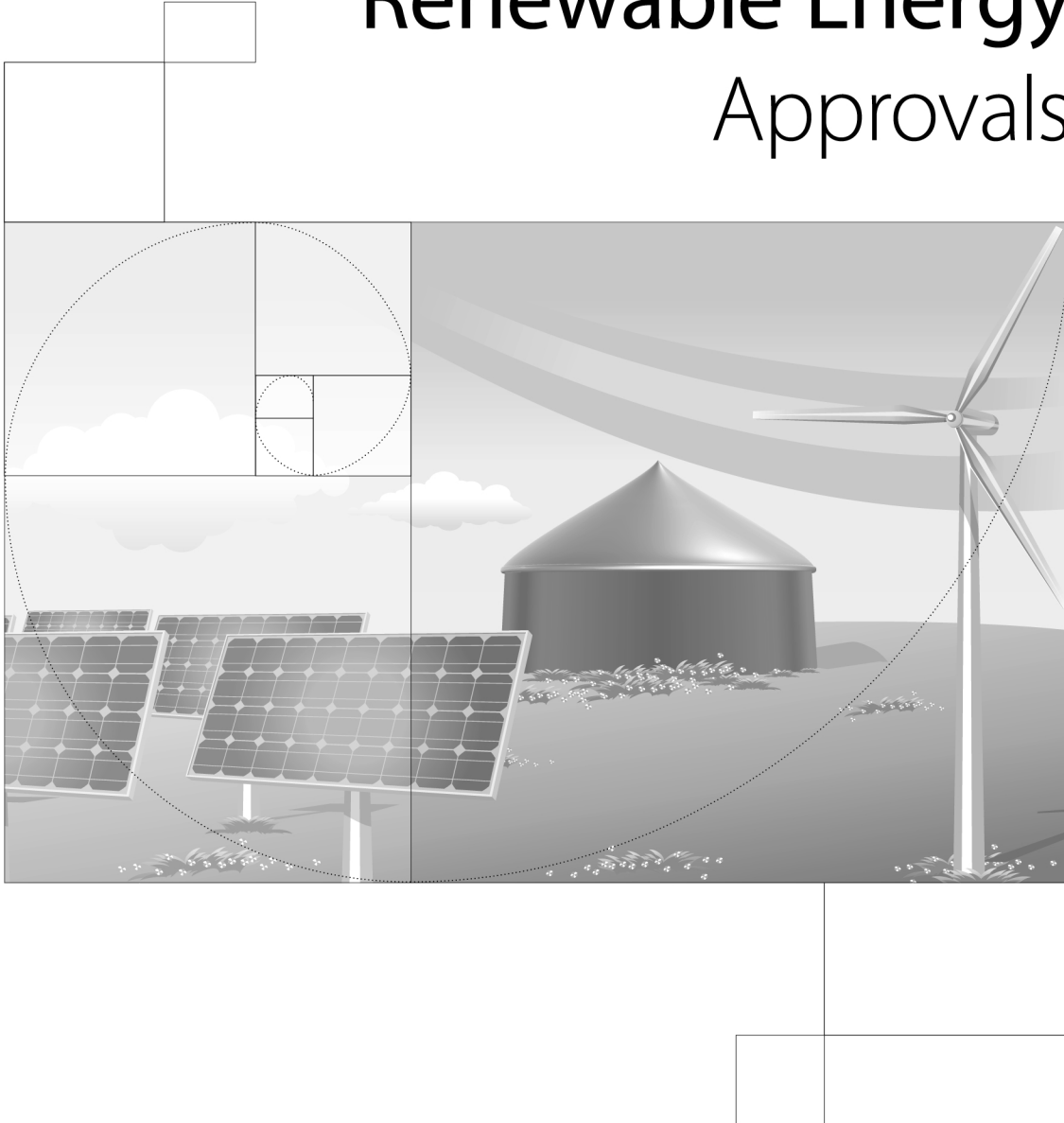


Technical Guide to **Renewable Energy** Approvals



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Chapter 1

Overview of the Renewable Energy Approval application process and the requirements for submitting a complete application

List of Acronyms/Terms

AD	Anaerobic Digestion
ANSI	Area of Natural and Scientific Interest
CA	Conservation Authority
CEAA	Canadian Environmental Assessment Agency
CSA	Canadian Standards Association
dB, dBA	Decibel, dBA refers to “A-weighted” decibels
DC-STC	Direct Current — Standard Test Conditions. A standard measurement of solar photovoltaic module nameplate capacity
DFO	Department of Fisheries and Oceans. Federal agency
DPR	Decommissioning Plan Report. One of the required reports for most REA applications
EA	Environmental Assessment
EC	Environment Canada. Federal agency
EBR	Environmental Bill of Rights
ERT	Environmental Review Tribunal
ESA	Electrical Safety Authority
FIT (FIT Program)	Feed-in Tariff Program — A program run in Ontario by the OPA which provides standard pricing and standardized rules in order to promote the development of renewable energy projects larger than 10 kW in size
Grid	The provincial transmission grid is a network of power stations, transmission circuits, and substations.
IESO	Independent Electrical System Operator
km	Kilometre
kW	Kilowatt
LDC	Local Distribution Company (e.g., Chatham-Kent Hydro, Toronto Hydro, Cornwall Electric, Hydro One)
m	Metre
MNR	Ontario Ministry of Natural Resources
MOE	Ontario Ministry of the Environment
MTC	Ontario Ministry of Tourism and Culture
MTO	Ontario Ministry of Transportation
MW	Megawatt
NEC	The Niagara Escarpment Commission
NEP	Niagara Escarpment Plan
NHA	Natural Heritage Assessment
NMP	Nutrient Management Plan. A plan required under the Nutrient Management Act.
NMS	Nutrient Management Strategy. A requirement under the Nutrient Management Act.
OEB	Ontario Energy Board
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
OPA	Ontario Power Authority
PDR	Project Description Report. One of the required reports for all REA applications
REA	The Renewable Energy Approval issued under Ontario Regulation 359/09
REFO	Renewable Energy Facilitation Office

1. Purpose of this Technical Guide

This guide has been developed to provide detailed information on the requirements for submitting a complete application for a Renewable Energy Approval (REA) under O. Reg. 359/09 of the Environmental Protection Act. This introductory chapter will provide an overview of the application process and general requirements of the REA regulation. Chapter 2 provides a detailed explanation of all the consultation requirements under O. Reg. 359/09 as well as how to prepare the Consultation Report. Chapter 3 provides greater detail on wind turbine setback distances and related regulatory requirements that apply to most wind energy facilities. The subsequent chapters (4 to 9) detail the specific information needed to prepare the reports that may be required for a complete submission for a REA. The final chapter, Chapter 10, provides advice to applicants on how to be a good neighbour in their local community by going beyond the minimum requirements of O. Reg. 359/09.

Disclaimer Regarding Legal Advice

While this technical guide is written to provide detailed information on the application requirements it should not be construed as legal advice. All requirements relating to REA applications and renewable energy projects are contained in Part V.0.1 of the Environmental Protection Act and O. Reg. 359/09 which can be found at Ontario's e-laws website at www.e-laws.gov.on.ca and searching for "359/09". Specific references to sections of O. Reg. 359/09 are made throughout this guide and readers are recommended to have access to a copy of the regulation itself to refer to the exact legal language when reading.

1.1. A Note about Regulatory Amendments

It should be noted that certain provisions of O. Reg. 359/09 have been amended as of January 1, 2011. For clarity, this technical guide reflects the current regulation as amended. However, for applicants that have issued notices with respect to a REA prior to January 1, 2011, transition provisions apply that may allow for applicants to submit applications that comply with certain requirements that existed prior to the amendments coming into force. Applicants in this situation are advised to consult Part VIII — Transition of the regulation to determine how the transition provisions can provide options for complying with O. Reg. 359/09.

Reg. 359/09). In light of the comments received through public consultation and in particular the identified need for further study, Ontario has decided not to proceed with proposed offshore wind projects while further scientific research is conducted on the specific issues that come with developing wind projects in a lake environment. While land based wind turbine development has been around for many years and has a body of reliable science to draw from, lake based wind development is relatively new and is lacking in information in some key areas. No Renewable Energy Approvals for offshore wind projects have been issued and no offshore wind projects will proceed at this time. For this reason, this technical guide does not provide guidance for completing an application for a REA in respect of an offshore wind facility.

1.2. A Note about Offshore Wind Facilities

On February 11, 2011, a decision notice was posted to the Environmental Registry with respect to policy direction for offshore wind facilities (Class 5 under O.

1.3. Documents Referenced in this Guide

A number of publications are referenced in this guide as sources of additional guidance. For Ministry of the Environment publications, the full title and

publication number are provided to assist readers in locating the documents. To find ministry publications, readers can visit the resources section of the ministry's website at www.ene.gov.on.ca/environment/en/resources/index.htm. This website includes a search function where the publication number can be inserted to locate a digital copy of the document. Many of the documents can also be found at the renewable

energy section of the ministry's website at www.ene.gov.on.ca/environment/en/subject/renewable_energy. Guidance documents from other ministries (e.g. the Ministry of Natural Resources) have been cited by providing the full title. Readers seeking these documents should contact the respective ministry to determine how they can be accessed. Appendix 2 contains key contact information.

2. Key Definitions and Interpretations

This section provides definitions for important terms used in this guide as well as key definitions provided in O. Reg. 359/09. For definitions that are explicitly defined in regulation, readers are advised to consult the latest version of all pertinent statutes and regulations to obtain current legal definitions. All referenced statutes and regulations can be found at www.e-laws.gov.on.ca.

Applicant

While not defined in regulation, an “applicant” in this guide means a person who proposes to engage in a renewable energy project and apply for a Renewable Energy Approval. Where a renewable energy project is proposed by a company or organization, “applicant” can reflect the company.

Application

While not defined in regulation, application in this guide means an application for a Renewable Energy Approval under O. Reg. 359/09.

Aboriginal Consultation List

For brevity, the term Aboriginal Consultation List is used in this guide to mean the list of Aboriginal communities provided by the REA Director to the applicant for the purposes of Aboriginal consultation as described in subsection 14 (1) of O. Reg. 359/09.

Renewable Energy Generation Facility

Under subsection 2 (1) of the Electricity Act, 1998, a “renewable energy generation facility” is a generation facility that generates electricity from a renewable energy source and must meet criteria prescribed by regulation. It includes associated or ancillary equipment, systems and technologies as may also be prescribed by regulation, but does not include an associated waste disposal site, unless the site is prescribed by regulation for the purposes of this definition.

Under O. Reg. 160/99 (Definitions and Exemptions) made under the Electricity Act, 1998, this definition is expanded in subsections 1(4) to 1(6) to stipulate that:

- (4) For the purposes of the definition of “renewable energy generation facility” in the Electricity Act, 1998, the following associated or ancillary equipment, systems and technologies are prescribed:
1. Transmission or distribution lines of less than 50 kilometres in length that are associated with or ancillary to a renewable energy generation facility.
 2. Transformer stations or distribution stations that are associated with or ancillary to a renewable energy generation facility.
 3. Any transportation systems that are associated with or ancillary to the provision of access to a renewable energy generation facility, during the construction, installation, use, operation, changing or retiring of a renewable energy generation facility.

**Renewable Energy
Generation Facility
(continued)**

(5) For the purposes of subsection (4), the following apply:

1. A distribution line is associated with or ancillary to a renewable energy generation facility if the line is used to distribute electricity within the facility or from the facility to the distribution system of the distributor in whose distribution service area the renewable energy generation facility is located.
2. A transmission line is associated with or ancillary to a renewable energy generation facility if the line is used to transmit electricity within the facility or from the facility to the IESO-controlled grid.
3. A transformer station or distribution station is associated with or ancillary to a renewable energy generation facility if the station is used to transform the voltage of electricity at the facility, on a transmission line or on a distributor's distribution system which is associated with or ancillary to the facility.
4. A transportation system includes all transportation systems constructed solely to provide access to the renewable energy generation facility, including transportation systems on Crown land, but does not include a highway which is intended for or used by the general public for the passage of vehicles.

(6) For the purposes of the definition of "renewable energy generation facility" in the act, the following classes of waste disposal sites are prescribed:

1. A waste disposal site where biomass, source separated organics, or organic matter (other than biomass that is derived from a plant or animal and that is available at a farm operation) is subject to anaerobic digestion.
2. A waste disposal site where biomass is thermally treated.

Thus, for the waste disposal sites listed in (6) above, they will be considered part of the renewable energy generation facility.

A renewable energy generation facility includes any permanent and temporary structures, equipment or other things required to generate electricity as well as the associated or ancillary equipment, systems and technologies prescribed in O. Reg. 160/99 above.

Renewable Energy Project

A "renewable energy project" is defined in the Green Energy Act, 2009 and means the activities related to "the construction, installation, use, operation, changing or retiring of a renewable energy generation facility"

Project Location

The "project location" is defined in O. Reg. 359/09 to mean, when used in relation to a renewable energy project, "a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project".

It is important to note that the definition references the "project" which relates to the definition of "renewable energy project". This means that activities for all project phases (i.e. the construction, installation, operation and use, changing or retiring of the facility), must be considered in defining the project location.

While site plans often focus on the ground-level project footprint, the project location definition also includes any air space in which a person is engaging in or proposes to engage in a project. This detail can be significant for certain components of renewable energy project. For instance, a wind turbine has blades which extend in the air to create a broader project location than the base of the turbine alone.

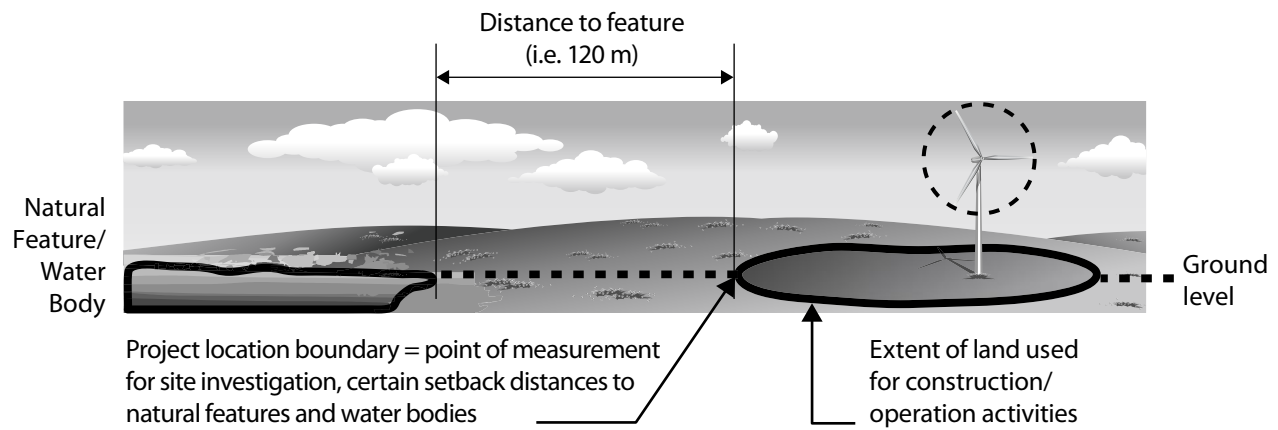


Figure 1. Project location boundary where construction area is furthest

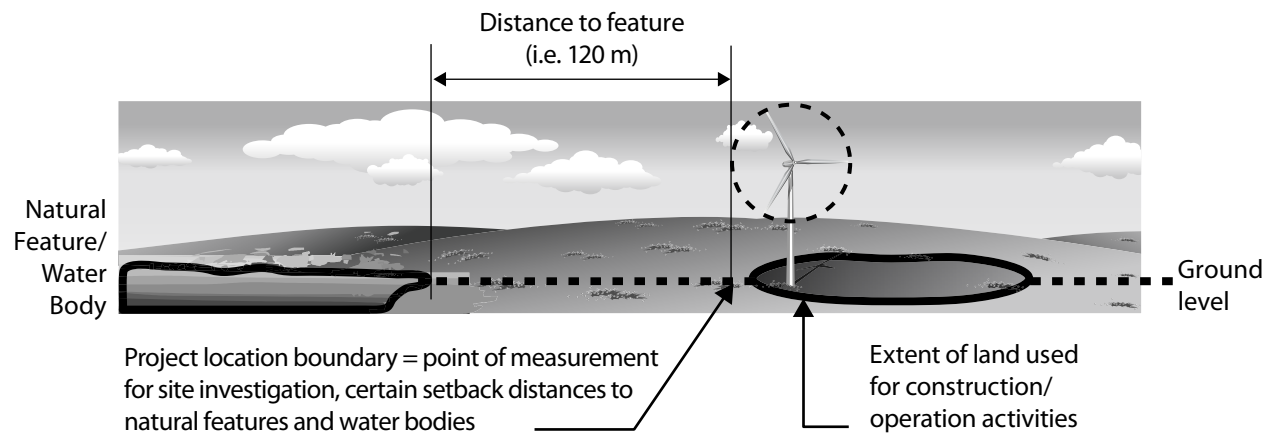


Figure 2. Project location boundary where turbine blade tip is furthest

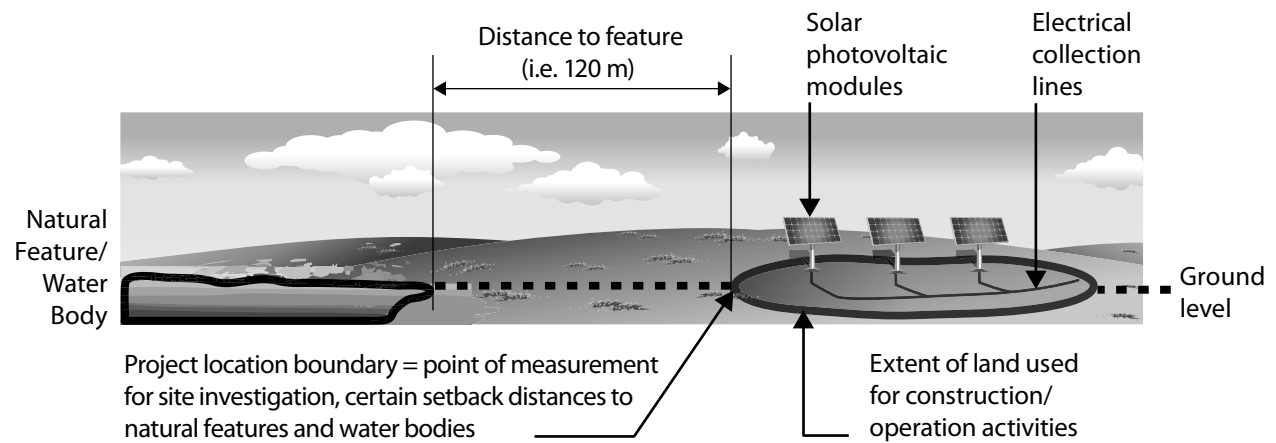


Figure 3. Project location boundary for a solar facility

The project location boundary must be determined for the purposes of defining setback and site investigation distances to meet a number of requirements under O. Reg. 359/09. To do this, the outer extent of all project activities and structures must be considered. As an example, if a wind turbine represents an outer boundary, the actual limit of the project location could be the extent of any staging area used for constructing or installing the turbine. Alternatively, if construction of the turbine is constrained to a small area around the turbine base then the project location boundary could be the turbine blade. This decision would be based on whatever activity or structure extends the project location the furthest. Figures 1 and 2 demonstrate these scenarios. Figure 3 depicts the project location boundary for a solar facility. Applications for bio-energy projects should be based on similar interpretations to define the project location in respect of the components of the facility.

