notified of appropriate contingency measures that will be implemented.
Invasive Seed Transfer	Avoid impacts to sensitive habitats and maintain vegetated buffers, including riparian zones.	Clearly delineate work areas using erosion fencing, or other barrier, to minimize seed transfer into suitable habitat. Regularly clean vehicles and equipment. Vehicle use will occur primarily on access roads and in agricultural habitats, where invasive and non-native vegetation species are less likely to be concentrated.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental supervision will be implemented during construction as part of a routine inspection program to ensure adherence to the prescribed mitigation measures. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Soil compaction within significant natural features, SHWs, and Generalized SWHs.	Avoid soil compaction within significant natural features, SHWs, and Generalized SWHs.	Minimize vehicle traffic on exposed soils during site clearing, grubbing, grading and topsoil removal. Clearly delineate the dripline and root zone of all trees within 10m of construction activities with erosion fencing or other barrier.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is	Monitoring: Environmental supervision will be implemented during construction as part of a routine inspection program to ensure adherence to the prescribed mitigation measures. Contingency: The magnitude of the residual effect is considered non-significant therefore no

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
			considered non-significant.	contingency is required provided the recommended mitigation measures and best management practices are applied.
Contamination of significant natural features, SWHs, and Generalized SWHs.	Avoid spills within 30m of significant natural features, SWHs, and Generalized SWHs.	The general contractor will develop and implement a spill response plan and train staff on appropriate procedures. The general contractor will develop a "frac-out" contingency plan and train staff on appropriate procedures during the construction phase. Keep emergency spill kits on site. Keep contact information for the MOECC Spills Action Centre in a designated area on-site. Dispose of waste material by authorized and approved off-site vendors. Store hazardous materials in designated areas. Locate all vehicle refuelling or washing, as well as the storage of chemical and construction equipment more than 30m from applicable features.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Regular environmental monitoring will occur at least once every two weeks during the construction and decommissioning phase to ensure vehicle refuelling and storage of chemicals is occurring more than 30m from the applicable features. An on-site environmental monitor will be present when active directional drilling is occurring within 30m of significant natural features, SWHs, and Generalized SWHs. Contingency: If "frac-out" occurs, immediately implement "frac-out" contingency plan. In the event of a spill notify the MOECC Spills Action Centre, immediately stop work, and ensure all efforts are made to completely remediate affected areas, especially prior to rain events. If a spill occurs within a significant natural feature, SWH, or Generalized SWH, the on-site environmental monitor will be notified and a follow-up site inspection will be conducted to document extent of degradation of the features, if any. If degradation of significant natural features, SWHs, or Generalized SWHs occurs as a result of the spill, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures, habitat remediation, and/or seeding of permanently damaged areas depending on the extent of degradation incurred.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Disturbance, displacement or mortality of wildlife.	Avoid disturbance, displacement, and mortality to wildlife.	On-site speed limits will be clearly posted, applied, and followed by construction staff throughout the construction and decommissioning phases. Re-vegetate disturbed areas of significant wildlife habitats as soon as practicable after construction activities are complete using an appropriate plant species composition for the habitat type.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental supervision will be implemented during construction as part of a routine inspection program to ensure adherence to the prescribed mitigation measures. Contingency: Wildlife fatalities due to construction and decommissioning activities will be documented and may be used to determine if any additional mitigation measures should be implemented.
Water bodies				
Damage to water body banks or removal of riparian vegetation adjacent to water bodies	Avoid accidental damage to water body banks or removal of riparian vegetation adjacent to water bodies.	Clearly delineate work area using erosion fencing or other suitable barrier to avoid accidental damage to water body banks, including damage to or removal of riparian vegetation. Place the erosion fencing, or other barrier, as far away as practical from the water body, and where possible from the average annual high-water mark of the water body (e.g. bankfull level or top of bank). The on-site environmental monitor may also consider substituting other demarcating types for fencing, such as staking and flagging, where it is determined that there is no apparent risk to water bodies. Locate directional drilling entry/exit shafts, if applicable, beyond the top of bank at a distance that allows the minimum depth, as established by geotechnical studies, to be reached while below the water body. This distance should be agreed upon with regulatory agencies. Operate construction equipment (i.e., cranes, back hoes, etc.) in a manner that minimizes disturbance to the water body	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring of the work delineation fencing at a minimum frequency of once per month to ensure damage has not occurred to the fencing, and boundaries are clearly delineated and respected when construction is occurring within 30m of a water body. Contingency: Accidental damage to riparian vegetation may require replanting of similar, native species, depending on the extent of damage incurred.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		banks and stays outside of the water body and bank area. Implement riparian planting after construction, as soon as weather permits, to stabilize water body banks and encourage rapid revegetation of disturbed soils. This will aid in preventing bank collapse and erosion, which, in turn, will minimize sedimentation and protect sensitive ecological functions that occur in water bodies. If insufficient time is available in the growing season to establish vegetative cover, overwintering treatments should be applied, such as erosion control blankets, fibre matting, rock (i.e. large, clean angular rocks) reinforcement/armouring or equivalent to contain the site over the winter period. Plant vegetative cover as soon as is feasible in the next growing season, followed by maintenance and inspection.		
Contamination of water bodies.	Avoid spills and contamination of water bodies.	Clearly delineate the work area and place the fencing/barriers, as far away as practical from the average annual high-water mark of the water body (e.g. bankfull level or top of bank). Locate directional drilling entry/exit shafts, if applicable, beyond the top of bank, at a distance that allows the minimum depth, as established by geotechnical studies, to be reached while below the water body. This distance should be agreed upon with regulatory agencies. Develop a Spill Response Plan (SRP) prior to commencement of construction and train staff on appropriate procedures. Keep emergency spill kits on site at all times. Keep contact information for the MOECC (Ministry of the Environment and Climate	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental monitoring will occur at least once every two weeks during the construction and decommissioning phase to ensure vehicle refuelling and storage of chemicals is occurring more than 30m from any water body. An on-site environmental monitor will be present when active directional drilling is occurring within 30m of a water body to identify "frac-out", if it occurs. Contingency: In the event of a spill, notify the MOECC Spills Action Centre, immediately stop work, and ensure all efforts are made to completely remediate affected areas, especially prior to rain events.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		Change) Spills Action Centre in a designated area on-site. Dispose of waste material by authorized and approved off-site vendors. Store fuel, hazardous materials, and other construction related materials securely away from any drainage features. Locate all vehicle refuelling or washing stations a minimum of 30m from any water body. Develop and implement an emergency "frac-out" response plan including steps to contain, monitor and clean-up in response to the event.		If a spill occurs within a water body, the on-site environmental monitor will be notified and a follow-up site inspection will be conducted to document extent of degradation of the features, if any. If degradation of a water body occurs because of the spill, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures, habitat remediation, and/or seeding of banks and/or riparian areas in permanently damaged areas, depending on the extent of degradation incurred. If "frac-out" occurs, immediately implement "frac-out" contingency plan, identified
Changes in infiltration and surface drainage patterns and run-off.	Avoid changes to infiltration and changes in surface drainage patterns and run-off.	Minimize the use of impervious surfaces, where practical, such as utilizing and contouring permeable surface material (e.g. aggregate) to increase infiltration, and reduce surface water run-off. Minimize vehicle traffic on exposed soils during site clearing, grubbing, grading and topsoil removal. Confine construction equipment to designated areas, controlled vehicle access routes to minimize the potential for soil compaction. Clearly delineate work areas using erosion fencing or other suitable barrier to avoid accidental damage to water body banks or removal of riparian vegetation. Place the erosion fencing, or other barrier, as far away as practical from the water body from the average annual high-water mark of the water body (e.g. bankfull level or top of bank). Avoid construction during high volume rain events and substantial snow melt/thaw	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring of the work delineation fencing at a minimum frequency of once per month to ensure damage has not occurred to the fencing, and boundaries are clearly delineated and respected when construction is occurring within 30m of a water body. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		events, where possible, to avoid risk of soil compaction.		
Erosion and sedimentation of waterbodies.	Avoid erosion and sedimentation of water bodies.	Develop and implement an erosion and sediment control (ESC) plan. Install, monitor, and maintain ESC measures (e.g. erosion fencing, blankets, straw bales, etc.) around the Project Location for the duration of the construction or decommissioning activities, as identified within the ESC plan. Clearly delineate work areas using erosion fencing or other suitable barrier to avoid accidental damage or removal of retained species. Erect erosion fencing, or other barrier, to correspond to the construction disturbance area limits and as far away as practical from the average annual high-water mark of the water body (e.g. bankfull level or top of bank). Depending on site-specific conditions, such as steep topography and the presence of direct, or regular, surface water flow, the on-site environmental monitor may consider substituting other styles of fencing, when appropriate. Utilize erosion blankets, silt fencing, straw bales, etc., for construction. Store any stockpiled material more than 30m from the average annual high-water mark of water bodies (e.g. bankfull level for intermittent/permanent watercourses). Schedule grading to avoid times of high run-off volumes, wherever possible. Where possible, time clearing, grubbing, and grading activities to avoid seasonally wet periods (i.e., spring and fall).	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring and routine inspections to ensure proper installation of erosion control measures are in place. Monitor sediment and erosion control measures, such as erosion fencing, and check dams daily in areas where work is taking place, and prior to, during, and after any storm events or significant snowmelt events. During extended rain or snowmelt periods, monitor erosion control measures daily. Monitor sediment and erosion control measures monthly in areas where active construction is not occurring until the construction phase is complete. Undertake regular monitoring of the work delineation fencing at a minimum frequency of once per month to ensure damage has not occurred to the fencing, and boundaries are clearly delineated and respected when construction is occurring within 30m of a water body. Contingency: If deficiencies in sediment and erosion control measures are noted, the on-site environmental monitor will notify the general contractor and the Proponent and recommend remedial actions. Silt fencing, or other applicable sediment and erosion control measures, that is not working properly will be corrected. If sedimentation and erosion control measures fail and/or degradation of a

