SUNCOR ENERGY
CEDAR POINT WIND POWER PROJECT
CONSTRUCTION PLAN REPORT

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Prepared for:

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Executive Summary

Suncor Energy Products Inc. ("Suncor") is proposing to develop the Suncor Energy Cedar Point Wind Power Project (the Project) within the Town of Plympton-Wyoming, the Municipality of Lambton Shores, and Warwick Township all within Lambton County, Ontario. The proposed Project was awarded a Feed-In-Tariff (FIT) contract with the Ontario Power Authority (OPA) in July, 2011 for up to 100 MW (FIT Contract F-002175-WIN-130-601).

It is envisioned that the proposed Project will include up to 46 wind turbines. The proposed Project would also include access roads, meteorological towers (met towers), electrical collector lines, substation, and a 115 kV transmission line. Suncor has elected to assess and seek approval for some alternative wind turbine locations. The Renewable Energy Approval (REA) application will consider up to nine (9) alternative turbine locations. Final selection of the turbine sites will be determined prior to Project construction and will be based on consultation activities, potential effects assessments, and detailed design / engineering work. The Project site plan is shown in **Attachment A**.

This Construction Plan Report is one component of the Renewable Energy Approval (REA) application for the Project, and has been prepared in accordance with Ontario Regulation 359/09 (O. Reg. 359/09), the Ontario Ministry of Natural Resources' (MNR's) *Approval and Permitting Requirements Document for Renewable Energy Projects* (September 2009), and MOE's "Technical Guide to Renewable Energy Approvals".

The following table summarizes the requirements of this report as specified under O. Reg. 359/09:

Construction Plan Report Requirements (as per O. Reg. 359/09 – Table 1)

Requirements	Completed	Section Reference
Set out a description of the following in respect of the renewable energy project:		
1. Details of any construction or installation activities.	✓	2.0
2. The location and timing of any construction or installation activities for the duration of the construction or installation.	✓	2.0 and Attachment A
3. Any negative environmental effects that may result from construction or installation activities.	✓	3.0
4. Mitigation measures in respect of any negative environmental effects mentioned in paragraph 3.	✓	3.0

Provided the identified protective and mitigation measures are properly applied to the environmental features discussed, in conjunction with the monitoring plans and contingency measures, the construction phase of the Project is not likely to cause net environmental effects.

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1.0 Project Overview

Suncor Energy Products Inc. ("Suncor") is proposing to develop the Suncor Energy Cedar Point Wind Power Project (the Project) within the Town of Plympton-Wyoming, the Municipality of Lambton Shores, and Warwick Township all within Lambton County, Ontario. The proposed Project was awarded a Feed-In-Tariff (FIT) contract with the Ontario Power Authority (OPA) in July, 2011 for up to 100 MW (FIT Contract F-002175-WIN-130-601).

It is envisioned that the proposed Project will include up to 46 wind turbines. The proposed Project would also include access roads, meteorological towers (met towers), electrical collector lines, substation, and a 115 kV transmission line. A full description of Project infrastructure is provided in the **Project Description Report**. The Project site plan is shown in **Attachment A**.

Suncor has elected to assess and seek approval for some alternative Project configurations. The Renewable Energy Approval (REA) application process will consider up to nine (9) alternative turbine locations. Final selection of the turbine sites will be determined prior to Project construction and will be based on consultation activities, potential effects assessments, and detailed design / engineering work.

Suncor has elected to assess and seek approval for some alternative Project configurations. The Renewable Energy Approval (REA) application process will consider up to nine (9) alternative turbine locations. Final selection of the turbine sites will be determined prior to Project construction and will be based on consultation activities, potential effects assessments, and detailed design / engineering work.

The Siemens SWT – 2.3 – 113 wind turbine has been selected as the wind turbine for the Project and details of the turbine are provided below in Table 1.1 and was used in the assessment of potential effects detailed below.

Table 1.1: Siemens SWT – 2.3 - 113 Turbine Description

Operating Data	Specification
General	
Rated Capacity (MW)	2.030 - 2.221
Cut-in wind speed (m/s)	3.0 (12.6 km/hr)
Cut-out wind speed (m/s)	25 (90 km/hr)
Rotor	
Number of rotor blades	3
Rotor diameter (m)	113
Swept Area (m^2)	10,000
Rotor/Rotational Speed (rpm)	6 - 13
Blade length (m)	55
Tower	
Hub height above grade (m)	99.5
Tip height (m)	154.5

The Cedar Point Wind Power Project is to supply electricity to the Provincial Grid at a connection point on a 500 kV circuit which spans between the Bruce Power nuclear facility and London, ON. In addition to the Cedar Point Wind Power Project transmission facility, the power generated by the project will be transported through a transmission facility owned by Jericho Wind, Inc. and a shared transmission facility jointly owned by Jericho Wind, Inc. (Jericho Wind Energy Centre), Kerwood Wind, Inc. (Adelaide Wind Energy Centre) and Bornish Wind, LP (Bornish Wind Energy Centre). The transmission facility owned by Jericho Wind, Inc. is to be permitted, designed, and constructed by Jericho Wind, Inc. Similarly, the shared transmission facility is to be permitted, designed, and constructed by its owners. For additional details regarding the transmission facilities owned by Jericho Wind, Inc., Kerwood Wind, Inc., and Bornish Wind, LP, please visit the following website (www.nexteraenergycanada.com) and refer to REA documentation for the proposed Jericho Wind Energy Centre.

The Project Location includes all land and buildings/structures associated with the Project and any air space in which the Project will occupy including temporary lands during construction ("constructible areas") as identified in **Attachment A**. The current land use of the Project lands is generally zoned as agricultural. During construction, constructible areas will be temporarily removed from agricultural production, portions of which will return to agricultural production following construction.

A "Zone of Investigation" has been identified based on the requirements of Ontario Regulation 359/09 (O. Reg. 359/09) and the Ministry of Natural Resources' (MNR) Approval and Permitting Requirements Document for Renewable Energy Projects (APRD). The zone of investigation encompasses the Project Location and an additional 120 m surrounding the Project Location (50 m surrounding collector lines and the transmission line). This report identifies natural features that are within the Zone of Investigation and assesses potential negative environmental effects that may result from construction activities. Mitigation measures are also identified to alleviate potential negative environmental effects.

This Construction Plan Report is one component of the REA application for the Project, and has been prepared in accordance with O. Reg. 359/09, the MNR's APRD, and the Ministry of the Environments' (MOE) "Technical Guide to Renewable Energy Approvals".

2.0 Construction and Installation Activities

The following table (2.1) provides a detailed description of all activities that will occur as part of the construction phase of the Project. All Project components to be installed including the constructible areas to be used for temporary construction/installation purposes are also described and are shown on the figures provided in **Attachment A**. Post-installation activities such as restoration of vegetation, remediation of impacted agricultural lands, and monitoring commitments are detailed in Section 3.0.

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles (QTY)	Materials Brought on Site
Land Surveying	A registered Ontario Land Surveyor will survey all Project access roads, collector lines/transmission line, substation/O&M building, and turbine locations as appropriate. Temporary work areas will also be surveyed to ensure construction vehicles and personnel stay within demarcated areas.	Pick-up Truck (2) ATV or Gator (2)	Survey stakes, iron spikes
Geotechnical Assessment	Detailed geotechnical work will be conducted prior to Project construction to inform the foundation design. Piezometers will be installed to determine the depth to ground water.	Pick-up Truck (2) Drilling Rig (1)	PVC Piezometer
Component Delivery	Turbine components are delivered on individual carriers specifically designed for wind turbine component transport. Specific permits will be acquired to permit the movement of large and oversized loads in the Province. A detailed transportation plan will be prepared restricting the routes that may be used for wind turbine component delivery to site. Turbine components will include five (5) tower sections, three (3) blades, three (3) power module components, two (2) hub pieces, one (1) nacelle for a total of 14 deliveries per turbine. Turbine components will be unloaded with the use of cranes and/or boom trucks. Additional heavy construction equipment or track mounted equipment will be shipped to site on float trailers. The cranes used to erect the turbine components will be transported to site disassembled in multiple transportation containers. The crane would be assembled/disassembled on site as required. Electrical components to be delivered will include spools of electrical cable, fibre optic cables, substation	Heavy haul trucks specific for wind turbine components (6-10) Heavy Cranes (2-3) Crawler or Wheeled-hydraulic Crane (1) Boom Truck (1-2) Telescopic Handler (1-2) Flatbed Transport Trucks (4-5)	Wind Turbine Components: tower sections, blades, hub, nacelle, power modules and unit transformer. Electrical cables/fibre optic cables Hydro poles Substation transformer, circuit breakers and E-house

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles (QTY)	Materials Brought on Site
	transformer, required circuit breakers, dead end structures, and a controls building. All these materials would be delivered on site via flatbed transport trucks and stored within the constructible area of the substation.		
Access Roads	Roads will be up to 15 m wide during the construction year while the constructible area for access roads will be up to 40 m wide (includes additional area for access road movement and workspace for construction purposes). Constructible areas have been reduced in size in areas where constraints exist (e.g. natural features). A total of approximately 39 km of access roads will be required. Access roads will incorporate "hammerhead" (or similar) truck turnaround areas near the turbine foundations and will be wider where turning of large construction equipment is required. Surface material will be stripped, stockpiled and reused to the extent possible during site landscaping (note that only the land to be used by the access roads will be stripped, not the entire constructible area). Granular materials will be placed on top of geotextile fabric to facilitate the removal of excess granular material after construction is complete. Typically, underground collector lines and fibre optic cables will be trenched immediately adjacent to the access roads within the constructible area. Access roads have been planned in a manner that reduces the amount of land required to access the turbine sites, thus reducing potential impacts on the existing environment. All access road locations were developed with the property owner in an attempt to reduce impact to agricultural practices. Damaged drainage tiles will be repaired. Following construction, access roads may be decreased in size to 5 m based on consultation with landowners.	Excavators (4) Dozers (2) Dump trucks (4) Drum Compaction (2) Wheel Tractor Scraper (2) Road Grader (3)	Granular 'A' and 'B' aggregate; Native material or engineered fill to the extent possible; Alternatively, a geotextile may be employed with a reduced granular material depth or a cement/soil stabilizing agent Drainage tile Culverts (PVC, Corrugated Steel or Concrete); Silt Fencing
Turbine Laydown Area & Crane Pads	Turbine components will be delivered to each turbine site and stored within the "Turbine Constructible Area" for each turbine shown on the Site Plan. These areas have been incorporated into the Project Location design by designating a constructible area (generally 140 m x 140 m wide around each turbine). Site preparation is required within these laydown areas to provide a level and safe working environment. The	Excavators (4) Dozers (2) Dump trucks (4) Drum Compaction (2) Wheel Tractor Scraper (2) Road Grader (3)	Granular Aggregate Geo-textile Fabric or Soil/Cement stabilizing agent Silt Fencing

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles (QTY)	Materials Brought on Site
	laydown areas will be prepared by stripping top soil and placing granular on top of geo-textile fabric. If turbine components are temporarily stored in the constructible areas, the areas will be restored following turbine erection to pre-existing conditions. Constructible areas are outside of all significant natural feature boundaries (e.g. wetlands and woodlands). A crane pad would be constructed within the turbine laydown area to support the lifting of turbine components. The crane pad will occupy a 20 m x 40 m space and will be constructed with heavier aggregate and designed to stabilize the heavy loads lifted by the crane. When the crane arrives, large timbers or steel matts may be placed on top of the crane pad for additional stability. Surface material will be stripped, stockpiled and reused to the extent possible during site landscaping. After construction, the crane pads will be removed and the native topsoil replaced to be used for agricultural purposes again.		
Turbine Foundation	The foundations for the turbines and the associated transformers are made of poured in place reinforced concrete. A unit transformer will be installed on a buried precast concrete vault adjacent to the wind turbine foundation. The final foundation design will be determined based upon the site-specific detailed geotechnical assessment to be carried out in the next phase of the Project. However, the foundation will likely be a gravitational raft type configuration, octagonal in shape with a diameter of approximately 18 m. The excavated area will be approximately 25 m x 25 m. The foundation is anticipated to be about 2.5 m deep. Although not anticipated at this site, if soil capacity is poor the foundations may require piles. Piling would be completed by installing steel piles attached to the foundation or by installing concrete piles. Regular inspections will be required by qualified geotechnical engineering personnel during excavations to confirm that conditions are safe and consistent with the requirements of the Occupational Health and Safety Act. Excavation is planned via mechanical means using hydraulic track mount excavators. Blasting is not anticipated as bedrock is not known to be shallow near the Project Location. The bottom of the completed	Excavator (1) Dozer (1) Dump truck (1-2) Ready-mix concrete trucks (4) Concrete pumping trucks (2) Construction crew pick-up trucks (6-8) Piling Rig (1-2)	Ready-mix concrete Grounding wire grid/ probes Rebar Conduit Steel anchor bolts and anchor ring Grout Drainage tile Steel or Concrete Piles

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles (QTY)	Materials Brought on Site
	excavation will be levelled by pouring a "mud mat" slurry mixture of Portland cement and native soils to make a safe hard working surface for grounding grid, anchor bolt and rebar installation. Should piles be required they would be installed prior to the completion of the rebar cage. Concrete will be transported on site and poured via 6 cubic meter Ready-mix trucks. Approximately 45 loads of concrete will be required per foundation. Concrete pumping trucks will be utilized to disperse concrete evenly during pours. The foundation itself is then back filled and compacted with select fill and native subsoil. The excavation takes approximately one (1) to two (2) days per foundation. Construction of each foundation (formwork, rebar placement and concrete pour) is completed within a week. The foundation then needs to cure for up to 28 days prior to erection of the turbine. Curing time will vary depending on type of concrete used for the site and temperature when foundations are poured.		
Water Taking	There may be a potential need to temporarily pump surface water seepage from the excavated turbine foundations. This will occur after rain events as drainage tiles drain the farm land into the foundation excavation. Surface water extraction is anticipated to be nominal and controllable with standard sump pumps. Historical groundwater elevation is below the depth of excavations. Any water pumped from excavated areas will be directed away from natural features, including wetlands. Withdrawal amounts are anticipated to be below the threshold of 50,000 L/day.	Sump pumps	Silt fencing Straw bales to control surface flows
Turbine Assembly	The heavy lift cranes will install the power module components of the turbine first on top of the foundation pedestal. The lower tower section is then lowered by the heavy lift crane around the power module components. The crawler crane is then assembled on the crane pad and completes the remainder of the lifts including the remaining tower sections, nacelle, and rotor assembly. The rotor consists of the hub and three blades and is hoisted into place by two cranes: the crawler crane does the heavy lifting, while a smaller crane stabilizes	Heavy lift cranes (2) Crawler or wheeled-hydraulic cranes (2-3) Telescoping Handler (1) Pick-up Trucks (4-6)	Temporary crane mats Support devices for temporary storage of wind turbine components.

