

GREENFIELD SOUTH POWER CORPORATION

GREEN ELECTRON POWER PROJECT

PROJECT DESCRIPTION

November 20, 2012

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EXECUTIVE SUMMARY

GENERAL INFORMATION AND CONTACTS

The Green Electron Power Project involves the construction and operation of a single new, clean, natural gas fuelled, electricity generating plant in St. Clair Township Ontario at one of two sites being considered near the intersection of Oil Springs Line and Greenfield Road (the “East Site” and the “West Site”). After evaluating both candidate sites the proponent will proceed to develop only the one site, the proponent has selected on the basis of the most favourable potential.

The proposed facility will use combined cycle technology (i.e. gas turbine, heat recovery boiler and steam turbine) and will have a net capacity of about 300 megawatts (MW). Natural gas will be provided from one of the existing nearby pipelines and the electricity produced by the facility will be fed into a nearby 230,000 Volt electrical transmission circuit of Hydro One Networks Inc.

The project is part of Ontario’s plan to replace all of its coal fired electricity generation with new, clean natural gas fueled generation so as to improve air quality and hence improve the health of its citizens.

Name of the project: Green Electron Power Project

Name of the proponent: Greenfield South Power Corporation
2275 Lake Shore Blvd. W. Suite 401,
Toronto, Ontario M8V 3Y3

Principal contact person: Bruce E. Holbein, Manager Environment
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tel. (519) 824-6150

To date the proponent has carried out consultation with the public, various governmental agencies and First Nations and has received responses about the project from the following:

St. Clair Township – Staff
Lambton County – Staff
St. Clair Township – Mayor, Deputy Mayor and Councillors
St. Clair Region Conservation Authority
Ontario Ministry of the Environment
Ontario Ministry of Infrastructure
Walpole Island First Nation
Aamjiwnaang First Nation
Canadian Environmental Assessment Agency
Canada Food Inspection Agency
Aboriginal Affairs and Northern Development Canada
Members of the public attending two Open House events

The project is subject to the environmental assessment requirements of Ontario (O.Reg 116/01) for electricity projects under the Environmental Assessment Act (Ontario).

The project is also regulated in terms of zoning and site plan by St. Clair Township under the Planning Act (Ontario).

The project will also be regulated in terms of air emissions and noise, as well as waste water and stormwater discharge (if required) under the Environmental Protection Act (Ontario) by way of a single Environmental Compliance Approval for all aspects regulated under the Act.

The project will be regulated by the Conservation Authorities Act (Ontario) in terms of impact on flooding, erosion and other water shed protection issues.

The project may need a Permit to Take Water (PTTW) under the Ontario Water Resources Act or may need to obtain an amendment to the PTTW of another service provider who may supply water to the project

The Canadian Environmental Assessment Agency has informed the proponent that no regional study has been or is being conducted in the area where the project is to be carried out.

PROJECT INFORMATION

The Green Electron Power Project involves the construction and operation of a new, clean, natural gas fuelled, electricity generating plant of approximately 300 megawatts (MW) capacity which will facilitate the replacement of coal-fired power generation in Ontario. Under the contract with the Ontario Power Authority, the power plant will likely operate about 25% of the year, during times of higher electricity demand which occur typically between morning and evening on summer and winter business days, but this may vary depending on variations in the spot market prices for electricity and natural gas.

The relevant provisions in the regulation under CEAA, 2012 which describe the project are:

“construction, operation, decommissioning and abandonment of... ..a fossil fuel-fired electrical generating station, with a production capacity of 200 MW or more”

as per item 2(a) of the Schedule of Physical Activities forming part of the Regulation Designating Physical Activities SOR/2012-147.

The buildings and large structures associated with the project include the construction and operation of a single natural gas fuelled power plant of about 300 megawatts (MW) capacity, having a footprint of about 2 hectares, that includes two large buildings to house the electrical power generators and other related equipment, a heat recovery steam generator including flue gas stack, a cooling tower, a parts storage building, electrical transformers, an electrical switchyard, as well as connections to an existing nearby power line, to a nearby existing natural gas line and to a potable water line about 1 km away. The buildings have a ground floor area of about 3000 m² and a maximum height of about 25 m, the heat recovery steam generator has a footprint of about 400 m² and an height of about 33 m, the stack is about 6 m in diameter and about 43 m tall, the cooling tower (including its water pumphouse) has a footprint of about 1400 m² and a height of about 11 m.,

Green Electron Power Project

The plant will be electrically interconnected to the Ontario electrical transmission grid with an existing nearby 230,000 Volt transmission circuit of Hydro One. The plant will receive natural gas from an existing nearby gas pipeline of one of several potential service providers.

The power plant design is based on the well established and successful technology used for natural gas combined cycle power generation throughout the world. Combined cycle power generation starts with a gas turbine driven generator, which consists of a single large turbine turning an electrical generator. The exhaust gases from the gas turbine are then passed through a heat recovery steam generator (HRSG) to make steam. This steam is then piped to a large steam turbine that turns another electrical generator. The low pressure steam exhausting from the steam turbine is next condensed with the aid of a cooling tower and the resulting water is recycled to the HRSG to make steam again. The thermal efficiency of the plant will be about 48% which is much higher than for coal fired facilities or simple cycle natural gas facilities.

The power plant will utilize one GE 7FA gas turbine generator set fuelled by natural gas. The gas turbine will be equipped with dry low NO_x burner technology which has been selected to reduce emissions of nitrogen oxides (NO_x). With dry low NO_x burner technology, the use of selective catalytic reduction (SCR) technology is not required or recommended.

The power plant design is based on the use of a water-tube, heat recovery steam generator (HRSG) equipped with a supplementary natural gas duct burner. The power plant will utilize one Fuji steam turbine generator set. The unit is "packaged" with all accessories so as to reduce site installation time.

The electricity will be generated at about 18,000 Volts by the gas turbine generator and at 13,800 Volts by the steam turbine generator. This power will flow through separate generator step up transformers to both feed the power plant's internal loads and to be exported to the Hydro One transmission system at 230,000 Volts via the facility's high voltage switchyard.

The plant building will be a braced steel structure (i.e. columns and beams) enclosed with pre-finished metal siding. The building design includes advanced acoustical suppression design features with turbines enclosed within buildings along with noise suppression building insulation and muffling/silencing features.

The developed area for the facility on the East site represents less than 10% of the entire property and the developed area for the facility on the West site represents less than 25% of the entire property to be severed from Ontario Power Generation's property.

Building supply water will be from the municipal supply line running along Oil Springs Line. Water for process cooling will be supplied by lateral lines from either the existing large diameter municipal line on Greenfield Road to the west or from the industrial water system of CF Industries to the south/west.

Process waste water consisting of cooling tower blowdown will either be discharged to a local waste water treatment plant for treatment or be treated on site and then discharged to an existing outfall canal to the St. Clair River. The project activities will include the construction of the facility and the interconnection with a nearby 230,000 Volt electrical transmission line

(adjacent to each site), a nearby high pressure natural gas pipeline (on the East Site or adjacent to the West Site), as well as water supply and waste water disposal.

This will be followed by operation and maintenance of the facility for at least 20 years. Decommissioning of the facility will occur once it is no longer feasible to operate.

Atmospheric emissions during the construction and decommissioning phases will include reciprocating engine exhausts from construction machinery and demolition machinery, which will be abated by properly functioning emissions control features.

Atmospheric emissions during operations include nitrogen oxides (NO_x), carbon dioxide (CO₂), carbon monoxide (CO), and very small amounts of volatile organic compounds (VOCs) and unburned hydrocarbons that are typical for clean burning natural gas fuelled equipment. All air emissions will be in accordance with an Environmental Compliance Approval to be issued by the Ontario Ministry of the Environment (MOE) for the project under the Environmental Protection Act (Ontario) which will only be issued after sophisticated computer modeling shows that all emissions criteria are met. Abatement measures in place during the operations phase include the use of dry low NO_x burners on the gas turbine and a stack height in excess of that required to meet emissions standards at critical receptors in the area surrounding the plant.

Process wastewater consisting primarily of cooling tower blowdown (containing elevated concentrations of naturally occurring minerals, as well as sulphates and residual chlorine from water treatment to maintain pH control and control microbial growth) will either be discharged to the municipal wastewater treatment facility in Courtright or be first treated on the project site to meet regulatory limits and then discharged under an MOE compliance approval permit to an existing outfall discharge canal to the St. Clair river operated by CF Industries.

Preparation of the site and construction will occur once all necessary permits are issued – expected by spring 2013. Construction including grading, excavation, building erection and equipment installation is expected to take about 21 months. Commissioning will then take about 3 months. Operation will occur over at least 20 years, and finally decommissioning will take about 9 months.

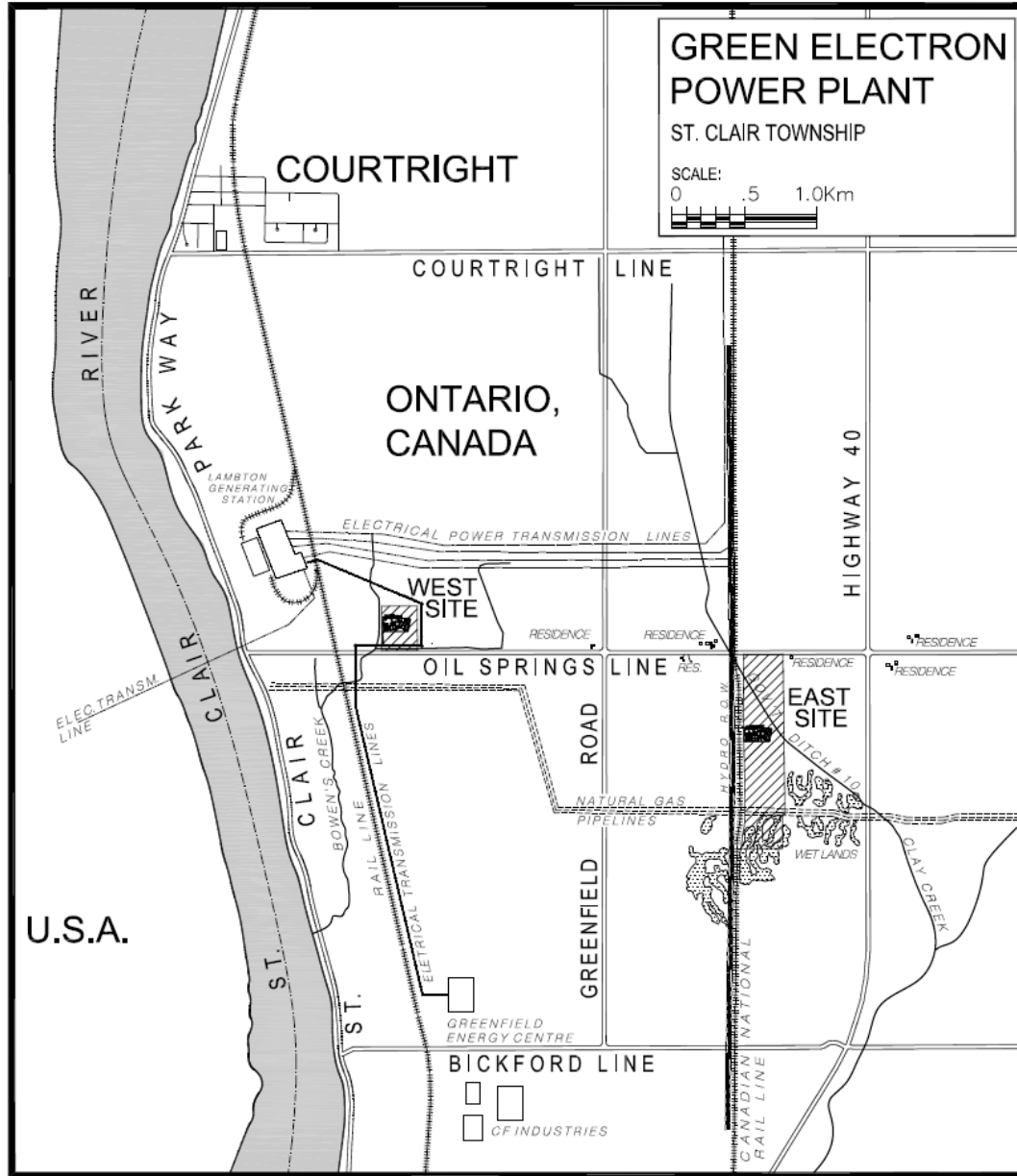
PROJECT LOCATION

The candidate project sites are located at:

	West Site	East Site
Latitude:	42° 47' 37" N	42° 47' 6" N
Longitude:	82° 27' 27" W	82° 25' 40" W

The Location Figure below shows the two sites in the context of natural and manmade features in the area. The East Site is part of the east half of Lot 26, Concession 2 and the West Site is part of Lots 13 and 14, Front Concession; both in Moore (now St. Clair Township), County of Lambton, Ontario.