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		Collect directional drill cuttings as they are generated and placed in a soil bin or bag for off-site disposal. Re-vegetate areas adjacent to water bodies, and directional drill entry/exit pits, to pre-construction conditions as soon as practical after construction activities are complete. Schedule construction activities within 30m of a water body to occur within the low flow period of the late summer months, where possible, to avoid or minimize impacts. Remove construction debris from the site and stabilize stockpiles, where practical, to prevent debris from entering the nearby water bodies. Develop a Flood Response Plan (FRP) to deal with on-site flooding in order to mitigate any possible effects to the aquatic environment.		water body occurs, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures, water body clean out and/or bank stabilization, depending on the extent of degradation incurred. Repair or replace any damaged fencing immediately
Groundwater discharge	Avoid direct impacts to water quantity/quality in water bodies.	Monitor rate of water pumping and timing to meet the requirement of less than 50,000 L per day per turbine location, and contact the local Ministry of the Environment and Climate Change (MOECC) if a total of more than 400,000 L per day situation arises. Restrict taking of groundwater and surface water during extreme low flow time periods. Control quantity and quality of stormwater discharge using best management practices, and avoid direct discharge into wetlands, SWHs, and Generalized SWHs. When discharging to a water body follow the ESC Plan and implement best management practices to avoid degradation of the water body. Adhere to MOECC water quality Policy 1 and 2 Standards for discharging to water bodies. If discharging to a municipal storm sewer system, ensure that water quality meets the	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Monitor water levels of adjacent water body during groundwater dewatering activities to determine if activities are resulting in alteration of water levels within the water body. Monitor endpoint of dewatering discharge for water quality and erosion (if dewatering). Conduct daily erosion checks during discharge of water. Monitor water quality (turbidity) prior to discharge, once a week thereafter or as described by agencies. Contingency: If impacts to groundwater discharge occur because of construction activities, the MNRF will be notified of appropriate