The project location boundary should be considered from the ground level or to a projected point at ground level if boundary is above or below ground. This interpretation is shown in Figure 2 for the wind turbine blade example where the boundary point is projected to the ground level.

Environment

Under O. Reg. 359/09, “environment” has the same meaning as in Part V.0.1 of the Environmental Protection Act, R.S.O. 1990, c. E.19 and this is the same definition as under the Environmental Assessment Act, R.S.O. 1990, c. E.18. The “environment” means:

- (a) air, land or water,
- (b) plant and animal life, including human life,
- (c) the social, economic and cultural conditions that influence the life of humans or a community,
- (d) any building, structure, machine or other device or thing made by humans,
- (e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or
- (f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.

3. REA Process Overview

The diagram depicted in Figure 4 shows the principal process steps required to obtain a Renewable Energy Approval (REA). It is important to emphasize that Figure 4 is an overview of the main steps and should not be construed as depicting a rigid timeline or sequence of events. The REA application is an applicant-driven process and it is up to the applicant to plan pre-submission activities. Furthermore, Figure 4 does not capture the regulated timelines such as those governing consultation activities and the provision of draft reports. These details are provided in subsequent sections of this guide that describe the key process steps. Applicants are advised to use this overview diagram in conjunction with the sections of text that follow and those in Chapter 2 to better understand the process steps and to plan the timing of their application activities.

4. Scoping the Project Concept

To begin the renewable energy approval process, an applicant should have a clear vision of the project concept. Determining exactly what activities and facilities are included in the project for a renewable energy generation facility is of critical importance to an application, since improperly including or omitting activities or facilities could lead to the determination that an application does not meet the requirements of O. Reg. 359/09.

The scope of the project is principally governed by the definitions for “renewable energy generation facility” and “renewable energy project” given in Section 2 above. The key questions an applicant must ask in determining what is in or out of scope are:

- 1) What is included in the generation facility? This includes the equipment, systems and technologies used for the purpose of generating electricity and those specified as ancillary to the generation facility (e.g. roads, transmission/distribution lines, electrical conversion equipment, specified as per definitions above).

- 2) What are all the project activities that relate to the construction, installation, operation and use, changing or retiring of the facility?

By answering these questions in light of the definitions of “renewable energy generation facility” and “renewable energy project”, all structures, equipment, and project activities that are subject to the renewable energy approval can be determined.

A detailed project concept is important for completing the pre-application work for the REA and to determine what other permits may be required from federal, provincial, and other agencies.

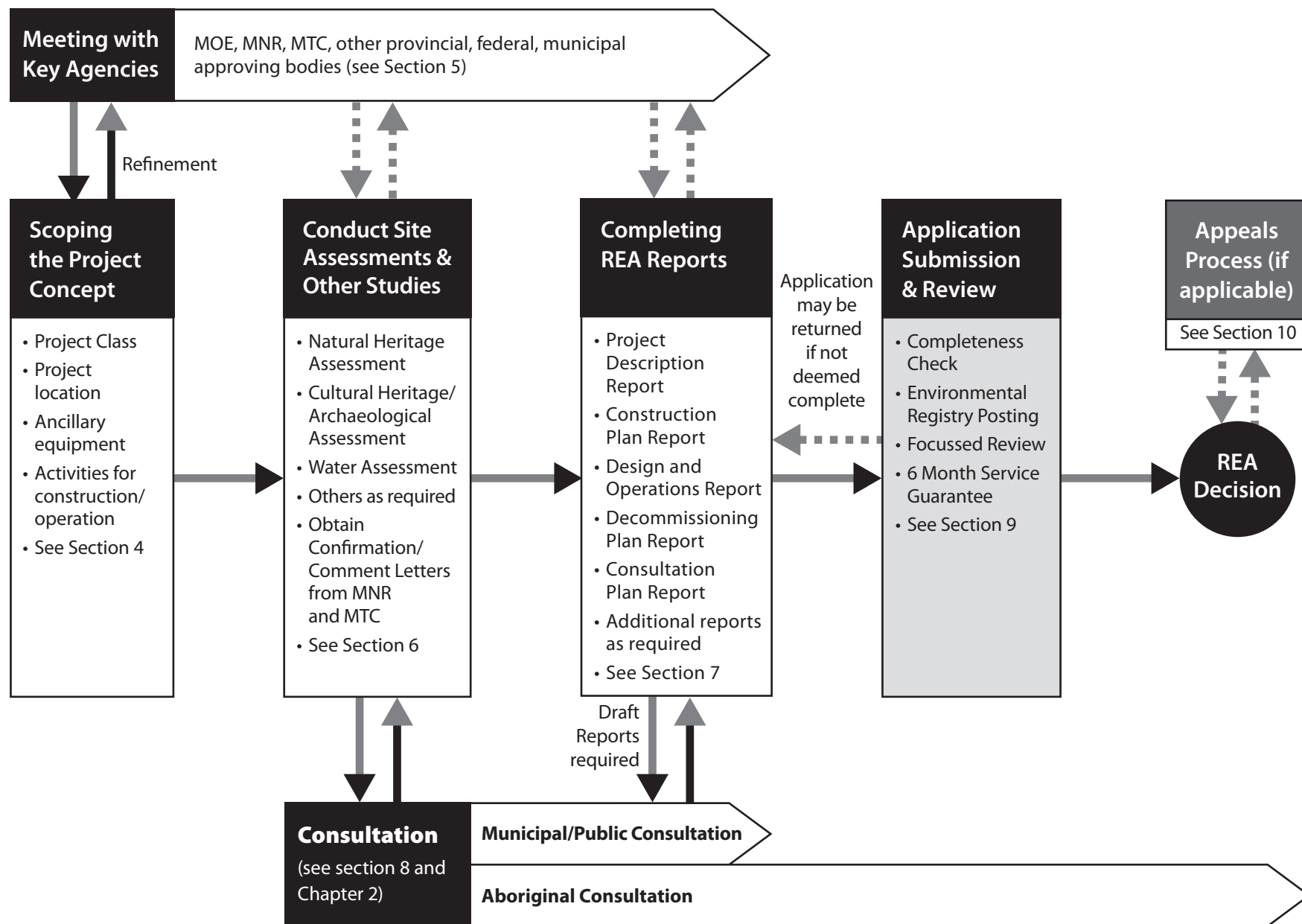


Figure 4: Overview of the principal elements of the REA application process. See sections 4 – 10 for more detailed information on requirements of each element.

4.1. Determining the Class of Project

As a starting point, an applicant should first determine if the project requires a renewable energy

approval and define the technology and Class of project if a Class applies. The following tables summarize the types and Classes of renewable energy technologies:

Solar

Class	Location of PV Modules	Nameplate Capacity (kW)	Overview of REA Requirements ¹
Class 1	Any location	≤ 12	No REA required
Class 2	Mounted on a roof or wall of a building	> 12	No REA required
Class 3	Any location other than a wall or roof of a building	> 12	REA requirements

¹ See Appendix 1 for a summary table of requirements for each class

The definition of nameplate capacity under O. Reg. 359/09 is *"the total of the design electricity generating capacities of all the generation units in or at the facility"*. For a solar facility this is interpreted as the capacity coming from the photovoltaic modules ("generation units") and does not include any

capacity losses through an inverter or transmission to the point of connection with the grid. The nameplate capacity should be reported as the DC-STC (Direct Current — Standard Test Conditions) capacity parameter provided by photovoltaic module manufacturers.

Wind

Class ¹	Nameplate Capacity (kW)	Greatest Sound Power Level (dBA)	Overview of REA Requirements ²
Class 1	≤ 3	Any	No REA required
Class 2	> 3 and < 50	Any	REA required. Fewer study, reporting, setback, and consultation requirements
Class 3	≥ 50	< 102	REA required. Fewer setback requirements
Class 4	≥ 50	≥102	REA required

¹ Table only includes on-shore wind facilities. See Section 1.2 for more information on offshore wind facilities

² See Appendix 1 for a summary table of requirements for each Class

Bio-energy

ANAEROBIC DIGESTION FACILITIES

Class	Location of Facility	Organic Matter Digested	Overview of REA Requirements ¹
Class 1	At a farm operation	One or more of the following: 1. Biomass that is grown or harvested for the purpose of being used to generate electricity 2. Biomass that is agricultural waste within the meaning of Regulation 347 of the Revised Regulations of Ontario, 1990 (General — Waste Management) made under the act. 3. Farm material	REA required. Fewer study, reporting and consultation requirements
Class 2	At a farm operation	One or more of the following: 1. Organic matter consisting of any biomass and farm material, other than organic matter specified for Class 1 above 2. Source separated organics	REA required. Fewer study, reporting and consultation requirements
Class 3	At a location other than a farm operation	One or more of the following: 1. Biomass 2. Source separated organics 3. Farm material	REA required

¹ See Appendix 1 for a summary table of requirements for each Class

It is important to note that as per subsection 9. (1) paragraph 9 of O. Reg. 359/09, Class 1 and 2 anaerobic digestion facilities do not require a REA if they are located on a farm and are considered to be a “regulated

mixed anaerobic digestion facility” as defined in O. Reg. 276/03 under the Nutrient Management Act, 2002 and would not have required a waste certificate of approval before September 24th, 2009.

THERMAL TREATMENT FACILITIES

Class	Location of Facility	Organic Matter Digested	Overview of REA Requirements ¹
Class 1	Any location	Biomass consisting solely of woodwaste	REA required. Fewer study, reporting and consultation requirements if on a farm
Class 2	At a farm operation	Any type of biomass (not solely woodwaste)	REA required. Fewer study, reporting and consultation requirements
Class 3	At a location other than a farm operation	Any type of biomass (not solely woodwaste)	REA required

¹ See Appendix 1 for a summary table of requirements for each Class

BIO-GAS AND BIOFUEL FACILITIES

Other bio-energy facilities such as those defined as bio-gas or biofuel facilities also require a renewable energy approval. The summary table of requirements in Appendix 1 outlines the REA requirements for these projects.

To assist applicants in interpreting the difference between an anaerobic digestion facility and a bio-gas facility, the following clarifying points are made:

- Anaerobic digestion facilities are those where both the anaerobic digester and the electrical generation equipment are integrated on the project location for the purpose of generating energy.
- Bio-gas facilities are those where an electrical generator is proposed to be connected to an existing source of bio-gas such as a landfill or an existing anaerobic digester.
- A bio-gas source can either be gas collected at a landfill site due to the decomposition of a landfill (landfill gas) or gas derived from anaerobic digestion of biomass, source separated organics or other organic matter at another type of existing anaerobic digestion facility.
 - An example of a bio-gas facility related to existing anaerobic digestion is the installation of a generator to combust bio-gas derived from the anaerobic digestion of activated sludge at a waste water treatment plant.

Applicants seeking further clarity on the difference between bio-gas and anaerobic digestion facilities should refer to definitions in O. Reg. 359/09 under the Environmental Protection Act and O. Reg. 160/99 under the Electricity Act for relevant terms.

Use of Non-Renewable Fuels

Renewable energy projects must also meet restrictions on the amount of electricity generated from non-renewable sources (e.g. natural gas in a thermal treatment facility). These restrictions are given in subsection 9 (1) para. 7. and in section 36 of O. Reg. 359/09.

For projects 500 kW and less:

- Non-renewable energy sources must be <10% for annual electricity generation.

For projects over 500 kW:

- Non renewable sources must be <5% for annual electricity generation.
-

WATER POWER FACILITIES

Water power projects do not require a REA but instead are subject to the Environmental Assessment Act through either an individual EA (facilities over 200 MW) or through the Class EA for Water Power Projects (facilities 200 MW and under). Water power projects will also require additional permits from the Ministry of the Environment and the Ministry of Natural Resources such as a Permit to Take Water under the Ontario Water Resources Act (MOE) and approvals under the Lakes and Rivers Improvement Act (MNR). Federal environmental assessment may also apply to the project under the Canadian Environmental Assessment Act depending on the specifics of the project.

4.2. Defining the Project Location and Preparing a Draft Project Description Report

Prior to initiating the REA approval process, details about facility components and proposed activities (i.e. construction, operation, decommissioning) are needed. One of the earliest milestones in the application process is the preparation of a draft Project Description Report. This draft document is required to be submitted to the Ministry of the Environment in order to provide the applicant with an Aboriginal Contact List, a step that precedes other consultation activities (more information on consultation requirements is presented in Chapter 2). The project details needed to prepare a draft Project Description Report serve as a useful guide for how refined the project concept must be to initiate the REA approval process. Chapter 4 of this guide gives further information on how to write the Project Description Report.

One key component of the project scope that requires definition early on is the project location. Applicants are recommended to carefully read the definition of project location in Section 2 above so that the boundary of the project location can be defined. This is an important step because the project location boundary is needed in order to proceed with assessments of cultural heritage, natural heritage, and water bodies.

4.3. Additional Guidance for Determining the Project Scope

The following subsections provide specific guidance on determining what facility components are within the scope of a project.

4.3.1. Scope of Transmission or Distribution Lines Ancillary to the Project

Subject to the qualifications discussed below, transmission or distribution lines ancillary to the renewable energy generation facilities are included as part of the facility and thus must be considered in an application for a renewable energy approval. These facility components will contribute to the size and dimensions of the project location for the purposes of setbacks and will require assessment for potential negative environmental effects resulting from their installation, operation or decommissioning in the REA application.

Since transmission and distribution lines are interconnected with the broader electrical grid, it is important to describe what is meant by an “ancillary line” so that REA requirements are applied appropriately. Ancillary equipment for renewable energy generation facilities are defined in O. Reg. 160/99 under the Electricity Act, 1998. Transmission and distribution lines are defined as lines 50 km in length or less ancillary to the renewable energy generation facility.

For distribution lines this is further clarified to only include lines:

“... used to distribute electricity within the facility or from the facility to the distribution system of the distributor in whose distribution service area the renewable energy generation facility is located.” (O. Reg. 160/99, s. 1 (5)3)

For transmission lines this is further clarified to only include lines:

“... used to transmit electricity within the facility or from the facility to the IESO-controlled grid” (O. Reg. 160/99, s. 1 (5)4)

In some cases connection of the project facility to distribution lines in the local distribution system will require the distributor to enhance existing distribution lines or build new ones. Distribution system planning is conducted in a process separate from the renewable energy approval process and can involve an assessment of impacts to the grid from new generation. For the purposes of the renewable energy approval, the lines built by the local distribution company in their distribution service area will not be considered part of the facility or project and a REA is not required to be obtained in respect of them.

Similarly, in some cases connection of the facility to transmission lines that form part of the IESO controlled grid will require a transmitter, such as Hydro One Networks to enhance or extend that grid. Transmission system planning is conducted in a process separate from the Renewable Energy Approval process and can be subject to the Environmental Assessment Act. For the purposes of the Renewable Energy Approval, changes made to the IESO controlled grid by Hydro One Networks or another transmitter, will not be considered part of the facility and a REA is not required to be obtained in respect of them.