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles (QTY)	Materials Brought on Site
	the components as they are being lifted. Alternatively, when wind speeds would not permit the lifting of the entire rotor, blades can be lifted and attached to the installed rotor separately. Each turbine parts are inspected for mechanical and electrical completion as per the Turbine Manufacturer's requirements. Navigation lighting is installed on those turbines required by regulators to be lit. The movement of the cranes between turbine sites will take place along the access and municipal roads. The crawler crane will be disassembled as required. In the unlikely event that cross field crossings is utilized, the crossings will be restricted to follow the underground collector line routes (where feasible).		
Collector Lines	Underground and/or overhead collector circuits (rated for 34.5 kV) carry the electricity from each step-up transformer from each turbine to the substation. Collector lines will be buried underground on private property from the turbine to the municipal road right-of-way where the collector lines may be underground or switched to overhead lines. Overhead lines, if used, will be constructed on wooden poles similar to distribution lines in the area. If large spans are required to cross a water feature or an existing overhead pole line, taller concrete poles may be used reducing the need for guy wires. When not associated with an access road, a constructible area of 20 m has been planned for the installation and micro-siting of the collector lines. Underground lines are buried at a minimum depth of 1 m so that agricultural production can continue on the lands above the collector lines. A total of 124 km of collection lines will be required. A rubber tire back hoe will be used to excavate the trench to house the underground cables ensuring that top soil and subsoils are stockpiled separately. Width of the trench will be dependent on the number of cables utilizing the trench. All construction activities will remain within the constructible areas. Cables will be placed in the trench on sand or native back fill along with fibre optic communication cables and warning tape. Drainage tiles damaged during excavation will be repaired by a qualified drainage expert. The trenches will be back filled and	Rubber tire back hoe (4) Utility bucket truck (3-6) Auguring truck (1) Pole trailer (1) Reel stand vehicles (2-3) Conductor puller vehicle (2-3) Tensioner vehicle (2-3) Directional Drilling Rig (1-2)	Wooden utility poles Guy wires Concrete Conduit Sand Granular Underground collection system cable Grounding cable Fibre optic cable

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles (QTY)	Materials Brought on Site
	compacted and top soil will be replaced. Where collector cables cross ditches or environmentally sensitive features, a directional drill rig will be utilized to install a conduit under the feature to avoid disturbance. The cables will then be pulled through the conduit. If collector lines are required to be on overhead pole lines, a track auger or hydro vac will be utilized to excavate holes for the poles within the Municipal road right of way. Insulators and wires would be strung from spools using multiple utility bucket trucks.		
Transformer Substation	The substation site would house the transformers, switching, control, protection, communication and metering equipment required to support the operation of the substation. A prepared area of approximately 23,600 m^2 in size is anticipated. Surface material will be stripped, stockpiled and reused to the extent possible during site landscaping. The grounding design of the substation will be informed through an investigation of earth resistance at the location and ground grid resistance designed to industry standards. The substation will be built in accordance with the current regulations and standards. The grounding grid would be excavated, installed and backfilled. Foundation pedestals would be poured to house electrical components (transformers, breakers, and dead end structures) as well as for the Control Building. Collector lines would be trenched and terminated at the 34.5 kV bus. Within the substation footprint itself, the two transformers will be equipped with oil containment system to capture oil in the event of a leak. The oil containment system is sized based on the volume of the oil from both transformers. Additionally, the oil containment system will be designed to distinguish between oil and water to only let water pass through the system. This will allow rain water to drain off the site through normal operation of the facility when no oil leaks are detected. A sound attenuation wall will be installed along the west side of the transformers to minimize the escape of noise into the surrounding environment (5 m high). An approximate 2.4 m high perimeter chain link fence	Dozer (1) Grader (1) Dump truck (1) Ready-mix concrete trucks (1) Flatbed Transport (2) Utility Pole Truck (2-3)	Engineered fill and crushed stone Concrete Chain link fence Sound attenuation wall Grounding Grid Electrical transformers (2) & spill containment Wooden utility poles

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles (QTY)	Materials Brought on Site
	will enclose the substation for safety reasons.		
Transmission Line	A 115 kV overhead transmission line will be installed between the transformer substation (near Fuller Road and Cedar Point Line) and a substation to be built by NextEra as part of the Jericho Wind Energy Centre (located near Jericho Road and Thomson Line). The transmission line will connect to the NextEra substation via a circuit breaker directly within the substation. Portions of the transmission line may be required to be buried under ground due to environmental constraints. The transmission line will be constructed in a similar manner as the collector lines. Typically, a 20 m wide (66 feet) cleared area of tall vegetation is required for the transmission line (when overhead). The transmission line is approximately 14 km in length.	Rubber tire back hoe (4) Utility bucket truck (3-6) Auguring truck (1) Pole trailer (1) Reel stand vehicles (2-3) Conductor puller vehicle (2-3) Tensioner vehicle (2-3)	Wooden/concrete utility poles Guy wires Concrete Conduit Sand Granular
Temporary Staging Area	A temporary staging area will be located at the transformer substation location, prior to its construction, for the purpose of: • Portable construction and Owner's offices; • Parking areas for Contractor, Subcontractors and Other Contractors; • Portable generators; • Water and rinsing facilities (water to be brought in by tanker); • Equipment storage and maintenance area; • Storage of approved above ground temporary diesel and gasoline fuel tanks, in properly sized spill containment structures; • Disposal facilities for various solid wastes; • Temporary toilet facilities – self-contained with no on-site disposal (additional facilities will be located throughout the Project Location); • Waste disposal containers; • Laydown areas for materials, equipment; and, • Laydown areas for electrical power collection materials. • Storage of construction materials will cease upon completion of construction.	Excavators (1) Dozers (1) Dump truck (1) Drum Compaction (1) Security Vehicle (1)	Engineered fill and crushed stone Temporary Fencing if required

Table 2.1: Construction and Installation Activities

Activity	Description of Activities	Construction Vehicles (QTY)	Materials Brought on Site
Operations and Maintenance Building	An operations and maintenance building will be constructed within the constructible area of the substation and would be used to store spare parts/vehicles and monitor the day to day operations of the facility. Servicing would be provided via a buried septic tank (pumped out via a licensed third party) and municipal water supply. Permits for these services will be sought from the Municipality of Lambton Shores.	Dozers (1) Rubber Tire excavator (1) Ready-mix concrete trucks (1) Boom truck (1) Pick-up trucks (1)	Engineered fill or crushed stone Metal prefabricated building Concrete Rebar Chain link fencing
Stormwater Management System	Area drainage from the transformer substation will be accomplished through swales/ditches adjacent to the proposed substation that will collect and convey runoff from the substation area and the associated access road. The total drainage area associated with the substation and access road "hard" surfaces is less than 2 ha and therefore a "wet" water quality control pond (i.e. one containing a permanent pool) is inappropriate, as per the MOE SWM Planning and Design Guidelines Manual (2003). The swales will also provide water quality control, which is a suitable stormwater management practice for such an area according to the MOE guidelines.	Rubber tire excavator (1) Pick-up trucks (2-3)	Bales of hay/wooden stakes; Aggregate
Permanent MET Towers	Three permanent met towers would be installed for use during the operation phase of the Project. The met towers would be a steel lattice structure approximately 80 to 100 m high. The tower foundation design is dependent on ground conditions and is typically a steel reinforced concrete-filled pedestal foundation. The tower would either be freestanding supported entirely by the foundation or would have guy wires for lateral support anchored with reinforced buried concrete. Power and data cabling for the tower would be trenched in from the nearest collector line system. The construction area would be restored at the end of the construction phase as necessary.	Rubber Tire excavator (1) Ready-mix concrete trucks (1) Boom truck (1) Pick-up trucks (1)	Ready-mix concrete Grounding wire probes Rebar Lattice tower/guy wires Meteorological sensors and data logger

2.1 MATERIAL AND LABOUR REQUIREMENTS

The estimated materials brought on site for the construction and installation of the various Project components (e.g. access roads, foundations) are detailed below. Additional materials brought on site include Project infrastructure described above such as turbines and transformers and construction vehicles. It is anticipated that the following quantities of materials may be required for the construction of the Project:

- Granular Material – 350,000 m^3
- Geotextile for roadways and crane pads – 500,000 m^2
- Cement (provided by ready mix trucks) – 25,000 m^3

Hazardous materials to be used during the course of construction are related to fuels, lubricants and fluids that are required for use in construction equipment. These materials will be stored in appropriate storage units during the construction phase of the Project by the Construction Contractor. Designated storage unit areas and the type of storage units will be confirmed by the Construction Contractor prior to construction. Fueling of construction vehicles will take place within designated fueling areas such as the area around the transformer substation.

It is envisioned that 100% of the peak labour force may be supplied through local and neighbouring communities. Consequently, no special housing, healthcare, or food facilities will be required as part of the Project's activities. On-site construction activities will be limited to daylight hours, unless approved by the local government.

2.2 COMPONENT TRANSPORTATION TO THE GENERAL AREA

The turbine manufacturer/Suncor will be responsible for the transportation of all wind turbine components to the project site. The manufacturer/Suncor will be completing a transportation study to determine the route of Project materials to the general area. This information will be provided to the local municipalities and County prior to component transportation to the area. Along the component transportation route, intersections may require road widening to accommodate the turning radius of the transport vehicles (to be determined as part of the transportation study). As appropriate, the manufacturer and/or Suncor will be responsible for acquiring permits and assessing any potential associated effects (where appropriate) for any road upgrades or other uses required for component transportation. Suncor will pay for any temporary or permanent road widening activities and structural upgrades required as a result of Suncor's construction activities. Once the full road requirements have been finalized, detailed plans including maintenance of the municipal roads will be developed with local municipalities and County as appropriate.

2.3 TIMING AND CONSTRUCTION PLANS

During the construction phase of the Project, Suncor can provide continuous updates of construction activities to the County and local municipalities to ensure staff are aware of daily construction activities.

Table 2.2: Construction Activities – Projection and Schedule

Phase Details	Schedule
Surveying	September 2013 – February 2014
Delivery of construction materials, site preparation, construction of access roads and crane pads	February 2014 – November 2014
Installation of wind turbine foundations	February 2014 – August 2014
Wind turbine erection	May 2014 – December 2014
Installation of electrical components	March 2014 – December 2014
Reclamation of temporary work areas, final grading, topsoil replacement	August 2014 – June 2015
Project Testing	October 2014 – December 2014
Commercial Operation	December 2014

Note: Construction activities will take place during normal business hours. When construction is anticipated to be required outside of normal business hours, the timing will be discussed in advance with the County and/or municipalities. In the event changes are required to the proposed construction schedule, updated construction schedules can be provided to the public through postings on the Project website (www.suncor.com/cedarpointwind). The construction schedule is based on current knowledge of process and timelines at the date of writing this report.

2.4 TEMPORARY USES OF LAND

As identified in table 2.1 and the extent of which is shown in the figures in **Attachment A**, the lands to be temporarily used during the construction of the Project include:

- constructible areas adjacent to the turbine sites, and access roads;
- the temporary staging area located at the substation site; and,
- constructible areas adjacent to the collector cables.

The requirements for these temporary areas including upgrades and restoration are described in Table 2.1. For example, wind turbine components (e.g. blades) will be temporarily stored within the turbine constructible areas adjacent to the turbine foundations prior to erection.

Following the completion of construction, as appropriate, lands temporarily used during the construction would be graded and de-compacted (if required), the topsoil replaced, and the area left as close to pre-existing condition as possible.

2.5 WASTE MATERIAL DISPOSAL

Waste materials brought to the site that will require removal include; equipment packaging, wooden cable spools, lubricants, oily rags and will require reuse, recycling, and/or disposal at an appropriate MOE-approved off-site facility.

Sanitary waste generated during the construction phase will be collected via portable toilets and wash stations supplied by a licensed third party who will be retained prior to the start of major construction activities. The excavated area for the foundations and other infrastructure will consist of surface and subsurface materials. These materials excluding excavated top soil will require removal from the site and disposal at an approved off-site facility. This will require the use of large dump trucks that are capable of transporting heavy loads of excavated material. The exact type of truck and number of truck trips required for the removal of stones and other excavated material will be determined and confirmed by the Construction Contractor prior to construction of the Project. The excavated soil removed for installation of infrastructure will be re-used on site as feasible. If not feasible, the soil will be disposed of at an MOE-approved off-site facility to be determined by the Construction Contractor and discussed with the County. Should contaminated soil be encountered during the course of excavations, the contaminated material will be disposed of in accordance with the current appropriate provincial legislation, such as Ontario Regulation 347, the General – Waste Management Regulation.

There will be no long-term on-site storage of waste during the construction of the Project and final disposal of waste will be conducted by a third-party contractor at an MOE-approved facility.

2.6 ACCIDENTAL SPILLS

Standard containment facilities and emergency response materials (spill kits) will be maintained on-site as required. Refueling, equipment maintenance, and other potentially contaminating activities will occur in designated areas only.

In the event of a potential discharge of fluids associated with the Project, Suncor will determine the source of the spill and the extent of contamination. Containment facilities and emergency response materials will be used to minimize the extent of any contamination. Suncor will then assess the extent of contamination (e.g. soils, surface water, and groundwater) and rectify the contaminated lands/water. For example, once a spill is under control, Suncor will remove contaminated soil and dispose of it in accordance with the current appropriate provincial legislation, such as Ontario Regulation 347, the General – Waste Management Regulation and the site will be restored. The Emergency Response Plan will contain procedures for spill contingency and response plans (including any required monitoring), spill response training, notification procedures, and necessary cleanup materials and equipment. As per s.13 of the *Environmental Protection Act*, all spills that could potentially have an adverse environmental effect, are outside the normal course of events, or are in excess of prescribed regulatory levels should be reported to the MOE's Spills Action Centre.

3.0 Potential Effects and Mitigation Measures

The following construction-specific potential effects, mitigation measures, monitoring and contingency plans have been identified and analyzed for negative environmental effects that may result from construction/installation activities within the zone of investigation (see Table 3.1).

A description of the existing natural environment can be found within the Natural Heritage Assessment/Environmental Impact Study (NHA/EIS), Heritage and Archaeological Report, and Water Assessment and Water Body Report. Where a significant natural feature is located within the zone of investigation, a detailed analysis of the potential effects is provided in the NHA/EIS and Water Assessment and Water Body Report. The construction site plan (Attachment A) clearly identifies all natural features within the zone of investigation and the Project Location in relation to the natural feature.

The Construction Contractor would be the primary party responsible for the implementation of construction effects monitoring. Implementation of these measures would be undertaken in compliance with applicable municipal, provincial, and federal standards and guidelines.

Potential effects associated with accidental spills will be mitigated and responded to in accordance with the information contained above in Section 2.6.