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		objectives of the municipal storm sewer by-law prior to discharge. Obtain water quality and turbidity samples prior to discharge to ensure the quality is suitable for discharge and will not result in an impact to the receiving water body. If the water quality is not suitable for discharge, identify alternate disposal locations or undertake all practical measures to upgrade water quality prior to discharge.		contingency measures that will be implemented.
Water Quality Impairment	Avoid degradation of surface water quality and changes in water quantity related to construction activities.	Clearly delineate the work area using erosion fencing, or other barrier, to minimize potential impacts to water quality which may result from loss of riparian vegetation. Place erosion fencing as far as practical from the average annual high-water mark of the water body (e.g. bankfull level or top of bank). Erect erosion fencing, or other barrier, to correspond to the disturbance area limits. Place the erosion fencing, or other barrier, as far away as practical from the average annual high-water mark of the water body (e.g. bankfull level or top of bank). Locate directional drilling entry/exit shafts, if applicable, beyond the top of bank, at a distance that allows the minimum depth, as established by geotechnical studies, to be reached while below the water body. This distance should be agreed upon with regulatory agencies. On site speed limits will be clearly posted, applied, and followed by construction staff to reduce fugitive dust. Apply dust suppressants to unpaved areas when necessary to suppress dust, as determined by the on-site environmental monitor and general contractor. Application	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Follow the ESC Plan monitoring commitments. Monitor surface water quality for turbidity prior to conducting in-water work or surface water dewatering. Conduct pre-construction sampling immediately prior to beginning work and during the same season in which work will be conducted, where possible. Locate pre-construction monitoring stations upstream of construction area to provide baseline conditions. Monitor surface water turbidity during the construction activity at a frequency relative to the proximity to the water body, duration of the construction activity, and type of construction activity, as determined by the Environmental Construction Monitor. Obtain water quality and turbidity samples prior to discharge to ensure the quality is suitable for discharge and will not result in an impact to the receiving water body. When discharging to a different drainage feature, monitor general water quality parameters as required to meet MOECC Policy 1 and 2 standards for discharging

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		frequency will vary, but will be determined by site-specific weather conditions, including recent precipitation, temperatures, and wind speeds. Install wind fences, where determined to be necessary by the on-site environmental monitor. Installation of these fences will depend on site-specific conditions, including wind speeds, topography, land cover, and the extent of surrounding natural wind breaks. Restrict taking of groundwater and surface water during extreme low flow time periods. If in-water work is required (e.g. for culvert installation and/or electrical collector line installation), adhere to required timing windows confirmed through consultation with regulatory agencies, including the MNRF. If required, perform in-water work in dry conditions, where possible. Where work in dry conditions is not possible, short-term, isolated surface water dewatering is required. Prior to dewatering, isolate the work area with the installation of a temporary water containment structure. The structure should form an impermeable enclosure that will prevent debris and sediment from escaping into the surrounding water body. Construct a bypass channel to maintain flow through the water body and prevent back flooding, which could ultimately overtop the water containment structure. Obtain applicable permits, where required, for surface water dewatering. Prior to surface water dewatering, obtain a Fish Salvage Plan, prepared by a qualified fisheries biologist and relocate fish to a suitable location, preferably downstream		to a water body. In addition, measure turbidity levels of water to be discharged. If the water quality is not suitable for discharge, identify alternate disposal locations or undertake all practical measures to upgrade water quality prior to discharge. Monitor water levels immediately before and during dewatering activities, to determine if dewatering activities are resulting in alteration of water levels within the water body. Monitor the discharge location for dewatering activities to ensure erosion and sedimentation of the receiving water body is not occurring. Monitor erosion and sediment control systems frequently for effectiveness at a minimum of once daily during discharge activities. Repair deficient controls in a timely manner and using an adaptive management approach when deemed appropriate. Monitor bypass channel (if applicable) daily to ensure it is functioning appropriately and water is flowing through as designed. Undertake regular monitoring of the work delineation fencing at a minimum frequency of once per month to ensure damage has not occurred to the fencing, and boundaries are clearly delineated and respected when construction is occurring within 30m of a water body. Contingency: If reduced water quality (i.e. increased turbidity) because of construction activities is observed, the MNRF will be