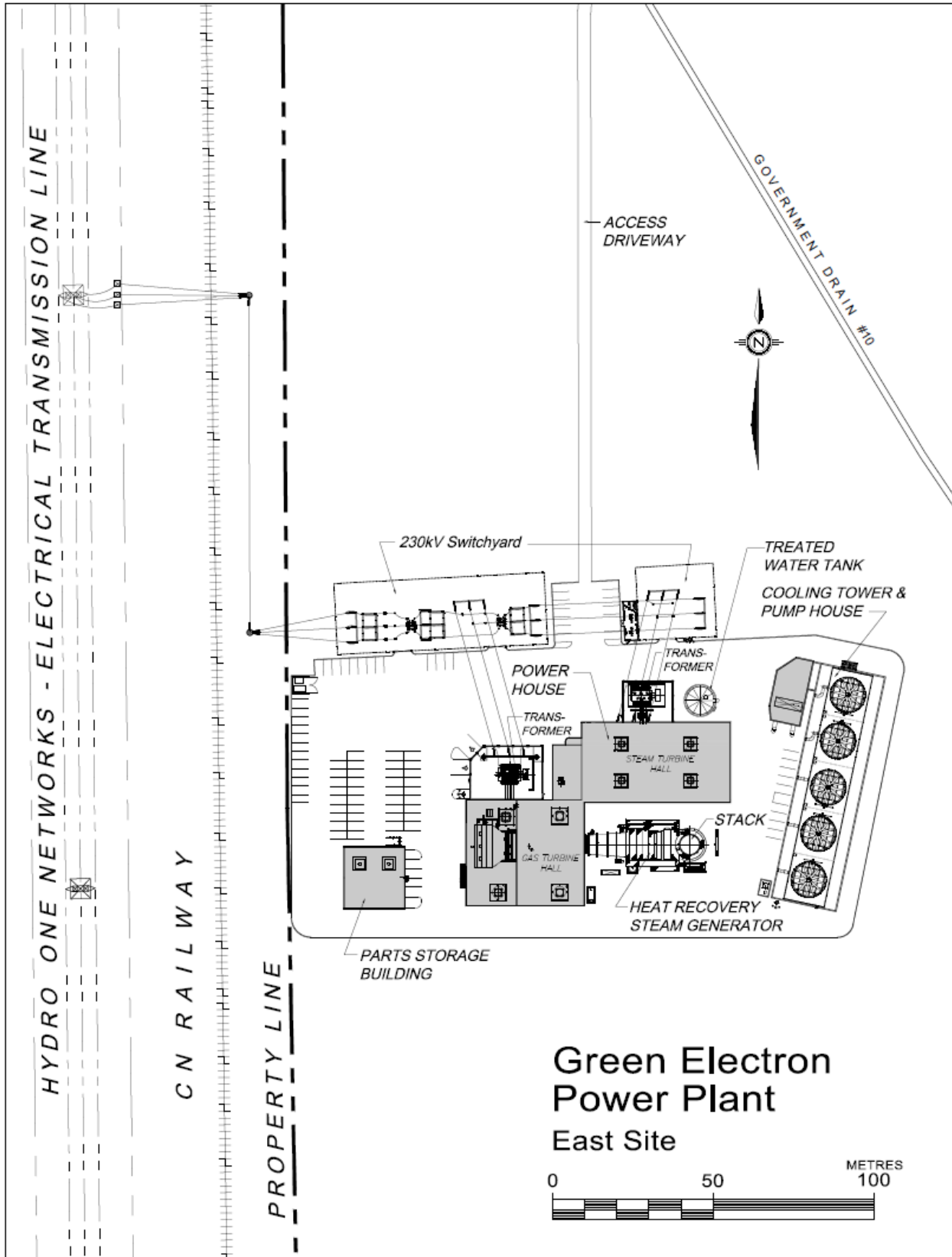
Green Electron Power Project



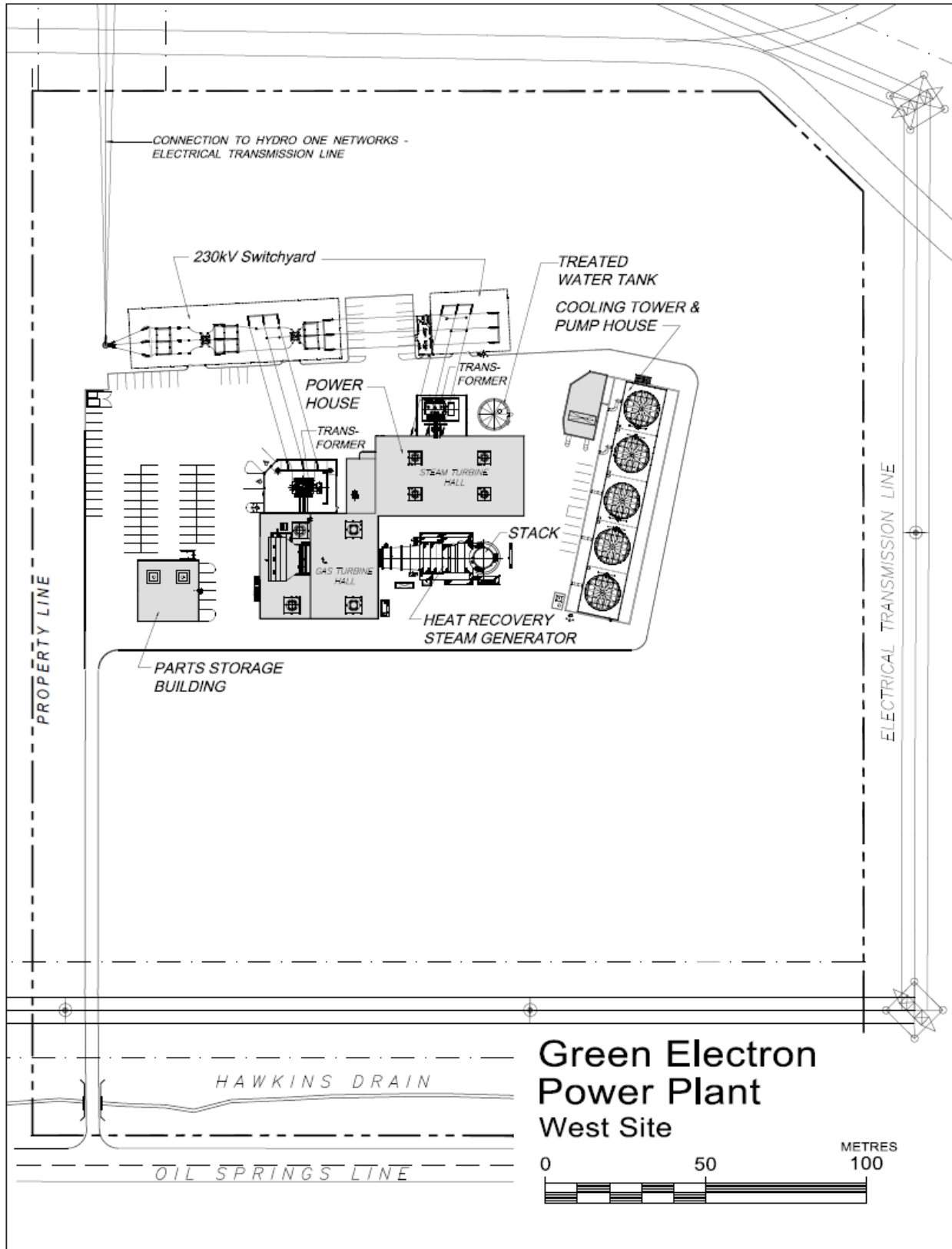
The closest residence to either site is about 500 m from the proposed development area of the East project site as can be seen in the location figure.

The project is within the potential traditional territory of eight First Nations in southwestern Ontario. However, the project sites are not on any land subject to a land claim by any First Nation, and there is no evidence that either site is currently being used for traditional purposes by any First Nation or other aboriginal peoples. The two nearest First Nations are: Aamjiwnaang First Nation (20 km to the north of the project) and Walpole Island First Nation (20 km south of the project).

Green Electron Power Project



Green Electron Power Project



**Green Electron
Power Plant
West Site**



The project is not on or near any federal lands and the closest federal lands are about 20 km from either project site.

Both sites are municipally zoned M3 (Heavy industrial) by the current St. Clair Township Zoning By-law. This zoning designation allows electricity generating facilities. The proponent has separate conditional purchase agreements with the respective current owners of both the East Site and the West Site

The East Site has no dwellings or buildings and is currently used as crop land. The West Site is without buildings and is currently vacant. Neither site has any current water use. The East Site is subject to the fill regulation requirements of St. Clair Region Conservation Authority (SCRCA). The lands around the East Site are currently used for agriculture, as well as a railway line and high pressure gas pipelines. The lands around the West site are currently used for coal-fired power generation by Ontario Power Generation (and accessory uses), agriculture, electricity transmission by Hydro One Networks Inc., mature new growth woodlot, and high pressure gas pipelines. There are no applicable local resource management plans or conservation plans, however the existing zoning by-law of St. Clair Township protects mature woodlots as well as drainage areas, and the SCRCA protects areas within their regulated line. The project will not require any removal of mature woodlot and any filling or structures to be located within the regulated line of the SCRCA will meet the conservation authority's permit requirements with respect to flood and erosion impacts.

The project does not involve the construction, operation, decommissioning or abandonment of any marine terminal; does not take place within the waters or lands administered by a Canada Port Authority under the *Canada Marine Act* and its regulations; and will not require access to, use or occupation of, or the exploration, development and production of lands and resources currently used for traditional purposes by Aboriginal peoples since there is no evidence that either site is currently used for traditional purposes by Aboriginal peoples.

FEDERAL INVOLVEMENT

The project has no proposed or anticipated federal financial support and will not use any federal lands (nor any granting of interest i.e., easement, right of way, or transfer of ownership), and there will be no federal licenses or permits required.

ENVIRONMENTAL EFFECTS

Both sites are current or former crop lands located in the Carolinian Forest Region, and lie in the watershed of the St. Clair River. Due to the relatively clean nature of the air emissions of the project, the limited physical footprint of the project and the predominantly agricultural land use, the species that may be adversely affected is expected to be very small. Based on the habitat present in the Project footprint area as determined by an ecological study for the project completed by qualified biologists, the only species at risk which may potentially be

found present in limited areas are the Butler's Garter Snake, Eastern Fox Snake and Blanding's Turtle in the case of the East site and the Butler's Garter Snake, Blanding's Turtle, Blue/Golden-winged Warbler and Eastern Meadowlark in the case of the West site. These potentially present species will require mitigation measures to prevent disturbance should they actually be encountered.

Good mitigation measures will be able to reduce any impact of the project on air quality, water quality and wildlife species (including migratory birds) to insignificant levels. Manmade drainage ditches that connect to creeks leading to the St. Clair River and as have been used historically for field drainage in the region of the sites are on the property in the case of the East Site or adjacent to the property in the case of the West Site. No discharge will be made to these ditches and the development footprint is designed to be away from these features to minimize any potential impacts.

The project will have a positive effect on air quality and climate change since this project supports the Ontario Government's initiative to retire all coal fired electricity generation in the province, and coal fired electricity generation emits about twice the amount greenhouse gases per unit of electricity as does natural gas fired electricity generation. Likewise the impact on air quality of the project will be net positive since the proposed high efficiency natural gas generation facility will emit only about 9.1% of the nitrogen oxides (NO_x), 0.035% of the sulphur dioxide (SO₂) and none of the mercury that would be generated by a coal fired facility producing the same amount of electricity.

The project will include noise mitigation features such as inlet air silencing on the gas turbine and exhaust silencing on the exhaust stack such that the strict night time noise criteria under regulations of the MOE and Environmental Protection Act will be met.

The project will not have any emissions to ground water. The project's process waste water will be of low toxicity (primarily elevated hardness, and sulphates and residual disinfection chlorine) and will either be treated at the local sewage treatment plant or will be treated to reduce chlorine, suspended particulate solids and temperature on the project site and then discharged via an existing industrial discharge canal to the St. Clair River. Due to the very large flow in the St. Clair River, i.e., at about 240,000 times the treated wastewater discharge flow rate from the project, the residual mineral hardness and sulphates in the treated waste water will be readily assimilated by the river and therefore there will be no significant impact on the river's water quality. The municipal sewage treatment facility has confirmed that the project's wastewater will meet their quality criteria for acceptance and treatment.

The project's emissions to the air and to surface waters have been assessed through technical studies and these emissions will not significantly affect aquatic resources (including fish, fish habitat and aquatic species) due to the limited and reduced emissions to the air from clean burning natural gas and to the low toxicity of the project's wastewater, and as a result of its treatment either on the project site or at the local municipal sewage treatment plant.

The project will not require the removal of any mature woodlot or any wetland feature. The small 2 hectare footprint of the project also means that impact as to any lost crop, wild shrub and wild grass communities will be very small. The project's small footprint and its use of existing, low quality, extensively disturbed land habitat means that any impact of the project on wildlife will be insignificant.

Detailed pre-existing ecology and potential impact studies for the project found no species at risk at either site in September 2012. Based on the types and qualities of available habitats now on the areas to be developed on the project sites a moderate to low potential for future findings for those catalogued potentially present species at risk was assessed for the East and the West site. The East site was assessed to have a low likelihood of presence of Blanding's Turtle and moderate likelihood of presence of Butler's Garter Snake and Eastern Fox Snake. The West site was assessed to have a moderate likelihood of presence of the Butler's Garter Snake and Eastern Meadowlark, as well as a low to moderate likelihood of presence of Blue/Golden Winged Warbler and the Blanding's Turtle. The proponent will take appropriate mitigation measures to check for the eventual presence of these species at risk and if found will take appropriate additional protection and mitigation measures as set out in the ecological impact studies.