Table 3.1: Potential Environmental Effects and the Environmental Effects Monitoring Plan during Construction

Environmental Feature	Potential Effect	Performance Objective	Mitigation Strategy	Monitoring Plan and Contingency Measures	Net Effects
Heritage and Archaeological Resources[1]					
Protected Properties and Heritage Resources	• Although heritage structures (not protected properties) were determined to have cultural heritage value or interest, no direct or indirect impacts are anticipated. • As no cultural heritage landscapes were determined, there are no adverse impacts anticipated to the cultural heritage landscape. • As no protected properties are located at or adjacent to the Project Location, there are no adverse impacts anticipated to protected properties.	• Minimize potential impacts to protected properties and heritage resources. • Avoid the use of protected properties and heritage resources.	• None	• None	• No direct or indirect impacts are anticipated.
Archaeological Resources	• Encounter non-documented archaeological resources during construction activities such as excavation and component installation.	• Document and/or removed (as appropriate) archaeological resources from the Project Location prior to construction.	• All work within the vicinity of an archaeological find would be suspended and a Ministry of Tourism and Culture archaeologist and aboriginal communities would be contacted.	• In the event that human remains are encountered or suspected of being encountered before or during construction, all work would stop immediately. Notification would then be made to the Ontario Provincial Police or local police.	• No net effects are anticipated known archaeological resources during construction.
Natural Heritage Resources[2]					
Significant Wetlands	• Indirect impacts such as dust generation, sedimentation, and erosion from construction activities including excavation, drilling, and use of dirt roads. • Change in surface water drainage to wetlands as a result of Project infrastructure (access roads) or site grading/compaction. • Loss of wetland habitat function.	• Minimize potential impacts to significant wetlands. • No direct loss of wetland habitat.	• Project Location is located outside of wetland boundaries thus there will be no direct loss of wetland habitat. • Construction contractor to ensure no work occurs outside of the limits of construction envelope. • Minimize alteration to surface water drainage patterns and installation of culverts as required to maintain flows. • Stockpiling of materials will not occur within 30 m of wetland boundary. • If crossing of a wetland is required by a collector line, horizontal directional drill (HDD) under the wetland boundary. • Erosion control devices will be installed at the HDD location and drill cuttings will be collected and removed from the site for disposal in an approved and appropriate manner. • No clearing of trees in or near any wetlands that could result in wetland desiccation or drying. • Silt barriers (e.g., fencing) will be erected along the edge of wetland boundary.	• Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of wetlands. • Inspection of the erosion and sediment controls after each significant rainfall event or weekly, whichever is more frequent. • Inspection of culverts and surface drainage patterns to wetlands. Grading and/or other surface water flow mitigation measures to be implemented if proposed mitigation measures do not function properly. • If siltation to a wetland occurs, related construction activities should cease immediately until the situation is rectified.	• No net effects are anticipated. • No direct loss of wetland habitat is proposed. • No anticipated disruption of wetland function.
Areas of Natural and Scientific Interest	• As no Areas of Natural and Scientific Interest were identified, there are no anticipated impacts	• N/A	• N/A	• N/A	• None
Valleylands	• As no valleylands were identified, there are no anticipated impacts	• N/A	• N/A	• N/A	• None
Significant Woodlands	• Indirect impacts such as dust generation, sedimentation, and erosion from construction activities including excavation, drilling, and use of dirt roads. • Temporary disturbance to woodland habitat from	• Minimize potential impacts to significant woodlands. • Minimize direct loss of woodlands.	• Install components in previously cleared areas. • Where development is planned within a woodland boundary, clearing to take place along outer edges of the woodlot to prevent fragmentation. • To the extent practical, pruning/tree removal would	• Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of woodland vegetation. • Inspection of the erosion and sediment controls	• Minimal direct impacts to woodlands. • No net effects are anticipated given the

[1] Suncor Energy Cedar Point Wind Project – Stage 1 and 2 Archaeological Assessments and Heritage Assessment Report
[2] Suncor Energy Cedar Point Wind Project – Natural Heritage Assessment / Environmental Impact Study

Table 3.1: Potential Environmental Effects and the Environmental Effects Monitoring Plan during Construction

Environmental Feature	Potential Effect	Performance Objective	Mitigation Strategy	Monitoring Plan and Contingency Measures	Net Effects
	construction related noise. • Minimal pruning of trees in order to transport turbine components into proposed turbine locations. • Removal of trees to accommodate the installation and use of the transmission line.		be avoided during leaf fall, typically between September to November and be completed prior to or after the breeding season for migratory birds (May 1 to July 31). • As appropriate and prior to construction, the limits of tree pruning/clearing would be marked in the field. The Construction Contractor would ensure that no construction disturbance occurs beyond the marked limits. • Cleared trees would be provided to the landowner for personal use and/or sale in an attempt to minimize waste. • If required, replanting of native species and restoration of damaged areas with native species. • Adherence to the principles of any tree-cutting bylaws such as replacement requirements.	after each significant rainfall event or weekly, whichever is more frequent. • Should pruning/removal be required during the breeding bird season, prior to construction, surveys will be undertaken to identify the presence/absence of nesting birds. If a nest is located, a designated buffer would be marked off within which no construction activity would be allowed while the nest is active. The radius of the buffer width ranges from 5 - 60 m depending on the species. • One year post-pruning a certified arborist would undertake an evaluation of the health of the pruned trees. • Post-construction monitoring to ensure re-vegetated areas are functioning properly. Additional replanting/restoration in the event that previous works were unsuccessful.	mitigation and contingency measures proposed.
Provincial Parks and Conservation Reserves	• As no Provincial Parks and Conservation Reserves were identified, there are no anticipated impacts	• N/A	• N/A	• N/A	• None
Significant Wildlife Habitat (includes birds, bats, amphibians and other wildlife)	• Indirect impacts such as dust generation, sedimentation, and erosion from construction activities including excavation, drilling, and use of dirt roads. • Amphibian road mortality. • Disturbance/removal to vegetation within Significant Wildlife Habitat. • Temporary disturbance to Significant Wildlife Habitat from construction noise and activities. • Fragmentation of habitat. • Changes in surface water patterns adversely affecting Significant Wildlife Habitat.	• Minimize potential impacts to significant wildlife habitat. • Minimize direct loss of Significant Wildlife Habitat.	• All new access roads are proposed in previously cleared agricultural lands. • Minimize construction activities adjacent to significant wildlife habitat during sensitive periods (i.e. the breeding season). • Where development is planned within significant wildlife habitat, clearing to take place along outer edges of the feature to prevent/minimize fragmentation. • Minimal alteration to surface water drainage patterns is proposed and culverts will be installed as required to maintain existing flows. • Restriction of construction activities primarily to daytime hours when breeding amphibian movement is less likely. • Vehicle speeds should be restricted to 30 km/h or less on access roads. • Silt barriers (e.g., fencing) will be erected along the edge of features when construction is proposed adjacent to the feature.	• Undertake studies to determine the actual use of the habitat prior to any construction activities occurring within 120 m of the habitat (species dependent, see NHA/EIS). Results to be provided to the MNR. • Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation.	• Minimal if any net effects to wildlife as a result of limited loss of habitat. • Minimal if any alteration of groundwater or surface water flow is anticipated from the Project. • No fragmentation of habitat is anticipated. • Minimal disturbance to local amphibian populations due to increased activity during construction as construction is temporary.
Vegetation (not considered as part of a significant natural feature)	• Removal and/or damage as a result of construction activities such as site clearing/grading and component installation,	• Minimize the amount of vegetation to be removed and/or impacted.	• Avoid vegetated areas in the design of the Project. • As appropriate and prior to construction, the limits of the constructible areas including vegetated areas to be cleared would be marked in the field. The Construction Contractor would ensure that no construction disturbance occurs beyond the marked limits. • Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation. • Replanting of native species when removal is required and restoration of damaged areas with	• Post-construction monitoring to ensure re-vegetated areas are functioning properly. Additional replanting/restoration in the event that previous works were unsuccessful.	• No net effects are anticipated given the minimal amount of vegetation that is anticipated to be impacted and given the replanting/restoration efforts to be undertaken.

Table 3.1: Potential Environmental Effects and the Environmental Effects Monitoring Plan during Construction

Environmental Feature	Potential Effect	Performance Objective	Mitigation Strategy	Monitoring Plan and Contingency Measures	Net Effects
			native species. • Adherence to the principles of any tree-cutting bylaws including replacement requirements.		
Water Bodies and Aquatic Resources					
Groundwater	• Encounter groundwater during excavations	• No impacts to private residential wells. • No effects on groundwater quality or quantity.	• Seepage (surface water) into excavated areas is anticipated to be nominal and controllable with standard sump pumps. • Any water pumped from excavated areas will be directed away from natural features, including wetlands. • Withdrawal amounts are anticipated to be below the threshold of 50,000 L/day.	• If private well water quality or quantity is disturbed as a direct result of construction, Suncor will provide a temporary potable water supply until corrective measures are taken and will comply with MOE Guideline B-9: Resolution of Groundwater Interference Problems.	• It is anticipated any potential effects would be short term in nature and have little to no effect on groundwater quality and adjacent private water wells.
Surface Water, Fish, and Fish Habitat[3]	• Increase in watercourse turbidity. • Disturbance to aquatic biota and habitat during access road/culvert installation. • Permanent enclosure of portions of a watercourse. • Loss of bed material within the culvert structure. • Disturbance or loss of riparian vegetation. • Collapse of punch and bore hole under watercourse (underground collector line). • Introduction of deleterious substances to watercourse during machinery fording (underground collector line)	• Vegetation removal on the slopes of watercourses to be minimized to the extent possible. • Minimize the risk of slope failure and siltation. • Minimize impacts to fish and fish habitat.	• No wind turbines have been located within 30 m of the average annual high water mark of a lake or a permanent or intermittent watercourse • Collector line crossing will be completed via horizontal directional drill activities to avoid disturbance of the surface water body. • Applicable DFO Operational Statements to be followed to protect fish and fish habitat. • All in-water work should have regard for in-water construction timing windows. • Erect silt fence before grading begins (along water body edges located within 30 m of construction work areas). • Direct runoff via swales and erosion control berms (where necessary). • Install temporary rock check dams in swales where appropriate to help attenuate flows, reduce erosive velocities, and encourage sediment deposition. • Immediately stabilize all disturbed areas not subject to construction activities within 30 days.	• A Construction Contractor representative would be on-site during installation of Project components that could potentially affect aquatic habitats to ensure compliance with specifications, site plans and permits. • If siltation to a watercourse occurs, related construction activities should cease immediately until the situation is rectified. • Inspection of the erosion and sediment controls after each significant rainfall event or weekly, whichever is more frequent. • Erosion and sediment control measures to remain securely installed until permanent vegetation measures are successful and areas are stabilized. • Additional monitoring requirements as may be identified in Conservation Authority permits. • Compensation strategies and/or permits from Fisheries and Oceans Canada and/or conservation authorities, as applicable, would likely include conditions of approval such as construction and post-construction monitoring.	• Effects to surface water and water bodies would be both spatially and temporally limited. • No negative net effects are anticipated to surface water, water bodies and fish and fish habitat.
Air Quality and Environmental Noise					
Air Quality	• Emissions from construction equipment. • Short-term nuisance dust effects from construction activities including excavation, drilling, and use of dirt roads.	• Minimize duration and magnitude of emissions.	• Operate vehicles in a manner that reduces air emissions to the extent practical, including: o Using multi-passenger vehicles as possible; and o Avoid idling vehicles. • Equipment and vehicles would be maintained in a manner that reduces air emissions. • Protect stockpiles of friable material with a barrier or windscreen and in the event of dry conditions and excessive dust. • Dust suppression (e.g. water).	• Adherence to Complaint Response Protocol. • All vehicles identified through the monitoring program that fail to meet the minimum emission standards would be repaired immediately or replaced as soon as practical.	• Any net effects are expected to be short-term in duration and highly localized.

[3] Suncor Energy Cedar Point Wind Project – Water Assessment and Water Body Report

Table 3.1: Potential Environmental Effects and the Environmental Effects Monitoring Plan during Construction

Environmental Feature	Potential Effect	Performance Objective	Mitigation Strategy	Monitoring Plan and Contingency Measures	Net Effects
Environmental Noise	• Noise emitted from construction equipment and activities such as excavation, drilling, and operation of construction vehicles.	• Minimize noise emissions to a reasonable extent • Noise levels arising from equipment to be compliant with sound levels established by the MOE and County/Municipalities guidelines (if applicable).	• All engines associated with maintenance equipment would be equipped with mufflers and/or silencers in accordance with MOE and/or MTO guidelines and regulations. • Routine maintenance to ensure equipment is operating properly and efficiently. • To the greatest extent possible, activities that could create excessive noise would be restricted to regular business hours, when residents are less sensitive to noise, and adhere to any local noise by-laws associated with large scale construction activities.	• Adherence to Complaint Response Protocol. • If construction activities that cause excessive noise must be completed outside of normal time frames, adjacent residents will be notified in advance and by-law conformity will occur, as required.	• Any net effects are expected to be limited to short-term, intermittent noise increases during daylight or evening hours at the work areas and/or along the haul routes.
Land Use and Socio-Economic Resources					
Agricultural Lands	• Change in use from agricultural to renewable energy development on lands (primarily Class 2 agricultural lands) used during construction. • Adverse effects to artificial drainage. • Soil erosion or crop loss on adjacent lands due to flooding as a result of temporary or permanent disruption to water flow. • Encounter and disruption of contaminated soils.	• Minimize disturbance to agricultural lands and operations. • Minimize land required for the Project. • Avoid impacting artificial tile drains. • Minimize disturbance to drainage patterns. • Properly manage contaminated soils if encountered.	• Landowners are being financially compensated for the lease of the private lands and thus offset the effect of removing the land from agricultural production. • Efforts have been made to site the turbines, access roads and collector lines in such a way as to minimize disturbances to existing agricultural lands and operations. • The location of artificial tile drainage and associated drains would be confirmed with each landowner on a site-specific basis prior to construction activities. • Should tile drains be damaged, locations should be recorded and flagged. If a main drain, header tile, or large diameter tile is severed, a temporary repair should be made to maintain field drainage and prevent flooding of the work area and adjacent lands. • If contaminated soil is encountered, the contaminated material will be disposed of in accordance with the current appropriate provincial legislation, such as Ontario Regulation 347, the General – Waste Management Regulation.	• Following the completion of construction, as appropriate, temporary workspaces would be graded and de-compacted (if required), the topsoil replaced, and the area left as close to pre-existing condition as possible.. • An agricultural tile drainage contractor would carry out any re-alignment works as well as repair tiles and/or drains that may experience construction related damage.	• Any net effects are expected to be short-term until mitigation and corrective actions are completed. • The Project provides positive income to participating landowners through land lease agreements for agricultural lands.
Mineral, Aggregate, and Petroleum Resources	• Impacts to petroleum resources operations.	• Does not require the creation of a new pit or quarry to provide the required aggregate materials. • No impacts to petroleum resources operations.	• The source of the required aggregate will be determined prior to construction, however it is planned that local sources will be used to the greatest extent possible. • On-site surveying will take place prior to construction to identify petroleum resources operations within 75 m of the Project Location.	• An Engineer's Report will be prepared for all petroleum resources operations within 75 m of the Project Location. The purpose of the Engineer's Report will be to demonstrate that there are no effects to the petroleum resources operations as a result of the construction of the Project. • If a potential effect to the petroleum resources operations is identified, construction methods may be altered (staying within the Project Location) to minimize or eliminate any potential effects.	• No anticipated net effects. • Project will not require the creation of a new pit or quarry to provide the required aggregate materials and as such a licence of permit under the *Aggregate Resources Act* will not be sought for the Project.
Game And Fishery Resources	• Disturbance to game species from construction activities. • Limiting access to lands for hunting and fishing.	• Minimize disturbance to game and fishery resources. • Minimize length of time that lands are inaccessible.	• Hunting and other recreational uses will not be permitted on lands required during construction (unless permitted by Suncor and/or the construction contractor) as it would be unsafe due to the large construction equipment on-site.	• N/A	• The net effect of limiting access to land due to safety concerns and potential disturbance to

Table 3.1: Potential Environmental Effects and the Environmental Effects Monitoring Plan during Construction