A REA is required for all distribution and transmission lines built by the applicant or a contracted third party up to the point of common coupling with the distribution system or the IESO controlled grid. This applies even if the IESO controlled grid or distribution system is expanded following the construction of the renewable generation facility. Figure 5 below depicts four connection scenarios to illustrate interpretation of project scope.

Example 1

Applicant builds out to existing distribution line

Example 2

Applicant builds part way and LDC expands system to meet

Example 3

LDC expands system to connect next to generators

Example 4

Applicant builds a transmission line (<50 km) directly to the IESO controlled grid

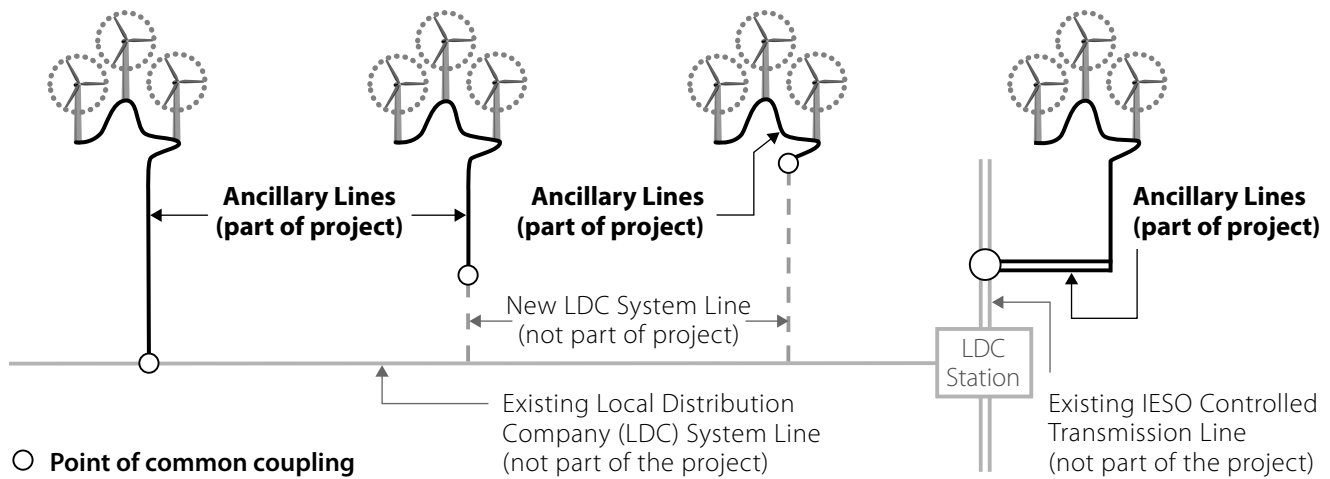


Figure 5. Diagram of electrical line scenarios for determining project scope

4.3.2. Scope Related to Distribution of Gas to Biogas Facilities

Biogas facilities are those that combust biogas but are not anaerobic digestion facilities as defined in O. Reg. 359/09. Biogas facilities are related to the generation of electricity through the combustion of biogas derived from sources at existing non-generating facilities. Such facilities can include landfills as well as facilities where biogas is already being generated from anaerobic digestion such as the anaerobic digestion of activated sludge at wastewater treatment plants.

For biogas facilities, the REA covers all equipment, systems and technology used for generating electricity (and those specifically defined as ancillary to the facility). This is not interpreted to include equipment related to the conveyance of biogas from the existing source to the generation site, such as through piping. While any piping or conveyance equipment is not considered part of the facility for the purpose of defining the boundaries of the project location, applicants are still recommended to identify this equipment in REA reports such as in the site plan of the Design and Operations Report.

4.3.3. Scope when Two or More Projects May be Integrated or Aggregated

Due to the modular nature of solar and wind technologies, a renewable energy project employing these technologies will often include multiple generators (e.g. multiple turbines or multiple solar modules). This results in a need for clarity on the appropriate scope of the facility to ensure that larger projects are not fragmented conceptually for the purpose of applying for a renewable energy approval. Sections 4 (3) and 6 (3) of O. Reg. 359/09 for solar and wind, respectively, state that two or more facilities shall be considered a single facility if they are “to function as an **integrated or aggregated system for generating electricity**”. It is important for applicants to consider if their project could be viewed to function in an integrated or aggregated manner with a neighbouring project to ensure the appropriate application is submitted.

In determining the potential for facilities to be considered integrated or aggregated, applicants should first consider whether they are physically interconnected. For example, if two or more facilities are electrically interconnected through the sharing of transmission/distribution lines or an electrical conversion station somewhere prior to connection to the distribution or

transmission system, they may be considered integrated or aggregated. However, in some cases, a single project may have two or more electrically independent clusters of generators that are geographically separated such that it may be technically preferable to connect to a transmission or distribution system at more than one point. Thus, a determination of “integrated or aggregated” can also apply to other physical and operational aspects of the project. For instance, adjacent projects may share use of project roads, or be controlled, owned, operated and maintained by the same entity in a coordinated manner. These factors may lead to the conclusion that adjacent project proposals should be considered a single project for the purpose of applying for a REA. Combining projects that are truly integrated or aggregated benefits the approval process by minimizing duplication of effort, combining the assessment of environmental effects, reducing the amount of application fees payable and facilitating more clear and streamlined consultation.

Applicants that are proposing a project that may be considered to be integrated or aggregated with an adjacent project are strongly encouraged to discuss the specifics of their proposal at a meeting with the MOE’s REA Team at a very early stage in the process. Any changes to project scope may impact a number of REA requirements.

It should be noted that the guidance in this subsection only pertains to how O. Reg. 359/09 can be interpreted with respect to project integration for the purpose of obtaining a REA. Applicants who are also seeking or have obtained a contract offer under the Feed-in-Tariff (FIT) program of the Ontario Power Authority should consult rules for integration of projects under that program.

4.3.4. Meteorological Towers Related to Wind Facilities

Meteorological towers are often installed to test wind conditions to determine feasibility for a wind facility, typically some time in advance of applying for a REA. If the wind facility ultimately does get developed, a meteorological tower may also continue to be used while the wind facility is in operation. The MOE does not consider stand-alone meteorological towers to be part of a renewable energy generation facility given that they are too indirectly related to generating electricity. As such, the installation of a meteorological tower on a parcel of land will not be subject to the REA regulatory requirements (including setback prohibitions) and will not result in that parcel of land being considered as a participating receptor as described in clause (b) of subsection 1 (6) of O. Reg. 359/09.

However, a meteorological tower may still need to be noted in the site plan that is part of the Design and Operations report since the site plan must depict all structures situated within 300 metres of the facility.

Applicants should also note that while meteorological towers are not considered part of a renewable energy generation facility, they may be subject to other government approvals depending on the nature of the tower and where it is located. For instance, in order to install a meteorological tower on Crown Land the necessary permissions must first be obtained from the Ministry of Natural Resources. Applicants should contact key agencies and ministries at an early stage to determine if other approvals may be required for a meteorological tower.

5. Meeting with Key Agencies and Commencing Additional Approvals

After the project concept has been defined, applicants seeking a REA are recommended to meet with the Ministry of the Environment REA team at an early stage in project planning to discuss how the requirements of O. Reg. 359/09 will apply to their project. The principal point of contact for the REA at the Ministry of the Environment is the REA Team. Contact information is given in Appendix 2.

5.1. Determining if Additional Permits Are Required

Having a clear project concept will also allow the applicant to determine what other approvals may be needed to fully authorize all aspects of the project. While the REA is a streamlined approval that takes the place of a number of permits previously issued for such facilities, there are additional permits

separate from the REA process that could apply depending on the unique features of each proposal. To assist applicants with making this determination, the table below has been prepared as a guide to additional approvals. Note that while every attempt has been made to make this a complete list current of this guide's publication date, applicants are responsible for determining their legal obligations. Contact information for most agencies cited can be found in Appendix 2.

Agency	Potential Permits
Ontario Ministry of Transportation (MTO)	Road User Safety Policy <ul style="list-style-type: none"> • Permit may be obtained by equipment suppliers or by applicants on behalf of suppliers. • Change of Access and Heavy/Oversize Load Transportation Permit to ensure compliance with provincial highway traffic and road safety regulations for transport of project components (equipment, material) to site.
	Corridor Management Permits <ul style="list-style-type: none"> • MTO has the authority to issue permits under the Public Transportation and Highway Improvement Act (Sections 31, 34 and 38). • A Building and Land Use Permit must be obtained to carry out work adjacent to a provincial highway and within MTO permit control area. An MTO Building and Land Use permit must be obtained before a municipal building permit can be issued. • An Encroachment Permit would be required for working within a provincial highway. • An Entrance Permit would be required for constructing a new entrance or upgrading an existing entrance onto a provincial highway. • See Appendix 2 for MTO contact information.

Agency	Potential Permits
Ontario Ministry of Natural Resources (MNR)	<p>Further information about the following permits and approvals are outlined in MNR's Approval and Permitting Requirements Document for Renewable Energy Projects (APRD). ¹</p> <ul style="list-style-type: none"> • See Appendix 2 for MNR contact information. <p>Crown Land Application</p> <ul style="list-style-type: none"> • For the projects proposed on Crown land, approval for work permits and/or tenure to occupy Crown land under the Public Lands Act is required. <p>Permits under the Endangered Species Act, 2007</p> <ul style="list-style-type: none"> • Permit is required when a project may kill, harm, harass, capture, take, possess, transport or collect a species listed as extirpated, endangered or threatened on the Species at Risk in Ontario List. • Permit is required when a project may damage or destroy the habitat of an endangered or threatened species on the Species at Risk in Ontario List. <p>Approval under the Fish and Wildlife Conservation Act, 1997</p> <ul style="list-style-type: none"> • Approval is required if the project involves the destruction of nests or eggs of birds protected under the act. • Approval is required if the project involves the destruction of a beaver dam or the den of a fur bearing mammal (other than a fox or skunk). • Approval is required if the project involves the destruction of the den of a black bear or interference with a black bear in its den. <p>Aggregate Resources Act Licences and Permits</p> <ul style="list-style-type: none"> • A licence (on private land in an area designated under the act) or permit (on Crown land) is required when a project requires the removal and use of mineral aggregates from the project location. <p>Approval under the Lakes and Rivers Improvement Act</p> <ul style="list-style-type: none"> • Location Approval and Plans and Specifications Approval may be required for some water crossings. <p>Crown Forest Sustainability Act, 1994 Licences and Approvals</p> <ul style="list-style-type: none"> • Forest Resource Licence is required when a project involves clearing, removing, or using Crown timber from the project location. • Forest Resource Processing Facility Licence is required when a facility will use more than 1000 cubic metres of Crown or private forest resources per year. • Approval of a withdrawal of land from an area under Forest Resources Licence or Sustainable Forest Licence is required when a project is proposed in an area already licensed for forest activities. <p>Permit under the Forest Fires Prevention Act</p> <ul style="list-style-type: none"> • A burn permit may be required when a project on Crown land or within a fire region will involve burning of debris, grass, etc.

Agency	Potential Permits
Ontario Ministry of Natural Resources (MNR) <i>(continued)</i>	<p>Authorization under the Oil, Gas and Salt Resources Act</p> <ul style="list-style-type: none"> • Authorization may be required for projects proposed within 75 metres of a petroleum resource operation.
Conservation Authorities (CAs)	<p>Conservation Authorities Act Permit</p> <ul style="list-style-type: none"> • When a renewable energy project is located in a CA regulated area, the local CA should be contacted early in the process about potential CA permits under the Conservation Authorities Act. • Potential permits related to the control of flooding, erosion, dynamic beaches or pollution. • Contact local CA office for more information. Contact information for local offices is given in Appendix 2.
Niagara Escarpment Commission	<p>Development Permit</p> <ul style="list-style-type: none"> • If a project is planned within the Niagara Escarpment Plan area, a development permit may be required. • If a development permit is required, this must be obtained prior to submitting an application for a REA. • Contact the Niagara Escarpment Commission for more information.
Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)	<p>Approval of Nutrient Management Plans (NMP) and Nutrient Management Strategies (NMS) under the Nutrient Management Act, 2002</p> <ul style="list-style-type: none"> • Land application of anaerobic digester digestate material may require an NMS, NMP or Non-Agricultural Source Materials (NASM) plan. • Contact OMAFRA for more information.
Municipalities	<p>Building Code Permit</p> <ul style="list-style-type: none"> • Under the Building Code, a structure that supports a wind turbine generator having a rated output of more than 3 kW is designated for the purposes of clause (d) of the definition of building in subsection 1 (1) of the Building Code Act 1993. • Other structures that are part of renewable energy facilities may also require building permits. • Local municipal authority should be contacted for further information. <p>Drainage Assessment</p> <ul style="list-style-type: none"> • If a renewable energy project impacts the flow of a drainage works regulated under the Drainage Act, a drainage reassessment or engineering study may be required. • The local municipal authority and/or OMAFRA should be contacted for further information. <p>Road Use Agreement/Permit</p> <ul style="list-style-type: none"> • May be required for use of roads to construct/operate facility. • New transmission or distribution lines in existing municipal right of ways may also require a road use agreement. • Local municipal authority should be contacted for further information.

Agency	Potential Permits
Electricity System Operators / Energy Agencies	<p>Electrical Safety Code Certification</p> <ul style="list-style-type: none"> • Electrical systems and connections may require inspection / authorization by the Electrical Safety Authority (ESA). <p>Approval to Connect to a Distribution System / IESO-controlled Grid</p> <ul style="list-style-type: none"> • Authorization (through impact assessment(s) and connection agreement) from the local distribution company and (where applicable) upstream distributors and/or transmitters to connect a distribution line from the project to the distribution system. • Authorization (through impact assessment(s) and connection agreement) from a transmitter and the Independent Electricity System Operator (IESO) if connecting directly to the IESO controlled transmission system. <p>Generator License</p> <ul style="list-style-type: none"> • A licence may be needed from the Ontario Energy Board in order to generate electricity. <p>Leave to Construct</p> <ul style="list-style-type: none"> • Construction of ancillary transmission lines may require an authorization from the Ontario Energy Board. <p>Technical Standards and Safety Authority Certification</p> <ul style="list-style-type: none"> • Gas pipelines used in bio-energy facilities require certification by a licensed professional.
Federal Government	<p>Applicants should be advised to contact the Canadian Environmental Assessment Agency (CEAA) for further information related to the need for a federal environmental assessment</p> <p>Additional permits may be required from the following agencies:</p> <ul style="list-style-type: none"> • Canadian Environmental Assessment Agency — Federal environmental assessment • Environment Canada — migratory birds, others may apply • Radio Advisory Board of Canada — potential signal disruptions for wind farms • Royal Canadian Mounted Police Mobile Communications Services — potential signal disruptions for wind farms • Transport Canada, Aerodromes and Air Navigation Ontario Region — potential navigation marking requirements and restrictions related to flightpaths for wind farms • Department of Fisheries and Oceans Canada — permits under the Fisheries Act • Parks Canada — if project may impact a national park

¹ For more information on the Approval and Permitting Requirements Document for Renewable Energy Projects see MNR's renewable energy webpage at www.mnr.gov.on.ca/en/Business/Renewable/index.html.

In addition to this list, applicants should note that the Ministry of Natural Resources (MNR) and Ontario's conservation authorities share a role in managing development on natural hazard lands such as floodplains. Applicants should consult with the local conservation authority (if one exists) or MNR at an early stage in project planning to determine if there are natural hazard lands in the vicinity of the project location and, if so, any changes to the project that may be required.

5.1.1. Timing of Multiple Permits

The goal of the REA is to streamline and coordinate the issuance of multiple permits, particularly amongst provincial approvals, where they are required. To enhance coordination, applicants should discuss with relevant agencies how the timing of application submission for different permits can be optimized. Coordination of applicable permits should be discussed with all relevant regulatory agencies to enhance project approval timing. Ultimately, managing the submission of permit applications rests with the applicant.

5.2. Additional Authorization from MOE for Unique Circumstances

There are two circumstances that may require applicants to seek additional authorization from the Ministry of the Environment in advance of submitting a REA application. These are:

1. Where a project proposal includes a discharge of wastewater that will further contaminate a water body that does not meet provincial water quality objectives (Policy 2 Deviation, MOE Water Resources Management)
2. Where a project is proposed on a closed landfill site that was closed within the past 25 years. (EPA Section 46 Approval)

For most projects, these circumstances will not apply. For applicants who believe their project may require consideration of these unique circumstances, the following subsections provide additional guidance. Applicants are also recommended to contact the Ministry of the Environment's REA Team at an early stage to discuss these unique circumstances.

5.2.1. Projects Requiring a Deviation from Policy 2

For certain renewable energy projects, a discharge of wastewater may be proposed in contravention of MOE's Policy 2 for Water Resources Management. Policy 2, defined in the MOE publication "*Water Management: Policies, Guidelines, and Provincial Water Quality Objectives of the Ministry Of Environment And Energy*" (1994, Publication #3303B), states:

"Water quality which presently does not meet the Provincial Water Quality Objectives [PWQO] shall not be degraded further and all practical measures shall be taken to upgrade the water quality to the Objectives." (Section 3.2.2)

Where new discharges are proposed to waters that do not meet PWQOs, no further degradation of the water body will be permitted and all practical measures shall be undertaken to upgrade water quality. However, it is recognized that in some circumstances it may not be technically feasible, physically possible or socially desirable to improve water quality toward the Provincial Water Quality Objectives.