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		and away from the construction area, as detailed in the plan. Install an in-stream sediment filter (e.g. Siltsoxx or Filtersoxx) downstream of water containment structure. Dewatering discharge should be dissipated (i.e. splash pads, sand bags, hay bales, etc.) and may require splitting discharge to more than one location. Dewatering discharge rates should be evaluated to ensure they do not result in erosion and sedimentation to the receiving water body. If discharging to a municipal storm sewer system, ensure that water quality meets the objectives of the municipal storm sewer by-law prior to discharge. Re-vegetate disturbed area adjacent to water bodies as soon as practical after construction activities are complete.		notified of appropriate contingency measures that will be implemented. Repair or replace any damaged fencing immediately upon discovering an issue.
Alterations to water bodies.	To minimize fugitive dust deposits within water bodies.	On-site speed limits will be clearly posted, applied, and followed by construction staff. Apply dust suppressants to unpaved areas when necessary to suppress dust, as determined by the on-site environmental monitor and the general contractor. Application frequency will vary, but will be determined by site specific weather conditions, including recent precipitation, temperatures, and wind speeds. Re-vegetate cleared areas as soon as reasonably practical after construction activities are complete. Install wind fences where determined to be necessary by the on-site environmental monitor. Installation of these fences will depend on site-specific conditions, including wind speeds, topography, land cover, and the extent of surrounding natural wind breaks.	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Undertake regular monitoring and routine inspections to ensure proper fugitive dust control measures are in place. Monitor dust control measures at a minimum weekly frequency in areas where work is taking place. Monitor dust control measures at a minimum monthly frequency in areas where active construction is not occurring until the construction phase is complete. Contingency: If fugitive dust is noted, the on-site environmental monitor will notify the general contractor and the Proponent and recommend remedial actions, if necessary.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
				If fugitive dust control measures fail and degradation of water bodies occurs, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures, and/or seeding of permanently damaged areas depending on the extent
Emissions to Air, including Odour and Dust				
Reduction in air quality due to CAC emissions and dust.	Minimize deterioration of air quality.	Ensure proper operation and maintenance of vehicles and machinery to limit noise, CAC emissions and leaks. Use water or water-based dust suppressant to control dust on unpaved roads. Implement speed limits on unpaved roads. Minimize vehicular traffic on exposed soils and stabilize high traffic areas with clean gravel surface layer or other suitable cover material. Minimize mud tracking by construction vehicles along access routes and areas outside of the immediate work site, and ensuring timely clean-up of any tracked mud, dirt and debris. Cover or otherwise contain loose construction materials that have potential to release airborne particulates during transport, installation or removal. Restore temporary construction road areas as soon as possible to minimize the duration of soil exposure.	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Track all complaints and conduct follow-up monitoring (see Complaints Resolution Process in emergency Response and Communications Plan Section 7 of the Design and Operations Report (DOR)) Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation/compensation measures and best management practices are applied.
Noise				

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Increase in noise levels in Project study area.	Minimize noise increases for inhabited areas.	Ensure proper operation and maintenance of vehicles and machinery to limit noise, CAC emissions and leaks. Implement speed limits on unpaved roads. Construction equipment will be kept in good condition and will not exceed the noise emissions as specified in MOECC publication NPC-115 and any applicable municipal by-laws	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Track all complaints and conduct follow-up monitoring (see Complaints Resolution Process in emergency Response and Communications Plan Section 7 of the DOR) Contingency: Faulty equipment resulting in increased noise levels are to be repaired in a timely fashion.
Local and Provincial Interests, Land, Use and Infrastructure				
Increased congestion due to increase in truck traffic and short-term lane closures on local roads during delivery of Project components.	Minimize disturbance to local community and achieve zero human safety incident.	Notify the community in advance of construction delivery schedules and installing signage to notify road users of construction activity. If required by municipal authorities develop a traffic management plan for the construction phase and submit to the Municipalities prior to construction and communicate truck routes.	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Track all complaints and conduct follow-up monitoring (see Complaints Resolution Process in Emergency Response and Communications Plan Section 7 of the DOR) Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation/compensation measures and best management practices are applied.
Damage to local infrastructure.	Minimize damage to local infrastructure.	Adhere to the best practices regarding the operation of construction equipment and delivery of construction materials. If required by municipal authorities, undertake roads condition surveys prior to construction and post-construction.	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Track all complaints and conduct follow-up monitoring (see Complaints Resolution Process in Emergency Response and Communications Plan Section 7 of the DOR) Contingency: If required by local authorities, return damaged infrastructure to original condition (or better) where appropriate.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Areas Protected under Provincial Plans and Policies				
N/A	-	-	-	-
Public Health and Safety				
Effects on public health and safety during construction have been described above under Emissions to air, including Odour and Dust, Noise and Local and Provincial Interests Land Use and Infrastructure.	-	-	-	-
Other Resources				
Potential impacts to petroleum wells or facilities (APRD)	No negative effects on petroleum resources or the renewable energy project	As part of the APRD and as per the MNR "Template for Renewable Energy Projects: Setbacks from Petroleum Operations" a search was conducted using the OGSR database to identify any petroleum wells or facilities within 75 m of project infrastructure. The search concluded that there are no active petroleum wells or facilities existing within 75 m of the Project Location. Notice of the findings was reported to the local District MNR office.	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation measures and best management practices are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.