Environmental Feature	Potential Effect	Performance Objective	Mitigation Strategy	Monitoring Plan and Contingency Measures	Net Effects
			• Routine maintenance to ensure equipment is operating properly and efficiently, thus limiting noise and potential disturbance to game resources.		game resources will be temporary and spatially limited.
Provincial Plans, Policies, and Recreation Areas	• None	• N/A	• N/A	• N/A	• None
Local Traffic	• Increase in traffic. • Temporary road/lane closures.	• Minimize disturbance to local traffic.	• There may be instances where excess loads (e.g. turbine components) will require special traffic planning. • Construction Contractor will implement a Traffic Management Plan. • Understanding local school bus routes and timing to avoid traffic congestion.	• Permits will be obtained from the County/Municipalities and/or MTO to implement road work activities once final transportation routes and requirements have been finalized.	• A limited, short term effect on local traffic, but will be managed through the implementation of a Traffic Management Plan.
Local Economy	• Increase in direct, indirect and induced employment. • Local economic benefits from land lease payments, local expenditures, municipal taxes, etc. • Disruptions to local businesses.	• Create positive effects on local economy.	• To the extent possible, Suncor would source required goods and services from qualified local suppliers. • Disruptions in the vicinity of local businesses would be largely due to an increase in traffic, and would be short term and are not expected to affect use of these businesses.	• None required.	• A positive net effect is anticipated on the local economy during construction of the Project. • It is expected that on average 150 - 200 persons may be directly employed during the construction period.
Viewscape	• Viewscape from areas surrounding the Project Location will be altered due to the presence of construction equipment and personnel along with changes to the physical landscape.	• Minimize potential for visual disturbance.	• Minimal mitigation measures are available to address concerns related to visual changes to the area during the construction of the Project.	• Adherence to Complaint Response Protocol.	• Will be a net effect (either positive or negative based on perceptions) due to the change in viewscape of the surrounding area.
Existing Infrastructure[4]					
Provincial and Municipal Infrastructure	• Abnormal wear and/or road upgrades on local roads. • Damage to municipal drains. • Temporary impacts to existing utilities. • Disruption of local snowmobile trails may occur during construction activities. • Additional potential effects which may be identified via the Municipal Consultation Form that is completed by each local municipality and County.	• Minimize impacts to local roads. • Minimize impacts to municipal drains. • Minimize disruptions/impacts to other existing utilities. • Minimize disruptions/impacts to snowmobile trails. • Minimize any effects identified via the Municipal Consultation Form.	• Consultation with MTO regarding any necessary agreements related to use of roads for transportation of Project materials in addition to obtaining the required permits for use of provincial highways. • Detailed plans or agreements regarding maintenance and/or repairs of the local roads and road rights-of-way damaged during construction will be developed with the County/Municipalities. • Agreements would be developed for use of the municipal road allowance for routing of the power lines. • Where there are existing distribution lines within the municipal road allowance, Suncor will work with the hydro provider to develop shared pole user agreements (if reasonable to do so). • Drains superintendents from the	• Pre and post construction road surveys will be conducted and Suncor will be responsible for any required upgrades/repairs directly associated with Project construction as per agreements with the Municipalities/County. • Local roads would be restored to their pre-construction conditions to the satisfaction of local authorities as applicable to the agreements with County/Municipalities. Some municipal roads requiring structural enhancement/upgrades may be left in their upgraded form if requested. • Permits will be obtained from the County/Municipalities and/or MTO to implement road work activities once final transportation routes and requirements have been finalized.	• Abnormal wear on local roads may be unavoidable. However, the effect of constructing the various Project components is anticipated to have a limited, short term effect on local roads given Suncor's commitment to developing maintenance and/or repair plans or agreements with the County/Municipalities. • No anticipated net effects

[4] Stantec Consulting Inc. 2013. Suncor Energy Cedar Point Wind Power Project Consultation Report.

Table 3.1: Potential Environmental Effects and the Environmental Effects Monitoring Plan during Construction

Environmental Feature	Potential Effect	Performance Objective	Mitigation Strategy	Monitoring Plan and Contingency Measures	Net Effects
			County/Municipalities will be requested to attend site visits and be part of the discussions with the Conservation Authorities during the *Fisheries Act* permitting process for the Project. • Locate all utilities within municipal road allowances prior to construction. • Where a conflict to a snowmobile route may be identified, Suncor will meet and discuss with potential conflict with trail organizers to determine a temporary alternate route. • Create appropriate warning signage for trail users during construction.	• In the event that utilities within municipal road allowances are damaged as a result of the construction of the Project, Suncor would rectify damages. • Affected roadside ditches and drains would be repaired if required and monitored to ensure that they are functioning properly. • Determination of temporary snowmobile routes.	to snowmobile trail users.
Navigable Waters	• Temporary barrier due to crossings.	• Avoid navigable waterways. • Minimize length of disturbance to navigable waterways.	• Confirmation of the presence of these waters will be obtained from Transport Canada and permits (if required) will be obtained prior to construction.	• To be identified as part of any permits (if required).	• None
Telecommunication and Radar Systems	• Potential to interfere with telecommunication and radar systems	• Minimize interference with telecommunication and radar systems	• Suncor has consulted with relevant agencies and licensed providers to identify any likely effects to telecommunication and radar systems. • In the unlikely event that signal disruption is experienced, Suncor will meet with owner of system to discuss potential options for mitigation.	• Adherence to Complaint Response Protocol. • Suncor would review potential incidents of telecommunications interference on a case by case basis.	• No net effects to telecommunication/ radar systems are anticipated
Aeronautical Systems	• Aeronautical obstruction.	• Minimize potential hazard to low flying aircraft.	• Once the turbines are erected (and prior to operation), turbine lighting will conform to Transport Canada standards. • Nav Canada would be responsible for updating all aeronautical charts with the turbine locations.	• None	• No anticipated net effects to aeronautical systems.
Public Health and Safety					
Public Health and Safety	• Potential traffic safety hazards. • Accidents and malfunctions.	• Minimize traffic safety hazards. • Minimize potential for accidents or malfunctions.	• As appropriate, for public safety all non-conventional loads would have front and rear escort or “pilot” vehicles accompany the truck movement on public roads. May provide notification of non-conventional load movements. • Implementation of a Traffic Management Plan and a detailed Health and Safety/Emergency Response Plan. • Construction Contractor will adhere to Suncor’s safety policies. • The Construction Contractor to employ good site safety practices.	• Design and approval of the Emergency Response Plan with local emergency services personnel. • If required, Suncor would participate in a training session for these workers.	• With adherence to safety policies and procedures, there is minimal increased or new risk to public health and safety.

4.0 Construction Environmental Management Plan

Although not a requirement of O. Reg. 359/09, Suncor will prepare a Construction Environmental Management Plan (CEMP) (or similar) prior to the initiation of any substantive on-site works. The CEMP would be the controlling plan for all construction activities, and would be designed to minimize potential adverse environmental effects, while enhancing the Project's benefits. The CEMP would be based on the environmental effects and mitigation measures identified in this report, and related reports to be submitted as part of the REA application. In addition, Suncor staff and contractors would be made aware of the environmental commitments contained in this report and supporting studies to ensure the commitments are implemented.

The Project CEMP will include the following plans:

- *Traffic Management Plan*
- *Hazardous and Non-Hazardous Waste Management Plan*
- *Health and Safety Plan*
- *Emergency Response and Communications Plan*
- *Training Plan and*
- *Complaint Response Protocol.*

5.0 Closure

This Construction Plan Report for the Suncor Energy Cedar Point Wind Power Project has been prepared by Stantec for Suncor in accordance with Item 1, Table 1 of Ontario Regulation 359/09, and the MOE's "Technical Guide to Renewable Energy Approvals".

This report has been prepared by Stantec for the sole benefit of Suncor, and may not be used by any third party without the express written consent of Suncor. The data presented in this report are in accordance with Stantec's understanding of the Project as it was presented at the time of reporting.

STANTEC CONSULTING LTD.

Mark Kozak
Project Manager

Rob Rowland
Senior Project Manager

6.0 References

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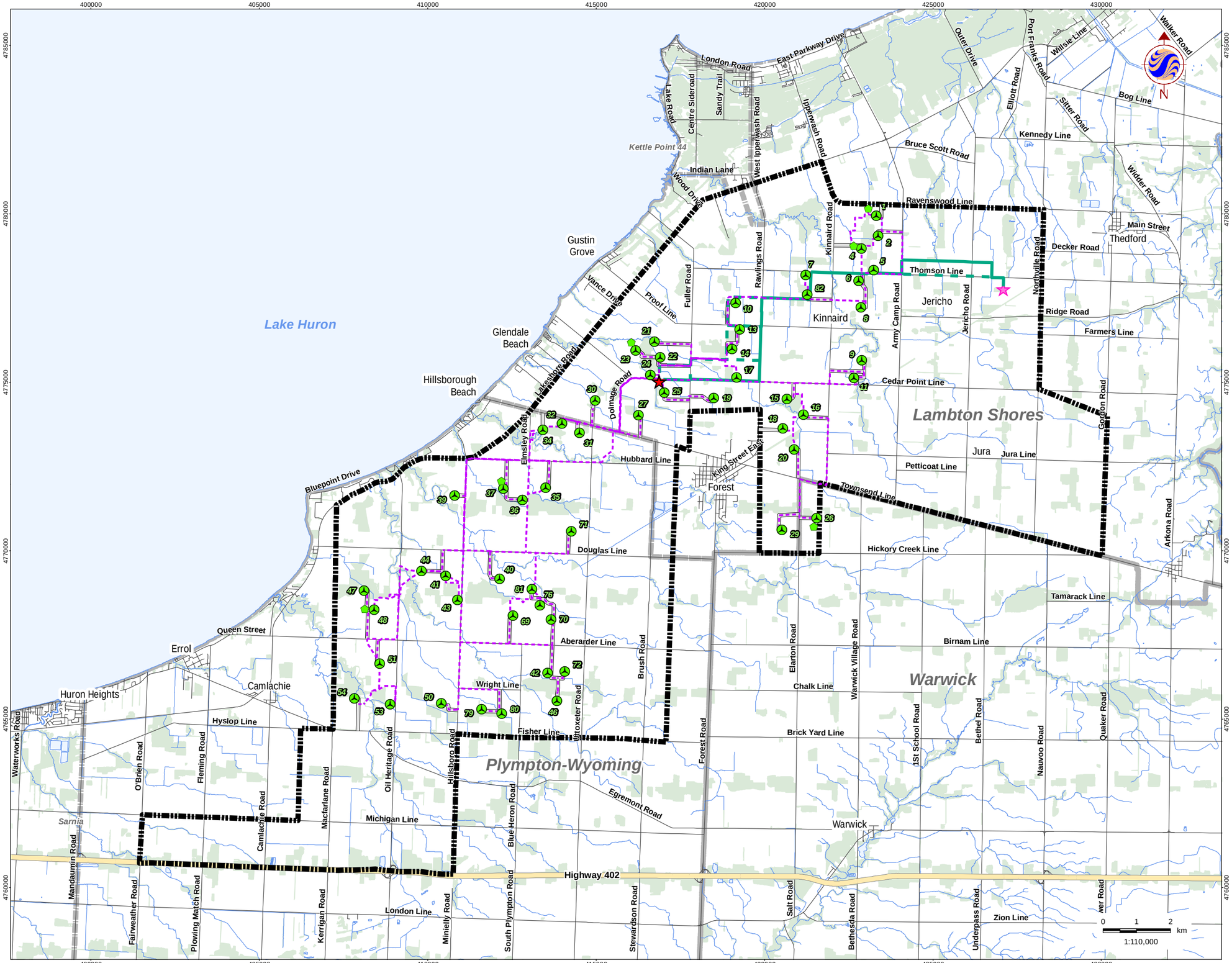
O. Reg. 359/09. As amended. Ontario Regulation 359/09 made under the Environmental Protection Act Renewable Energy Approvals Under Part V.0.1 of the Act.

Attachment A

Figures



Legend

- Project Boundary

Proposed Project Components

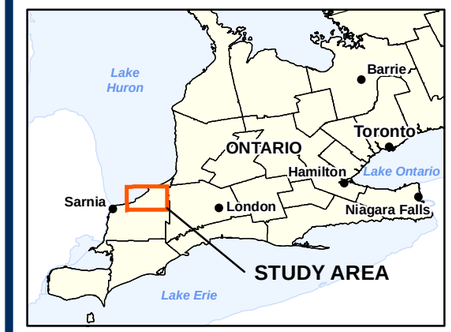
- Turbine
- Substation
- MET Tower
- Access Road
- Collector Line
- Transmission Line
- Transmission Line Alternate Route

Other Infrastructure

- Substation- NextEra Jericho

Existing Features

- Expressway / Highway
- Road
- Wooded Area
- Watercourse
- Waterbody
- Municipal Boundary



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

Stantec

January, 2013
160960709

Client/Project
Suncor Energy
Cedar Point Wind Power Project

Figure No.
1.0

Title
Project Location

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Revised: 2013-01-24 By: dharvey

406000 407000 408000 409000 410000

4767000 4766000 4765000 4764000

Lakeshore Road
Aberarder Line
Bonnie Doom Creek
Bonnie Doom Creek
Bonnie Doom Creek
Oil Heritage Road
Hyslop Line
Egremont Road
Fisher Line
MacFarlane Road
51
53
54
N
0 250 500 m
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Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

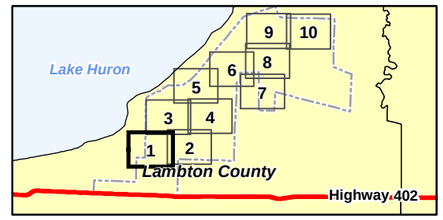
- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School



Notes

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Stantec

April 2013
160960709

Client/Project

Suncor Energy
Cedar Point Wind Power Project

Figure No.

2.1

Title

Draft Site Plan Mapbook

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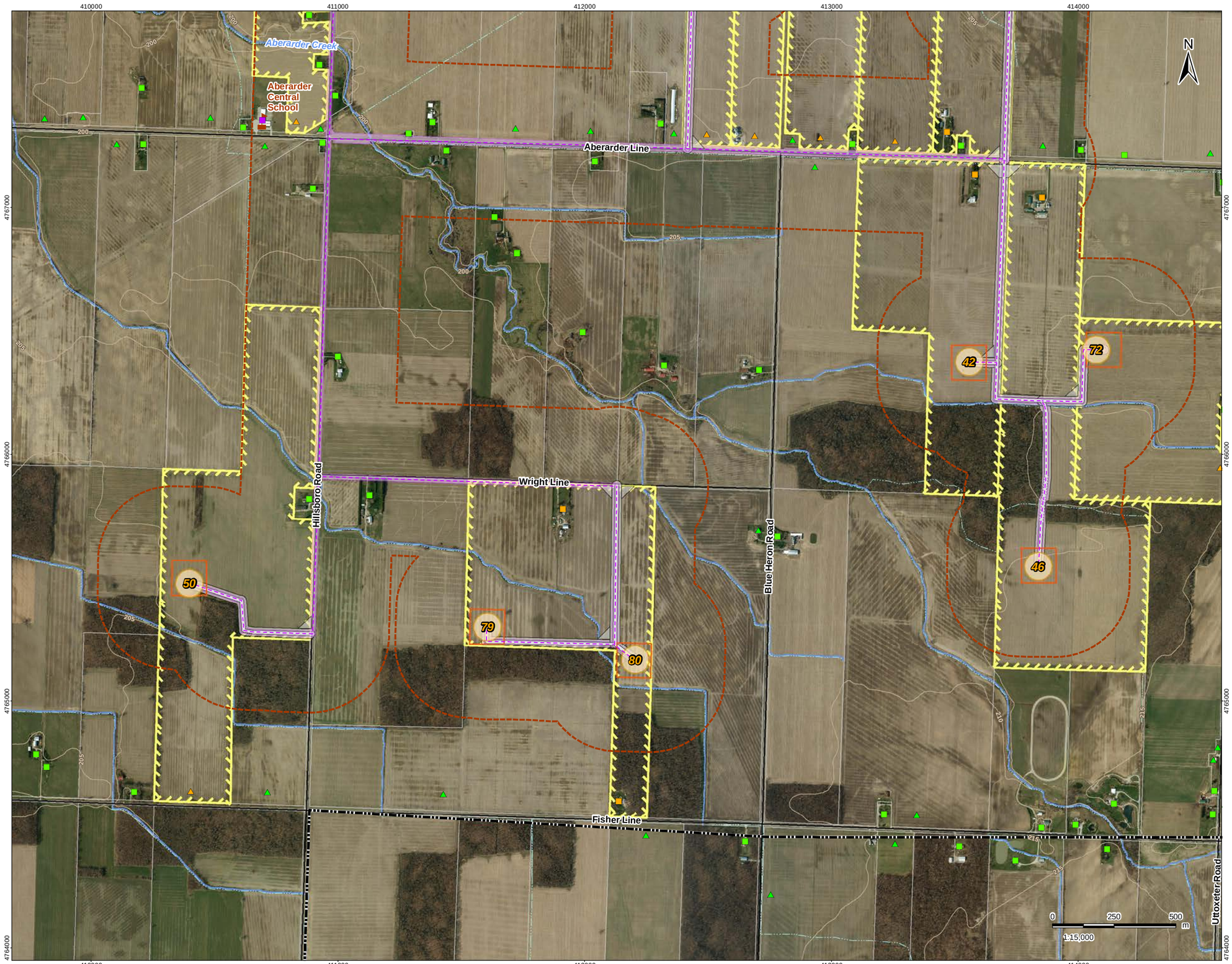
Revised: 2013-04-10 By: dharvey



Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

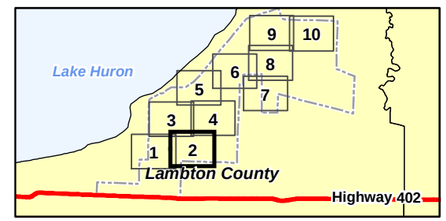
- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School



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Client/Project

Suncor Energy
Cedar Point Wind Power Project

Figure No.