If an applicant believes that a discharge in contravention of Policy 2 is justified they must seek approval to deviate from Policy 2 from the MOE. It is expected that applicants will seek a decision on a Policy 2 deviation in advance of submitting an application for a REA. If the discharge can not be adequately justified, the ministry is unlikely to approve the discharge and it is advantageous for this to be identified early so the applicant can make appropriate changes to the project.

It is important to note that this situation will only apply to projects proposing a discharge to surface water (such as for larger bio-energy projects). To help applicants identify if a deviation from Policy 2 may be required, applicants proposing discharges to surface water are advised to contact the MOE regional office to determine what information may be needed to 1) classify the receiving water as meeting or not meeting PWQOs and 2) characterize the proposed discharge to determine its impact on the water body.

A description of the application process and required information for a Policy 2 deviation is contained in the MOE publication "*Procedure B-1-5: Deriving Receiving-Water Based, Point-Source Effluent Requirements for Ontario Waters*" (1994, Publication # 3302).

5.2.2. EPA Section 46 Approval for Former Disposal Sites

An application proposing a renewable energy facility that is to be located entirely or in part on land that was formerly a waste disposal site within the last 25 years requires an approval in accordance with Section 46 of the Environmental Protection Act. The purpose of this

approval is to ensure all environmental risks related to development of these sensitive sites are addressed through appropriate project planning. The process for applying for a section 46 approval is described in the Ministry of the Environment publication “*Operational Guidance for Obtaining Environmental Protection Act Section 46 Approval for the Use of Lands Previously Used for Disposal of Waste*” (2005, Publication #5136e).

6. Conducting Site Assessments and Other Studies

After defining the project concept, applicants can begin to conduct the required assessments of the project location and vicinity to begin evaluating potential negative environmental effects of engaging in the project. The principal types of assessments required by O. Reg. 359/09 are assessments of Cultural Heritage, Natural Heritage, and Water Bodies. Most projects requiring a REA must perform these assessments and Sections 6.1–6.3 provide more detail on them.

Depending on the project specifics, additional studies and investigations may be required. For instance some bio-energy facilities may require assessments of hydrogeology and surface water; wind projects may require noise studies; for all renewable technologies, applicants may determine that other investigations examining impacts on local traffic or stormwater runoff may be required to describe potential negative environmental effects. A starting point for determining additional studies that are required by O. Reg. 359/09 is Chapter 9 of this guide which discusses additional reports that may be required due to specific regulatory triggers within the REA regulation.

Timing for the initiation and completion of assessments and studies should be determined by the applicant. However applicants should note that assessments of cultural heritage and natural heritage (including bird and bat environmental effects monitoring plans) must be completed sufficiently early in the process to allow the Ministry of Tourism and Culture (MTC) and Ministry of Natural Resources (MNR) to review them. Following review of cultural heritage and natural heritage assessment reports by MTC and MNR, respectively, these ministries will provide the applicant with letters confirming that the assessments were done in accordance with their guidance and/or providing additional comments. Since these letters must be made available to the public at least 60 days in advance of the final public

meeting (see Chapter 2 for detailed information on consultation requirements) it is advantageous for the applicant to start assessments and studies as early in the process as possible.

6.1. Cultural Heritage Assessment

In accordance with sections 19–23 of O. Reg. 359/09 applicants must evaluate the project location to determine if protected properties, archaeological or heritage resources are present. All applicants are advised to contact the Ministry of Tourism and Culture (MTC) at an early stage of project planning to ensure they understand the cultural heritage assessment requirements and to receive additional guidance on meeting them.

Further information on how to address the cultural heritage requirements can also be found in the Ministry of Tourism and Culture’s guidance document:

Protected Properties, Archaeological and Heritage Resources: An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals

This document, which for the remainder of this section will be referred to the *MTC - REA Information Bulletin*, can be found on MTC’s website (www.mtc.gov.on.ca).

As an overview of the requirements, applicants must do the following:

6.1.1. Project Located on a Protected Property

For all facilities that require a REA, applicants must determine if the facility will be located on a protected property and, if so, whether an authorization is needed in respect of the project. The table in section 19 of O. Reg. 359/09 provides a list of the types of properties that are considered protected as well as the type of authorization needed / authorizing body. The *MTC - REA Information Bulletin* provides guidance on identifying protected properties at the project location.

Depending on this determination, the following steps must be taken:

1. If the project location is on a protected property and an authorization is required:
 - o The applicant must obtain this authorization from the relevant agency and include a copy of it in their REA application submission.
2. If the project location is on a protected property but an authorization is not required:
 - o The applicant must obtain written confirmation that an authorization is not needed from the relevant agency and include a copy of it in their REA application submission.
 - o Applicants should note that the project location may be on more than one type of protected property and the appropriate steps must be taken as they apply to each property.
3. The project location is not on a protected property:
 - o The applicant must prepare a written summary of the matters considered in making this determination. For instance, this summary should indicate the agencies contacted and summarize what information was provided.

6.1.2. Identification and Assessment of Archaeological and Heritage Resources

Assessments of potential impacts to archaeological and heritage resources must be conducted for all facilities that require a REA. The starting point for this assessment is for the applicant to identify if such properties or resources are within the vicinity of the project location.

Streamlined Approach for Prescribed Facilities

A streamlined approach assessing cultural heritage applies to:

- Wind facilities, Class 2
- Anaerobic digestion facilities, Class 1 and 2; and
- Thermal treatment facilities, Class 1 and located on a farm, Class 2,

as provided for in section 21 of O. Reg. 359/09. The focus of this assessment is determining if there may be impacts on archaeological resources.

Applicants proposing facilities in these Classes must contact the Ministry of Tourism and Culture (MTC) and each local and upper tier municipality to determine the following:

FROM MTC

- Is the project location within 250 m of an archaeological resource known to MTC?
- Is the facility to be located on a property designated as an archaeological site under Reg. 875 made under the Ontario Heritage Act?

FROM MUNICIPALITIES

- Is the project location in an area that has been designated under an archaeological management plan?

If these inquiries lead an applicant to conclude that there may be impacts on archaeological resources, an archaeological assessment must be completed (see **archaeological resources** below).

However, if these inquiries lead an applicant to conclude that there will be no impact on archaeological resources, they must prepare a written summary stating this conclusion and the rationale used to arrive at it. Applicants should consult the *MTC - REA Information Bulletin* for more information on completing a written summary. If an application is found to have not provided adequate or appropriate rationale for concluding there will be no impacts on archaeological resources, the applicant may be required to prepare a archaeological assessment. It is the applicant's responsibility to ensure that a written summary is completed appropriately prior to submitting it as part of an application in order to minimize the risk of having to do a full assessment at a late stage in project planning.

Facilities other than those prescribed in the inset panel above must identify and assess the following cultural heritage resources:

Archaeological Resources

Applicants must determine if there are archaeological resources present at the project location as per subsection 20 (1) of O. Reg. 359/09 and the *MTC - REA Information Bulletin* provides guidance on making this determination.

If an archaeological assessment is undertaken, as required by subsection 22. (1) of O. Reg. 359/09, the archaeological assessment must be conducted by a licensed consultant archaeologist as defined in O. Reg. 8/06 under the Ontario Heritage Act. The archaeological assessment process can include between 1 and 4 stages, with increasing levels of investigation as the presence and significance of archaeological resources is clarified. MTC will issue written comments to the applicant once a Stage 2 archaeological assessment report has been accepted by the ministry, or a Stage 1 report where it is determined that a Stage 2 report is not required. If archaeological resources are identified, further stages of work may be required during project development.

All archaeological assessments must be conducted in accordance with the *Standards and Guidelines for Consultant Archaeologists* (2011) issued by the Ministry of Tourism and Culture. The archaeological assessment must be submitted to MTC for review.

If an applicant concludes that there is no possibility of the project impacting archaeological resources, they must prepare a written summary stating this conclusion and the rationale used to arrive at it (as per subsection 20 (2) of O. Reg. 359/09). Applicants should consult the *MTC - REA Information Bulletin* for more information on completing a written summary. If an application is found to have not provided adequate or appropriate support for concluding there will be no possibility of impact on archaeological resources, the applicant may be required to prepare an archaeological assessment. It is the applicant's responsibility to ensure that a written summary is completed appropriately prior to submitting it as part of an application in order to minimize the risk of having to do a full assessment at a late stage in project planning.

Heritage Resources

Heritage resources other than protected properties must also be identified by the applicant at the project location as per subsection 20 (1) of O. Reg. 359/09. The heritage assessment report should evaluate any potential heritage resources and include an evaluation

of any impact of the renewable energy project on the heritage resources and proposed measures to avoid, eliminate or mitigate the impact, which may include preparing a heritage conservation plan. All heritage assessments must be submitted to MTC for review.

If an applicant concludes that there is no possibility of the project impacting heritage resources, they must prepare a written summary stating this conclusion and the rationale used to arrive at it (as per subsection 20 (2) of O. Reg. 359/09). Applicants should consult the *MTC - REA Information Bulletin* for more information on completing a written summary. If an application is found to have not provided adequate or appropriate support for concluding there will be no possibility of impact on heritage resources, the applicant may be required to prepare a heritage assessment. It is the applicant's responsibility to ensure that a written summary is completed appropriately prior to submitting it as part of an application in order to minimize the risk of having to do a full assessment at a late stage in project planning.

Protected Properties that Abut the Project Location

Applicants are required to further determine if any of the properties that abut the property on which the project location is situated are protected properties. The *MTC - REA Information Bulletin* provides guidance on identifying protected properties abutting the project location. If a protected property is found to exist on an abutting property a heritage assessment must be prepared. This must include an evaluation of any impact of the renewable energy project on the protected property and proposed measures to avoid, eliminate or mitigate the impact, which may include preparing a heritage conservation plan. Applicants should contact MTC for further guidance on how to conduct a heritage assessment.

If the applicant determines that there is no possibility of the project impacting protected properties adjacent to the project location, a written summary of how this conclusion was made, as described for heritage resources above, must be completed. Applicants should consult the *MTC - REA Information Bulletin* for more information on completing a written summary. If an application is found to have not provided adequate or appropriate support for concluding there is possibility of impact on protected properties, the applicant may be required to prepare a heritage assessment. It is the applicant's responsibility to ensure that a written summary is completed appropriately prior to submitting it as part of an application in order to minimize the risk of having to do a full assessment at a late stage in project planning.

6.1.3. Obtaining a Letter with Comments from the Ministry of Tourism and Culture

If an applicant, through the provisions described in the sections above, commissions an archaeological assessment or a heritage assessment, these assessments must be provided to MTC for review prior to applying for an REA. As required by subsections 22 (3) and 23 (3) of O. Reg. 359/09, a written comments letter must be obtained from MTC and included in the REA application package as a result of this review. Copies of these reports and final comment letters must also be made available to the public 60 days in advance of the final public meeting and submitted as part of an application for an REA.

It is important to note that the written comments letter will be provided to applicants when the archaeological assessment and/or heritage assessment reports have been reviewed and accepted by MTC. Prior to issuing the written comments letter, MTC may correspond with a consultant preparing an archaeological or heritage assessment through review letters. These review letters may request revisions or additions to the work to ensure that the archaeological assessments have met provincial standards, or in the case of heritage assessments to ensure they have meet the requirements of O. Reg. 359/09 and to raise any considerations in the interest of preserving heritage resources. When reports have been revised and accepted by the ministry, MTC will issue a written comments letter. While applicants must make the final reports and the written comments letter available for consultation and include it in their application for an REA, these requirements do not apply to the review letters issued to consultants.

Following the issuance of a written comments letter from MTC, there is potential for new information to

come to light related to cultural heritage. For instance, new information may be presented to the applicant during the final public meeting. There is also potential for the applicant to change the project layout and thus change the potential impact to cultural heritage. If new information or other project changes arise after the written comments letter is issued, the applicant should discuss this new information with their heritage or archaeological consultant to determine if it will require investigation through additional assessment or reporting. If changes are made to cultural heritage reports after the written comments letter is issued, applicants should have their consultant archaeologist or heritage consultant discuss these changes with MTC prior to submitting an application for a REA to determine if the content of the written comments letter is still valid and the appropriate steps that should be taken.

6.2. Natural Heritage Assessment

Natural heritage assessment for the purposes of complying with O. Reg. 359/09 has been described in detail in guidance from the Ministry of Natural Resources (MNR). *"Natural Heritage Assessment Guide for Renewable Energy Projects"*, available from MNR, should be consulted for a complete description of natural heritage requirements in the REA and for guidance on conducting assessments and preparing reports. All applicants preparing a natural heritage assessment (NHA) should refer to this detailed guidance, however some overview information follows to orientate the reader to the general requirements.

While potential negative environmental effects on natural heritage may be considered for all renewable energy projects, O. Reg. 359/09 has specific requirements for assessing natural heritage for facilities provided in the table below:

Facility Type	Facility Class(es) Requiring a NHA	Description
Land Based Wind Facility	Class 3 and Class 4	Nameplate capacity of 50 kW or greater
Ground Mounted Solar Facility	Class 3	Nameplate capacity greater than 12 kW
Bio-energy Facility	All classes	Includes anaerobic digestion, bio-gas, biofuel and thermal treatment facilities

Natural heritage assessment requirements include assessment requirements (sections 23.1, 24–28 of O. Reg. 359/09) and prohibition/setback provisions (sections 37, 38, 41, and 43 of O. Reg. 359/09).

The assessment provisions generally require a staged analysis of natural features in the vicinity of the project that includes:

1. **Records review** to determine if natural features may exist in the vicinity of the project location. The Table in section 25 of O. Reg. 359/09 provides detail on the nature of the records that must be reviewed and the distances from the project location to particular features that should be considered.
2. **Site investigation** of all air, land and water within 120 m of the project location to determine if additional features exist and to confirm the presence and location of features identified in the records review.

Alternative Site Investigation — Natural Heritage

Note that while a physical site investigation is generally required, subsection 26 (1.1) of O. Reg. 359/09 allows for an alternative site investigation where physical investigation is not reasonable due to physical or legal barriers to accessing land. Applicants should contact MNR if they believe it may be unreasonable to investigate a portion of land within 120 m of the project location.

3. **Evaluation of significance** of any identified natural features.

The prohibition/setback requirements stipulate restrictions on engaging in a project through either:

1. Strict prohibitions (i.e. those without exception) on engaging in a renewable energy project.
 - o For example, section 37 para. 2 of O. Reg. 359/09 strictly prohibits engaging in a renewable energy project within a provincially significant coastal wetland.
2. Prohibitions for which an exception exists (e.g. only permitting development if an Environmental Impact Study is prepared which identifies mitigation measures to address potential negative environmental effects).
 - o For example, a renewable energy generation project is prohibited from being engaged in

within a setback distance of 120 meters to a significant valleyland (subsection 38 (1) para. 6, O. Reg. 359/09) unless an Environmental Impact Study is prepared.

An Environmental Impact Study is a report that evaluates the impact of developing within specified features or within a setback distance to a specified feature. The key components of this report (as given in subsection 38 (2) of O. Reg. 359/09) are:

1. Identify and assess the potential negative environmental effects on the natural feature (including provincial parks and conservation reserves, if applicable).
2. Identify measures to mitigate negative environmental effects.
3. Describe how potential effects will be monitored during operation in the Environmental Effects Monitoring Plan.
4. Describe how potential effects will be mitigated during construction.

Applicants proposing projects to which the natural heritage assessment requirements apply should contact MNR at an early stage in project planning to discuss how the natural heritage requirements apply to their projects.

6.2.1. Bird and Bat Monitoring Plans for Wind Facilities

For applicants proposing a Class 3 or 4 wind facility, an Environmental Effects Monitoring plan is required in respect of birds and bats (as required by section 23.1 of O. Reg. 359/09). These monitoring plans must comply with the following guidance documents published by the MNR:

For Bird Habitat:

“Birds and Bird Habitats: Guidelines for Wind Power Projects” dated October 2010 as amended from time to time

For Bat Habitat:

“Bats and Bat Habitats: Guidelines for Wind Power Projects” dated March 2010 as amended from time to time

Applicants should note that the Environmental Effects Monitoring Plan for birds and bats can either be a separate document or included within the general Environmental Effects Monitoring Plan in the Design

and Operations Report. However, the portion of the Environmental Effects Monitoring Plan that relates to birds and bats must be submitted to MNR for review prior to submission of a complete REA application. For this reason it is important for applicants to consider bird and bat monitoring at an early stage of project planning.

As noted in Section 1.1. of this chapter, applicants who issued a notice of proposal to engage in the project before January 1, 2011 may elect to follow section 23.1 as described above or, under transition provisions, follow the pre-2011 regulation which did not include section 23.1. However, even if an applicant chooses not to follow section 23.1, it is still expected that bird and bat monitoring plans will be included in the general Environmental Effects Monitoring Plan in the Design and Operations Report. These plans will be reviewed as part of the REA application review process following the submission of a complete application. Current MNR guidance, as cited above, should still be followed when preparing bird and bat monitoring plans for inclusion in the Design and Operations Report in respect of a transition project.