Since the project facilitates the replacement of coal fired electricity generation with clean natural gas fired generation the project will have a beneficial effect on human health and life. An independent study for the Province of Ontario found that the replacement of coal plants would annually prevent 660 premature deaths, 1,090 emergency room visits and 331,000 minor illnesses.

Ecological assessment studies of the sites have found there are no existing fish habitats present. No changes are expected to off-site fish and fish habitat as defined in the Fisheries Act since the only discharges to the natural environment from the project will be treated and will be of low toxicity, will meet MOE regulatory limits and will be quickly assimilated thus meeting all applicable regulatory limits designed to prevent harm to fish and fish habitat.

Ecological assessment studies of both the sites have found that there are no aquatic species at risk present on the sites and no project changes are expected to cause off-site impact to any aquatic species as defined in the Species at Risk Act. The only discharges to the natural aquatic environment from the project will be wastewater, appropriately treated, of low toxicity, will be quickly assimilated and will meet all applicable regulatory limits designed to prevent harm to aquatic species, including any species identified by the Act as being at risk.

Ecological assessment studies for both sites have shown that no changes are expected to migratory birds as defined in the Migratory Birds Convention Act since neither of the sites was found to contain significant habitat for migratory birds and the studies have provided mitigation measures providing for any removal of vegetation to be done outside of the nesting season.

No material changes to the environment are expected to occur, as a result of carrying out the project, on federal lands, in a province other than the province in which the project is proposed to be carried out, or outside of Canada. The closest federal lands to the project consist of the Sarnia Harbour lands, the Blue Water Bridge lands, the Aamjiwnaang First Nation lands (each located about 20 km north of the project) and the Walpole Island First Nation lands (located about 20 km south of the project), at which distance the project will have no significant environmental impacts. The nearest interprovincial boundary is over 500 km away from the project, and the nearest Canadian border (on the St. Clair River) is about 3.5 km from the East site and 1.3 km from the West site. No significant changes to the environment are expected beyond 500 m from the project.

Since the nearest First Nation is about 20 km away from the project, no materially adverse effects are expected on Aboriginal peoples as a result of any changes to the environment that may be caused by the project, including materially adverse effects on health and socio-

economic conditions, physical and cultural heritage. There is no evidence of any current use of the project lands and resources for traditional purposes by any First Nations or other Aboriginal peoples, given that the East Site is used for growing wheat and the West Site is vacant but protected within a 1.8 m high barbed wire security fence. Archaeological and heritage site assessment studies have been performed for both the East and the West sites and there is not any structure, site or thing on or near the proposed project site(s) that is known to be of historical, archaeological, paleontological or architectural significance.

ENGAGEMENT OF ABORIGINAL COMMUNITIES

The potentially affected and interested Aboriginal groups include:

Walpole Island First Nation
Aamjiwnaang First Nation
Chippewa's of Kettle & Stony Point First Nation
Chippewa's of the Thames First Nation
Munsee-Delaware First Nation
Caldwell First Nation
Moravian of the Thames First Nation
Oneida Nation of the Thames

The above list was arrived at through consultation with the Ministry of the Environment and the proponent has contacted each of these First Nations through telephone calls and two letters providing information on the project, seeking direct person to person consultative meetings and asking for any comments or concerns that they may have in relation to the project.

Neither the east or the West site is on First nation lands. Both sites are on lands previously ceded by the Walpole Island First Nation. A small portion of the East Site property (but not any of the area proposed for the power plant) is the source of a non-title claim that has been made by the Walpole Island First Nation for monetary compensation only (i.e. not for any return of lands or any provision of replacement lands) alleging improper behaviour by the Crown in disposing of the lands historically ceded by treaty and failure to provide all of the monetary proceeds of disposal to the Walpole Island First Nation. Canada has made a settlement offer to the Walpole Island First Nation in 2012 regarding that compensation claim.

During a meeting with the Chief of the Walpole Island First Nation and their consultation representatives it was indicated that they will review the project in accordance with their protocol. At a follow-up meeting with additional leaders of this First Nation discussion focussed on participation by their peoples in the project through training and job opportunities.

During a telephone discussion with the Chief of the Aamjiwnaang First Nation it was indicated that they had not decided whether to comment on the project but likely would.

During a telephone discussion with the Chief of the Moravian of the Thames First Nation it was indicated that the project was not in their traditional territory and so no comment would be provided.

STAKEHOLDER CONSULTATION (NON-ABORIGINAL)

Stakeholder consultation (non-aboriginal) to date is summarized in the table below:

Stakeholder Key Comments Received as of October 17, 2012	
Stakeholder	Key Comments Received To Date
St. Clair Township	Their zoning by-law allows for power generation on either the east or west site. Minor variances for the East site have been granted. Sewage capacity at Courtright WPCP is likely available for process slowdown
Lambton County	No objections
St. Clair Region Conservation Authority	The East site would require analysis of storm water flows to confirm flood and erosion related design features and permit requirements for fill placement
Ontario Ministry of the Environment	Extensive suggestions and comments on the Environmental Screening and Review of the project
Ontario Ministry of Infrastructure (OMI)	Details of environmental assessment needed if OMI administered lands are to be impacted.
Aboriginal Affairs and Northern Development Canada	No concerns or comments at this time.
Canada Food Inspection Agency	If any ash trees are to be removed the material is not to be transported outside of the affected zone for the emerald ash borer.
Lambton Area Water Supply System	Extra capacity is available but approval by the board of LAWSS is needed
CF Industries	Water and treated waste water discharge capacity is available for the project at their Courtright facility
Local residents	Most local residents attending the open houses were supportive of jobs and economic benefits with a small number (about 17%) expressing concern about construction impacts such as noise, traffic, dust, influx of workers, etc.

FURTHER REFERENCE

Information supporting this executive summary of the Project Description can be found in a series of detailed reports prepared for the project under the environmental assessment process for electricity projects required by Ontario Regulation 116/01 of the Environmental Assessment Act, Ontario. These reports include air quality impact studies, archaeological studies, acoustic studies, ecological studies as well as reports on stakeholder consultations, and can be found online at <http://www.greenelectron.ca/electron.php?page=reports>.

1.0 GENERAL INFORMATION AND CONTACTS

1.1 General Description of Project

The Green Electron Power Project involves the construction and operation of a single new, clean, natural gas fuelled, electricity generating plant in St. Clair Township, Ontario at one of two sites being considered near the intersection of Oil Springs Line and Greenfield Road (the “East Site” and the “West Site”). After thoroughly evaluating both candidate sites, the proponent will make a final site selection and proceed to develop the project on the one site having the most favourable potential.

The proposed facility footprint will be about 2 hectares in size. Both the East Site and the West Site were cleared of forest in the 1800s and were used for agriculture.

The proposed facility will use combined cycle technology (i.e. gas turbine, heat recovery boiler and steam turbine) and will have a net electrical output capacity of about 300 megawatts (MW). Natural gas will be provided from one of the existing nearby service providers’ pipelines and the electricity produced by the facility will be fed into a nearby 230,000 Volt electrical transmission circuit of Hydro One Networks Inc servicing the Ontario electrical transmission grid.

The project is part of Ontario’s plan to replace all of its coal fired electricity generation with new, clean natural gas fuelled generation so as to improve air quality and hence improve the health of its citizens.

1.2 Proponent Contact Information

- a. Name of the designated project: Green Electron Power Project
- b. Name of the proponent: Greenfield South Power Corporation
- c. Address of the proponent: 2275 Lake Shore Blvd. W. Suite 401,
Toronto, Ontario M8V 3Y3
- d. Chief Executive Officer: Gregory M. Vogt, President,
gvogt@easternpower.on.ca,
tel. (416) 234-1301 x106
- e. Principal contact person: Bruce E. Holbein, Manager Environment
bholbein@easternpower.on.ca
tel. (519) 824-6150

1.3 Overview of Consultation Activities to Date

Outreach and Consultation activities by the proponent to date are summarized below:

St. Clair Township – Staff
Lambton County – Staff
St. Clair Township – Mayor, Deputy Mayor and Councillors
St. Clair Region Conservation Authority
Ontario Ministry of the Environment
Ontario Ministry of Infrastructure
Ontario Ministry of Natural Resources
Walpole Island First Nation
Aamjiwnaang First Nation
Various other First Nations (see Section 6.1)
Canadian Environmental Assessment Agency
Canada Food Inspection Agency
Aboriginal Affairs and Northern Development Canada
Members of the public attending two Open House events
Various other federal, provincial and municipal agencies/departments/ministries
(see Section 7.1)

1.4 Other Relevant Information

1.4.1 Environmental Assessment and Other Regulatory Processes

The project is subject to the environmental assessment requirements of Ontario (O.Reg. 116/01) for electricity projects under the Environmental Assessment Act (Ontario).

The project is also regulated in terms of zoning and site plan approval by St. Clair Township under the Planning Act (Ontario).

The project will also be regulated in terms of air emissions and noise, as well as waste water and stormwater discharge (if required) under the Environmental Protection Act (Ontario) by way of an Environmental Compliance Approval addressing all aspects regulated under the Act.

The project will be regulated by the Saint Clair Region Conservation Authority (SCRCA) under the Conservation Authorities Act (Ontario) in terms of impact on flooding, erosion and other water shed protection issues.

The project may need a Permit to Take Water (PTTW) under the Ontario Water Resources Act or may need to obtain an amendment to the PTTW of another user who may supply water to the project

1.4.2 Regional Study

The Canadian Environmental Assessment Agency has informed the proponent that there are no Regional Environmental Studies taking place in the project area.

2.0 PROJECT INFORMATION

2.1 Project Summary

The Green Electron Power Project involves the construction and operation of a new, clean, natural gas fuelled, electricity generating plant of approximately 300 megawatts (MW) output capacity which will facilitate the replacement of coal-fired power generation in Ontario. Under the contract with the Ontario Power Authority, the operating pattern of the power plant will likely be primarily during times of higher electricity demand which occur typically between morning and evening on summer and winter business days. Current projections therefore indicate that the plant will likely run about 25% of the available hours in a given year, but this may vary depending on variations in the spot market prices for electricity and natural gas. The plant will be able to start-up and reach full load status within 3 hours of request.

2.2 Regulation Designating Physical Activities

The relevant provisions of the regulation under CEAA, 2012 which describe the project as relevant for CEAA review are:

“construction, operation, decommissioning and abandonment of... ..a fossil fuel-fired electrical generating station, with a production capacity of 200 MW or more”

as per item 2(a) of the Schedule of Physical Activities forming part of the Regulation Designating Physical Activities SOR/2012-147.

2.3 Components and Activities

2.3.1 Physical Works

The major components of the projects physical works are summarized below.

2.3.1.1 Buildings and Large Structures

The buildings and large structures associated with the project include the construction and operation of a single natural gas fuelled power plant of about 300 megawatts (MW) capacity, having a footprint of about 2 hectares, that includes two large buildings utilized to house the electrical power generators and other related equipment, a heat recovery steam generator including a flue gas stack, a cooling tower, a parts storage building, electrical transformers, an electrical switchyard, as well as connection to: an existing nearby power Hydro One Networks Inc. transmission line; connection to a nearby existing natural gas line owned by one of several potential service providers; connections to potable and process municipal and/or industrial service provider water lines about 1-3 km away and connection to either a municipal wastewater treatment or industrial treated wastewater discharge service provider about 3-5 km away from the site.

The buildings have a ground floor area of about 3000 m² and a maximum height of about 25 m, the heat recovery steam generator has

a footprint of about 400 m² and an height of about 33 m, the stack is about 6 m in diameter and about 43 m tall, the cooling tower (including pumphouse) has a footprint of about 1400 m² and a height of about 11 m, the two electrical transformers have a combined footprint of about 150 m² and height of about 5 m, and the electrical switchyard has a footprint of about 1500 m² and height of about 15m. The purpose of the power plant is to generate electricity for delivery into Ontario's power grid.

2.3.1.2 Electrical Transmission and Natural Gas Connections

Existing structures which accommodate the project's electrical interconnection include the nearby electrical transmission line towers with a height of about 30m and the buried natural gas pipelines nearby.

The plant will be electrically interconnected to an existing 230,000 Volt transmission circuit of Hydro One Networks Inc. adjacent to the railway line abutting the East Site or immediately adjacent to the West Site and, for back-up power it will also be interconnected with the distribution circuits of Hydro One Networks Inc. The plant will receive natural gas from one or more of Union Gas Limited, TransCanada Pipelines Limited, or Vector Pipeline Partnership LLP with connection either directly (on the East site) or via a lateral connection to existing nearby pipelines located south of Oil Springs Line (for the West site).

2.3.1.3 Plant Process Design

The power plant design is based on the well established and successful technology used for natural gas combined cycle power generation throughout the world. A simplified flow diagram of the process for the power plant is attached as Figure 2.1. Combined cycle power generation starts with a gas turbine driven generator, which consists of a single large turbine, similar to a jet engine but enclosed, turning an electrical generator. The exhaust gases from the gas turbine are then passed through a heat recovery steam generator (HRSG) to make steam. The HRSG consists of a large steel container in which the hot exhaust gases from the gas turbine, heated further by a natural gas fired duct burner, are used to boil water into steam. This steam is then piped to a large steam turbine that turns another electrical generator. The low pressure steam exhausting from the steam turbine is next condensed with the aid of an evaporative cooling tower and the resulting water is recycled to the HRSG to make steam again. The thermal efficiency for conversion to electricity of the plant will be about 48% which is much higher than for coal fired facilities or simple cycle natural gas facilities.