4.1.2 Operations

Table 4-2: Potential Negative Effects and Mitigation Measures – Operation

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Cultural Heritage				
Alteration of the visual character of a cultural heritage sites.	Minimize visual impact of recognized heritage sites.	Conduct a Heritage Assessment and apply measures recommended by the heritage specialist or by MTCS. Details of the Heritage Assessment can be found in the reports on this subject as part of the complete REA application package.	The Heritage Assessment was undertaken as per MTCS guidelines and no cultural heritage sites were identified. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation measures and best management practices are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Natural Heritage				
Disturbance of local wildlife (Amphibian Breeding Habitat)	Avoid disturbance and displacement of breeding amphibians.	If regular (non-critical) Project maintenance activities occur within 30m of significant amphibian habitats during the peak amphibian breeding season (April 15 – June 15), activities will be scheduled to occur during daylight hours to avoid excessive noise and/or light disturbances, within designated areas that have been identified as being vulnerable to direct impact. If regular Project maintenance activities within 30 m of significant amphibian breeding habitats must occur outside of daylight hours, spotlights will be directed downwards and/or away from the woodland. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken per MNRF guidelines and this Project is anticipated to receive approval from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental supervision will be implemented during operations as part of a routine inspection program to ensure adherence to the mitigation measures. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Damage to Significant natural features and SWHs	Protection of native vegetation species and local wildlife and their habitats.	Avoid herbicides (Project activities only) within 30 m of significant natural features or SWHs. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Environmental supervision will be implemented during operations as part of a routine inspection program to ensure adherence to the mitigation measures. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Direct disturbance or mortality of birds and/or bats due to operational wind turbines.	Avoid direct mortalities and disturbance to birds and/or bats.	Develop and implement a Bird and Bat EEMP in accordance with MNRF's Birds and Bird Habitats (OMNR 2011a) and Bats and Bat Habitats (OMNR 2011b). Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Post-construction monitoring will be conducted following the Birds and Bird Habitats (OMNR 2011a) and Bats and Bat Habitats (OMNR 2011b) provincial guidelines for a minimum of three years after the Project has become operational. Contingency: Annual reports which document the results of disturbance and mortality monitoring, will be prepared following each year that monitoring occurs. The reports will be submitted to the MNRF and the results presented in these annual reports will be used to determine if any additional mitigation measures should be implemented during the operational phase of this Project. Details of the post-construction monitoring program are found in the NHA documents.
Disturbance of local wildlife (Bird Species of Conservation Concern Habitats -	Avoid disturbance, displacement, and mortality to birds that might be breeding within these habitats and that are active at night.	If confirmed significant, schedule regular (non-critical) Project maintenance activities within 30 m of bird SCC habitats occur during the breeding bird period (May 1 – July 31), schedule these activities to occur during daylight hours to increase visibility	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Crepuscular Species)		and to avoid light pollution effects during the night. If increase visibility and to avoid light pollution effects during the night. Project maintenance activities within 30 m of significant wildlife habitats must occur outside of daylight hours, spotlights will be directed downward and/or away from the features. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	recommended mitigation/compensation measures are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Bird Species of Conservation Concern Habitats– Diurnal Species)	Avoid disturbance and displacement of breeding birds within significant natural features and significant bird species of conservation concern habitats. Minimize impacts on species that are relatively inactive at night and not accustomed to nighttime disturbances.	If regular (non-critical) Project maintenance activities within 30 m of significant bird SCC habitats occur during the breeding bird period (May 1 – July 31), schedule these activities to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife within designated areas that have been identified as being vulnerable to direct impact there is possibility of direct impact. If Project maintenance activities within 30m of significant wildlife habitats must occur outside of daylight hours, spotlights will be directed downward and/or away from the features. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken as per MNRF guidelines and this Project is anticipated to receive confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Open Country Bird Breeding Habitat).	Avoid disturbance and displacement of breeding birds within significant natural features and significant open country bird breeding habitats. Minimize impacts on species that are relatively inactive at night and not	If regular (non-critical) Project maintenance activities within 30 m of significant open country bird breeding habitat occur during the breeding bird period (May 1 – July 31), schedule these activities to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, within designated areas that have been identified as being vulnerable to direct impact.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
	accustomed to nighttime disturbances.	If Project maintenance activities within 30m of significant wildlife habitats must occur outside of daylight hours, spotlights will be directed downward and/or away from the features. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	residual effect is considered non-significant.	recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Waterfowl Stopover and Staging Area).	Avoid disturbance and displacement of staging waterfowl.	If regular (non-critical) Project maintenance activities occur within 30 m of waterfowl stopover and staging habitats during the most important period for staging waterfowl (March 1st – April 30th), all reasonable attempts will be made to schedule these activities to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, within designated areas that have been identified as being vulnerable to direct impact. If Project maintenance activities within 30 m of significant wildlife habitats must occur outside of daylight hours, spotlights will be directed downward and/or away from the features. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance of local wildlife (Butterfly Species of Conservation Concern Habitats)	Avoid disturbance, displacement and mortality of butterflies within significant butterfly species of conservation concern habitats. Minimize impacts on species that are relatively inactive at night and not accustomed to nighttime disturbances.	If regular (non-critical) Project maintenance activities occur within 30m of significant butterfly habitats during the flight season (May 1– September 30), schedule these activities to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, within designated areas that have been identified as being vulnerable to direct impact. If Project maintenance activities within 30 m of significant wildlife habitats must occur outside of daylight hours, spotlights will be directed downward and/or away from the features.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Incidental mortalities of butterfly species of conservation concern mortalities will be documented concurrently with the post-construction mortality monitoring occurring for birds and bats. Contingency: If any mortality of a butterfly species of conservation concern is observed during the first 3 years of post-construction mortality monitoring, MNRF will be informed of the occurrence.

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		Details of the NHA can be found in the reports on this subject as part of the complete REA application package.		
Disturbance, displacement and mortality of waterfowl.	Avoid disturbance, displacement and mortality of waterfowl.	Install high visibility markers on overhead lines installed within significant waterfowl stopover and staging area (aquatic) habitats, where applicable. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Avoid disturbance and displacement of roosting bats.	Avoid disturbance and displacement of roosting bats.	If regular (non-critical) Project maintenance activities occur within 30 m of significant bat habitats during the critical roosting period (June 1 – June 30), schedule these activities to occur during daylight hours to avoid excessive noise and/or light disturbances to wildlife, within designated areas that have been identified as being vulnerable to direct impact. If Project maintenance activities within 30m of significant wildlife habitats must occur outside of daylight hours, spotlights will be directed downward and/or away from the features. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Disturbance or loss of alvar habitats.	Avoid disturbance and loss of alvar habitats.	Develop an alvar Compensation Plan in consultation with the MNRF. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF.	Monitoring: The Alvar Compensation Plan will detail any specific monitoring requirements in relation to the compensation area(s). Contingency:

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
			The likelihood and magnitude of this residual effect is considered non-significant.	Any required contingency plan will be detailed in the Alvar Compensation Plan.
Disturbance or loss of tallgrass prairie habitats.	Avoid disturbance and loss of tallgrass prairie habitats.	Develop a Tallgrass Prairie Compensation Plan in consultation with the MNRF. Details of the NHA can be found in the reports on this subject as part of the complete REA application package.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The Tallgrass Prairie Compensation Plan will detail any specific monitoring requirements in relation to the compensation area(s). Contingency: Any required contingency plan will be detailed in the Tallgrass Prairie Compensation Plan.
Disturbance and displacement of reptiles.	To minimize the potential disturbance and displacement of reptiles.	Develop a Reptile Hibernacula Compensation Plan in consultation with the MNRF.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The Reptile Hibernacula Compensation Plan will detail any specific monitoring requirements in relation to the compensation area(s). Contingency: Any required contingency plan will be detailed in the Reptile Hibernacula Compensation Plan.
Contamination significant natural features and SWHs.	Avoid contamination of significant natural features and SWHs.	Develop a spill response plan and train staff on appropriate procedures. Keep emergency spill kits on site. Keep contact information for the MOECC Spills Action Centre in a designated area on-site. Dispose of waste material by authorized and approved off-site vendors. Store hazardous materials in designated areas.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this residual effect is	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: In the event of a spill notify the MOECC Spills Action Centre, immediately stop work, and ensure all efforts are made to

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
		Locate all maintenance activities, vehicle refuelling or washing, as well as the storage of chemicals and heavy equipment more than 30m from significant natural features and SWHs.	considered non-significant.	completely remediate affected areas, especially prior to rain events. If degradation of a significant natural feature or SWH occurs as a result of the spill, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures, habitat remediation, and/or seeding of permanently damaged areas depending on the extent of degradation incurred.
Damage to retained trees within significant woodlands and wildlife habitats.	Avoid impacts to retained trees within significant woodlands and wildlife habitats.	Prune any tree limbs or roots that are accidentally damaged by construction activities using proper arboricultural techniques.	The NHA was undertaken as per MNRF guidelines and this Project has received confirmation from the MNRF. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: Accidental damage to trees, or unexpected vegetation removal, may require replanting of similar, native species, depending on the extent of damage incurred.
Disturbance, displacement and/or mortality of wildlife.	Avoid disturbance, displacement, and/or mortality of wildlife.	On-site speed limits will be clearly posted, applied, and followed by all staff throughout the operational phase.	NA	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Water Bodies				

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
Water quality impairment	Avoid erosion and sedimentation of water bodies.	Schedule grading to avoid times of high runoff volumes, wherever possible and instances identified as being vulnerable to direct impact. Where possible, time vegetation clearing or maintenance activities to avoid seasonally wet periods (i.e., spring and fall) and to avoid times of high runoff volumes, wherever practical.	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation measures are applied. Contingency: Accidental damage to riparian vegetation may require replanting of similar, native species, depending on the extent of damage incurred.
Reduction in water quality	Prevent contamination of water bodies	Develop and Implement a Spill Response Plan and train staff on appropriate procedures. Dispose of waste material by authorized and approved off-site vendors. Store hazardous materials in designated areas. Locate all maintenance activities, vehicle refuelling or washing, as well as the storage of chemicals and heavy equipment a minimum of 30m away from water bodies.	The Water Body Assessment was undertaken as per MOECC guidelines and this Project is expected to receive confirmation from the MOECC. The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation measures are applied. Contingency: In the event of a spill notify the MOECC Spills Action Centre, immediately stop work, and ensure all efforts are made to completely remediate affected areas, especially prior to rain events. If degradation of a water body occurs as a result of the spill, appropriate contingency measures will be implemented, which may include re-establishing mitigation measures, habitat remediation, and/or seeding of banks and/or riparian areas in permanently damaged areas depending on the extent of degradation incurred.
Emissions to Air, including Odour and Dust				
Emissions of contaminants from maintenance vehicles.	Limit impact of maintenance vehicles on local air quality.	Ensure proper maintenance and operations of vehicles and machinery to limit noise, CAC emissions and leaks.	The likelihood and magnitude of this residual effect is	Monitoring: Track all complaints and conduct follow-up monitoring if required by regulation (see Complaints Resolution Process in

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
			considered non-significant.	Emergency Response and Communications Plan Section 7 of the DOR). Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Noise				
Increase in noise levels	Minimize noise level increases in the Project area. Comply with MOECC's permissible sound limits at all identified Points of Reception.	Apply the minimum REA setback distance of 550 m from non-participating PoRs. For all turbines, calculate noise levels at PoRs and design project to comply with MOE noise guidelines. Details of the NIA can be found in the reports on this subject as part of the complete REA application package.	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Implement the communications plan and address noise complaints during operations (see Complaints Resolution Process in Emergency Response and Communications Plan Section 7 of the DOR). Contingency: Faulty equipment resulting in increased noise levels are to be repaired in a timely fashion.
Local and Provincial Interest, Land Use and Infrastructure				
Reduction of forested areas.	Minimize reduction of forested areas.	Design project to minimize loss of forested areas. Implement Reclamation Strategy at the end of construction, namely to reinstate initial conditions on temporary areas used during construction. Compensate landowners on Project Location as per land lease agreement.	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation measures and best management practices are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Areas Protected under Provincials Plans and Policies				

Potential Effect	Performance Objective	Mitigation/Compensation Measures	Residual Effect	Monitoring / Contingency
N/A	-	-	-	-
Public Health and Safety				
Incidents resulting from ice drop.	No public health and safety incidents.	Design turbine layout to respect a 20m setback from blade tip of any building. Implement Communications Plan namely to inform local communities of icing events and place signs in areas with safety concern, when applicable. In most cases, turbines automatically shutdown during icing events. Operation of turbines is resumed only after appropriate confirmation of safety.	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: Track all complaints and conduct follow-up monitoring if required by regulation (see Complaints Resolution Process in Emergency Response and Communications Plan Section 7 of the DOR). Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.
Radio communication and Radar Systems				
Interference to systems from turbines.	Avoid interference to all identified and registered systems.	Design turbine layout to avoid radio communication systems (towers and microwave links) as per best practice setbacks. Notify and receive clearance from NAV CANADA, RCMP, GMCO, EC, CCG and DND.	The likelihood and magnitude of this residual effect is considered non-significant.	Monitoring: The magnitude of the residual effect is considered non-significant therefore no monitoring is required provided the recommended mitigation/compensation measures are applied. Contingency: The magnitude of the residual effect is considered non-significant therefore no contingency is required provided the recommended mitigation measures and best management practices are applied.