6.2.2. Obtaining a Letter of Confirmation and Comments from the Ministry of Natural Resources

If an applicant, through the provisions described in the sections above, prepares reports associated with a Natural Heritage Assessment, Environmental Impact Study, or Environmental Effects Monitoring Plan in respect of birds and bats, they must be provided to MNR for review prior to applying for a REA. The purpose of this review is to ensure that applicants have followed MNR guidance with respect to the assessments and to allow MNR to raise any additional considerations in the interest of preserving natural heritage. Where the

review finds that the assessments have been completed following MNR guidance, the applicant will be provided with a letter of confirmation, as well as comments on the Environmental Effects Monitoring Plan in respect of birds and bats. The reports, letters of confirmation, and the comments received from MNR must be included in the application for a REA. Copies of the reports and letters must also be made available to the public 60 days in advance of the final public meeting. Further information on consultation activities is described in Chapter 2 of this guide.

It should be noted that there is potential for new information to come to light in respect of a natural heritage assessment (or a bird or bat environmental effects monitoring plan) following the issuance of the confirmation letter from MNR. For instance, such information may be presented to the applicant during the final public meeting. If new information causes the applicant to amend natural heritage reports after the confirmation letter is issued, applicants should discuss these changes with MNR, prior to submitting an application for a REA, to determine if the content of the confirmation letter is still valid.

6.3. Water Assessment

The assessment of water bodies for the purpose of submitting an application for a REA is described in further detail in Chapter 8 of this guide. While Chapter 8 provides a more complete explanation of the requirements of a water assessment, this section outlines the general requirements for the purpose of an overview.

While potential negative environmental effects on water bodies may be considered for all renewable energy projects, O. Reg. 359/09 has specific requirements for assessing water bodies for facilities provided in the table below:

Facility Type	Facility Class(es) Requiring a Water Assessment	Description
Land Based Wind Facility	Class 3 and Class 4	Nameplate capacity of 50 kW or greater
Ground Mounted Solar Facility	Class 3	Nameplate capacity greater than 12 kW
Bio-energy Facility	All classes	Includes anaerobic digestion, bio-gas, biofuel and thermal treatment facilities

Water assessment requirements include assessment requirements (sections 29–31 of O. Reg. 359/09) and prohibition/setback provisions (sections 39, 40, 44, and 45 of O. Reg. 359/09).

The assessment provisions generally require a staged analysis of natural features in the vicinity of the project that includes:

1. **Records review** to determine if water bodies may exist in the vicinity of the project location. The Table in section 30 of O. Reg. 359/09 provides detail on the nature of the records that must be reviewed and the distances from the project location to particular water bodies that should be considered.
2. **Site investigation** of all land within 120 m of the project location to determine if additional water bodies exist and to confirm the presence and location of water bodies identified in records review. Site investigation may include an additional investigated area if a lake trout lake at or above development capacity is identified within 300 m of the project location. In this case land between the project location and the lake trout lake must also be investigated for the purpose of confirming the boundary of the lake trout lake and its distance to the project location.

Alternative Site Investigation — Water Bodies

Note that while a physical site investigation is generally required, subsection 31 (3) of O. Reg. 359/09 allows for an alternative site investigation where physical investigation is not reasonable due to physical or legal barriers to accessing land. Applicants should contact the REA team in the Environmental Assessment and Approvals Branch at the Ministry of the Environment to discuss alternative site investigation if they believe physical investigation is not reasonable.

The prohibition/setback requirements stipulate restrictions on engaging in a project through either:

1. Strict prohibitions (i.e. those without exception) on engaging in a renewable energy project.
 - o For example, section 39 strictly prohibits engaging in a renewable energy project within

30 m of a lake, stream, or seepage area (some project components such as transmission lines are not included in this prohibition).

2. Prohibitions for which an exception exists (i.e. only permitting development if an Water Bodies Report is prepared).
 - o For example, a renewable energy generation project is prohibited from being engaged in within a setback distance of 120 meters of a lake (section 40, O. Reg. 359/09) unless a Water Bodies Report is prepared.

A Water Bodies Report evaluates the impact of developing a renewable energy generation facility within specified setback distances to water bodies. The key components of this report are:

1. Identify and assess the potential negative environmental effects on the water body and on the land within 30 m of the water body nearest to the project location (to capture any impacts on the riparian zone).
2. Identify measures to mitigate negative environmental effects.
3. Describe how potential effects will be monitored during operation in the Environmental Effects Monitoring Plan.
4. Describe how potential effects will be mitigated during construction.

As noted above, further detail on the water assessment and water bodies report can be found in Chapter 8 of this guide.

6.4. Additional Requirements for Land Use Planning Areas

Projects located on land protected by key provincial plans (Greenbelt, Lake Simcoe Watershed, Niagara Escarpment, Oak Ridges Moraine) may have additional approval, setback and reporting requirements under O. Reg. 359/09. Examples of these requirements are described below:

Greenbelt Plan

If the proposed renewable energy generation facility is located in the Protected Countryside (other than a settlement area) as described in the Greenbelt Plan, the Natural Heritage Assessment will also assess additional natural features such as sand barrens, savannahs, tallgrass prairies, non-provincially significant wetlands, life science Areas of Natural and Scientific Interest (ANSIs) and alvars. Natural Heritage setback distances and Environmental Impact Study requirements will apply to these features.

See Section 41 of O. Reg. 359/09 for more information on requirements under the REA.

The Ministry of Municipal Affairs and Housing has information on its website related to the Greenbelt plan, including maps, at www.mah.gov.on.ca/Page187.aspx

Lake Simcoe Watershed

If any part of the project location is within the Lake Simcoe Protection Plan Area applicants are required to include additional information in the Design and Operations Report. Specifically they must describe project impacts on the shore of Lake Simcoe as well as a description of how the project will be engaged in to maintain the natural contour of the shoreline and maintain vegetative riparian areas.

See Table 1 of O. Reg. 359/09, Item 4: Design and Operations Report, Column 2, Paragraph 6 for more information on requirements under the REA.

The Ministry of the Environment has information on its website related to the Lake Simcoe Protection Plan, including maps, at www.ene.gov.on.ca/en/water/lakesimcoe/index.php

Niagara Escarpment Plan

If the proposed renewable energy generation facility will be located in the area of the Niagara Escarpment Plan (NEP) area, applicants may require development permits from the Niagara Escarpment Commission

(NEC). If a development permit is required, applicants will be required to submit a copy of the permit obtained from the NEC as part of their complete REA application.

It is recommended that applicants contact the NEC as early as possible for a complete list of information that will be required in order to obtain a development permit. Applicants are also encouraged to set-up a joint meeting with the MOE and NEC, early in the process, to discuss all the requirements for projects proposed within the Niagara Escarpment Plan area including how to optimize the timing of permit issuance.

In addition to obtaining any required development permits, applicants proposing facilities in the NEP area must provide draft project documents to the NEC 90 days in advance of the final public meeting as per section 32 of O. Reg. 359/09. These drafts are:

- Project Description Report
- Design and Operations Report
- Construction Plan Report
- Decommissioning Plan Report

The Niagara Escarpment Commission has information on its website related to the Niagara Escarpment Plan, including maps, at www.escarpment.org/landplanning.

Oak Ridges Moraine Conservation Plan

If any part of the project location is within the area designated as Oak Ridges Moraine, the Natural Heritage Assessment will also assess additional natural features such as sand barrens, savannahs, non-provincially significant wetlands, life science ANSIs and tallgrass prairies. Natural Heritage setback distances and Environmental Impact Study requirements will apply to these features.

Consult Sections 42, 43, 44, 45, and 46 of O. Reg. 359/09 for more information on requirements under the REA.

The Ministry of Municipal Affairs and Housing has information related to the Oak Ridges Moraine Conservation Plan, including maps, at www.mah.gov.on.ca/Page1707.aspx.

These requirements must be taken into account in the natural heritage assessment, water assessment, and the additional REA reports that must be prepared as part of an application for a REA.

In addition to the specific requirements related to provincial plans in O. Reg. 359/09, applicants should broadly consider the policy intent of the relevant plan when designing their project in a protected area.

7. Completing REA Reports

To submit a complete application for a REA, a range of reports are required. Several sources of information exist for identifying the reports that are required for each renewable energy technology type and class of facility. Table 1 of O. Reg. 359/09 describes the required content of all the principal REA reports that must be submitted as part of a complete application. Applicants should note that some sections of the regulation outside of Table 1 require additional reports and are advised to become familiar with the regulation as a whole. To assist with determining what reporting requirements may apply, applicants can also refer to Appendix 1 which includes a matrix of REA requirements by technology type and class. Finally, Chapters 2–8 of this guide cover the content of the principal REA reports while Chapter 9 describes other reports that may be required depending on the specific details of the project.

7.1. Report Content

The purpose of REA reports is to provide a detailed account of the project proposal, describing potential negative environmental effects and demonstrating how facility design measures have been included to mitigate these potential negative effects. Reports also provide details on the studies and investigations conducted to evaluate potential negative environmental effects as well as discuss plans for ongoing monitoring activities and plans for decommissioning the facility at the end of the project life. One key report, the Consultation Report, provides information on all of the consultation activities undertaken in advance of submitting an application, including comments received from various stakeholders and how the project plans were modified to address comments. The following chapters further describe the content that should be included in the principal REA reports. These are:

- Chapter 2, Part II: The Consultation Report
- Chapter 4: The Project Description Report
- Chapter 5: The Construction Plan Report
- Chapter 6: The Design and Operations Report
- Chapter 7: The Decommissioning Plan Report
- Chapter 8: The Water Assessment Report and Water Bodies Report

Chapter 9 provides an overview of content (and links to additional guidance) for all additional reports that may be required under the REA.

7.2. Report Timing

The timing of the generation of reports spans the pre-application phase of the REA process. For instance, a draft Project Description Report may be completed at a very early stage in project planning so that Aboriginal consultation can commence. On the other hand, the Consultation Report can only be finalized following the final public meeting, near the end of the pre-application phase. It is the applicant's responsibility to determine the optimal timing for completion of reports for their project. However, O. Reg. 359/09 does have some requirements for making such reports available to the public, Aboriginal communities, and municipalities for the purposes of consultations. Applicants are required to meet these timing requirements in order to be able to submit a complete application. These timelines are outlined in the following sections:

7.2.1. The Project Description Report

The table below shows all regulated timing constraints for sharing the Project Description Report (PDR). This table applies for all REA applications, except those in respect of the following facility types, which do not require public meetings:

- Class 2 wind facilities
- Class 1 or 2 anaerobic digestion facilities
- Class 1 thermal treatment facilities, if the generating unit of the facility is located at a farm operation
- Class 2 thermal treatment facilities

Regulated Action for the Project Description Report*	Timing Constraints
Submitted to the Ministry of the Environment (REA Director) so the ministry can generate an Aboriginal Contact List	Prior to all other consultation activities
Made publicly available for consultation in advance of the first public meeting	At least 30 days in advance of the first public meeting
Sent to all municipalities in which the project is located (upper and lower tier) for municipal consultation as well as to all local roads boards and service boards	At least 30 days in advance of the first public meeting
A later draft PDR sent to all municipalities** (in conjunction with other draft REA reports) for municipal consultation as well as all local roads and service boards	At least 90 days in advance of the final public meeting
Circulated to all Aboriginal communities on the Aboriginal Contact List	Prior to making all draft reports available to the public as below
Made publicly available (along with remainder of required reports) for consultation in advance of the final public meeting	At least 60 days in advance of the final public meeting
A final version submitted as part of a complete application for a Renewable Energy Approval	At the time of submitting a complete application
A final version published on the applicant's website (if one exists) following the submission of a complete application. See Chapter 2 for more information on this requirement	Within 10 days of the notice of proposal being posted on the Environmental Registry by the Ministry of the Environment

* Not for Class 2 wind, Class 1 or 2 anaerobic digestion, Class 1 thermal treatment, if on a farm, and Class 2 thermal treatment

** A draft PDR must also be sent to the Niagara Escarpment Commission if the project is located within the Niagara Escarpment Plan area.

For Class 1 or 2 anaerobic digestion facilities, Class 1 thermal treatment facilities (if the generating unit of the facility is located at a farm operation) and Class 2 thermal treatment facilities, public meetings are

not required, however municipal and Aboriginal consultation requirements must still be met. For this reason, a revised schedule of requirements for providing the PDR for these types of facilities is as follows:

Regulated Action for the Project Description Report*	Timing Constraints
Submitted to the Ministry of the Environment (REA Director) so the ministry can generate an Aboriginal Contact List	Prior to all other consultation activities
Circulated to all Aboriginal communities on the Aboriginal Contact List	At least 30 days in advance of submitting a complete application
Sent to all municipalities in which the project is located (upper and lower tier) for municipal consultation as well as to all local roads and service boards	At least 30 days in advance of submitting a complete application
A final version submitted as part of a complete application for a Renewable Energy Approval	At the time of submitting a complete application
A final version published on the applicant's website (if one exists) following the submission of a complete application See Chapter 2 for more information on this requirement	Within 10 days of the notice of proposal being posted on the Environmental Registry by the Ministry of the Environment

* For Class 1 or 2 anaerobic digestion, Class 1 thermal treatment, if on a farm, and Class 2 thermal treatment only

For Class 2 wind projects, a draft PDR must be sent to all municipalities in which the project is located as well as any local roads boards and local service boards at least 30 days prior to submitting an application for a renewable energy approval.

7.2.2. All Other REA Documentation

Drafts of all required reports must be made available to the public, Aboriginal communities and municipalities according to the timelines in the table below:

Regulated Action for Other Required Reports*	Timing Constraints
Drafts sent to all municipalities** for municipal consultation as well as all local roads and service boards.	At least 90 days in advance of the final public meeting
Drafts made publicly available for public consultation in advance of the final public meeting	At least 60 days in advance of the final public meeting
Drafts sent and made available to Aboriginal communities for consultation in advance of the final public meeting	At least 60 days in advance of the final public meeting
A final version submitted as part of a complete application for a Renewable Energy Approval	At the time of submitting a complete application
A final version published on the applicant's website (if one exists) following the submission of a complete application. See Chapter 2 for more information on this requirement.	Within 10 days of the notice of proposal being posted on the Environmental Registry by the Ministry of the Environment

* For Class 1 or 2 anaerobic digestion, Class 1 thermal treatment, if on a farm, and Class 2 thermal treatment only

** Drafts sent to municipalities do not need to be inclusive of the confirmation and comment letters from the Ministry of Natural Resources or the Ministry of Tourism and Culture in respect of natural heritage or cultural heritage assessments.

As indicated in the table, the table does not apply to:

- Class 1 or 2 anaerobic digestion facilities
- Class 1 thermal treatment facilities, if the generating unit of the facility is located at a farm operation
- Class 2 thermal treatment facilities

For these types of facilities final reports must be submitted to the Ministry of the Environment as part of a complete application. When an application is deemed complete and accepted for review, the final reports

must then also be published on the applicant's website (if one exists). Chapter 2 contains further information on this requirement.

Note that in addition to making draft REA reports available to all Aboriginal communities on the Aboriginal Contact List, summaries of these reports and additional information on Aboriginal rights or interests that may be impacted by the project must also be provided in advance to each Aboriginal community. More information on this requirement (including minimum timelines) is given in Chapter 2, Section 2 which describes Aboriginal consultation.

8. Consultation

Consultation is a critical component of the Renewable Energy Approval process. The REA regulation contains numerous regulated minimum consultation requirements to ensure that the public, municipalities, Aboriginal communities and other stakeholders are notified about projects and provided an opportunity to provide feedback and information to the applicant.

To emphasize the importance of consultation and to group information in an easily accessible manner, consultation requirements and guidance for preparing the Consultation Report are addressed in a separate chapter of this guide. Chapter 2 provides detailed information about the consultation process and all applicants should make themselves familiar with this chapter in conjunction with reading the regulation itself.

Applicants should also refer to Chapter 10 which provides tips for applicants on how to be a good neighbour in the local community by going beyond minimum regulatory requirements.

While Chapter 2 is the location for the comprehensive discussion of consultation requirements, to assist with the overview of the REA process, the section that follows provides a brief overview of these requirements.

8.1. Consultation Overview

Figure 6 below depicts the key steps in the REA consultation process including the minimum timelines related to particular requirements. This diagram only

applies to projects that require public meetings. Class 2 wind facilities, Class 1 or 2 anaerobic digestion facilities, Class 1 thermal treatment facilities (if the generating unit of the facility is located at a farm operation) and Class 2 thermal treatment facilities do not have mandatory public meeting requirements. However, there are additional notification, document dissemination and other consultation requirements for these projects and Chapter 2 provides more information. Chapter 2 also conveys requirements related to how notices must be published and provided, how the municipal consultation form must be provided, as well as requirements related to where meetings must be held, among others. Figure 6 does not capture all the requirements that must be met and should be considered as an overview only.

Applicants must meet or exceed the minimum regulated consultation requirements in order for an application to be deemed complete. Providing a detailed account and including evidence of how consultation was undertaken in the Consultation Report is critical for the Ministry of the Environment to determine that the requirements were met.