Green Electron Power Project

Figure 2.1 shows the key process equipment and flows of the project.

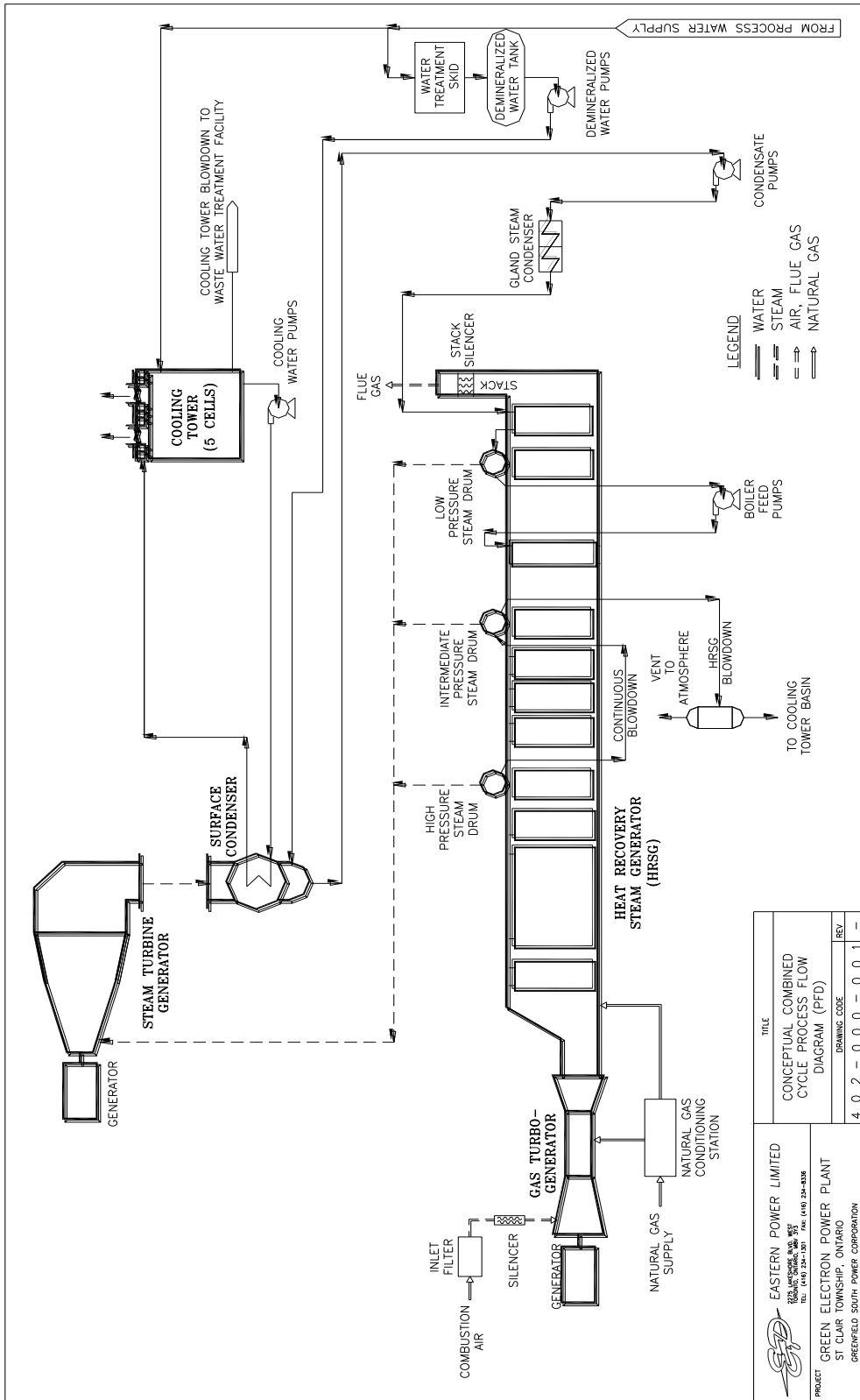


Figure 2.3.1. Simplified Process Flowsheet Diagram of Green Electron Power Facility

2.3.1.4 Major Equipment and Systems

Major components of the project include:

Gas Turbine Generator Set:

The power plant will utilize one GE 7FA gas turbine generator set fuelled by natural gas. The gas turbine will be equipped with dry low NO_x burner technology which has been selected to reduce emissions of nitrogen oxides (NO_x). With dry low NO_x burner technology, the use of selective catalytic reduction (SCR) abatement technology is not required or recommended.

Heat Recovery Steam Generator:

The power plant design is based on the use of a water-tube, heat recovery steam generator (HRSG) equipped with a supplementary natural gas duct burner. The HRSG is boiler that will be shop-constructed and site assembled. It will include an economizer, multiple pressure cycles (high pressure, intermediate pressure and low pressure steam re-heaters), pressure relief valves as well as other miscellaneous items.

Steam Turbine Generator Set:

The power plant will utilize one Fuji steam turbine generator set. The unit is "packaged" with all accessories so as to reduce site installation time.

Condenser and Boiler Feed Water Systems:

The condenser will be a shell and tube unit in which cooling water passing through many tubes cools the steam and condenses to water.

The boiler make-up water treatment system will use reverse osmosis, softener, and deionizer units to upgrade city water to the needed high purity. The use of advanced electro-deionizer regeneration technology largely eliminates the need for sulphuric acid and caustic soda chemical feeds for boiler make up water treatment.

Electrical System:

The electricity will be generated at about 18,000 Volts by the gas turbine generator and at 13,800 Volts by the steam turbine generator. This power will flow through separate generator step up transformers to both feed the power plant's internal loads and to be exported to the Hydro One transmission system at 230,000 Volts via the facility's high voltage switchyard.

The high voltage substation will include hot-dip galvanized steel terminal structures with circuit breakers, disconnect switches, metal conductors, insulators, lightning arrestors, connectors, cables, trays, etc., as well as the main output transformers. The substation will be located adjacent to the generating plant and will be enclosed by a barbed-wire fence.

The main output transformers will be oil-filled with two stages of fan cooling.

Other electrical equipment will include electrically operated generator circuit breakers and medium and low voltage circuit breakers and fused disconnect switches to isolate the medium voltage and low voltage switchgear and motor control centres.

A construction phase service and back-up power source connection for the plant will be provided from the existing adjacent electricity distribution system of Hydro One Networks Inc.

An electrical control and safety panel will be provided to house the relaying and protection equipment, which will meet the requirements of Hydro One and the Independent Electricity System Operator (IESO), including high speed, high band width communication capability, if necessary. The medium voltage station service transformers will be of a dry-type and will be located indoors. Low Voltage Switchgear will be provided on the secondary side of the unit auxiliary transformers to feed power to the motor control centres.

2.3.1.5 Civil Works and Site Design

The plant building will be a braced steel structure (i.e. columns and beams) enclosed with pre-finished metal siding. The roof will consist of a metal roof and/or built-up membrane roofing. The operating floor and mezzanine floors will be of reinforced concrete construction, and the other platforms and walkways will be of steel grating. The steam turbine bay will be served by an electrically-operated, overhead crane. Windows and louvers will be provided as required for appearance and function. Acoustical and/or weather enclosures will be provided where required. The building design includes advanced acoustical suppression design features with turbines enclosed within buildings along with noise suppression building insulation and muffling/silencing features, as were initially designed for urban setting requirements and are thus well suited to meet noise suppression needs.

The area surrounding the plant will be graded to facilitate proper drainage of rainwater. Asphalt pavement will be provided for primary walkways, driveways, and staff parking lot. Gravel paving will be used for secondary areas. Landscaped areas will be created through seeding of grass and planting of trees and shrubbery to meet the municipality's site plan approval requirements. A chain link fence will be provided around the plant area and electrical substation. Portions of the balance

of the property will be left undisturbed in the case of the woodlot and other portions may be utilized as out-leased agricultural cropland.

The developed area for the facility on the East site is shown in Figure 3.1 and Figure 3.2. This development footprint area represents less than 10% of the entire East site property. Importantly, the existing woodland area at the south end of the East site and its connection to natural wetlands as shown in Figure 3.4 will not be developed. Stormwater flows on all non-developed areas of the site will not be collected and existing natural flows will be retained as per pre-existing conditions. Stormwater collected from covered surfaces will be routed to the basin of the facility cooling system for use/treatment.

The developed area for the facility on the West site is shown in Figure 3.1 and Figure 3.3. This development footprint area represents less than 25% of the entire West site property. Importantly, the existing woodland areas along the east and west perimeters of the site will not be developed. Stormwater flows on all non-developed areas of the site will not be collected and existing natural flows will be retained as per pre-existing conditions. Stormwater collected from covered surfaces will be routed to the basin of the facility cooling system for use/treatment.

2.3.1.6 Water and Waste Water

Building supply water will be from the municipal supply line running along Oil Springs Line. Water for process cooling will be supplied by lateral lines from either the existing large diameter municipal line on Greenfield Road to the west or from the industrial water system of CF Industries to the south/west.

Domestic sewage (ex toilets and showers, etc.) from the facility will be connected to an on-site septic treatment system or treated at the Courtright waste water treatment facility should industrial wastewater also be directed to this facility for treatment.

Industrial sewage in the form of blowdown cooling and process waste water will either be:

1. Discharged for treatment into the municipal sanitary sewage collection system which leads to the waste water treatment facility to the north west in Courtright; or
2. First treated on the project site to reduce suspended solids, temperature and residual disinfection chlorine and then discharged to the environment under an Environmental Compliance Approval issued by the Ministry of the Environment and then discharged via a discharge pipeline line running south/west to CF Industries where it will be combined with CF Industries' effluent water before being discharged into an existing outfall canal to the St. Clair River.

2.3.2 Anticipated Size or Production Capacity

The project will have an anticipated production capacity of about 300 megawatts (MW). This project is therefore covered by Item 2(a) of the Schedule forming part of the Regulations Designating Physical Activities (SOR/2012-147) under the Canadian Environmental Assessment Act. The production process to be used by the power plant is a natural gas fuelled combined cycle. The associated infrastructure includes connections to a nearby electrical transmission line and natural gas pipeline. The permanent or temporary structures include the permanent power plant buildings, heat recovery steam generator and cooling tower, as well as electrical transformers and switchyard structures. The temporary structures used during construction will consist of about 10 office or lunchroom trailers and 20 temporary steel storage containers, as well as miscellaneous scaffolding and false work used to enable construction of the permanent structures.

2.3.3 Percentage Increase in Capacity

Not applicable – the project is not an expansion of an existing project.

2.3.4 Description of Project Activities

The project activities will include:

1. The construction of the facility and the interconnection with a nearby 230,000 Volt electrical transmission line (adjacent to each site) and a nearby high pressure natural gas pipeline (on the East Site or adjacent to the West Site), water supply and waste water disposal (as described in Section 2.1 b. above).
2. Operation and maintenance of the facility for at least 20 years.
3. Decommissioning of the facility once it is no longer feasible to operate.

Construction of the facility will begin with site preparation including grading and installation of buried services. This will be followed by placement of foundations for the buildings and the larger pieces of equipment. Then the structural steel frames of the buildings will be erected. The concrete floors will next be poured and then equipment will be installed and connected together with pipes and/or cables. The building walls and roofs will then be completed as well as other architectural items such as doors, windows, louvers etc. The heat recovery steam generator and the cooling tower will each be erected on site and each be connected to the other equipment. The short interconnections with the electrical grid and natural gas pipeline will be installed, as will connections for water and waste water.

Operation and maintenance of the facility will include starting and shutting down the unit in response to spot market pricing for electricity and natural gas, as well as scheduled routine maintenance and unscheduled repairs and maintenance.

Decommissioning of the facility will entail removal of equipment, piping, and electrical cables, followed by demolition of the buildings and removal of buried structures and services.

2.4 Emissions, Discharges and Wastes

2.4.1 Atmospheric Emissions

2.4.1.1 Air Emissions

Atmospheric emissions during the construction and decommissioning phases will include reciprocating engine exhausts from construction machinery and demolition machinery (e.g. earth moving equipment, cranes, etc.). Abatement measures in place during the construction and decommissioning phases include use of only equipment with properly functioning emissions control devices.

Atmospheric emissions during operations include nitrogen oxides (NO_x), carbon dioxide (CO₂), carbon monoxide (CO), and very small amounts of volatile organic compounds (VOCs) and unburned hydrocarbons, that are typical for clean burning natural gas fuelled equipment. All air emissions will be in accordance with an Environmental Compliance Approval to be issued by the Ontario Ministry of the Environment for the project under the Environmental Protection Act (Ontario) which will only be issued after sophisticated computer modeling shows that all emissions criteria are met. Abatement measures in place during the operations phase include the use of dry low NO_x burners on the gas turbine and a stack height in excess of that required to meet emissions standards at critical receptors. Detailed emissions modelling results are presented in comprehensive air quality studies prepared for each site.^{1,2} These studies found that during normal operation the atmospheric emission rates are projected to be about 10.4 g/s of NO_x, 9.76 g/s of CO and 1.8 g/s of VOCs, (see Table 6 on page 26 in both of the respective studies)

2.4.1.2 Noise Emissions

Noise emissions during construction and decommissioning phases will include primarily construction or demolition machinery noise. Abatement measures in place during the construction and decommissioning phases include use of only equipment with properly performing mufflers and restriction of hours of use to that allowed by local regulations.