2.2

Title

Draft Site Plan Mapbook

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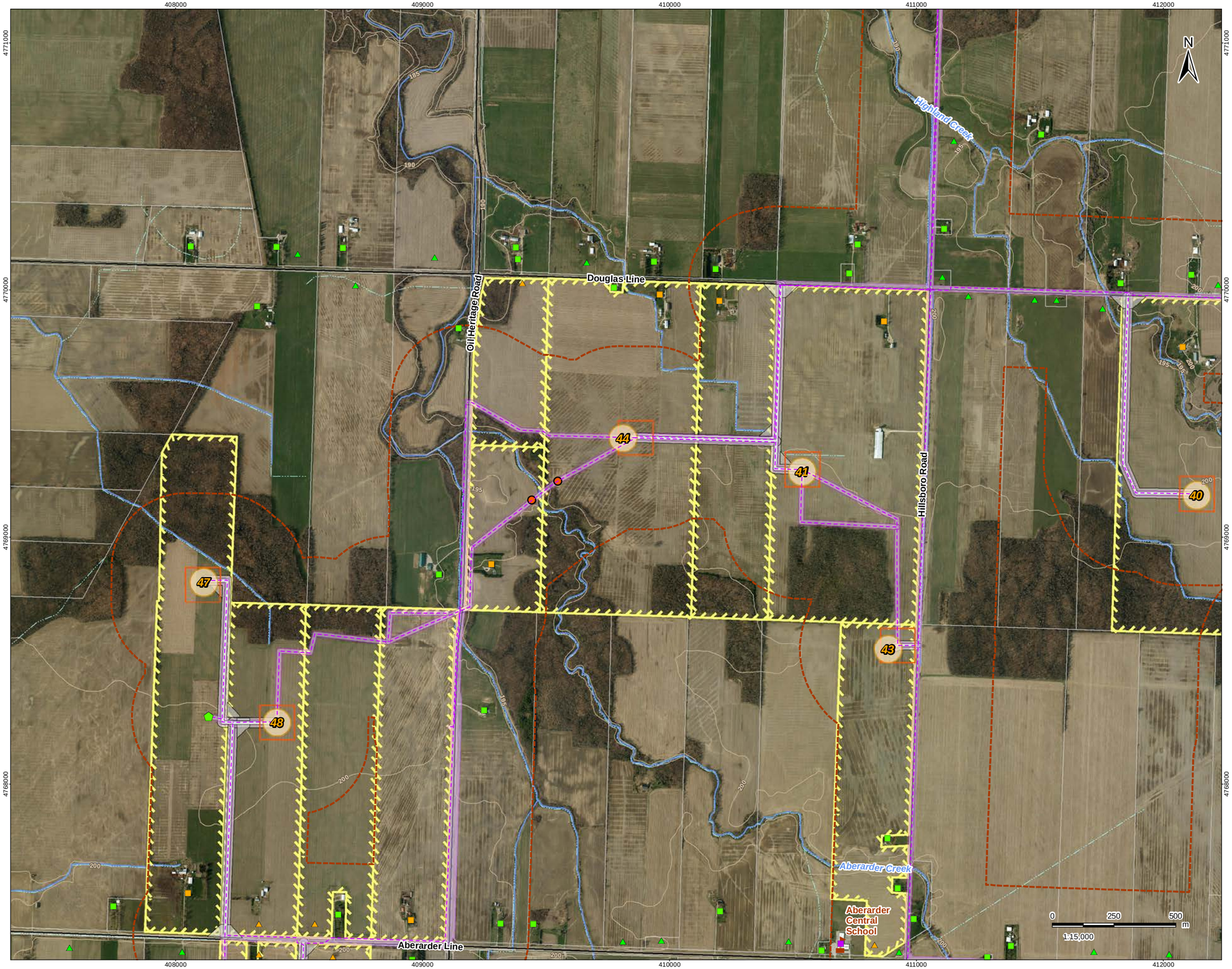


Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

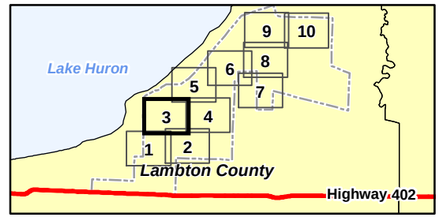
- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School



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Client/Project

Suncor Energy
Cedar Point Wind Power Project

Figure No.

2.3

Title

Draft Site Plan Mapbook

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412000 413000 414000 415000 416000

4771000 4770000 4769000 4768000

Douglas Line

Uttoxeter Road

Brush Road

Highland Creek

71 40 81 76 69 70

N

0 250 500 m

1:15,000

412000 413000 414000 415000 416000

W:\active\60960709\drawing\MXD\REA_Reports\Other_REA\160960709_Fig02_DraftSitePlan_20130410.mxd
Revised: 2013-04-10 By: dharvey

Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

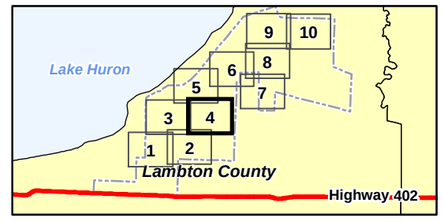
- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School



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Client/Project

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Cedar Point Wind Power Project

Figure No.

2.4

Title

Draft Site Plan Mapbook

Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School

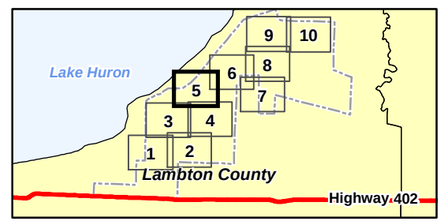

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Figure No.

2.5

Title

Draft Site Plan Mapbook

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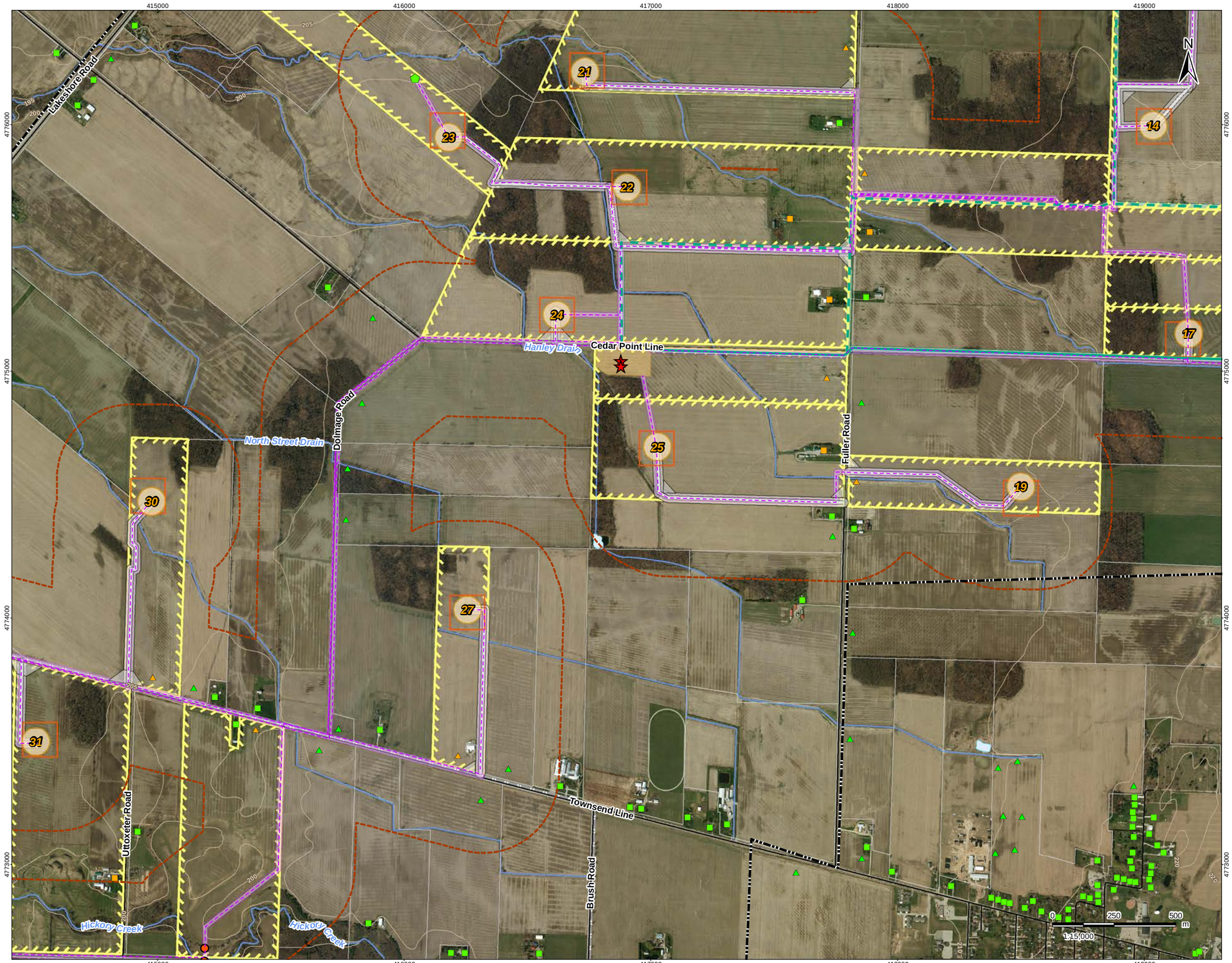

Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School

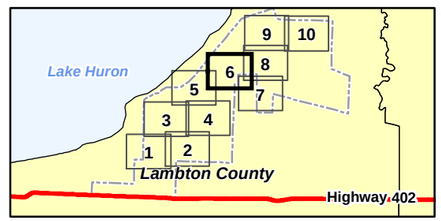

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Figure No.

2.6

Title

Draft Site Plan Mapbook

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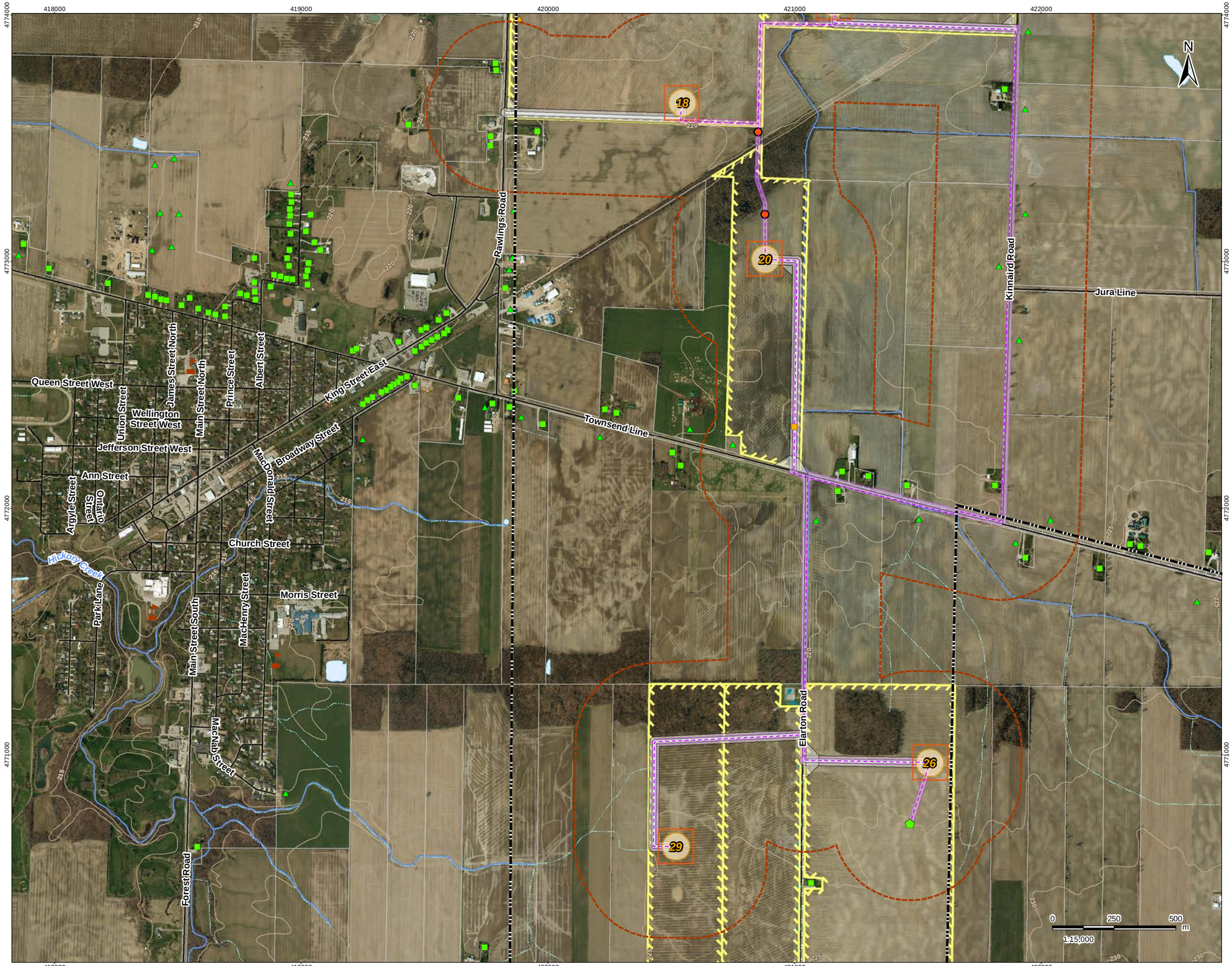

Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School

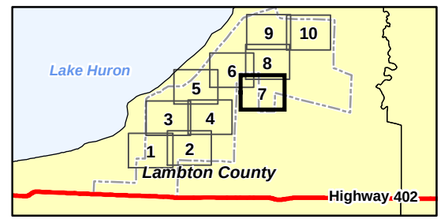

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Figure No.