Consultation Requirements for Renewable Energy Approvals

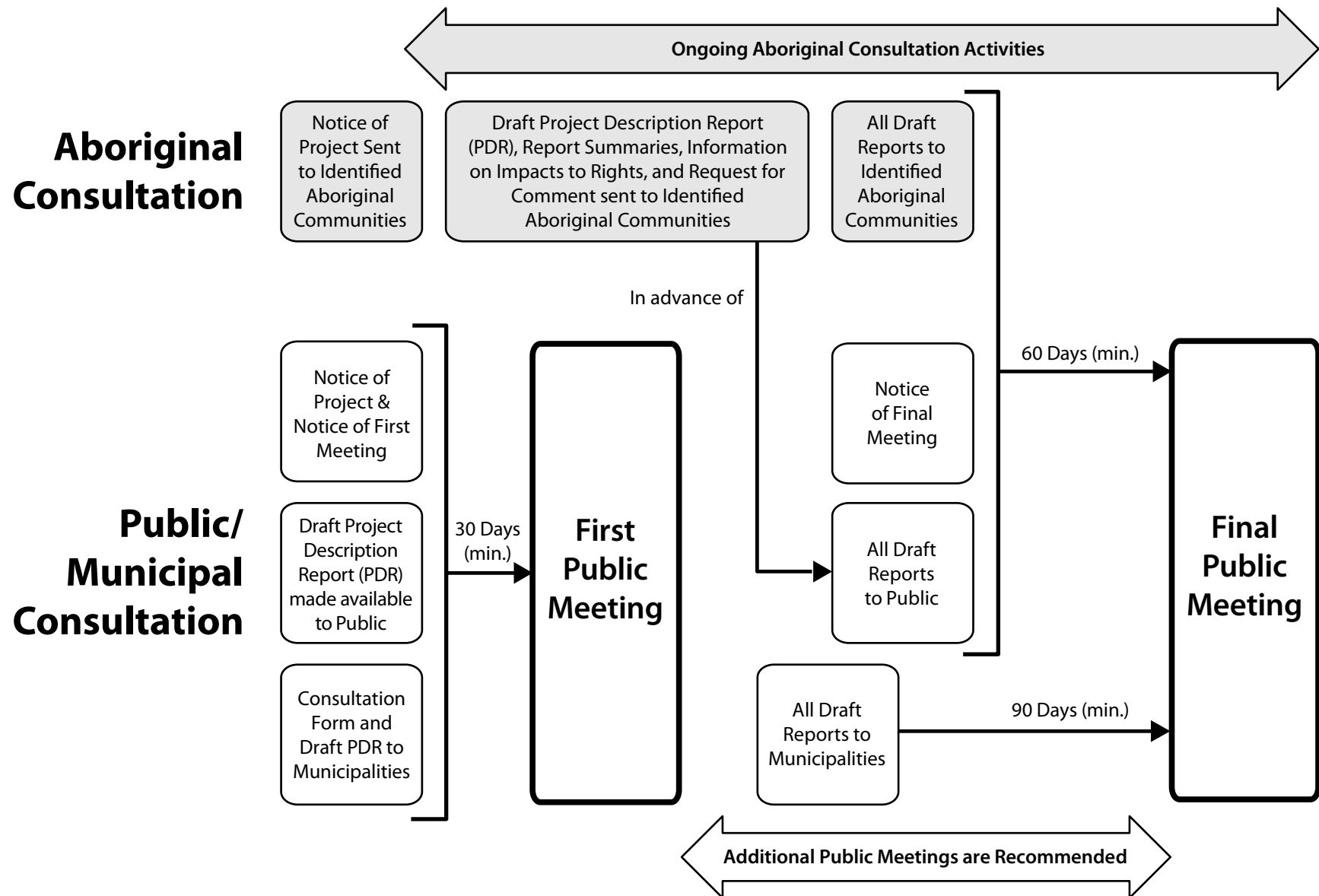


Figure 6. Overview of consultation requirements in the REA application

9. Application Submission and Review

When all consultation and report requirements have been completed and the applicant has determined that the project will meet all the setback and prohibition requirements of O. Reg. 359/09, the applicant may submit an application for a REA to the Ministry of the Environment. To submit an application, applicants must download and complete an application form. This form is entitled "*Application for Approval of a Renewable Energy Project*" and it is available from the renewable energy section of the Ministry of the Environment's website as a print only document (Publication #7216e01) and an electronic smart form (Publication #7216e). The application form should be accompanied by copies of all project documentation required for a complete submission. This submission should be made by sending three paper copies of the application package as follows:

- Two (2) to the REA Director
- One (1) to the nearest District Office of the Ministry of the Environment

The ministry also requests that applicants submit a digital copy of all application documents to the MOE's REA Team. If applicants have questions about the logistics of submitting applications they should contact the REA team.

9.1. Application Fees

As with other environmental approvals, an application for a REA requires the submission of an application fee to cover costs associated with the review of the application. More information on application fees for REAs can be found in the following MOE publications:

"Renewable Energy Approval (REA) Fees & Refunds," 2011 Publication #8139e

"FAQs on REA Fees and Refunds," 2011 Publication #8141e

These publications can be obtained from the MOE's website.

359/09) has been included. The completeness check will also examine the Consultation Report in detail to ensure that all the consultation requirements and timelines were adhered to during the pre-application phase. To make this completeness check more transparent to applicants and to assist them in preparing complete applications, the ministry has published a checklist that itemizes all required content. This checklist is available from the ministry's website as Publication #7746e and it is the same checklist that will be used by ministry staff to confirm completeness.

If an application is determined to be complete the applicant will be notified and the review phase will commence. If the application is determined to be incomplete, the applicant will be notified and the deficiencies that led to the not-complete determination will be identified to the applicant. If an application is not accepted, the applicant must address all deficiencies identified prior to resubmitting a complete application.

9.2. Completeness Check

Upon receiving a submitted application, the ministry will determine if the application can be accepted for review through a completeness check. The completeness check simply reviews the submitted reports to determine if all the required content (for instance in Table 1 of O. Reg.

9.3. Application Review

The acceptance of a complete application for review starts the clock on the ministry's six month service guarantee for reaching a decision on the application. The start of the review phase also places some additional regulated requirements related to consultation.

9.3.1. Environmental Registry Posting and Public Notification

Consultation is a critical component of the REA process, and the review phase includes a final mechanism for public consultation. In most cases, REA applications are subject to a minimum 30 day public comment period on the Environmental Registry. This online registry, found at www.ebr.gov.on.ca will present proposal notices for all accepted REA applications that are undergoing a decision. When an application has been accepted, the ministry will prepare a proposal notice based on information in the REA application. This notice will then be posted with an active comment period for a minimum of 30 days. During this time the public can review the proposal notice and provide comments directly to the MOE about the application. All comments submitted during the comment period must be considered by the MOE when evaluating a REA application.

It should be noted that there are limited exceptions where section 22 of the Environmental Bill of Rights, 1993 does not apply to a project and a minimum 30 day comment period is not required for the proposal. However, in these cases the MOE's policy will be to post an information notice of the proposal to the Environmental Registry.

To maximize the potential of this final opportunity for consultation, sections 15.1 and 15.2 of O. Reg. 359/09 require applicants to notify the public that the application is under review and to post all final submitted documents to their website (if one exists) within 10 days of the proposal being posted to the Environmental Registry.

For notification, applicants are required to publish a notice in similar locations to those required for other project notices:

- If the project location is situated in a local municipality, the notice must be published in a newspaper with general circulation in the local municipality.
 - If the project is located in more than one local municipality the notice should be posted in a newspaper or newspapers with circulation in each local municipality.
- If the project location is in unorganized territory, the notice must be published in a newspaper with general circulation within 25 kilometres (km) of the project location.
 - If no newspaper exists, the notice must be posted in at least six conspicuous locations within 25 km of the project location.

Notice content is defined in section 15.2 of O. Reg. 359/09 to include the following:

1. The name of the person proposing to engage in the renewable energy project.
2. A brief description of the renewable energy project.
3. A map identifying the project location.
4. If the person has posted documents on their website, the address of their website
5. A statement that a proposal for a renewable energy approval in respect of the renewable energy project has been posted on the environmental registry and that comments in respect of the proposal may be submitted to the Director.

By requiring these actions, the regulation ensures that the public and all stakeholders are aware that the application is under review, that they have an additional opportunity to comment, and that they can review the final project documents. One key document that can be reviewed at this stage is the Consultation Report. In this report, described further in Chapter 2—Part 2, the applicant will detail how consultation was conducted, what comments were received, and how the project was modified to address comments, if applicable. By making this report publicly available at the start of the Environmental Registry comment period, interested people and organizations can evaluate for themselves whether concerns raised at earlier stages of project planning were adequately considered. Should an interested person or organization, upon reading the final documents, wish to comment directly to the ministry about the project, there is still an opportunity to do so.

9.3.2. Director May Request More Information

By specifying upfront requirements for such items as setback distances, cultural and natural heritage assessments, content of reports, and consultation activities, the REA has been designed to allow for a streamlined review of a complete application. While the intent of O. Reg. 359/09 is to provide clear expectations, circumstances may arise that cause the REA Director to put the review on hold and request that an applicant provide more information related to the project. Under subsection 47.4 (2) of the Environmental Protection Act the REA Director has the power to require an applicant:

"to submit any plans, specifications, engineers' reports or other information and to carry out and report on

any tests or experiments relating to the renewable energy project.”

The MOE expects that such requests will be made rarely, but some circumstances that could lead to a request for more information include:

- Where the Director believes that further information is needed to understand the potential for cumulative environmental effects from other projects to change the applicant’s assessment of potential negative environmental effects.
- Where a significant potential negative environmental effect is identified during the review phase (e.g. during the Environmental Registry posting) that requires technical investigation to resolve.

If such a circumstance arises, the REA review time may be extended by the time it takes for the requested information to be submitted.

9.4. Director Issues a Decision

When the ministry completes the review of the REA application and all comments received during the EBR posting the Director will issue a decision on the application. This decision will be to approve the project, likely subject to terms and conditions, or to refuse to approve the project. At the same time that an applicant is notified of the decision, a decision notice will be posted on the Environmental Registry to notify the public about the decision.

For applications that receive a REA, the Director may attach conditions to the approval. Conditions can include timelines for starting construction, revising decommissioning plans, implementing procedures for recording complaints about adverse effects from the facility, and building the facility according to plans in the application documents, among others. Conditions of approval are legally binding and can be enforced through the ministry’s compliance policies.

10. Hearing by the Environmental Review Tribunal

The REA process features a unique third-party hearing provision. When a decision is made to approve a REA, any Ontario citizen may require a hearing in respect of the Director’s decision to the Environmental Review Tribunal (ERT). In order to initiate the hearing process the request must be made to the ERT within 15 days of the decision to grant the REA being posted on the EBR. As per subsection 142.1 (3) of the Environmental Protection Act the person requiring the hearing has the onus of establishing that the decision to issue a REA for the project will result in:

- Serious harm to human health; or
- Serious and irreversible harm to plant life, animal life or the natural environment

Subject to some qualifications, the ERT has six months from the date an appeal is filed to issue a decision.

The ERT publication *“A Guide to Appeals regarding Renewable Energy Approvals under section 142.1 of the Environmental Protection Act”* available at the ERT’s website (www.ert.gov.on.ca/english/guides/index.htm) provides additional information on the appeals process.

Chapter 2

Consultation requirements and guidance for preparing the
Consultation Report

PART 1: Consultation Requirements

1. Goals of Consultation under the REA

Consultation is a critical component of the Renewable Energy Approval process allowing for a two-way exchange of information between the REA applicant and interested or potentially affected local groups, Aboriginal communities, members of the public as well as municipalities and local boards. Consultation helps ensure that concerns are identified early and addressed where possible, in a transparent manner. Consultation also enables applicants to obtain and use local knowledge in their project designs and in the assessment of any potential negative environmental effects.

The main goals of consultation in the REA process are:

- To ensure that relevant information about the renewable energy project proposed to be developed is provided to the relevant Aboriginal communities, members of the public, municipalities and local boards;
- To obtain/identify relevant information/local knowledge from the local community, municipalities and Aboriginal communities;
- To identify concerns that may arise from the proposed renewable energy project; and
- To address concerns by way of providing additional information, explanation, changing project design or making commitments in response to local input.

To help achieve these goals, O. Reg. 359/09 provides clear and transparent minimum requirements for consultation with Aboriginal communities, municipalities and the public. These minimum requirements involve rules for notification and consultation with Aboriginal communities, public notification, holding public meetings, making reports available, and engaging municipalities. The following sections outline these requirements to assist applicants with conducting meaningful consultation.

It is important to emphasize that O. Reg. 359/09 stipulates the absolute minimum requirements that must be met in order to submit a complete REA application. Applicants are recommended to consider ways in which consultation

can be enhanced beyond the minimum standards to fully engage the local community and stakeholders. Detailed and fulsome discussion of the project will improve REA applications by ensuring all concerns are heard, evaluated and addressed, if appropriate.

Consultation is one important aspect of being a good neighbour. All applicants for a renewable energy approval should read Chapter 10 of this guide which provides tips for being a good neighbour by going beyond the minimum regulatory requirements.

1.1. Consultation Requirements Overview

Figure 6 below depicts the key steps in the REA consultation process including the minimum timelines related to particular requirements. This diagram only applies to projects that require public meetings. Class 2 wind facilities, Class 1 or 2 anaerobic digestion facilities, Class 1 thermal treatment facilities (if the generating unit of the facility is located at a farm operation) and Class 2 thermal treatment facilities do not have mandatory public meeting requirements. However, there are additional notification, document dissemination and other consultation requirements for these projects and the sections below provide more information on timing. For the purposes of this section, these types of projects will be referred to as “projects that don’t require public meetings”.

Consultation Requirements for Renewable Energy Approvals

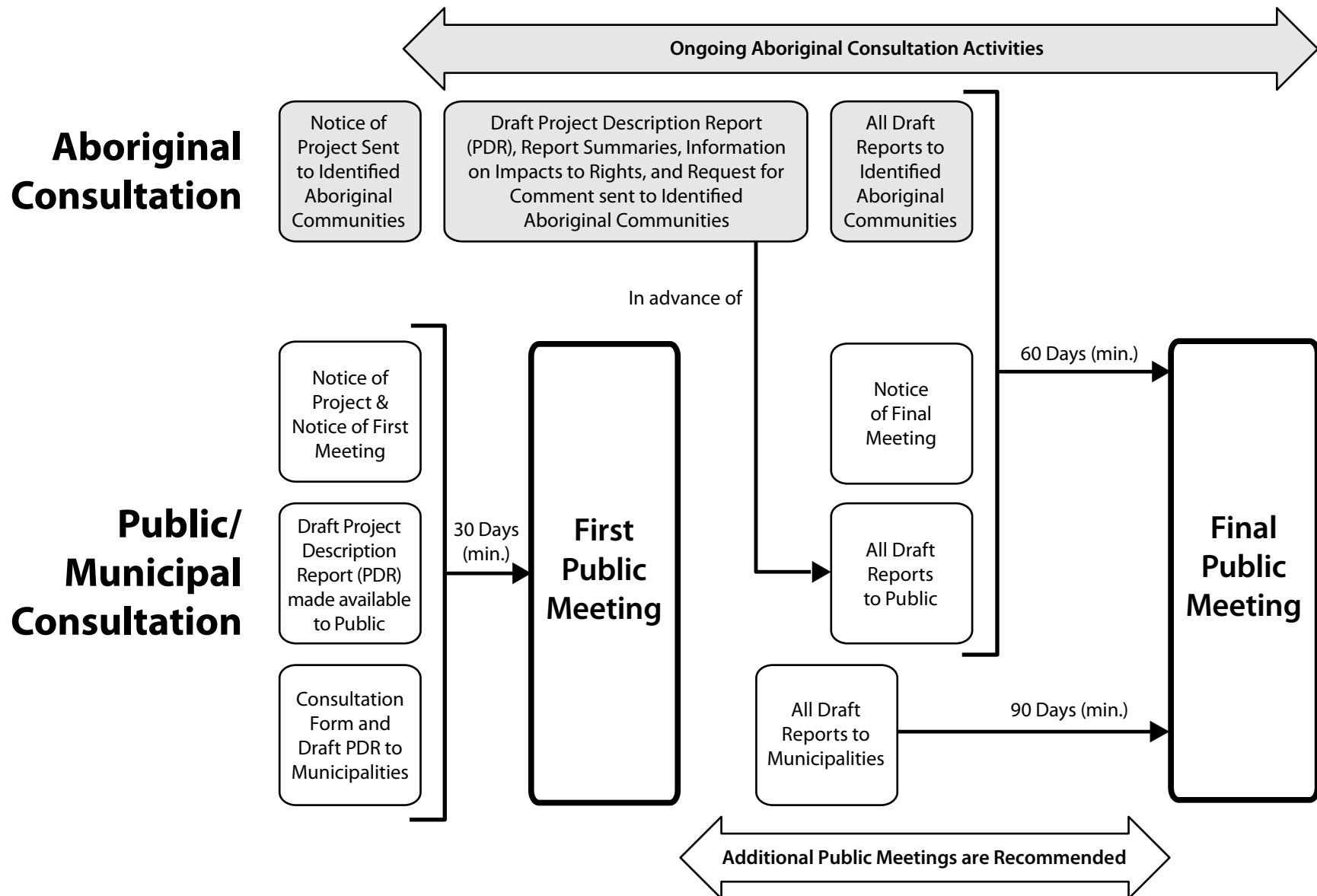


Figure 7. Overview of consultation requirements in the REA application

2. Aboriginal Consultation

Consultation with Aboriginal communities can be required for all renewable energy facilities that require a REA. With the exception of Class 2 wind facilities, all REA applicants must meet specified Aboriginal consultation requirements under sections 14 to 17 of O. Reg. 359/09.