Noise emissions during the operations phase are primarily process machinery noise. Noise abatement features of the facility include air inlet silencers on the gas turbine, exhaust silencers on the stack, acoustic enclosures of equipment, acoustic insulation of the building and the use of noise walls. State-of-the-art computer modeling of the operating noise emissions was used to ensure that with the mitigation measures in place the noise levels experienced by the

nearest critical receptors (residences) complies with the strict night time regulatory limits.

2.4.2 Liquid Discharges

Domestic sewage (toilets, showers) from the facility will be connected to an on-site septic treatment system or to the municipal treatment facility in Courtright should industrial wastewater be routed there for treatment.

Process industrial wastewater consisting of cooling tower blowdown (containing primarily elevated concentrations of naturally occurring minerals, as well as sulphates due to treatment for pH control and residual chlorine added to control microbial growth) will either be discharged for treatment into the municipal collection and wastewater treatment facility to the north west in Courtright or be first treated on the project site to meet regulatory limits and then discharged to the environment under an MOE compliance approval permit for industrial sewage discharge. The Courtright municipal waste water treatment facility has confirmed that the quality of the industrial wastewater meets in acceptance criteria.

Onsite treatment of process waste water, if this option is selected, will be discharged via a discharge line running south/west to CF Industries where it will be discharged into an existing outfall discharge canal to the St. Clair River. Onsite treatment would remove suspended solids (e.g. turbidity), residual chlorine and also reduce the temperature to no more than 30°C and to no more than 10°C above the receiving water. The pH of the process wastewater will typically be between 8.0 and 9.5. Small quantities of oily wastes that will be generated by the project will be kept separate and disposed of off site using only licensed disposal companies.

Process wastewater flow will be about 20 l/s if being discharged to CF Industries and 10 l/s if being discharged to the municipal sewage treatment facility.

2.4.3 Solid Wastes

The project will generate only incidental, non-hazardous solid wastes which will be either be recycled (e.g. scrap metal) or disposed through licensed waste disposal companies at licensed facilities.

2.5 Project Phases, Scheduling and Main Activities

2.5.1 Project Phases and Scheduling

The anticipated project phases and their estimated timing are as follows:

Preparation of the site and construction will occur once all necessary permits are issued – expected by spring 2013. Construction is expected to take approximately 24 months. Operation will occur for at least 20 years from completion of construction. See Table 2.5.1 below.

Table 2.5.1- Green Electron Power Project Phases

Project Phase	Activity Description	Estimated Duration	Comment
Construction	grading, excavation, building erection, equipment installation	21 months	Typical industrial construction methods; Construction laydown areas to be landscaped (trees/grass) at end of construction
Commissioning	testing and first operation of equipment	3 months	frequent start and stops and episodic noise from line cleanings etc
Operation	operation and maintenance of equipment	25 years	Peaking operation mode expected
Decommissioning	removal of equipment	9 months	Plant and equipment is potentially recyclable

2.5.2 Main Project Activities

Main site preparation activities: excavating, grading, trenching for utilities (to occur once all necessary permits are obtained and are expected to last about 3 months)

Main construction activities: concrete, structural steel, roofing, building cladding, pipefitting, electrical wiring and commissioning (to occur once site preparations are sufficiently complete and are expected to last about 21 months)

Main operation activities: operation and maintenance (to occur once commissioning is complete and expected to last at least 20 years)

Main decommissioning activities: equipment removal and salvage or scrapping, building demolition. (to occur once operations are no longer feasible and are expected to last about 9 months)

3.0 PROJECT LOCATION

3.1 Designated Project Location

3.1.1 Project Coordinates

The location coordinates for the project are as below.

	West Site	East Site
Latitude:	42° 47' 37" N	42° 47' 6" N
Longitude:	82° 27' 27" W	82° 25' 40" W

3.1.2 Local Context Diagrams and Site Plans

Figures 3.1.2 LCP-E and 3.1.2 LCP-W show the locations for the two potential project sites, i.e. East Site and West Site, respectively (only one of which will be chosen by the proponent for final project development), as well as nearby infrastructure and natural features. For these Figures, the site plans as to the approximate development footprint are overlaid on air photos of the project site area. Site plans for the two potential sites are shown in Figures 3.1.2 SP-E and 3.1.2 SP-W



Figure 3.1.2 LCP – E: Local Context Plan East Site

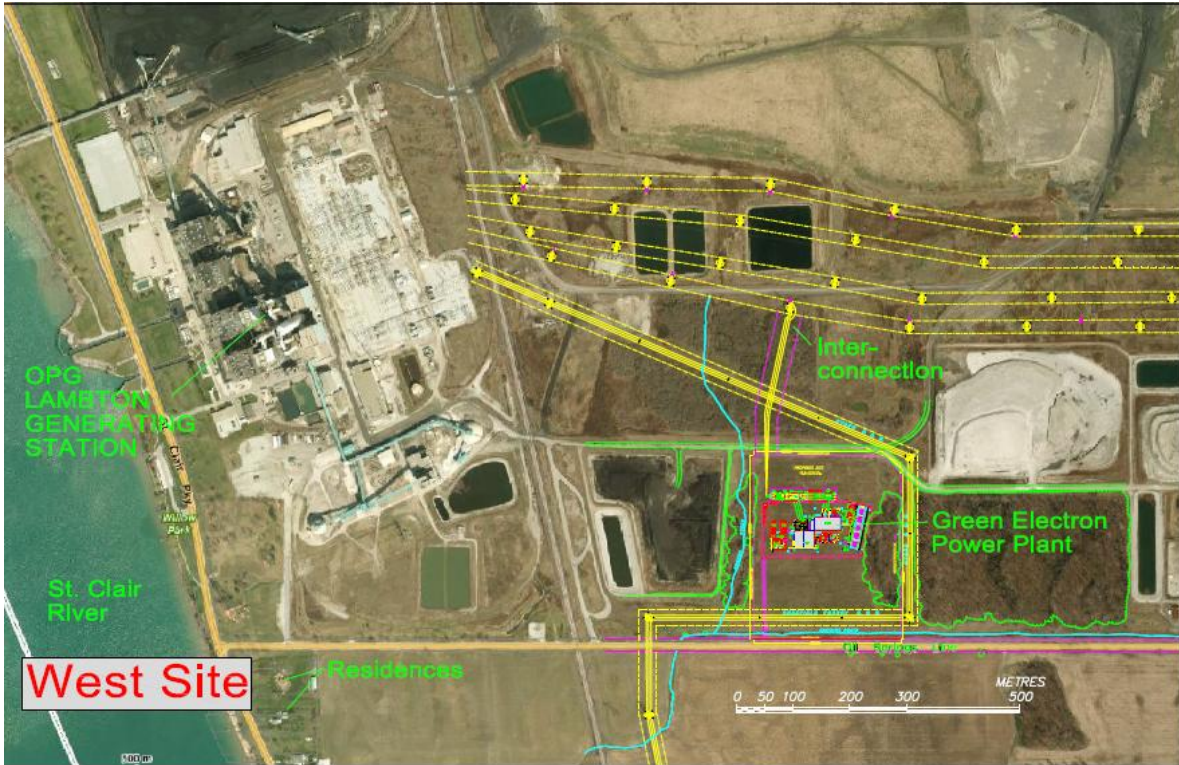


Figure 3.1.2 LCP – W: Local Context Plan West Site

3.1.3 Map of Designated Project Components

Figure 3.1.3 provides a map showing the two sites in the context of natural and manmade features in the surrounding area, including water courses, wetlands, roads, railways, natural gas pipelines, electrical transmission lines and nearby residences.

Figure 3.1.2 SP-E: Preliminary Site Plan East Site

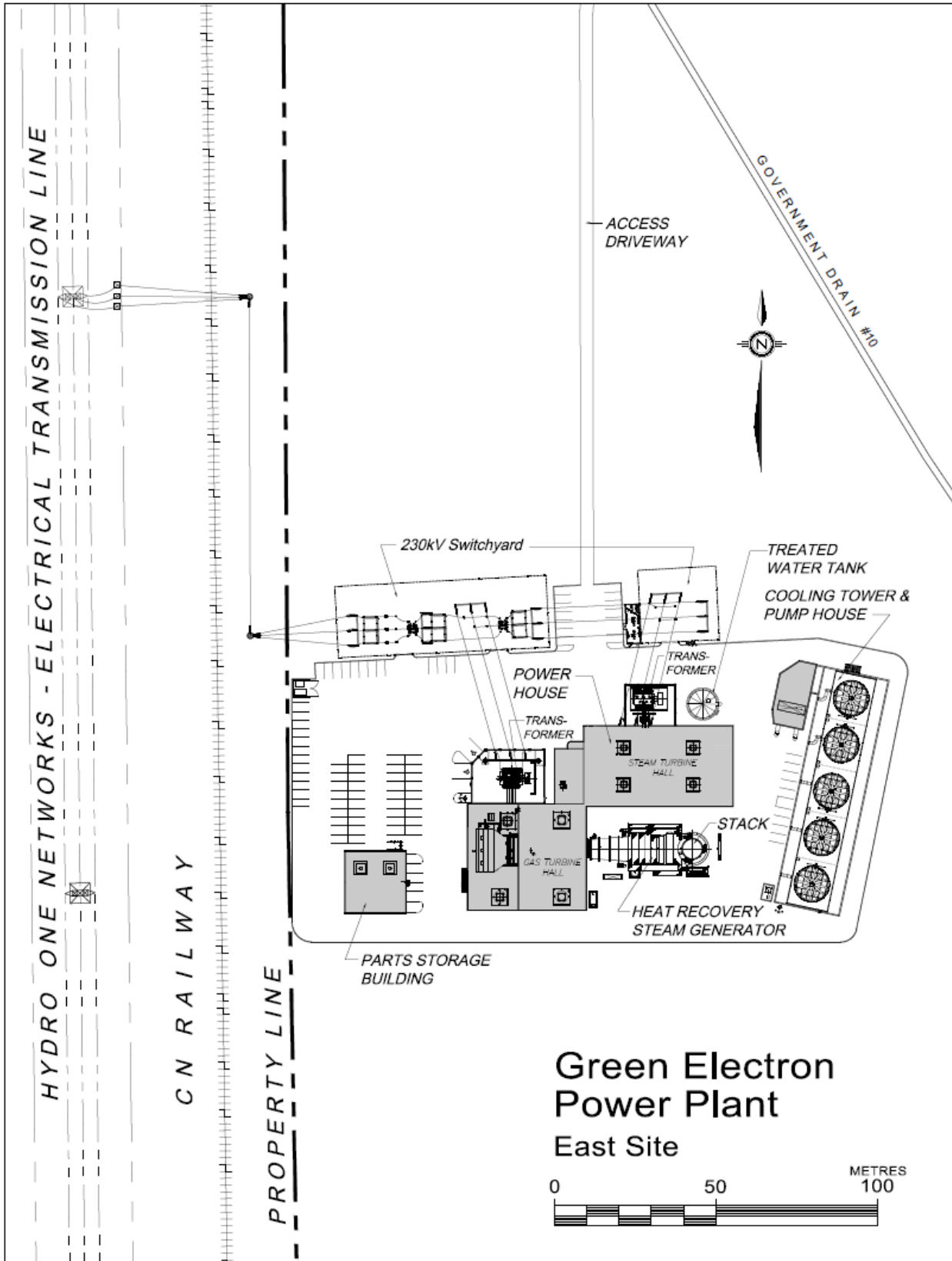
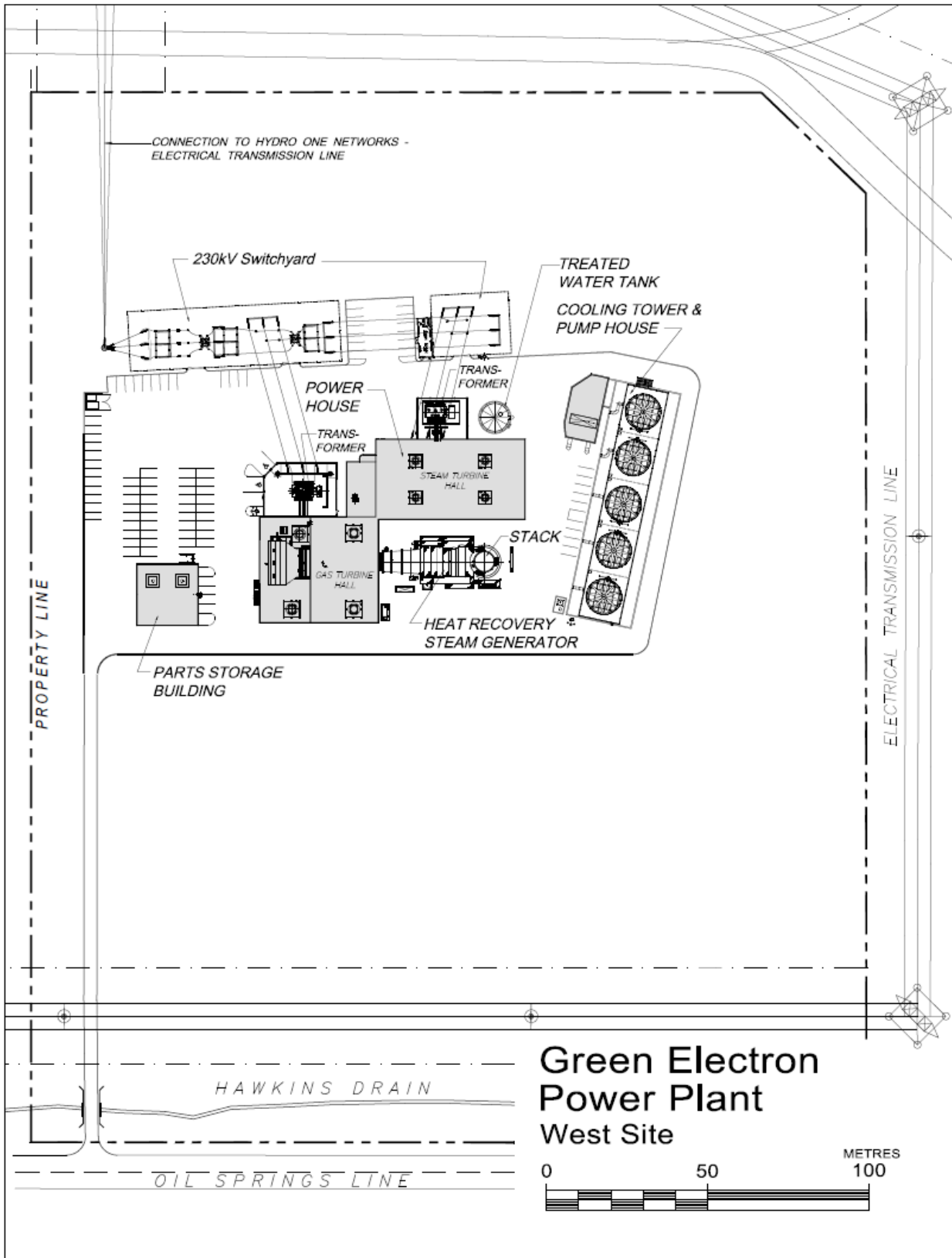