2.7

Title

Draft Site Plan Mapbook

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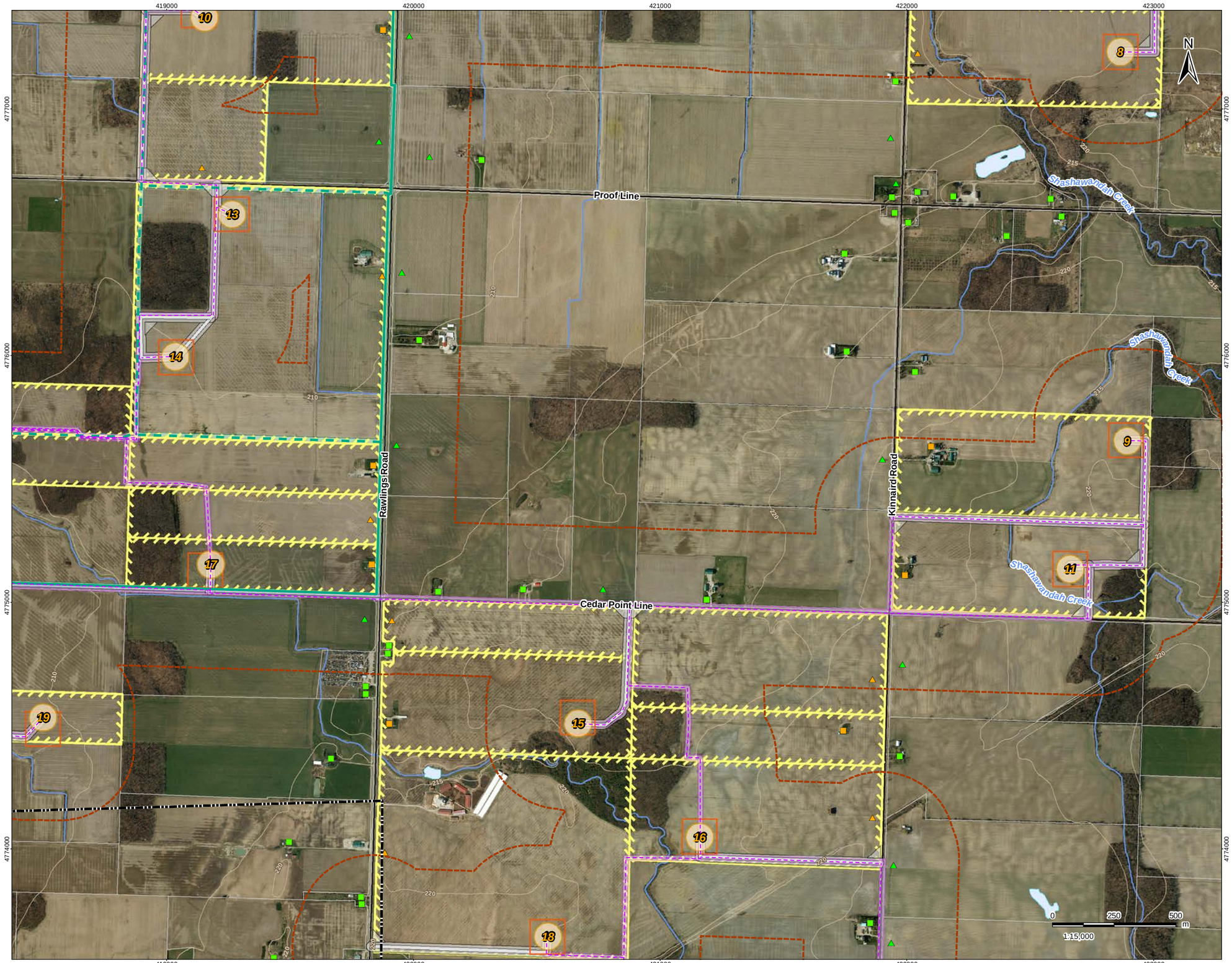

Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School

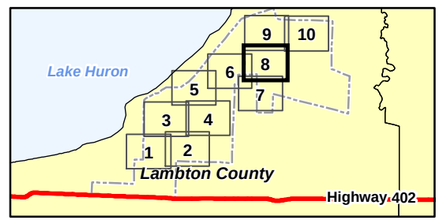

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Figure No.

2.8

Title

Draft Site Plan Mapbook

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Revised: 2013-04-10 By: dharvey

Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School

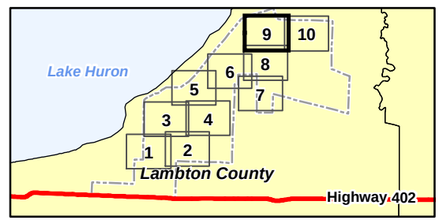

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Figure No.

2.9

Title

Draft Site Plan Mapbook

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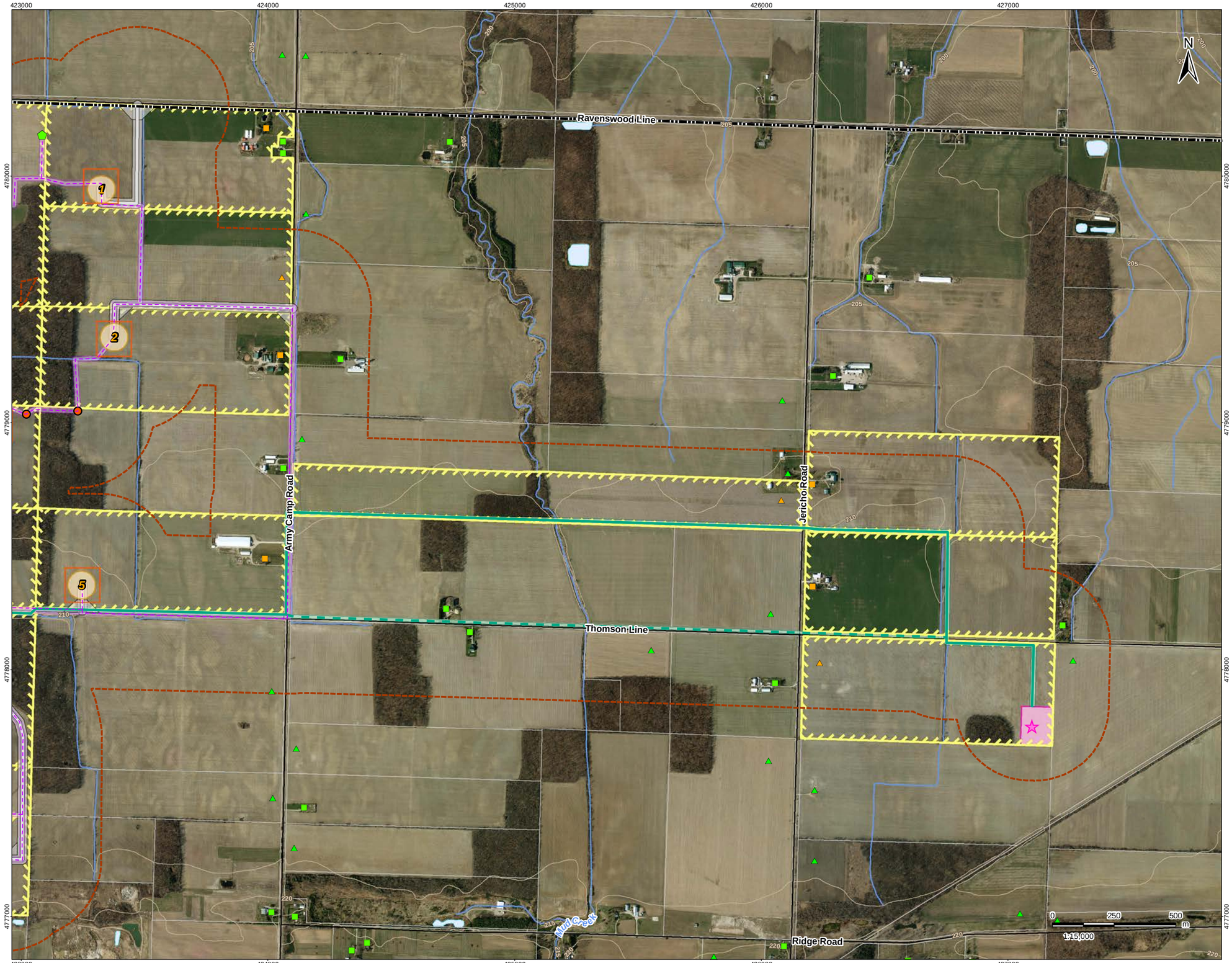

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Revised: 2013-04-10 By: dharvey

Legend

- Project Boundary
- 300m Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- Participating Property
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Contour Lines (5m intervals)
- Constructed Drain
- Utility Line
- Watercourse
- Property Boundary
- Municipal Boundary
- Waterbody

Noise Receptors

- Participating Occupied
- Participating Vacant
- Non-Participating Occupied
- Non-Participating
- School

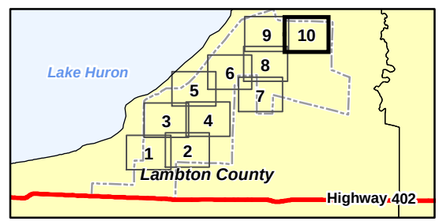

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Figure No.

2.10

Title

Draft Site Plan Mapbook

406000 407000 408000 409000 410000

4767000 4766000 4765000 4764000

Lakeshore Road
Aberarder Line
Bonnie Doon Creek
Bonnie Doon Creek
Augusta Street
Hyslop Line
Egremont Road
MacFarlane Road
Fisher Line
Oil Heritage Road

DWA - 62
WOTH-62
062
HOWA-62
062a
WOTH-58
058
51
53
54

N

0 250 500 m
1:15,000

Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

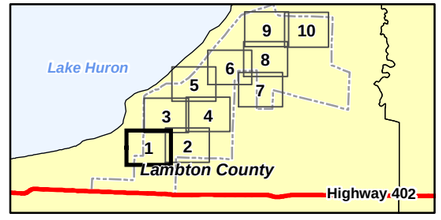
- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding-Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body



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Client/Project

Suncor Energy
Cedar Point Wind Power Project

Figure No.

3.1

Title

Significant Natural Features and Wildlife Habitat

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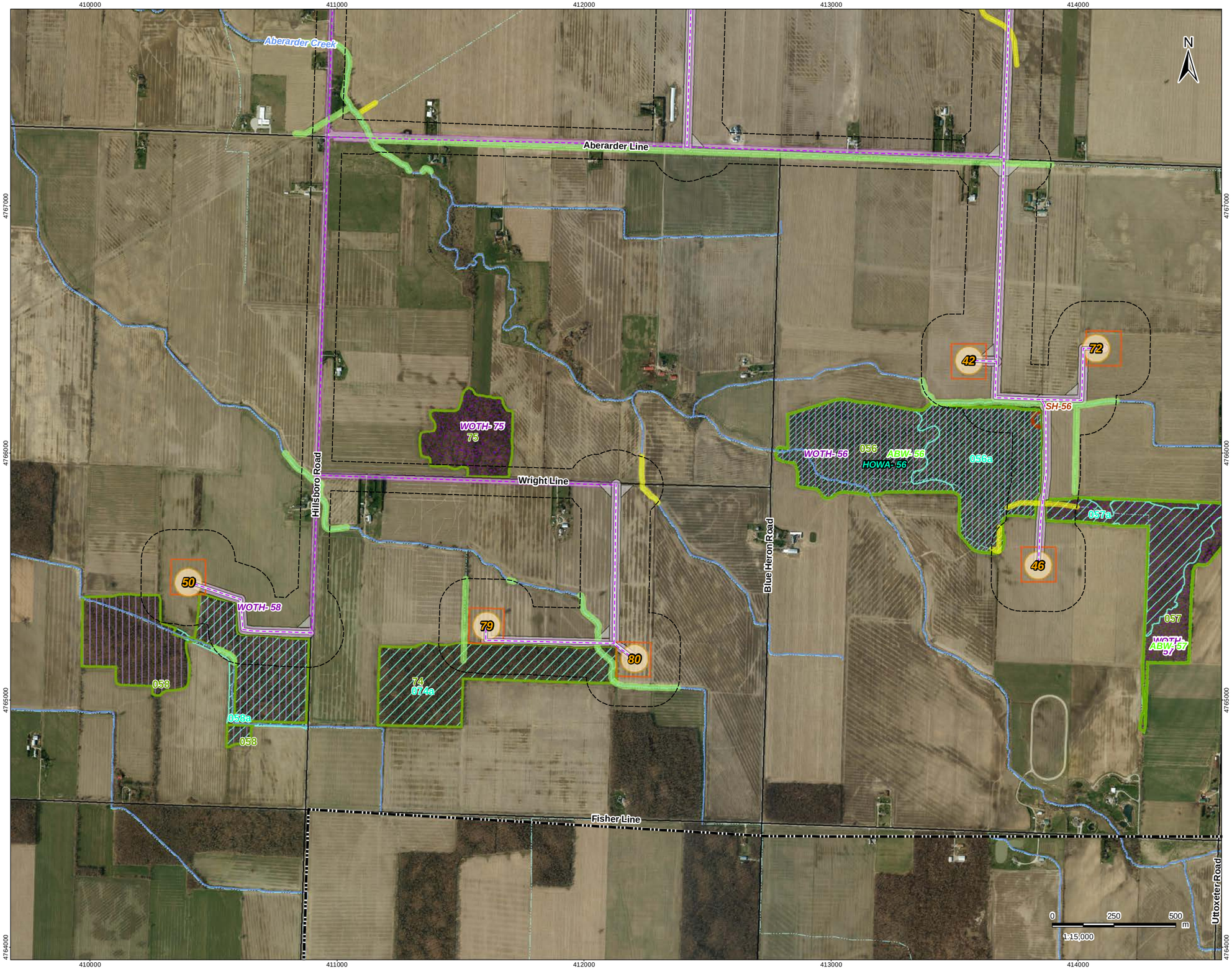
Revised: 2013-04-03 By: dharvey



Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding-Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body

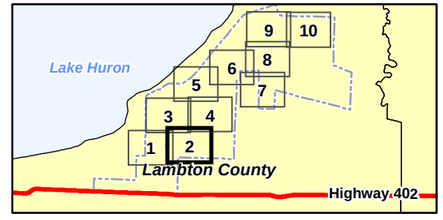


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Figure No.