2.1. Ministry Guidance on Aboriginal Consultation

The Ministry of the Environment is developing specific guidance on Aboriginal consultation for the purpose of obtaining a REA. In light of this forthcoming further guidance, this chapter will simply provide an overview of the minimum consultation requirements under O. Reg. 359/09. The Aboriginal Consultation Guide, when available, should be read by all applicants who need to conduct Aboriginal consultation as part of their REA application.

2.2. Brief Overview of Regulatory Requirements for Aboriginal Consultation

Applicants in respect of all renewable energy facilities except for Class 2 wind must conduct consultation with Aboriginal communities. The first step in this consultation process is for the applicant to obtain a list of communities that must be consulted (the “Aboriginal Consultation List”) from the Ministry of the Environment.

Obtaining an Aboriginal Consultation List

To obtain an Aboriginal Consultation List, the applicant must provide the REA Director with a draft of the Project Description Report (PDR). Further guidance on preparing this report is provided in Chapter 4 of this guide, including specific guidance on the content needed in the draft PDR for the purpose of obtaining an Aboriginal Consultation List.

Upon receiving the draft PDR the ministry will coordinate, across the Ontario Government, the generation of a list of Aboriginal communities that may have constitutionally protected Aboriginal or treaty rights that may be adversely affected by the project or those that may have an interest in the potential negative environmental effects of the project. Once the list is generated, it will be provided to the applicant so that they may use the list to conduct consultation.

Conducting Consultation Activities

Aboriginal consultation can include a range of activities (i.e. notification, meetings, more in depth discussions, etc.) that can proceed through the pre-application phase and even continue throughout the project life. Further guidance on Aboriginal consultation under development by the Ministry of the Environment will provide more direction on how to scope consultation activities to adequately consult with Aboriginal communities provided to an applicant on the Aboriginal Consultation List.

Disseminating Reports and Report Summaries

One of the minimum requirements for Aboriginal consultation under the REA process is that applicants must provide project notices, draft documents and document summaries to communities on their Aboriginal Consultation List. These requirements have timing implications for the REA process and they are described here.

All applicants, except those applying in respect of a Class 2 wind facility, must provide the following documents to all identified Aboriginal communities:

1. A draft of the Project Description Report
2. Any information the person has regarding any adverse impacts that the project may have on constitutionally protected Aboriginal or treaty rights that the community may have identified as being adversely impacted by the project
3. A written summary of each report (with the exception of the Consultation Report) that will be submitted as part of the REA application
4. A written request to the community to provide any information (in writing) that, in the opinion of the community, should be considered in preparing any of the reports summarized above

For applications that involve mandatory public meetings this package of documents and request for information must be sent to all identified communities in advance of the applicant making draft reports

available to the public (i.e. the 60 day minimum timeline under section 16 of O. Reg. 359/09).

Drafts of all of the documents (other than the Consultation Report) must be sent and made available to the identified Aboriginal communities at least 60 days in advance of the final public meeting.

For applications in respect of facilities that don't require public meetings, the above documents and

request for information should be provided to all identified Aboriginal communities a minimum of 30 days in advance of submitting an application for a REA. In addition, applicants are required to communicate with Aboriginal communities regarding any constitutionally protected Aboriginal or treaty rights that a community identifies as being adversely impacted as well as measures for mitigating any adverse impacts.

3. Notices of the Project and of Public Meetings

A critical element of consulting on a renewable energy project is providing notification to the public and other key stakeholders. The REA regulation has a number of requirements stipulating when and how notification should be made. Generally, applicants are required to provide notification about the project proposal itself, when and where public meetings will take place, as well as notification that an application has been submitted for review by the ministry. The following sections describe these requirements in more detail.

3.1. Notice of Proposal to Engage in a Project

All renewable energy projects that require a REA, regardless of class or energy source, require a Notice of Proposal to Engage in a Project to be issued. The content of this notice includes a brief description of the project proposal including a map of the project location as well as contact information of the applicant.

In preparing a Notice of Proposal to Engage in a Project, applicants must use the content/format of the template entitled *"The Renewable Energy Approval – Notice of a Proposal to Engage in a Renewable Energy Project s. 15(1) (a) Ontario Regulation 359/09"*. This template can be found in Appendix 3.

With respect to timing constraints, the Notice of Proposal to Engage in a Project is one of the first steps in consultation; a notice must be issued a minimum of 30 days in advance of the first public meeting held for the project. As will be described in the next section, if a notice of a public meeting is also required, both the meeting and project notices can be issued together.

For projects that do not require public meetings, the Notice of Proposal to Engage in a Project must be issued at least 30 days before the application for a renewable energy approval is submitted to the ministry.

3.2. Notice of Public Meeting(s)

If an applicant is required to hold public meetings, a Notice of a Public Meeting must be issued in advance of the required meetings. The Notice of a Public Meeting includes similar information to the Notice of Proposal, with additional information about where and when one or more meetings will take place and where the public can go to view project documents in advance of the meeting.

The Notice of a Public Meeting must be in the form of the template entitled *"The Renewable Energy Approval – Notice of Meetings s. 15 (1) (b) Ontario Regulation 359/09."* This template can be found in Appendix 3. Where an applicant wishes to do so, the Notice of Proposal to Engage in a Project and the Notice of a Public Meeting, may be distributed together.

The Notice of Public Meeting must be distributed at least 30 days before the first public meeting. A separate Notice of Public Meeting must be issued at least 60 days in advance of the final public meeting if the date and location of the second public meeting was not disclosed as part of the first notice.

3.3. Distribution of Notices

As per section 15 of O. Reg. 359/09, applicants are required to publish Notices in a number of locations and provide them to a number of organizations/people. These are:

Publication

- If the project location is situated in a local municipality, the notice must be published on at least two separate days in a newspaper with general circulation in the local municipality.
 - If the project is located in more than one local municipality the notice should be posted in a newspaper or newspapers with circulation in each local municipality.
- If the project location is in unorganized territory, the notice must be published on at least two separate days in a newspaper with general circulation within 25 kilometres (km) of the project location.
 - If no newspaper exists, the notice must be posted in at least six conspicuous locations within 25 km of the project location. If the project location is not close to a developed settlement, applicants may consider posting the Notice(s) at the nearest road intersection within 25 km of the project location as well as on the project location. The size of such notice may be adjusted to increase its visibility.
- If it is reasonable to do so, the notice must be published in a newspaper printed by each Aboriginal community on the Aboriginal Consultation List.
 - The publication in a newspaper in an Aboriginal community requires the publisher of the newspaper to agree to the notice's publication.
- If the applicant has a website, the notice must be posted on the applicant's website.
- While it is not a legal requirement, buildings frequented by the local community members such as libraries, community centres, municipal office buildings, local grocery stores, First Nations band offices and post offices should be considered for posting a Project Notice, where it is permitted to do so.

Notice Provided To

Copy of the Notices must also be provided to:

- Every assessed owner of land within 120 m of the project location, if the project involves a facility other than a Class 3, 4, and 5 wind facility (see inset for notice rules for these projects)

NOTIFICATION OF LANDOWNERS (CLASS 3, 4 AND 5 WIND)

For larger wind facilities (Class 3, 4 and 5), notice must be provided to every assessed landowner within 550 m of the project location. This rule ensures all potentially affected landowners are specifically notified.

- Every assessed owner of land abutting a parcel of land on which the project is located
- Every Aboriginal community on the applicant's Aboriginal Consultation List
- The clerk of every local and upper-tier municipality in which the project is located
- The secretary-treasurer of each local roads board of a local roads area in which the project location is situated
- The secretary of each Local Services Board of a board area in which the project location is situated
- The secretary-treasurer of a planning board that has jurisdiction in an area in which the project location is situated
- The chair of the Niagara Escarpment Commission, if the project location is in the area of the Niagara Escarpment Plan
- The REA Director at the Ministry of the Environment as well as the ministry's district manager in each district in which the project location is situated

The above list is a minimum requirement but not exhaustive. Applicants are encouraged to also provide notice to other potentially interested persons that the applicant is aware of (such as landowners in the vicinity of the project location, local interest groups, businesses, and members of the public that may be affected by some aspect of the project). For small-scale projects with minimal negative environmental effects and low public concern, providing Notices to the above list will likely be adequate. However, for larger projects with more significant environmental effects and high levels of public interest, providing Notices beyond the above list could enhance consultation. Applicants may also wish to distribute copies of Notices to other relevant agencies (such as the MNR, local conservation authorities, federal government agencies, etc.).

Notices are critical to ensure meaningful participation of interested and/or potentially affected parties. In addition to giving notice, applicants may use different means such as flyers, posters, internet, email and radio or TV announcements to communicate information about and solicit feedback on the project.

It may be possible to coordinate public notice requirements under the REA regulation with the notice requirements under other legislation. If applicants wish to provide coordinated notices for their renewable energy projects, applicants should consult the MOE before they post coordinated notices.

4. Public Meetings

Public meetings are a critical component of consultation because they provide a forum for an applicant to discuss the project directly with the community and hear about any concerns first hand. Given that renewable energy projects will become part of a community for 20 years or longer, fostering good relations with the community early in the process will promote long-term success. Community consultation and effective relationship building can help to make projects beneficial and acceptable to all involved.

At a minimum, for most facility types O. Reg. 359/09 (subsection 16 (1)) requires that applicants hold two public meetings at the following locations:

- In each local municipality in which the project location is situated; or
- If the project location is in unorganized territory:
 - Within 25 kilometres of the project location; or
 - In the local municipality that is closest to the project location. If there is no appropriate place to hold a public meeting within 25 km of the project location in every municipality that the project is proposed to be engaged in.

Public meetings are not required for the following facility types:

- Class 2 wind facilities
- Class 1 or 2 anaerobic digestion facilities
- Class 1 thermal treatment facilities, if the generating unit of the facility is located at a farm operation
- Class 2 thermal treatment facilities

Applicants should consider how the logistical aspects of a public meeting can be planned to ensure everyone who wants to attend the meeting will have an opportunity to be presented with project information as well as an opportunity to raise concerns or otherwise comment on the project. This can include presentations, open house

displays, or other means to provide information and solicit feedback. Venues should also be selected to ensure an effective exchange can occur. The venue should be easily accessible and located close to the project location. The timing of the meeting should be planned to allow members of the community to attend (e.g. in the evening). Where venue logistics may pose challenges for effectively engaging all interested members of the public, multiple meetings could be proposed. Since the applicant must submit a record of comments received at all public meetings in the Consultation Report (see Part 2 of this chapter for further guidance on this report), the applicant should plan meeting logistics to ensure that comments can be recorded.

Applicants should expect the public to have questions about the project and should be prepared to provide answers at all public meetings and in response to questions submitted in writing. Where the information is not readily available, the applicant should commit to provide a response in the future and follow through on that commitment. Being responsive to a community's need for information is a key part of being a good neighbour. More information on tips for being a good neighbour can be found in Chapter 10 of this guide.

4.1. First Public Meeting

The first public meeting is an early opportunity for the applicant to provide information about the project and to receive information from those attending to ensure

all local interests and concerns will be considered in planning the project. This meeting should provide an opportunity for the public to ask questions about the project and for the applicant to respond and to listen to the community. At this meeting applicants should convey to the public that project plans will continue to evolve based on comments received.

Applicants should schedule this meeting at a point in project planning that will maximize its benefit in helping stakeholders understand potential negative environmental effects. For instance, the meeting should only be held when the applicant has a clear project concept so that the specifics of the project can be discussed at the meeting. The meeting should also be held at a time that is early enough in project planning so that information gained at the meeting (for instance the identification of a previously unidentified cultural heritage resource or noise receptor in the vicinity of the project location) can be incorporated into project planning. It is likely that information raised at the first public meeting will influence the scope of studies and reports for the application.

While the general timing of the first public meeting should be determined by the applicant, this meeting can only be conducted if notice of the meeting (and of the project itself) has been provided at least 30 days in advance to all of the organizations and people noted above. An additional requirement is that the applicant makes available a draft Project Description Report for review, also at least 30 days in advance of the meeting. In accordance with section 16 (2) of O. Reg. 359/09, the draft Project Description Report must be made available in the following ways:

1. By posting the draft report on the applicant's website, if the applicant has a website.
2. Making paper copies of the draft report publicly available (e.g. by placing them at municipal offices or a public library) in each municipality or unorganized territory in which the project is located.
3. Making paper copies available to each Aboriginal community on the Aboriginal Consultation List or any additional communities identified by the applicant (see section 2.2. for further explanation).

Providing the draft Project Description Report in advance allows people who wish to attend the meeting to consider the project proposal prior to the meeting.

When conducting the first public meeting, the draft Project Description Report must be made available for review by attendees, as per subsection 16 (4) of O. Reg. 359/09. This draft report, and specifically the description of the potential

negative environmental effects of the project should be the focus of the first meeting. However applicants should also provide information about their ongoing pre-application activities, such as studies and investigations planned, as well as proposed application timing.

4.2. Additional Public Meetings

Applicants are recommended to hold additional public meetings beyond the minimum two required by the O. Reg. 359/09, if such meetings would enhance public consultation. Conducting a comprehensive consultation program will give a greater opportunity for the applicant to learn about local concerns so that they may be addressed by the applicant, if appropriate. This will also allow the applicant more opportunity to accurately communicate the details of proposal to the community, including how the project proposal has evolved in response to information brought forward by the community at earlier meetings, if applicable.

Depending on the local interest in the project, applicants can also consider going beyond the minimum consultation requirements by establishing a representative group or "Public Liaison Committee" for the project. Having a group that represents local residents, the local municipality and other interested groups early demonstrates a commitment to long-term positive relations and encourages local participation in the development process. This and other ideas for going beyond the minimum requirements to be a good neighbour are discussed further in Chapter 10 of this guide.

4.3. Final Public Meeting

The final public meeting should take place when the applicant has completed all the necessary studies and drafted all reports needed to submit a complete REA application. This final meeting is an opportunity for the public to review the detailed project proposal and provide comment on all the studies and investigations that have been conducted in respect of the project.

To enable this final review, subsection 16 (5) of O. Reg. 359/09 requires applicants to make available drafts of all the reports and technical studies that will be submitted as part of their REA application (other than the consultation report) a minimum of 60 days in advance of the final public meeting. These draft documents also include letters of comment and confirmation from the Ministries of Tourism and Culture and Natural Resources, respectively, obtained in respect of cultural and natural

heritage assessments, if required. The locations where the draft documents must be made available are the same as the locations for the draft Project Description Report in advance of the first public meeting:

1. By posting the draft report on the applicant's website, if the applicant has a website.
2. Making paper copies of the draft report publicly available (e.g. by placing them at municipal offices or a public library) in each municipality or unorganized territory in which the project is located.
3. Making paper copies available to each Aboriginal community on the Aboriginal Consultation List

or any additional communities identified by the applicant (see Section 8.2.2 for further explanation).

Guidance related to venue logistics provided in Section 4.1 above should be considered for the final public meeting. Given the volume of project information to be discussed at the final public meeting, applicants should consider how the meeting can be planned to facilitate a thorough discussion. For example, to the extent possible, applicants should plan to have appropriate personnel present at the meeting to be able to answer questions about all project documents.

5. Consultation with Municipalities and other Local Authorities

Consultation with municipalities and other local authorities is a critical element of the REA application process. Most renewable energy projects will require municipal services/infrastructure for certain project activities and many could result in potential negative environmental effects that could adversely affect municipal infrastructure or otherwise be of interest to the municipality (e.g. impacts on traffic flow during construction). Municipalities, including their elected council, are also an important window into the local community with significant experience in working with the local public.

Given the importance of municipal consultation, there are specific requirements for municipal consultation for renewable energy projects in O. Reg. 359/09. With the exception of Class 2 wind facilities, all REA applicants must meet consultation requirements that include notification of the project, the provision of draft project documents and the provision of a municipal consultation form, all in accordance with minimum regulated timelines. The specifics of these requirements are described in the sections that follow.

It should be noted that, as with public and Aboriginal consultation, applicants should consider how municipal consultation can be enhanced by going beyond the minimum requirements under O. Reg. 359/09. While the REA regulation has provided for a formal exchange of municipal comments through the municipal consultation form, applicants are recommended to meet with all municipalities (including both municipal

staff and council members) as well as other local authorities (e.g. local roads board) to discuss the project. Meetings should happen at an early stage in project planning to foster a constructive working relationship. Since municipal permits such as building permits are often required outside of the REA process, a meeting can also be an opportunity to discuss additional requirements and the optimization of permit timelines.