5 REFERENCES

[1] Ontario Regulation 359/09, made under the Environmental Protection Act, Renewable Energy Approvals under Part 1.0 of the Act.

[2] Technical Guide to Renewable Energy Approvals, Ontario Ministry of the Environment, 2017.

APPENDIX A – PROJECT LOCATION MAP

480000 482000 484000 486000 488000 490000 492000 494000 496000 498000

5008000 5006000 5004000 5002000 5000000 4998000 4996000 4994000

TOWNSHIP OF RUSSELL
UNITED COUNTIES OF PRESCOTT AND RUSSELL
MUNICIPALITY OF THE NATION
TOWNSHIP OF NORTH STORMONT
TOWNSHIP OF NORTH DUNDAS
TOWNSHIP OF SOUTH STORMONT
UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY

Crysler
Berwick
Finch
Chesterville

COUNTY RD 13
COUNTY RD 12
COUNTY RD 9
COUNTY RD 43
COUNTY RD 7
COUNTY RD 14
COUNTY RD 11

FARLEY RD
CON RD 10-11
CON RD 8-9
GOURVILLE RD
ASHBURN RD
MCDERMID RD
CON RD 6-7
SHEVENS RD
CARRUTHERS RD
KYLE RD
SHANE RD
9 MILE RD
OUDERKIRK RD
YELLE RD
MACMILLAN RD
MCLAUGHLIN RD
COULTHART RD
CON RD 7-8
CON RD 6-7
CON RD 6-4
CON RD 4-5
CON RD 2-3
FINCH/WINCHESTER BOUNDARY RD
MURPHY RD
GILBEAULT RD
COYNE RD
CRUMP RD
CONNAUGHT RD
KELLY RD
MANLEY RD
CON RD 1-2
ST LUKES RD
FINCH/OSNABRUCK BOUNDARY RD
WALDROFF RD
BOYNE RD
KITTLE RD
LOUCKS RD
GOLDFIELD RD
CASSELMAN RD
SMITH RD
HUNTERS RD
SANDTOWN RD
MAXRD
ZERAN RD
RIVER RD
FORWARD RD
LIMERICK RD

1 2 4 5 6 7 9 10 11 12 16 18 20 21 23 25 27 28 29 32 35 38 41 43 44 46 47 48 52 54 56 57 58

N

Legend

Project Components

- Wind Turbine (33)
- Substation, Switchyard
- Project Location
- Project Location (300 m)

Other Components

- Railway
- Local Road
- Secondary Road
- Existing HONI Transmission Line
- Municipal Drain
- Intermittent Watercourse (LIO)
- Permanent Watercourse (LIO)
- Contour (Interval: 5 m)
- Settlement Area
- Pit or Quarry
- City Lights Solar Project Area
- Woodlots (LIO)
- Wetland (LIO)
- Provincially Significant Wetland (LIO)
- Waterbody (LIO)
- Property Boundary
- County Boundary
- Municipal Boundary



0 250 500 1,000 1,500 2,000
Meters

Nation Rise Wind Farm

PROJECT LOCATION

001-1002027-170626-AD
Layout: L21

26 June 2017

DNV·GL

Projection: UTM Zone 18, NAD83

Sources: Land Information Ontario, ArcGIS Online, United Counties of Stormont, Dundas and Glengarry, United Counties of Prescott and Russell, DRAPE (Sept 2014), First Base Solutions (March 2017).

APPENDIX B – PROJECT LAND OWNERSHIP

PIN	Description of Parcels as Part of the Project Location			Type of Agreement	Status of the Agreement
	Lot	Con	Town		
601000055	(E 1/2) LOT 2	CON 12	FINCH	Wind Energy Lease	Agreement Obtained
601000059	(W 1/2) LOT 3	CON 12	FINCH	Wind Energy Lease	Agreement Obtained
601000107	(W 1/2 of W 1/2) LOT 2	CON 11	FINCH	Wind Energy Lease	Agreement Obtained
601000109	(E 1/2 of W 1/2 and W 1/2 of E 1/2) LOT 2	(N 1/2) CON 11	FINCH	Wind Energy Lease	Agreement Obtained
601000125	(W 1/2) LOT 5	CON 11	FINCH	Wind Energy Lease	Agreement Obtained
601000150	(W 1/2) LOT 1	CON 10	FINCH	Wind Energy Lease	Agreement Obtained
601000161	(W 1/2) LOT 2	CON 10	FINCH	Wind Energy Lease	Agreement Obtained
601000187	LOT 5	(S 1/2) CON 10	FINCH	Wind Energy Lease	Agreement Obtained
601000191	(W 1/2) LOT 6	CON 10	FINCH	Wind Energy Lease	Agreement Obtained
601010059	LOT 1	CON 9	FINCH	Wind Energy Lease	Agreement Obtained
	LOT 2	(S 1/2) CON 9	FINCH	Wind Energy Lease	Agreement Obtained
601010062	(W 1/2) LOT 3	CON 9	FINCH	Wind Energy Lease	Agreement Obtained
601010069	LOT 5	(N 1/2) CON 9	FINCH	Wind Energy Lease	Agreement Obtained
	(W 1/2) LOT 6	CON 9	FINCH	Wind Energy Lease	Agreement Obtained
601010084	LOT 6	(N 1/2 of N 1/2) CON 8	FINCH	Wind Energy Lease	Agreement Obtained
601010086	LOT 5	(S 1/2) CON 8	FINCH	Wind Energy Lease	Agreement Obtained
601010115	(E 1/2) LOT 5	(N 1/2) CON 8	FINCH	Wind Energy Lease	Agreement Obtained
601010117	LOT 5	(N 1/2) CON 7	FINCH	Wind Energy Lease	Agreement Obtained
601010128	(E 1/2) LOT 4	(S 1/2) CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601010129	(E 1/2) LOT 4	(N 1/2) CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601010133	LOT 2	CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601020053	LOT 6	CON 5	FINCH	Wind Energy Lease	Agreement Obtained
601020081	LOT 6	CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601020119	(E 1/2 of E 1/2) LOT 2	(N 1/2) CON 3	FINCH	Wind Energy Lease	Agreement Obtained
601020145	(W 1/2 of W 1/2) LOT 3	(N 1/2) CON 3	FINCH	Wind Energy Lease	Agreement Obtained
601020146	(W 1/2 of W 1/2) LOT 3	(S 1/2) CON 3	FINCH	Wind Energy Lease	Agreement Obtained
601030077	LOT 4	CON 2	FINCH	Wind Energy Lease	Agreement Obtained
601030124	(E 1/2) LOT 1	CON 1	FINCH	Wind Energy Lease	Agreement Obtained
601040059	LOT 9	(N 1/2) CON 2	FINCH	Wind Energy Lease	Agreement Obtained
601040147	LOT 8	CON 1	FINCH	Wind Energy Lease	Agreement Obtained
601040157	(E 1/2) LOT 10	CON 1	FINCH	Wind Energy Lease	Agreement Obtained
601040158	LOT 11	CON 1	FINCH	Wind Energy Lease	Agreement Obtained
601050056	LOT 7	(S 1/2) CON 5	FINCH	Wind Energy Lease	Agreement Obtained
601050062	(W 1/2) LOT 8	CON 5	FINCH	Wind Energy Lease	Agreement Obtained