Figure 3.1.2 SP-W: Preliminary Site Plan West Site



Green Electron Power Project

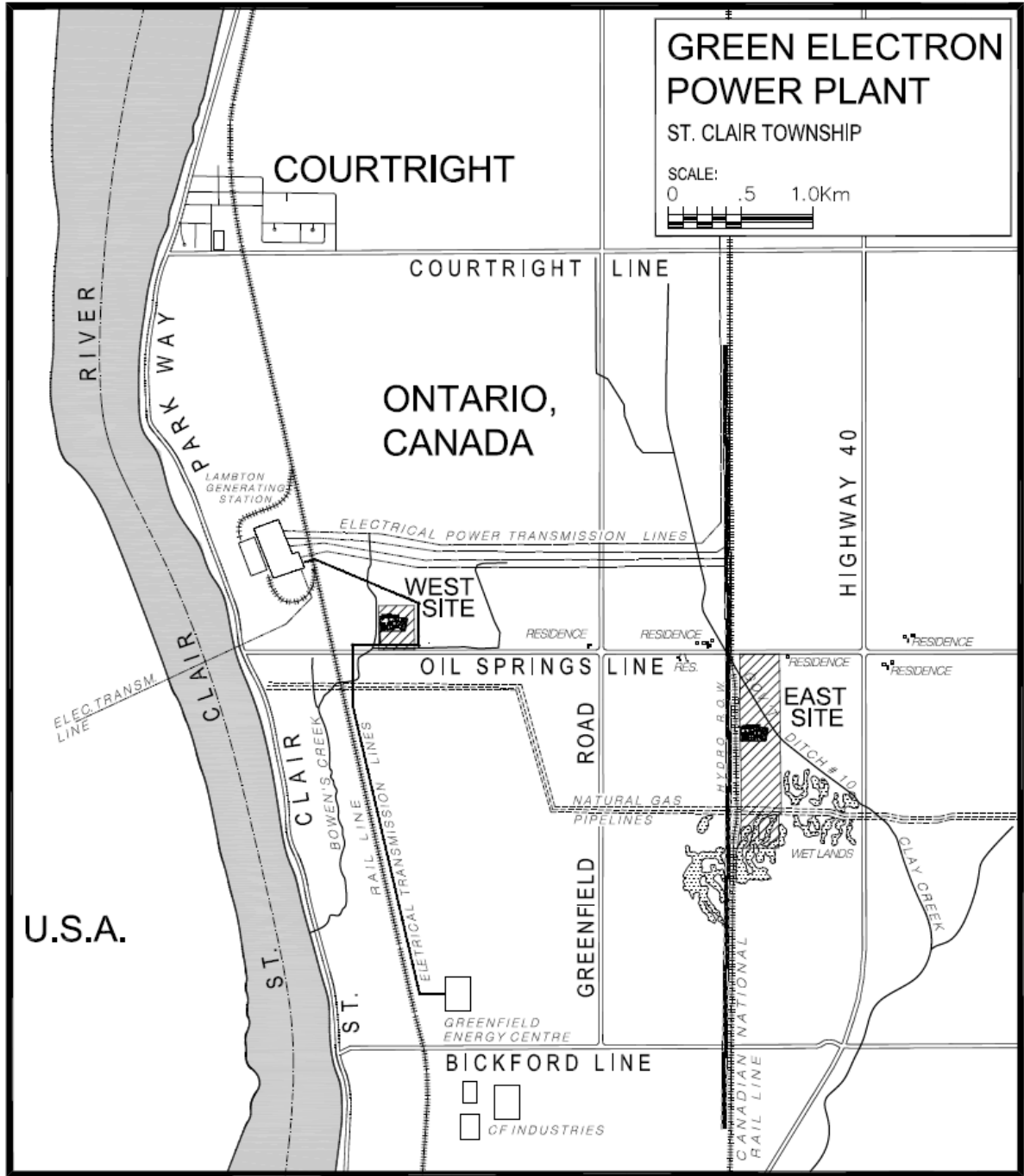


Figure 3.1.3 – Project Area Map and Surrounding Features

Green Electron Power Project

3.1.4 Photographs of Work Locations



Figure 3.1.4 E - East Site (looking south from Oil Springs Line – July 2012)



Figure 3.1.4 W - West Site (looking north from Oil Springs Line – July 2012)

3.1.5 Legal Description of Sites

Legal descriptions for the two potential project sites are as follows:

East Site: Pt. Lt. 26 Con. 2 Moore, Pt. Lt 26 Pl. 24 Moore, Pt RDAL BTN Lt. 26 Con. 1 and Lot 26 Pl. 24 Moore, Pts. 1 to 10 25R-1582, CLOSED BY MO28032, S/T L225170, L241804, L8, St. Clair Township, Lambton County, Ontario

West site: Part of Lots 13 and 14 Front Concession, Moore, St. Clair Township, Lambton County, part of PIN 43307-0089 (LT), Ontario (precise legal description to be finalized once property survey is registered)

3.1.6 Proximity to Other Land Uses and Other Aspects:

- a. Permanent, seasonal or temporary residences;

Figure 3.4 above shows the locations of any residences relative to the project sites. The closest residence to either site is about 500 m from the proposed developed area of the East project site.

- b. Traditional territories, settlement land (under a land claim agreement) as well as lands and resources currently used for traditional purposes by Aboriginal peoples;

The project is within the potential traditional territory of eight First Nations in southwest Ontario. Figure 3.7 shows the locations of the project relative to these eight First Nations. The project sites are not on any land subject to a land claim by any First Nation, and there is no evidence that either site is currently being used for traditional purposes by any First nation or other Aboriginal peoples. The two nearest First Nations are: Aamjiwnaang First Nation (20 km to the north of the project) and Walpole Island First Nation (20 km south of the project) while the remaining 6 First nations range from about 46 to 83 km from the project sites.

- c. Federal lands:

The project is not on or near any federal lands since there are no federal lands within 1000 m of either project site.

3.2 Land and Water Use

3.2.1 Zoning Designations and Land Use Plans

Both sites are zoned M3 (Heavy industrial by the current St. Clair Township Zoning By-law. This zoning designation allows electricity generating facilities.

3.2.2 Current Land Ownership

East Site: J Rink Farms Ltd.

West Site: Ontario Power Generation Inc.

The proponent has separate conditional purchase agreements with the respective current owners of the East Site and the West Site.

3.2.3 Management Plans

The East Site is currently used as crop land. The West Site is currently vacant fallow land. Neither site has any current water use. The East Site is subject to the fill regulation of St. Clair Region Conservation Authority (SCRCA). The lands around the East Site are currently used for agriculture, as well as a railway line and high pressure gas pipelines. The lands around the West site are currently used for coal-fired power generation by Ontario Power Generation (and accessory uses), agriculture, electricity transmission by Hydro One Networks Inc., mature woodlot, and high pressure gas pipelines.

There are no applicable local resource management plans or conservation plans, however the existing zoning by-law of St. Clair Township protects mature woodlots as well as drainage areas and the SCRCA protects areas within their regulated line. The project will not require any removal of mature woodlot. Filling or placement of structures to be located within the regulated line of the SCRCA will meet the conservation authority's permit requirements with respect to flood and erosion impacts.

3.2.4 Marine Terminal Aspects

The project does not involve the construction, operation, decommissioning or abandonment of any marine terminal.

3.2.5 Port Aspects

The project does not take place within the waters or lands administered by a Canada Port Authority under the *Canada Marine Act* and its regulations.

3.2.6 Aboriginal Lands / Resource Involvement

The project will not require access to, use or occupation of, or the exploration, development and production of lands and resources currently used for traditional purposes by Aboriginal

peoples since there is no evidence that either site is currently used for traditional purposes by Aboriginal peoples.

The East Site is has been used for agriculture by non-aboriginal persons since the early 1800's, most recently to grow wheat, which strongly contraindicates its use for any traditional purposes by Aboriginal peoples.

The West Site is part of Ontario Power Generation's Lambton Generating Station property and is secured by a 1.8 m high barbed wire fence with access strictly controlled by Ontario Power Generation security staff to authorized persons only, which strongly contraindicates its use for any traditional purposes by Aboriginal peoples.

Inspection of both sites revealed no evidence of any traditional use of either property by Aboriginal peoples (e.g. living, camping, trapping, hunting, fishing, gathering of flora items, sacred activities, burial activities, etc.).

Assessments of archaeological potential of both properties have been carried for the project by a qualified archaeological consultant, which concluded (on page 10 for the report on East Site³ and on page 9 for the report on the West Site⁴) that "Based on the lack of both First Nations and Euro-Canadian settlement on the subject property, it is recommended that the property be issued a letter of clearance for the development plans provided."

During discussions with representatives of First Nations in regards to the project these representatives did not identify to the proponent any current use of either project property by any of their peoples for traditional purposes.

4.0 FEDERAL INVOLVEMENT

4.1 Federal Financial Support

There is no proposed or anticipated federal financial support that federal authorities are, or may be, providing to the project.

4.2 Federal Lands

There will be no federal lands that will be used for the purpose of carrying out the project, nor will there be any granting of interest in federal land (i.e., easement, right of way, or transfer of ownership).

4.3 Federal Legislative or Regulatory Requirements

There are no federal legislative or regulatory requirements (including any federal license or permit) that are applicable to the project. The only Federal Regulatory Requirement is in relation to the CEAA 2012 reporting requirements herein.

5.0 ENVIRONMENTAL EFFECTS

5.1 Physical, Biological and Human Environment Impacts

The biophysical settings of both the East and the West sites have been described in section 2 of site specific natural resources baseline study reports prepared for the project.^{7,8}

Both sites are former or existing crop lands. The East Site was last used to grow wheat. The West Site has not been used for crops for about 40 years and was planted with saplings to encourage reforestation, however most of the saplings were destroyed by mice and deer.

Both sites are located in the Carolinian Forest Region, and lie in the watershed of the St. Clair River. Human activities, primarily agriculture, have removed most of the forest cover in the area and fertilizer use has elevated the phosphorous levels in the St. Clair River. Due to the relatively clean nature of the air emissions of the project, the limited physical footprint of the project and the predominantly agricultural land use, the species that may be adversely affected is expected to be very small. Ecological site studies as to the pre-existing conditions and assessments as to project related environmental impacts have been undertaken. Based on the available and post project development habitats present in the project footprint area, as was reported in Sections 3.1.3 and 3.2.3 of the respective natural resources baseline studies for each site^{7,8}, the only potential species at risk which may potentially be present at low likelihood in limited areas is the Butler's Garter Snake, Eastern Fox Snake and Blanding's Turtle for the East site⁷ and, the Butler's Garter Snake, Blue/Golden Wing Warbler and Eastern Meadowlark (moderate likelihood) in the case of the West site⁸. None of these species at risk was found during site surveys conducted in August 2012 but should they actually be found present later during the project, mitigation measures have been developed and will be implemented as detailed in the environmental impact studies in Sections 3.1.3 and 3.2.3^{7,8} to prevent the disturbance of any species at risk which may potentially be present.