3.2

Title

Significant Natural Features and Wildlife Habitat

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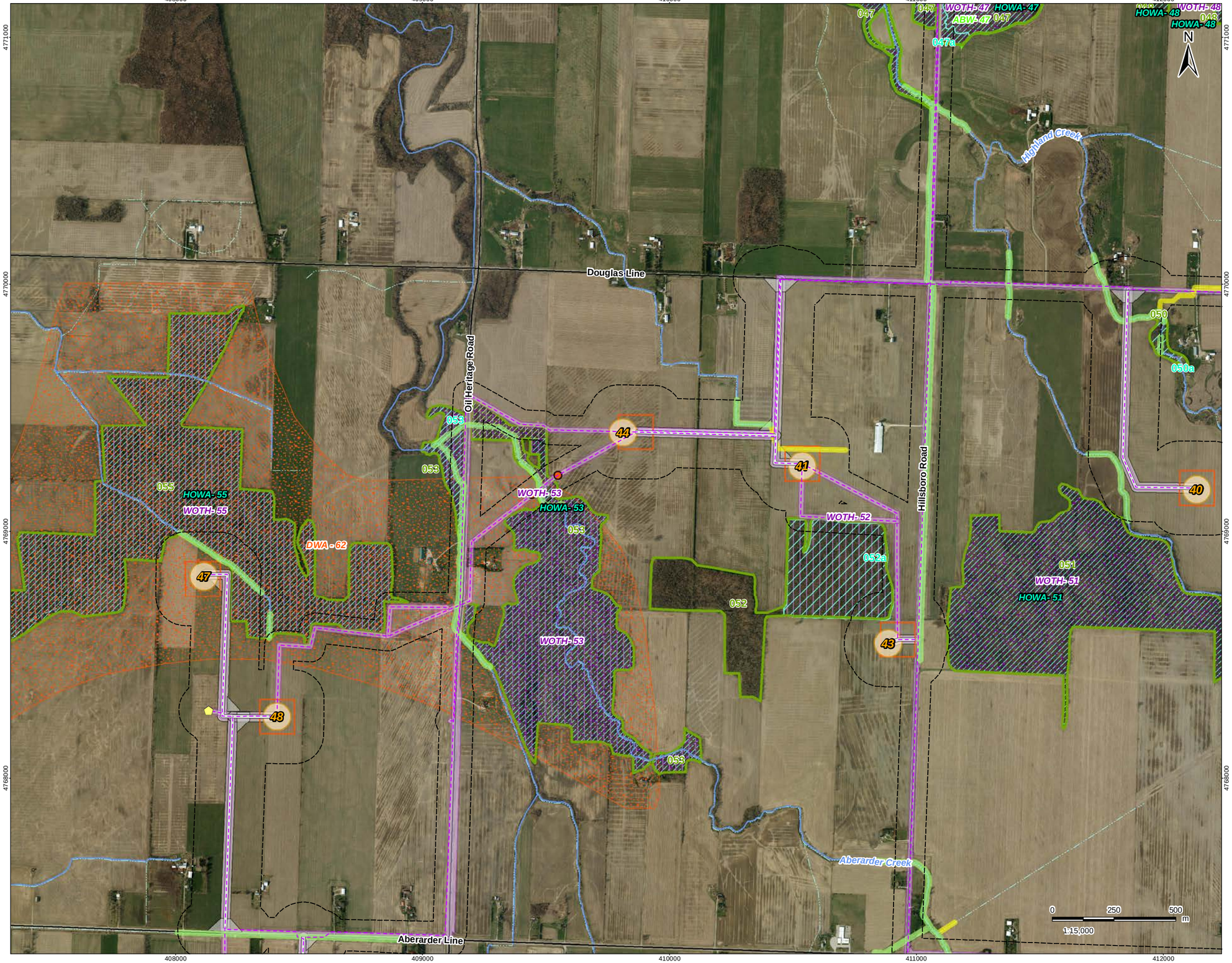
Revised: 2013-04-03 By: dharvey



Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding-Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body

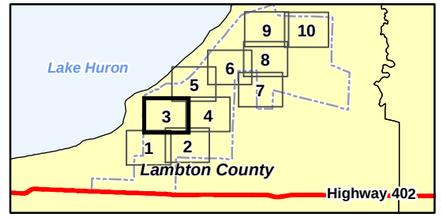


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Figure No.

3.3

Title

Significant Natural Features and Wildlife Habitat

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Revised: 2013-04-03 By: dharvey

412000 413000 414000 415000 416000

4771000 4770000 4769000 4768000

043 HOWA- 48 WOTH- 43 HOWA- 45 WOTH- 45 045 71 Douglas Line Brush Road Uttoxeter Road Highland Creek 050 050a 40 81 77 HOWA- 51 WOTH- 51 051 76 69 70

N

0 250 500 m

1:15,000

Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

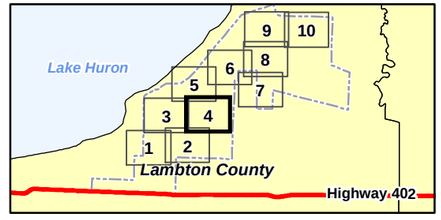
- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding- Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body



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April 2013
160960709

Client/Project

Suncor Energy
Cedar Point Wind Power Project

Figure No.

3.4

Title

Significant Natural Features and Wildlife Habitat

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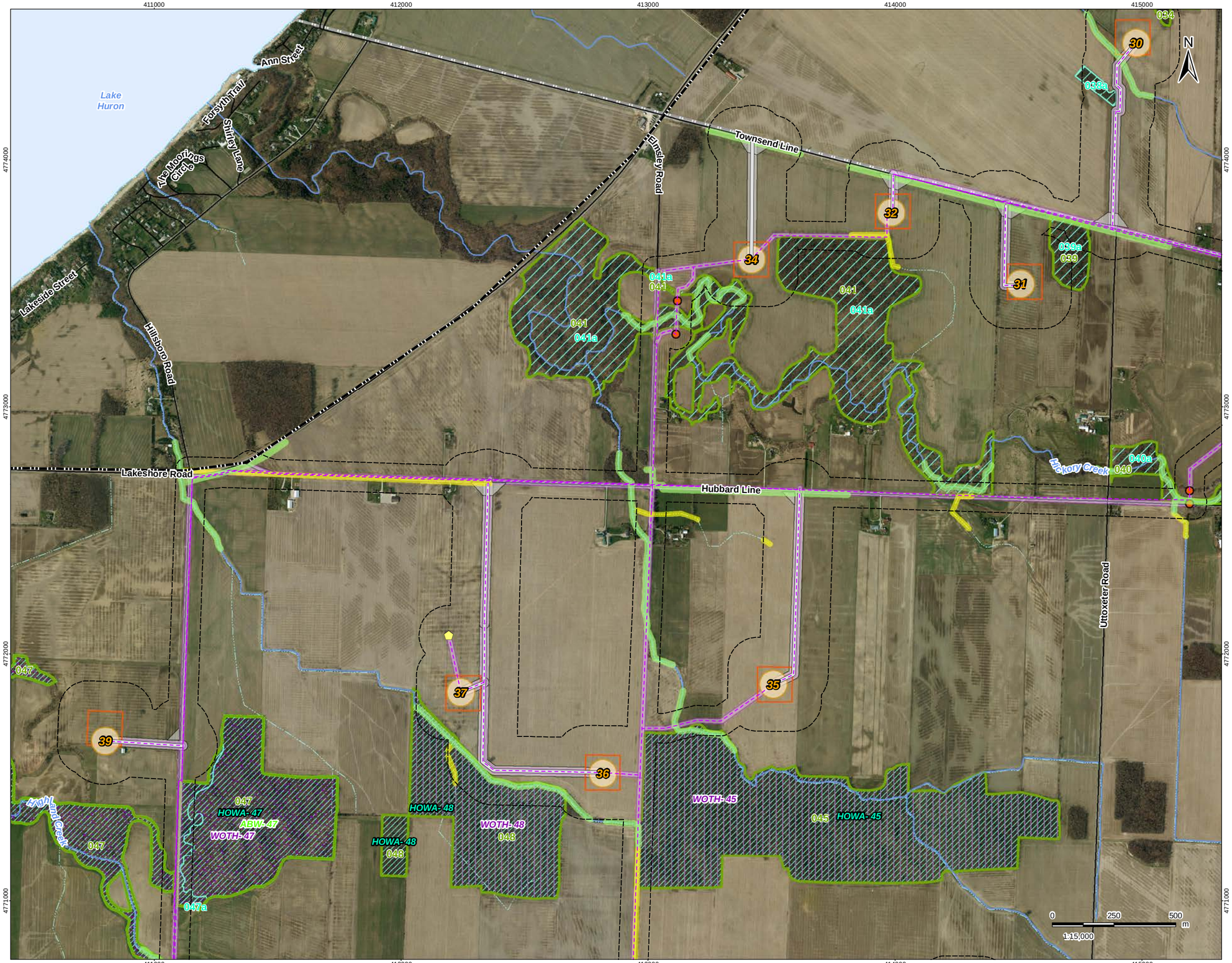
Revised: 2013-04-03 By: dharvey



Legend

Project Boundary

Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

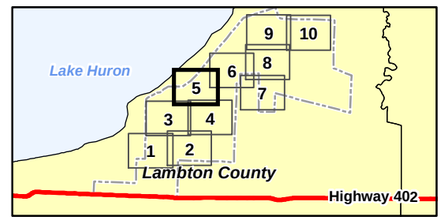
- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding-Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body



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Client/Project

Suncor Energy
Cedar Point Wind Power Project

Figure No.

3.5

Title

Significant Natural Features and Wildlife Habitat

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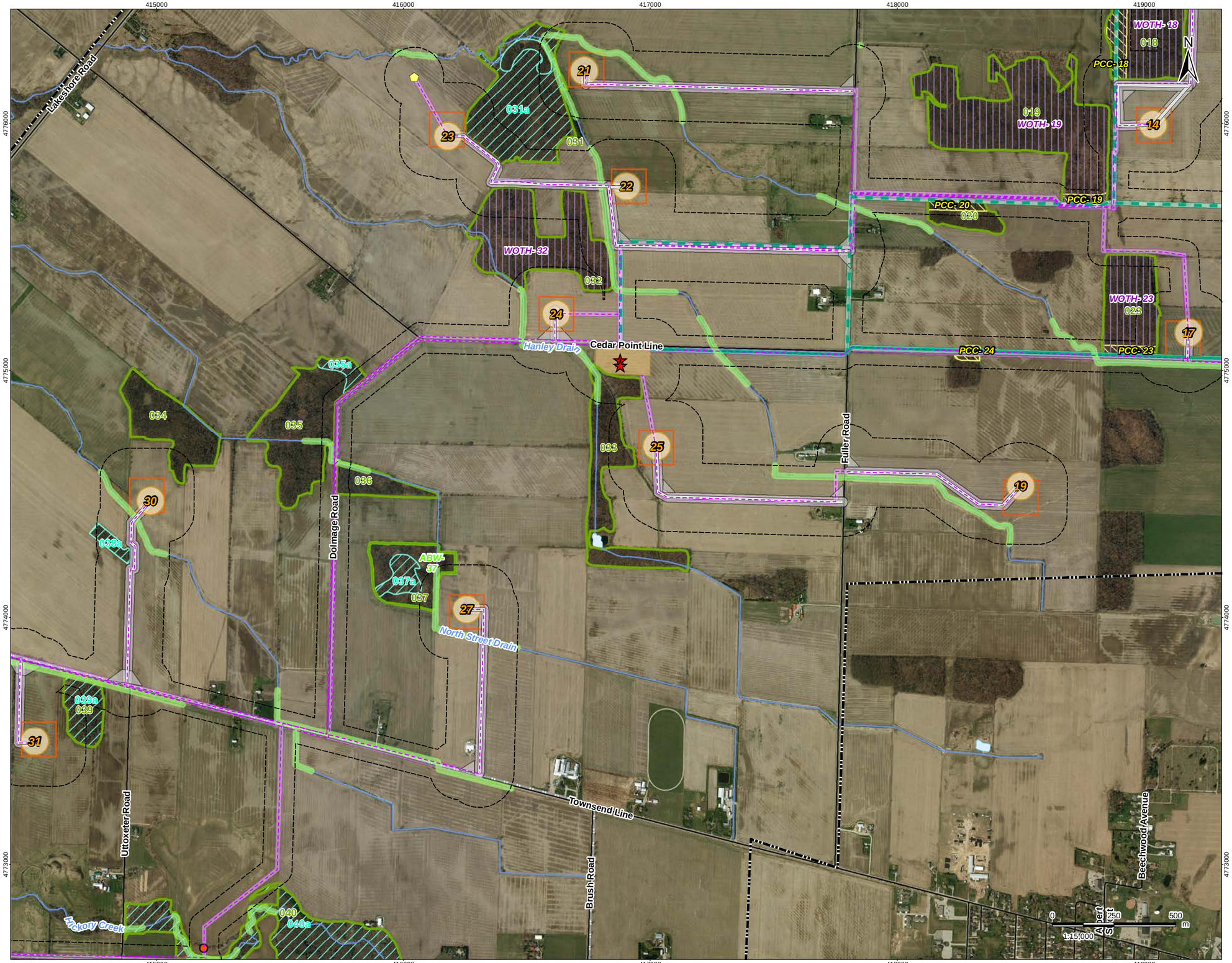
Revised: 2013-04-03 By: dharvey



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Revised: 2013-04-03 By: dharvey

Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

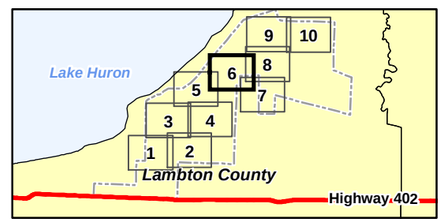
- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding- Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body



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Client/Project

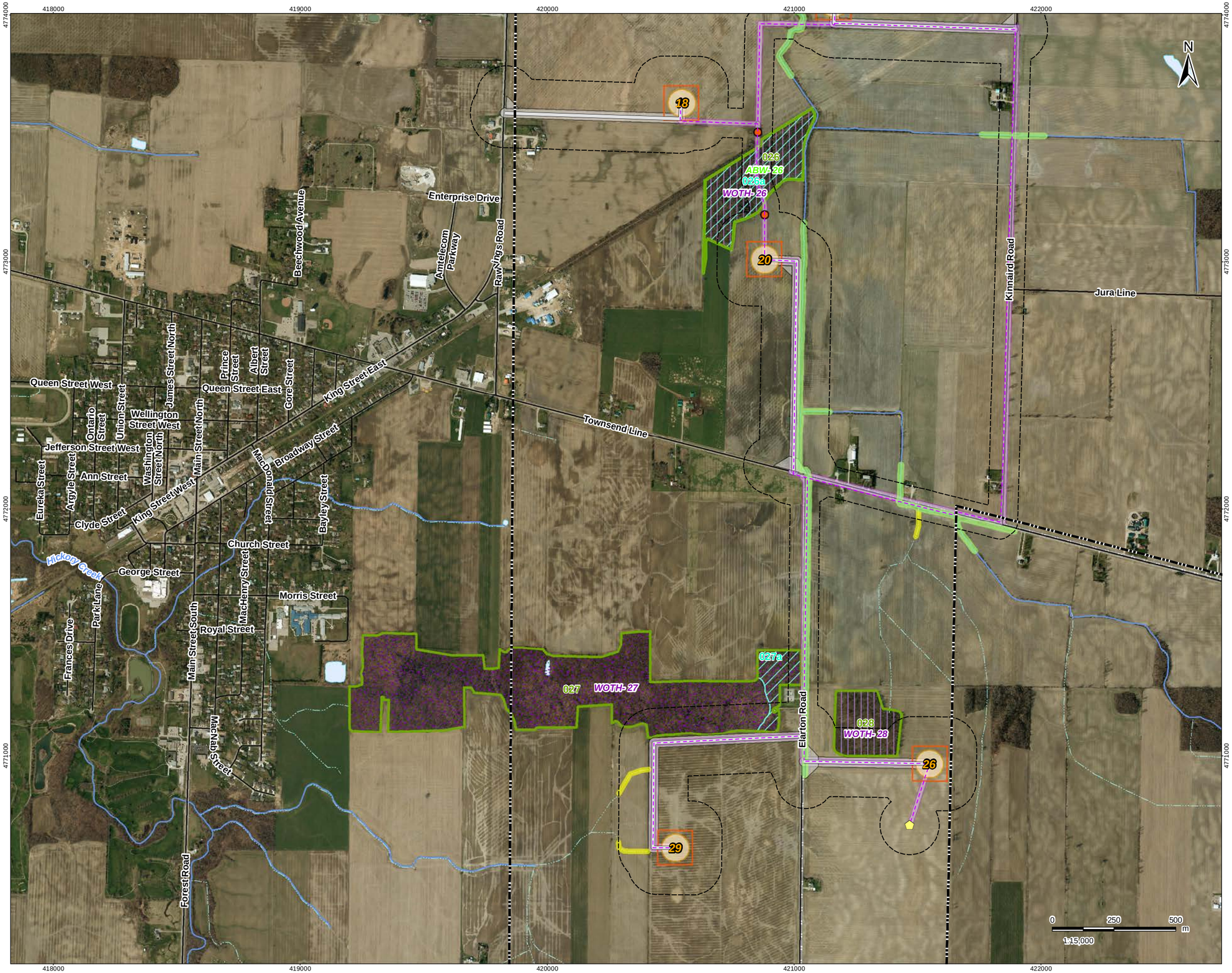
Suncor Energy
Cedar Point Wind Power Project

Figure No.