PIN	Description of Parcels as Part of the Project Location			Type of Agreement	Status of the Agreement
	Lot	Con	Town		
601050069	LOT 9	(S 1/2) CON 5	FINCH	Wind Energy Lease	Agreement Obtained
601050072	LOT 10	CON 5	FINCH	Wind Energy Lease	Agreement Obtained
601050074	(W 1/2) LOT 11	CON 5	FINCH	Wind Energy Lease	Agreement Obtained
601050077	(E 1/2) LOT 11	CON 5	FINCH	Wind Energy Lease	Agreement Obtained
601050078	(W 1/2) LOT 12	CON 5	FINCH	Wind Energy Lease	Agreement Obtained
601050097	(W 1/2) LOT 7	CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601050102	(E 1/2) LOT 8	(N 1/2) CON 4	FINCH	Wind Energy Lease	Agreement Obtained
	LOT 9	CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601050104	(E 1/2) LOT 9	(N 1/2) CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601050107	(E 1/2) LOT 10	CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601050111	(E 1/2) LOT 11	CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601050112	LOT 12	(N 1/2) CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601050137	(E 1/2) LOT 8	CON 3	FINCH	Wind Energy Lease	Agreement Obtained
601050137	(W 1/2) LOT 9	CON 3	FINCH	Wind Energy Lease	Agreement Obtained
601050138	(E 1/2) LOT 9	CON 3	FINCH	Wind Energy Lease	Agreement Obtained
601050139	(W 1/2 of E 1/2) LOT 9	(S 1/2) CON 3	FINCH	Wind Energy Lease	Agreement Obtained
601050140	(E 1/2 of E 1/2) LOT 9	(S 1/2) CON 3	FINCH	Wind Energy Lease	Agreement Obtained
601050242	(W 1/2) LOT 10	CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601060073	LOT 9	CON 9	FINCH	Wind Energy Lease	Agreement Obtained
601060076	(W 1/2) LOT 10	CON 9	FINCH	Wind Energy Lease	Agreement Obtained
601060261	LOT 8	CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601060263	(W 1/2) LOT 9	CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601060265	(E 1/2) LOT 9	CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601060271	(W 1/2) LOT 10	(N 1/2) CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601060340	(E 1/2) LOT 7	CON 7	FINCH	Wind Energy Lease	Agreement Obtained
601060343	(PT of W 1/2) LOT 8	(PT of N 1/2) CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601060345	LOT 8	CON 7	FINCH	Wind Energy Lease	Agreement Obtained
601060376	LOT 7	(N 1/2) CON 8	FINCH	Wind Energy Lease	Agreement Obtained
	LOT 8	(N 1/2) CON 8	FINCH	Wind Energy Lease	Agreement Obtained
601060492	LOT 7	(S 1/2) CON 8	FINCH	Wind Energy Lease	Agreement Obtained
	LOT 8	(S 1/2) CON 8	FINCH	Wind Energy Lease	Agreement Obtained
601070110	(E 1/2) LOT 7	(N 1/2) CON 11	FINCH	Wind Energy Lease	Agreement Obtained
601070143	LOT 8	(E 1/2) CON 10	FINCH	Wind Energy Lease	Agreement Obtained
601080177	LOT 14	(N 1/2) CON 7	FINCH	Wind Energy Lease	Agreement Obtained
601080190	LOT 17	(S 1/2) CON 7	FINCH	Wind Energy Lease	Agreement Obtained
601080254	LOT 17	(N 1/2) CON 7	FINCH	Wind Energy Lease	Agreement Obtained

PIN	Description of Parcels as Part of the Project Location			Type of Agreement	Status of the Agreement
	Lot	Con	Town		
601090101	LOT 16	(N 1/2) CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601090102	(W 1/2) LOT 17	CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601090105	(E 1/2) LOT 17	CON 6	FINCH	Wind Energy Lease	Agreement Obtained
601090204	LOT 17	CON 4	FINCH	Wind Energy Lease	Agreement Obtained
601090208	(W 1/2) LOT 17	CON 5	FINCH	Wind Energy Lease	Agreement Obtained

About DNV GL

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