The East site is located in the Clay Creek sub-watershed of the St. Clair River watershed, and this sub-watershed, located approximately midway between Lake Huron and Lake St. Clair, is one of 11 sub-watersheds draining to the St. Clair River on the Canadian (eastern) side that makes up approximately 9% of the total St. Clair River watershed area on the eastern side of St. Clair River (see Section 2.1 of the environmental impact study prepared for the East Site)⁷.

The West site is located in the Bowens Creek sub-watershed of the St. Clair River watershed, and this sub-watershed, located approximately midway between Lake Huron and Lake St. Clair, is one of 11 sub-watersheds draining to the St. Clair River on the Canadian (eastern) side that makes up approximately 1% of the total St. Clair River watershed area on the eastern side of St. Clair River (see Section 2.1 of the environmental impact study prepared for the West Site)⁸.

The surficial geology in the area of the proposed Project site is Rannoch Till (silt to clayey silt matrix, highly calcareous, clast poor) from the Pleistocene age (MNDM,

1991). Bedrock geology in the area of the proposed Project Site is classified as shale of the Port Lambton Group and/or Kettle Point Formation, from the Paleozoic era (see Section 2.1 page 5 of the respective environmental impact studies prepared for the East Site and West Site)^{7,8}.

Good mitigation practices and measures will reduce any impact of the project on air quality, water quality and wildlife species (including migratory birds) to insignificant levels. These practices will include segregating the drainage features to prevent general disturbance, removal of shrubs and other vegetation only outside of the nesting periods for migratory birds, etc. as recommended by the respective ecological reports (see Sections 3.1.3 and 3.2.3 of the respective environmental impact studies prepared for the East Site and West Site)^{7,8}.

There are no natural water bodies on either site. There are manmade drainage ditches near each site that connect to creeks leading to the St. Clair River. These drainage ditches have been used for field drainage in the region of the sites are on the property in the case of the East Site or adjacent to the property in the case of the West Site and the development footprint is well back and will not encroach on these features.

The St Clair River is the ultimate receiver of process wastewater from the project (see Section 2.4.2 and 5.1.2 of this Project Description for details) and this large river contains a large variety of fish and aquatic species (see Section 2.1 page 5 of the respective environmental impact studies prepared for the East Site and West Site)^{7,8}, however due to the low toxicity of the process waste water and its treatment prior to release to the river under provincially regulated authority, any impact of the project on the river will not be significant.

5.1.1 Climate, Air Quality and Noise

The project will have a positive effect on climate change since this project supports the Ontario Government's initiative to retire all coal fired electricity generation in the province, and coal fired electricity generation emits about twice the amount greenhouse gases per unit of electricity produced as natural gas fired electricity generation. Likewise the impact on air quality of the project will be net positive since the proposed high efficiency natural gas generation facility will emit only about 9.1% of the nitrogen oxides (NO_x), only 0.035% of the sulphur dioxide (SO₂) and none of the mercury that would be emitted by a coal fired facility sized to produce the same amount of electricity as detailed in Table 6.2, page 24, of the Environmental Screening and Review Report prepared for the project.¹²

Detailed air quality impact studies utilizing state-of-the-art computer modelling were prepared for the project^{1,2} which found (page 12 – Table 2A of each

report) that ambient air monitoring in nearby Sarnia yielded a five year (2006 – 2012) average, 90% percentile NO₂ concentration of 41.2 micrograms per cubic metre based on one hour sampling periods. The Ambient Air Quality Criteria established by the Ontario Ministry of the Environment for NO₂ is 400 micrograms per cubic metre based on a one hour sample. This means that even on the worst air quality days the NO₂ levels were only 10% of the criteria for acceptable air quality. Modeling of the emissions from the Green Electron Power Project during 90th percentile ambient air conditions indicated that ambient NO₂ levels would only increase to about 62.55 micrograms per cubic metre at the maximum point of reception for the East Site (page 32 – Table 13), and 62.2 micrograms per cubic metre at the maximum point of reception for the West Site (page 33 – Table 13) which are in both cases only about 15% of the criteria for acceptable ambient air quality in Ontario. The maximum point of reception is about 260 – 320 m, primarily to the southeast and southwest from the stack for the East Site (page 35) and about 300 – 360 m primarily to the northeast and southeast from the stack for the West Site (page 36). The air quality impact studies examined all relevant air emissions species and operating scenarios for the project and concluded that the impact of the facility on existing air quality will be minor and in almost all cases will not result in any exceedances of the Ontario Ambient Air Quality Criteria even with conservative cumulative effects assumptions. (see Section 10)

The project will include noise mitigation features such as inlet air silencing on the gas turbine and exhaust silencing on the exhaust stack such that the strict night time noise criteria under regulations of the Environmental Protection Act will be met. Sophisticated noise modelling prepared for the project has shown that the noise criteria will be met at all sensitive receptors including all nearby residences as is reported in Section 8 of each of the separate acoustical reports for the East Site and for the West Site).^{5,6}

5.1.2 Surface Water Quality, Sedimentation and Groundwater Quality

The project will not have any emissions to ground water. The project's process waste water which will be discharged will either be treated at the local sewage treatment plant or will be discharged after treatment on the project site via an existing industrial discharge canal to the St. Clair River. The Courtright municipal treatment facility has confirmed that the wastewater meets its acceptance criteria. Should the option of on site treatment be pursued, wastewater will be treated to reduce suspended particulate, temperature and residual disinfectant chlorine. The treated flow to the discharge canal would have low toxicity, i.e. only with elevated hardness mineral constituents enriched over natural water levels from evaporative concentration, excess sulphates from water conditioning and slightly elevated temperature over ambient levels.

This treated wastewater as would be added to the CF canal has been calculated by senior professional engineers of the proponent to have ample assimilative capacity for the receiving water due to the much larger flows in the St. Clair River (about 240,000 times the discharge rate of the project). Any

discharge would only be in accordance with an Environmental Compliance Approval to be issued by the Ontario Ministry of the Environment under the Environmental Protection Act, Ontario.

Stormwater will be managed so as meet the regulatory requirements of the St. Clair Region Conservation Authority, including sedimentation and flood mitigation. Therefore the project will have no material impact on surface water quality, sedimentation or ground water quality.

5.1.3 Aquatic Resources

Ecological impact assessments for both the East⁷ and the West⁸ sites have confirmed that aquatic resources will not be affected by the project. The project's emissions to the air and to surface waters will not materially affect aquatic resources due to the low toxicity of the wastewater, and either its treatment at a local municipal sewage treatment plant or its rapid assimilation by the St. Clair River.

5.1.4 Vegetation Communities

Ecological impact assessments for both the East⁷ and the West⁸ sites have confirmed that the project will not require the removal of any mature woodlot or any wetland community. The small, 2 hectare footprint of the project and the low quality of existing habitats in the areas to be developed will result in insignificant impacts on crop, wild shrub and wild grass communities.

5.1.5 Wildlife

The project's small footprint and the use of only low quality, extensively disturbed habitat means that any impact of the project on wildlife will be insignificant, as confirmed through ecological impact assessments for both the East⁷ and the West⁸ sites.

5.1.6 Species at Risk

Natural resources baseline and ecological impact assessments studies for both the East⁷ and the West⁸ sites have reported on Species at Risk. Conducted for the project by qualified biologists, these studies found no species at risk were present on either site during a site survey in September 2012. Given the catalogued potential Species at Risk (SAR) in the broader area of the potential project sites and the quality of potential site habitats for these SAR as assessed on the sites themselves, a low potential for later finding the Blanding's Turtle and a moderate potential for later finding the Butler's Garter Snake and Eastern Foxsnake on the East site was assessed.⁷ A low potential for later finding the Blanding's Turtle and the Blue/Golden Winged Warbler and a moderate potential for later finding the Butler's Garter Snake and the Eastern Meadowlark on the West site was assessed.⁸ The proponent will take appropriate measures to check for the presence of these species at risk during further project phases and has developed mitigation measures (as detailed in Sections 3.1.3 and 3.2.3 of the referenced study reports^{7,8}) to be employed should any of these species actually be found.

5.1.7 Human Environment

Since the project facilitates the replacement of coal fired electricity generation with clean natural gas fired generation the project will have a beneficial effect on human health and life. An independent study for the Province of Ontario found that the replacement of coal plants would annually prevent 660 premature deaths, 1,090 emergency room visits and 331,000 minor illnesses.¹³

5.2 Potential Effects related to Federal Legislation

5.2.1 Fish and Fish Habitat (Fisheries Act)

No changes are expected to off-site fish and fish habitats as defined in the Fisheries Act since the only discharges to the natural environment from the project will be treated and will be of low toxicity, will meet Ontario's regulatory limits and will be quickly assimilated into the environment only in accordance with an Environmental Compliance Approval issued by Ontario's Ministry of the Environment under the Environmental Protection Act, thus meeting all applicable regulatory limits designed to prevent harm to fish and fish habitat.

Natural resources baseline and environmental impact studies for both the East and West sites^{7,8} have confirmed that "Project construction and operation will not affect fish or fish habitats following proper mitigation measures as described" in the study report. (see Section 2.3 in each referenced studies)

5.2.2 Aquatic Species at Risk (Species at Risk Act)

Natural resources baseline and environmental impact studies for both the East and West sites^{7,8} have confirmed that the project will not directly impact any aquatic species at risk as detailed in section 2.4 of the referenced study reports. No changes are expected to aquatic species as defined in the Species at Risk Act since the only discharges to the natural environment from the project will be low in toxicity, will be quickly assimilated into the environment and will meet all applicable regulatory limits designed to prevent harm to aquatic species, including any species identified by the Act as being at risk.

5.2.3 Migratory Birds (Migratory Birds Convention Act)

Natural resources baseline and environmental impact studies for both the East and West sites^{7,8} have confirmed that the project does not significantly impact any lands or airspace used to any significant extent by migratory birds. No changes are expected to migratory birds as defined in the Migratory Birds Convention Act since neither of the sites was found by the ecological studies to contain significant habitat for migratory birds. Nevertheless, any removal of vegetation will be done outside of the nesting season for migratory birds in compliance with the regulations and guidelines of The Migratory Bird Convention Act (MBCA) as described in the referenced reports^{7,8}.

5.3 Potential Effects related to Federal Lands

No material changes to the environment are expected to occur, as a result of carrying out the project, on any federal lands in Ontario, in a province other than the province in which the project is proposed to be carried out, or outside of Canada. The project is not near any federal lands, within the closest federal lands consisting of the Sarnia Harbour lands, the Blue Water Bridge lands, the Aamjiwnaang First Nation lands (each located about 20 km north of the project) and the Walpole Island First Nation lands (located about 20 km south of the project). The project will have no significant environmental impacts on any of these closest federal lands. The nearest neighbouring provincial boundary is over 500 km away from the project. The nearest Canadian border (on the St. Clair River) is about 3.5 km from the East site and 1.3 km from the West site. The project is not expected to result in significant change to the quality of the environment at this location since any river borne impact at the border will be imperceptible due to the rapid assimilation of treated process waste water of low toxicity by the much larger river flow. Any airborne impact at the border has been assessed through air quality impact studies and will be low due to the rapid dispersion of relatively clean flue gases from a 43 m tall stack, which in respect of NO_x emissions is projected to result in an increase of less than 10% over existing ambient levels at the border (see . The maximum ground level impact due to air emissions from the project will be about 300m from the stack where air emissions will none the less be below 10% of allowable regulatory limits.^{1,2}

5.4 Potential Effects on Aboriginal Peoples from Changes to the Environment

Since the nearest First Nation is about 20 km away from the project, and since the detailed environmental analyses of air quality^{1, 2}, noise^{5, 6} and ecology^{7, 8} impacts predicted that there would be no significant change to the environment beyond 0.5 km from the project site, no significant impacts of the project on aboriginal peoples living on First Nation lands are expected as a result of any changes to the environment due to the project. (see also Section 5.1 of this Project Description for further details)

There is no evidence of any current use of the project lands and resources for traditional purposes by any First Nation or other Aboriginal peoples. (see Section 3.2.6 of this Project Description for further details) Due to the low impact of the project on the air quality, water quality and ecology in the area around the project sites (see Section 5.1 of this Project Description for further details), and the very small 2 hectare project site, any traditional use by aboriginal peoples of lands or waters in the general vicinity of the project sites will not be significantly affected.^{7,8}

No significant adverse effects are expected on Aboriginal peoples as a result of any changes to the environment that may be caused by the project, including materially adverse effects on health and socio-economic conditions or physical and cultural heritage. There is not any structure, site or thing on or near the proposed project site(s) that is known to be of historical, archaeological, paleontological or architectural significance as has been confirmed through site specific archaeological and heritage studies conducted by qualified experts for both the East and West sites.^{3,4}

6.0 ENGAGEMENT OF ABORIGINAL GROUPS

6.1 Potentially Affected and Interested Aboriginal Groups

The proponent has worked in consultation with the MOE to identify any First Nations or other Aboriginal groups that could be affected by the project. Only First Nations as listed below were identified as potentially affected:

Walpole Island First Nation

Phone: (519) 627 - 1481
Fax: (519) 627 - 0440
Email: burton.kewayosh@wifn.org
Chief: Burton Kewayosh
Distance from East Site: 20.30 km
Distance from West Site: 19.80 km
Mailing Address: RR #3
Wallaceburg, Onatrio
N8A 4K9, Canada