3.6

Title

Significant Natural Features and Wildlife Habitat



Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

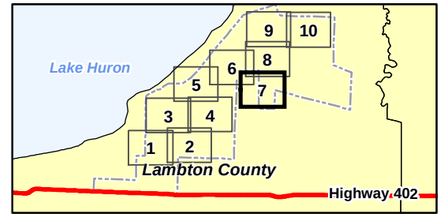
- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding-Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body



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Suncor Energy
Cedar Point Wind Power Project

Figure No.

3.7

Title

Significant Natural Features and Wildlife Habitat

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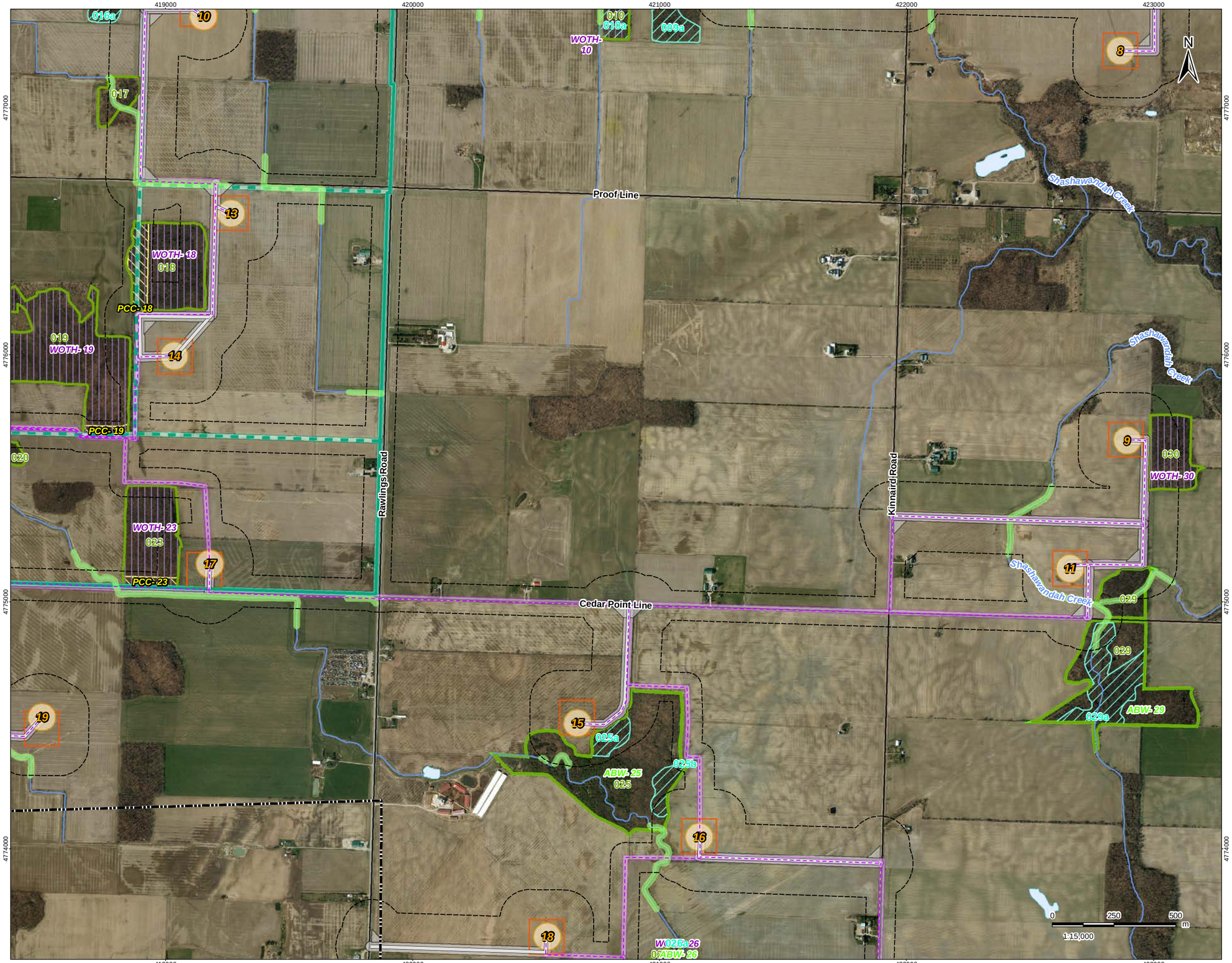
Revised: 2013-04-03 By: dharvey



Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

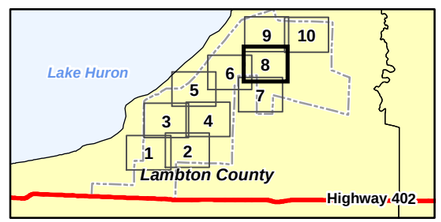
- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding-Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body



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Cedar Point Wind Power Project

Figure No.

3.8

Title

Significant Natural Features and Wildlife Habitat

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Revised: 2013-04-03 By: dharvey

Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding-Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body

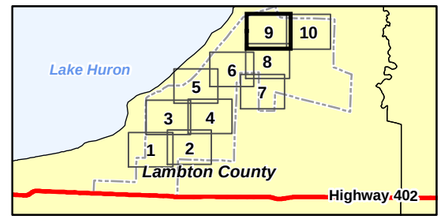

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Figure No.

3.9

Title

Significant Natural Features and Wildlife Habitat

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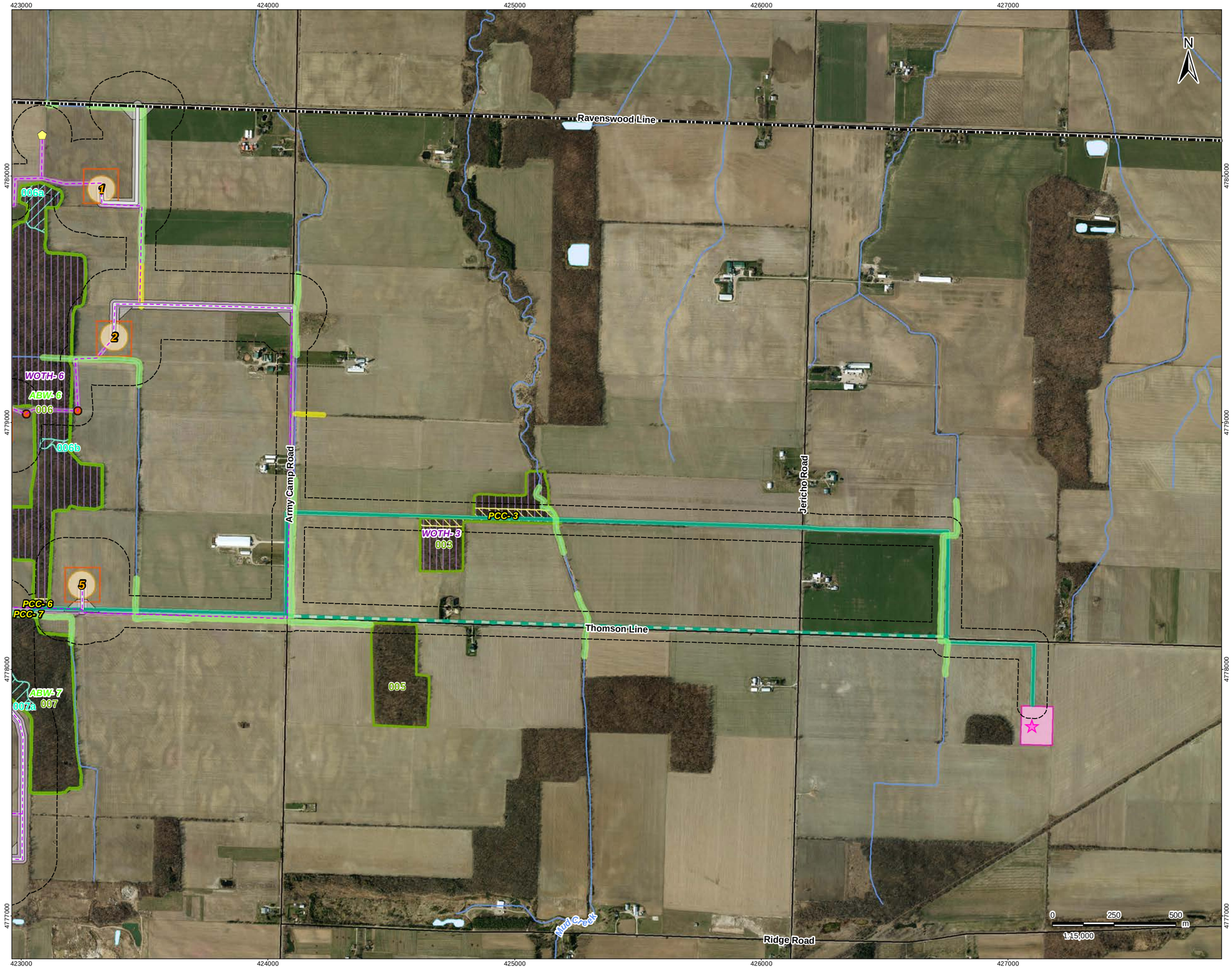


Legend

- Project Boundary
- Zone of Investigation

Proposed Project Components

- Proposed Turbine Location
- MET Tower
- Transformer
- Access Road
- Transmission Line
- Transmission Line Alternate Route
- Collector Line
- Access Road Constructible Area (40m)
- Transmission Line Constructible Area
- Substation/ Operation and Maintenance Building
- Turbine Constructible Area
- Collector Line Constructible Area (20m)
- HD Location

Other Infrastructure

- Transformer- NextEra Jericho
- Substation- NextEra Jericho

Existing Features

- Road
- Watercourse
- Constructed Drain
- Waterbody
- Municipal Boundary

Significant Natural Features

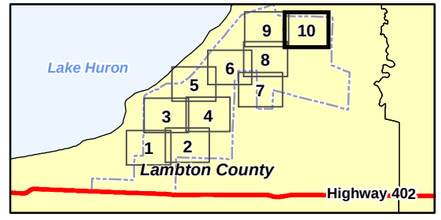
- Wetland
- Woodland

Significant Wildlife Habitats

- Amphibian Breeding-Woodland (ABW)
- Deer Wintering Area (DWA)
- Hooded Warbler Habitat (HOWA)
- Plant Species of Conservation Concern Habitat (PCC)
- Rare Vegetation Community - Generalized
- Snake Hibernacula (SH)
- Wood Thrush Habitat (WOTH)
- Wood Thrush Habitat- Generalized (WOTH)

Waterbody Status

- REA Water Body
- Not a REA Water Body



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Client/Project

Suncor Energy
Cedar Point Wind Power Project

Figure No.

3.10

Title

Significant Natural Features and Wildlife Habitat

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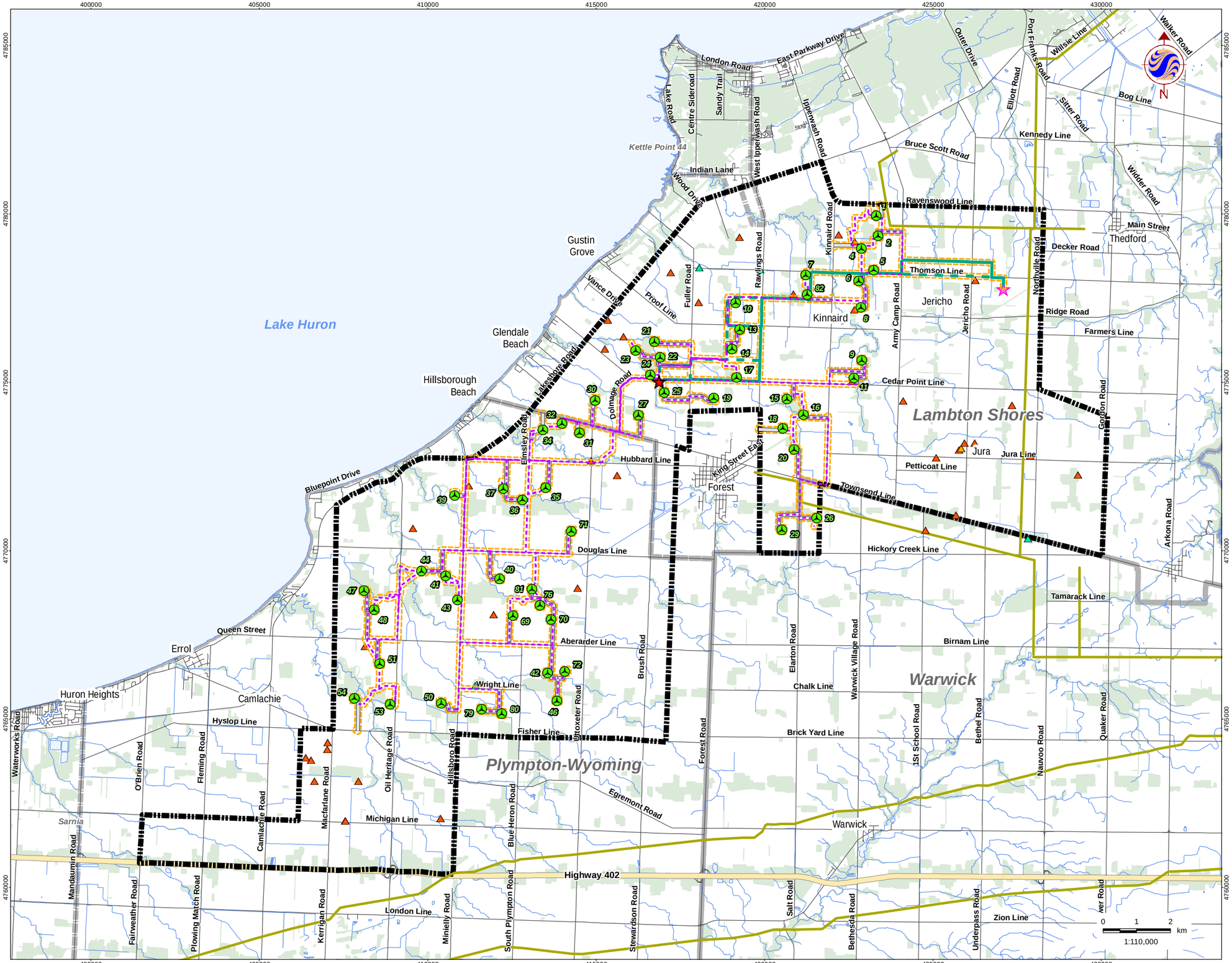
Revised: 2013-04-03 By: dharvey



Legend

- Study Area
- 75m Zone of Investigation

Proposed Project Components

- Turbine
- Substation
- Access Road
- Collector Line
- Transmission Line
- Transmission Line Alternate Route

Other Infrastructure

- Substation- NextEra Jericho

Existing Features

- Expressway / Highway
- Road
- Wooded Area
- Watercourse
- Waterbody
- Municipal Boundary

Petroleum Wells

- Abandoned
- Suspended
- Status Unknown
- Pipeline

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Figure No.
4.0

Title
Petroleum Resources

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