Aamjiwnaang First Nation

Phone: (519) 336 - 8410
Fax: (519) 336 - 0382
Email: cplain@aamjiwnaag.ca
Chief: Chris Plain
Distance from East Site: 20.44 km
Distance from West Site: 20.10 km
Mailing Address: 978 Tashmoo Ave.
Sarnia, Ontario
N7T 7H5, Canada

Chippewa's of Kettle & Stony Point First Nation

Phone: (519) 786 - 2125
Fax: (519) 786 - 2108
Email: fdesk@kettlepoint.org
Chief: Thomas Bressette
Distance from East Site: 54.85 km
Distance from West Site: 55.69 km
Mailing Address: 6247 Indian Lane
Kettle & Stony Point First Nation
Ontario, Canada
N0N 1J1

Chippewa's of the Thames First Nation

Phone: (519) 289 - 5555
Fax: (519) 289 - 2230
Chief: Joe Miskokomon
Distance from East Site: 77.67 km
Distance from West Site: 79.60 km
Mailing Address: R.R. #1, 320 Chippewa Road
Muncey, Ontario, Canada
N0L 1Y0

Munsee-Delaware First Nation

Phone: (519) 289 - 5396
Fax: (519) 289 - 5156
Chief: Patrick Waddilove
Distance from East Site: 77.55 km
Distance from West Site: 79.98 km
Mailing Address: R.R. #1, 320 Chippewa Road
Muncey, Ontario, Canada
N0L 1Y0

Caldwell First Nation

Phone: (519) 322 - 1766
Fax: (519) 322 - 1533
Email: wlh@porchlight.ca
Chief: Louise Hiller
Distance from East Site: 83.37 km
Distance from West Site: 82.39 km
Mailing Address: P.O. Box #388 Stn Main
Leamington, Ontario
N8H 3W3, Canada

Moravian of the Thames First Nation

Phone: (519) 692 - 3936
Fax: (519) 692 - 5522
Chief: Greg Peters
Distance from East Site: 45.74 km
Distance from West Site: 47.76 km
Mailing Address: R.R. #3, 14528 Riverline Road.
Thamesville, Ontario
N0P 2K0, Canada

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Oneida Nation of the Thames

Phone: (519) 652 - 3244

Fax: (519) 652 - 9287

Email: dawn.doxtater@oneida.on.ca

Chief: Joel Abram

Distance from East Site: 82.79 km

Distance from West Site: 86.62 km

Mailing Address: Customer Care Center
2212 Elm Street
Southwold, Ontario
N0L 2G0, Canada

Figure 6.1 shows the approximate locations of the above First Nation communities relative to the project sites. The Caldwell First Nation does not currently have a reserve but they intend to establish a reserve in the Leamington area.



Figure 6.1 - First Nations Locations

6.2 Overview of Aboriginal Engagement Activities to Date

Table 6.2 - Dates and Means of Engagement of First Nations		
First Nation	Dates of engagement	Means of Engagement
Walpole Island First Nation	July 26, 2012 Aug 13, 2012	Mail Meeting at WIFN
Aamjiwnaang First Nation	July 26, 2012 July and Aug 2012 Sept 25, 2012 Oct 15, 2012	Mail Several voicemails Courier Telephone call
Chippewas of Kettle & Stoney Point	Aug 29, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail
Oneida Nation of the Thames	Aug 29, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail
Caldwell First Nation	Sept 11, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail
Moravian of the Thames First Nation	Sept 11, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Telephone call
Munsee-Delaware First Nation	Sept 11, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail
Chippewas of the Thames First Nation	Sept 11, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail

6.3 Key Comments and Concerns by Aboriginal Groups

Both sites are on lands ceded historically by the Walpole Island First Nation. A small portion of the East Site property (but not any of the area proposed for the power plant) is the source of a non-title claim that has been made by the Walpole Island First Nation, i.e., for monetary compensation only, and not for any return of lands or any provision of replacement lands. This claim alleges improper behaviour by the Crown in the historical disposing of the lands as ceded by treaty and failure to provide all of the monetary proceeds for disposal to the Walpole Island First Nation. Canada has made a settlement offer to the Walpole Island First Nation in 2012 regarding that claim.

During a meeting with the Chief of the Walpole Island First Nation and Band representatives it was indicated that they will review the project in accordance with their protocol. At a follow-up meeting with additional leaders of this First Nation discussion focussed on participation by their peoples in the project through training and job opportunities.

During a telephone discussion with the Chief of the Aamjiwnaang First Nation it was indicated that they had not decided whether to comment on the project but likely would.

During a telephone discussion with the Chief of the Moravian of the Thames First Nation it was indicated that the project was not in their traditional territory and so no comment would be provided.

6.4 Current Aboriginal Traditional Land Use

The lands and resources of the ceded lands to be used by the project are not currently used for any traditional purposes by any Aboriginal groups or peoples. The project lands have been under crop cultivation by European settlers since the early 1800's. In the case of the West Site the lands are secured by a 1.8 m tall barbed wire fence. Given the very small land footprint of the project, given the low impact of the project on air, water and ecological quality in the vicinity of the project (as found by numerous studies noted and cited throughout Sections 5.1, and 5.2), and given that there is no evidence on the project site of any current or recent use by any aboriginal peoples for traditional uses (see Section 3.2.6), it can thus be safely concluded that the project will not have any direct material impact on the existing or future pursuit by any aboriginal peoples of traditional uses in their traditional territories. In fact, due to the indirect benefits of the project (i.e. facilitation of phase out of coal-fired electricity generation in Ontario) the resulting substantial health and environmental benefits will improve the ability of aboriginal peoples to pursue their traditional uses of their traditional territories.

6.5 Historical Basis of Potential Aboriginal Interest

The project lands are part of the "beaver hunting grounds" described in the 1701 Nanfan treaty between James Nanfan, acting English colonial governor of New York and the Iroquois Confederacy. On this basis each of the Iroquois First Nations in the confederacy has claimed an "interest" in all of southwest Ontario as well as parts of the US States from New York to Illinois.

Much of the same lands were also claimed by Chippewa First Nations who were in the 1700s allied with the French. One of these Chippewa First Nations is the Walpole Island First nation which in Treaty 29 on July 10, 1827 ceded the lands to the British Crown on which the project is to be located,.

Reference:

- "Deed from the Five Nations to the King, of their Beaver Hunting Ground," in [*A Century of Lawmaking for a New Nation: U.S. Congressional Documents and Debates, 1774–1875*](#)

6.6 Aboriginal Consultation and Information Gathering Plan

As part of the provincially mandated environmental assessment the First Nations have been directly advised in writing of the project and provided information as to the nature and location of the project. Direct consultation meetings have been requested by telephone calls and follow-up letters with aboriginal leaders to collect information about any potential impacts of the project on traditional use of lands by aboriginals as well as any comments or concerns. The proponent will continue to consult with First Nations throughout the provincially mandated environmental assessment process as per Ontario Regulation 116/01. This includes forwarding to relevant First Nations all further written notices mandated by the process. During this process the proponent will continue to reach out to First Nations by offering to meet with those that are interested in direct discussions of the project's impacts and any concerns that any First Nation may have regarding its environmental impact on their members. Any concerns raised by First Nations during this process as to any impacts on their First Nation lands, or as to any of their traditional use of their traditional territories will be evaluated and addressed to the extent reasonably feasible by the proponent. The level of consultation is considered to be fully commensurate with the relatively low level of environmental impact of the project and its net positive contribution as found by the provincially mandated environmental assessment process that is now very advanced in its studies of the various aspects of the environment that may be affected including primarily air quality and noise.

7.0 STAKEHOLDER CONSULTATION (NON-ABORIGINAL)

7.1 Stakeholders and Related Consultation Activities

7.1.1 Potentially Affected and Interested Stakeholders

Table 7.1.1 lists the potentially affected and interested stakeholders (not including Aboriginal groups). Each agency/ministry/department was sent a copy of the Notice of Commencement of Environmental Screening and Review that is mandated under Ontario Regulation 116/01 regarding environmental assessment of electricity projects in Ontario with a request for any comments or concerns.

Table 7.1.1 – Stakeholders (Non-Aboriginal)	
Federal	
	Canadian Environmental Assessment Agency
	Canada Food Inspection Agency
	Aboriginal Affairs and Northern Development Canada
	Transport Canada
	National Energy Board
Provincial	
	Ministry of Agriculture, Food and Rural Affairs
	Ministry of Culture
	Ministry of Energy and Infrastructure
	Ministry of the Environment
	Ministry of Municipal Affairs and Housing
	Ministry of Natural Resources
	Ministry of Northern Development and Mines
	Ministry of Transportation
	Ministry of Community and Social Services
	Ministry of Aboriginal Affairs
	Ontario Energy Board
	Ontario Power Authority
Local	
	St. Clair Township
	Lambton County
	St. Clair Region Conservation Authority
	CF Industries Limited
	Public at large and specifically invited local residents

7.1.2 Overview of Stakeholder Consultation Activities to Date

Table 7.1.2 provides a summary of consultations completed with respondents shown in Table 7.1.1.

Table 7.1.2 Stakeholder Consultation (Non-Aboriginal)		
Stakeholder	Date(s) of Consultation	Means of Consultation
St. Clair Township	July 16, 2012 July 25, 2012 Aug 13, 2012 Aug 27, 2012	meeting meeting presentation Committee of Adjustment
Lambton County	July 16, 2012	Meeting
St. Clair Region Conservation Authority	Aug 13, 2012	Meeting
Ontario Ministry of the Environment	July 30, 2012 August 5, 2012 July, Aug, Sept 2012 Oct 15, 2012	meeting meeting various conference calls letter
CF Industries	Aug 13, 2012	Meeting
Public at large and specifically invited local residents	August 16, 2012-10-09 Sept.	Open house forum at local community hall; information provided, feedback forms, direct discussion

7.2 Key Comments and Concerns by Consulted Stakeholders

Stakeholder comments are summarized in Table 7.2 below.

Table 7.2 - Key Comments from Stakeholder Consultation (Non-Aboriginal) Received as of October 17, 2012	
Stakeholder	Key Comments Received
St. Clair Township	Their zoning by-law allows for power generation on either the east or west site. Minor variances for the East site have been granted. Sewage capacity at Courtright WPCP is available for process slowdown
Lambton County	No objections
St. Clair Region Conservation Authority	The East site would require analysis of storm water flows to confirm flood and erosion related design features and permit requirements for fill

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	placement
Ontario Ministry of the Environment	Extensive suggestions and comments on the draft Environmental Screening and Review Report of the project including: <ul style="list-style-type: none"> - comments on the options for disposal of process waste water - comments on nearby waste sites - detailed comments on air quality study - detailed comments on noise study - detailed on storm water - detailed comments on ecology - comments regarding First Nation consultation
Ontario Ministry of Infrastructure (OMI)	Details of environmental assessment needed if OMI administered lands are to be impacted.
Aboriginal Affairs and Northern Development Canada	No concerns or comments at this time.
Canada Food Inspection Agency	If any ash trees are to be removed the material is not to be transported outside of the affected zone for the emerald ash borer.
Lambton Area Water Supply System	Extra capacity is available but approval by the board of LAWSS is needed
CF Industries	Water and waste water capacity is available for the project at their Courtright facility
Local residents	Most local residents attending the open houses were supportive of jobs and economic benefits with a small number (about 17%) expressing concern about construction impacts such as noise, traffic, dust, influx of workers, etc.

7.3 Overview of Ongoing and Proposed Stakeholder Consultation Activities

The proponent is continuing consultation under the Ontario Environmental Assessment Act, under the Ontario Planning Act, and under the Conservation Authorities Act, etc. The consultation under each of these processes is either set out in respective legislation or under the regulations under the respective pieces of legislation. The sequence, extent and direction of stakeholder consultation will depend on the path of the approval process, which can be affected by regulators, the proponent and stakeholders, and thus cannot be definitively predicted at this point, other than the completion of public consultation under O.Reg. 116/01, that is currently underway. These consultations included two local open house events, written canvassing of relevant government entities, as well as consultations with First Nations’ representatives – and are described in extensive detail in two reports for the project.^{10, 11} The proponent has reasonably addressed all concerns and comments raised during these consultations and will continue to do so in accordance with the processes required by the respective regulations and/or legislation.

7.4 Consultation with Other Jurisdictions

Application has been made to the Independent Electricity System Operator (IESO) and to Hydro One Networks Inc. regarding electrical connections to the 230,000 Volt transmission grid.

Minor variance approval from St. Clair Township was received on Aug 27, 2012 in respect of the East Site. Consultations with municipal staff regarding approvals required for the West Site are continuing.

Discussions regarding construction in a fill regulated area are underway with the St. Clair Region Conservation Authority. This included a review of the proposed sites and what would be required to obtain the required approvals.

Discussions continue with the Ontario Ministry of the Environment regarding the Environmental Assessment under O. Reg. 116/01 and an Environmental Compliance Approval under the Environmental Protection Act (Ontario). Extensive guidance throughout the environmental assessment process for the project was provided including a detailed review of all elements of the environmental assessment including air quality, noise emissions, stormwater discharge, wastewater treatment/discharge, site ecology and impacts, archaeology, public consultation and government consultation.

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