5.1. Provision of Draft Documents

As per section 18 of O. Reg. 359/09, REA applicants must provide draft documents to the clerk of all local and upper tier municipalities as well as to the secretary-treasurer of all local roads boards and the secretary of all local service boards where the project is located according to regulated timelines. For facilities that require public meetings, these timelines are:

At Least 30 Days in Advance of the First Public Meeting

- A draft of the Project Description Report must be provided
- A municipal consultation form must be provided

At Least 90 Days in Advance of the Final Public Meeting

- Drafts of all REA documents required as part of a complete application must be provided except:
 - The Consultation Report
 - Letters from the Ministry of Tourism and Culture and the Ministry of Natural Resources in respect of cultural and natural heritage assessment requirements

For facilities that require municipal consultation but do not require public meetings (Class 1 and Class 2 anaerobic digestion facilities, Class 1 thermal treatment facilities if located on a farm, Class 2 thermal treatment facilities), the municipal consultation form and all draft project documents must be provided to each municipality, local roads board and local service board at least 30 days in advance of submitting a complete REA application.

5.2. Municipal Consultation Form

To provide municipalities and local authorities with an opportunity to provide written comments that can be reviewed by the applicant and the Ministry of the Environment (upon submission of a complete REA application), O. Reg. 359/09 specifies that a municipal consultation form be completed by both the applicant and all local municipalities and road/service boards. The structured municipal consultation form is a two-part form with one half, Part A, completed by the applicant to highlight elements of the project that have implications for municipal infrastructure and servicing. Part B includes fields for the municipality or local authority to comment on how the project may impact specific municipal services and infrastructure. The final completed form is then sent to the applicant so that the concerns raised can be reviewed and addressed as appropriate. This form should be submitted as part of a complete REA application.

The municipal consultation form is contained in Appendix 4 of this guide, but it is also available on the Ministry of the Environment website as Publication # 7450e. The specific information related to servicing and infrastructure that the form explores includes:

- Proposed road access during construction and after commissioning
- Location and types of municipal service connections that may be required
- Traffic management plans during construction and, if necessary, operation
- Plans for the rehabilitation of areas disturbed and/or municipal infrastructure damaged during construction
- Emergency management procedures/safety protocols
- Proposed site landscaping, if applicable
- Easements or restrictive covenants on the property
- Location of fire hydrants and connections to drainage, water works and sanitary sewers and watermains
- Location of buried kiosks and above-grade utility vaults
- Location of existing and proposed gas and electricity lines and connections
- Building Code permits and licences
- Identification of any significant natural features and water bodies
- Identification of any protected properties, archaeological or heritage resources

When submitted as part of a complete REA application, the Ministry of the Environment will carefully consider all comments raised by the municipality. Applicants should document in their Consultation Report how the comments were considered and note any project changes arising from municipal comments. When reviewing an application, the Consultation Report will also be reviewed to determine the extent to which the application resolves any issues raised on the municipal consultation form. If a REA is granted for the project, the ministry can attach conditions to the approval that require the applicant to carry out activities to further address a municipal issue, if needed. It is in the applicant's interest to conduct comprehensive consultation, such as through additional meetings, with municipalities and other local authorities to determine how municipal concerns can be addressed through changes to the project proposal.

6. Issuing a Draft Site Plan for Class 4 Wind

Applicants proposing a Class 4 wind facility should note that O. Reg. 359/09 contains provisions for issuing a draft site plan in advance of submitting a complete application. By issuing a draft site plan the locations of noise receptors can be fixed in order to complete project planning with a defined picture of the siting constraints. More information on the draft site plan and the requirements for issuing a notice are given in Chapter 3.

7. Consultation Through the Environmental Registry

Upon receiving a complete application for a REA, the Ministry of the Environment will publish a proposal notice in respect of the application on the Environmental Registry (www.ebr.gov.on.ca). This proposal notice allows the public to submit comments directly to the ministry during a minimum 30 day comment period. At this time applicants are also required, under sections 15.1 and 15.2 of O. Reg. 359/09, to publish all REA documentation to their website (if one exists) and post notices in local newspapers to inform the public of the comment period.

It should be noted that there are limited exceptions where section 22 of the Environmental Bill of Rights, 1993 does not apply to a project and a minimum 30 day comment period is not required for the proposal. However, in these cases the MOE's policy will be to post an information notice of the proposal to the Environmental Registry.

More information on the requirements related to this review-phase consultation is provided in Section 9.3.1 of Chapter 1.

PART 2: Guidance for Preparing the Consultation Report

1. Purpose of the Consultation Report

The Consultation Report is required as part of a complete submission for all renewable energy projects that require a REA with the exception of Class 2 wind facilities. The purpose of the Consultation Report is to achieve two key objectives:

1. To document how consultation activities were undertaken to determine if an application is complete with respect to adherence to the regulated minimum consultation requirements of O. Reg. 359/09
2. To provide a record of the comments and information received by the applicant through consultation and to document how comments were considered. This includes creating a record of whether and how the project was modified as a result of comments received

To achieve these two objectives, the Consultation Report will include both written summary information and appended documentation such as copies of notices, written comments received and other communications as described in the sections below.

Since consultation may continue right up to a point where the applicant believes they are ready to submit a complete application, finalizing the Consultation Report will be one of the last steps in the pre-application process. A draft of the Consultation Report is not required to be made available in advance of the public meetings since those meetings will result in modifications to the Consultation Report.

As part of their ongoing consultation with Aboriginal communities, applicants should consider sharing the consultation report with the communities on the Aboriginal Consultation List.

Ensuring Transparency: Reporting On How Comments Were Considered

The Consultation Report is a critical element in ensuring transparency and accountability in the REA process. When a complete application is accepted for review by the Ministry of the Environment, the applicant will be required to post a digital copy of the application to their website, if one exists, in accordance with section 15.1 of O. Reg. 359/09. This will allow the public and other stakeholders to review how consultation was documented in the Consultation Report.

With this function in mind, applicants should ensure that the discussion of how the applicant considered public and stakeholder comments is clear, complete, and sufficiently detailed to achieve full transparency. In addition to describing this in the Consultation Report, applicants are also recommended to communicate directly with members of the public who raised concerns to inform them of how their concerns were considered prior to submitting the REA application.

2. Report Contents

As provided in Table 1 of O. Reg. 359/09, the Consultation Report must include the following required content:

- A summary of communication with any members of the public, Aboriginal communities, municipalities, local roads boards and local services boards regarding the project.
- Evidence that the information required to be distributed to Aboriginal communities under the minimum requirements for Aboriginal consultation was distributed.
- Any information provided by an Aboriginal community:
 - That in its view should be considered in preparing the project documentation; and
 - In respect of any Aboriginal or treaty rights that may be adversely impacted by the project, along with any measures for mitigating those impacts.
- Evidence that a municipal consultation form was distributed to all municipalities, local roads boards and local service boards in which the project was located according to the minimum regulated timelines.
- Any municipal consultation form submitted to the applicant if any part of it has been completed by a municipality, local roads board or local services board.
- A description of whether and how:
 - Comments from members of the public, Aboriginal communities, municipalities, local roads boards and local services boards were considered by the person who is engaging in the project;
 - The draft REA documents that were made available prior to the final public meeting were amended after the final public meeting was held; and
 - The project proposal was altered in response to comments received from members of the public, Aboriginal communities, municipalities, local roads boards and local services boards.

The following sections describe how the required content can be presented in the Consultation Report.

3. Summary of Consultation Activities and Timing

It is recommended that the Consultation Report include a summary list or table of all the consultation activities (e.g. notices issued, meetings held, documents made available) undertaken that indicates the timing of each activity. This summary, supported by the evidence in other sections of the report, will allow the Ministry to review how the application meets all regulated timing of consultation activities. Such a summary will also allow the public and other interested stakeholders to quickly review the consultation program undertaken in respect of the project when the Consultation Report is made available at the time of submitting a complete application.

4. Reporting on Aboriginal Consultation

The Consultation Report must document activities undertaken to meet all requirements for Aboriginal consultation under O. Reg. 359/09. As noted in Part 1, the Ministry of the Environment is developing specific guidance on Aboriginal consultation that will provide further direction on how to report on consultation activities. As a brief overview of the minimum requirements for reporting on Aboriginal consultation, applicants should include the following in their consultation report:

- Evidence of all correspondence sent to Aboriginal communities to notify them of the project, to provide the Project Description Report and summaries of other key reports, and to request information about how the project may impact an Aboriginal or treaty right.
 - Evidence should include copies of the correspondence itself.
 - Evidence should indicate the date that the correspondence was sent so that the Ministry can ensure regulated minimum timelines were met.
- All written comments received by the applicant as a result of the correspondence with each community.
 - This could include meeting notes from meetings held with communities.
- A discussion of the aspects of the project proposal that were changed in response to comments received from Aboriginal communities, if any.
 - This discussion should also reference any changes to draft project documents that were made as a result of a change to the project proposal.

5. Reporting on Public Consultation

The Consultation Report must document activities undertaken to meet all requirements for public consultation under O. Reg. 359/09. Requirements for public consultation are described in Part 1 of this chapter. When reporting on public consultation in the Consultation Report, key information that should be provided includes the following:

Evidence of Public Notice and Public Meetings

- Evidence that all public notices were published, posted or given to persons in the manner required by subsection 15 (6) of O. Reg. 359/09, including a description of where, when, how and, if appropriate, to who those notices were published, posted or given.
 - Evidence should include copies of the notices themselves.
- A description of all public meetings held in respect of the project including the date they were held, the location and timing of the meeting.
 - A description of the meeting format (e.g. what and how information about the project was presented, how comments were solicited and questions answered) as well as the number of people who attended should also be included in the Consultation Report.
 - Applicants should consider including any materials presented at public meetings, such as presentations, if appropriate.

Evidence of Documents Made Available to the Public

- To demonstrate that project documents were made available to the public in accordance with the requirements of O. Reg. 359/09, evidence of document dissemination must be included in the Consultation Report.
 - In most cases this can be achieved by including a copy of the notice of public meetings issued. These notices should indicate the locations that documents were made available.

Summary of All Comments Received

- All comments received by the applicant at the public meetings (verbally and in writing) should be summarized.

- The summary should capture all issues raised.
- Written submissions from the public should be included as an appendix.

- All other comments received outside of consultation meetings should also be included or summarized. This could include written comments sent to the applicant by members of the public or through other interactions outside of the formal public meetings.

PROTECTING PRIVACY AND PERSONAL INFORMATION

Applicants should consider their obligations under the federal Personal Information Protection and Electronic Documents Act (PIPEDA) to protect personal information that may be obtained through consultation activities. For instance, an applicant may choose to modify the Consultation Report so that it does not include personal information (e.g. names, addresses or contact details on comments received) to allow for publication of digital reports to the applicant's website in accordance with section 15.1 of O. Reg. 359/09. Applicants should review the requirements of PIPEDA and seek legal advice if required.

- For more information about PIPEDA, visit the Office of the Privacy Commissioner web site at www.priv.gc.ca/index_e.cfm.

Applicants should also note that copies of a complete REA application and any correspondence submitted to the Ministry of the Environment form part of a file that will be maintained by the ministry. This file is subject to the Freedom of Information and Protection of Privacy Act (FIPPA) and information about an application may be accessible to the public in accordance with FIPPA.

- For more information about FIPPA, visit the Access and Privacy Office website at www.accessandprivacy.gov.on.ca.
-

Description of How Comments were Considered

- After summarizing all comments, the applicant must describe how all comments (or principal issues covered by multiple comments) were considered.
- If a comment or issue was not addressed through a change to the project proposal (including facility construction, operation, monitoring, or decommissioning activities), rationale should be provided as to why a change was not warranted.
- If a comment or issue was addressed through a change to the project proposal (including facility construction, operation, monitoring, or decommissioning activities), the change must be noted.
 - Where report documents were modified as a result of changes to the project proposal, the changes should be noted and referenced in the Consultation Report.
 - Rationale should also be included to describe how the change to the project proposal will address the issue raised by in the comment(s) received.

5.1 Reporting on Consultation with Other Stakeholders

The Consultation Report should also provide a record of comments and correspondence received in relation to consultation with other stakeholder organizations such as:

- Other provincial agencies such as the Niagara Escarpment Commission and local conservation authorities
- Agencies of the federal government
- Other agencies, boards or organizations with a permitting or certification role at the provincial or national level, as applicable (for instance, those with contact information listed in Appendix 2)
- Other organizations interested in the project such as advocacy or community groups

By including a record of consultation with other stakeholders the applicant can refer to such consultation in respect of how potential negative environmental effects described in the Project Description Report were evaluated. For instance, the applicant may identify that there is potential for negative environmental effects related to the proximity of the project to lands adjacent to a river which are affected by flooding hazards (e.g. for an anaerobic digestion facility, potential for biomass storage areas to contaminate floodwaters in an emergency event). In this case the applicant should engage in consultation with the local Conservation Authority or the Ministry of Natural Resources early in the process to determine if project siting is appropriate to minimize risks related to flooding. A record of this consultation, for instance including correspondence from MNR or the Conservation Authority describing the risks associated with the project location, could be referred to when the applicant makes conclusions regarding the significance of these potential effects.

6. Reporting on Municipal Consultation

The Consultation Report must document activities undertaken to meet all requirements for municipal consultation under O. Reg. 359/09. Requirements for municipal consultation, including the use of the municipal consultation form are described in Section 5 in part 1 of this chapter. When reporting on municipal consultation in the Consultation Report, key information that should be provided includes the following:

Municipal Consultation Forms

A municipal consultation form must be provided to each municipality, local service board and local roads board in which the project is located according to the regulated timelines in O. Reg. 359/09 (i.e. at least 30 days in advance of either the first public meeting or, if public meetings are not required, at least 30 days in advance of an application being made to the REA Director. The regulated timelines allow municipalities to have time to complete their part of the municipal consultation form to bring forward issues related to municipal servicing and infrastructure that the applicant must consider.

To demonstrate to the Ministry of the Environment that the municipal consultation form was distributed to municipalities and local authorities in accordance with O. Reg. 359/09, the applicant should include evidence of form distribution, including the date of distribution. This can be achieved by including copies of correspondence sent to/received from the municipality in respect of the form.

Applicants who receive a municipal consultation form back from a municipality or local authority must include the form, as received, in the Consultation Report. This includes any correspondence or other reports attached to the form to elaborate on information provided in the form.

Other Municipal Consultation Activities

While the municipal consultation form is the principal formal request for comments from municipalities and local authorities, applicants may conduct additional municipal consultation activities. More detailed discussion of the resolution of municipal issues may occur in correspondence outside of the municipal consultation form or through meetings with municipal staff or members of municipal council. If the inclusion or description of additional correspondence or meetings

may assist the ministry in understanding how municipal concerns were addressed during project planning, these should be included in the Consultation Report.

Description of How Comments were Considered

The applicant must describe how all comments received through the municipal consultation form or through additional municipal consultation activities were considered.

- If a comment or issue was not addressed through a change to the project proposal (including facility construction, operation, monitoring, or decommissioning activities), rationale should be provided as to why a change was not warranted.
 - Rationale can include correspondence or records of discussions with a municipality or local authority that support the applicant's decision to not change the proposal.
- If a comment or issue was addressed through a change to the project proposal (including facility construction, operation, monitoring, or decommissioning activities), the change must be noted.
 - Where report documents were modified as a result of changes to the project proposal, the changes should be noted and referenced in the Consultation Report.
 - Rationale should also be included to describe how the change to the project proposal will address the issue raised by in the comment(s) received.
 - Rationale can include correspondence or records of discussions with a municipality or local authority that support the applicant's chosen approach to address the issue.

Chapter 3

Required setbacks for wind turbines

1. Purpose of this Chapter

The purpose of this chapter is to clarify the setback prohibitions under the Renewable Energy Approval (REA) Regulation (O. Reg. 359/09) as they apply to locating wind turbines near noise receptors, property lines, and road or railway right of ways. Setbacks are specified minimum horizontal separation distances between the centre of the base of a turbine and a noise receptor, property line, or road or railway right of way of interest. O. Reg. 359/09 specifies additional setback requirements for renewable energy facilities related to natural features and water bodies and these are discussed in Chapter 1.

This chapter does not pertain to off-shore wind facilities. Please refer to section 1.2 of Chapter 1 for more information about off-shore wind.

In some circumstances the two defined points may not be at the same level with respect to elevation from the ground. An example would be a turbine on a hill where the noise receptor is at a lower elevation. For the purpose of complying with the setback requirements of O. Reg. 359/09, in all cases setback distances should be measured as horizontal distances at ground level. The use of UTM coordinates for demonstrating the locations of noise receptors and turbines when preparing REA reports is recommended to assist evaluation of the horizontal distance.

1.1. Measuring Setback Distances

All setback distances refer to a length between two defined points, for instance the centre of a building (for a noise receptor) and the centre of the base of a turbine.

2. Noise-Based Setbacks

Setbacks for noise have been established in regulation for all land-based wind facilities generating $\geq 50\text{kW}$ and using one or more turbines with a sound power level $\geq 102\text{ dBA}$ (subsection 54(1) of O. Reg. 359/09). Facilities that have a lower nameplate capacity or use turbines with lower sound power levels are not subject to minimum noise setbacks, though they may still require a Renewable Energy Approval (REA) and may be subject to the property line and road or railway setbacks. Greater detail on the information required for describing potential negative environmental effects from noise for small wind projects (Class 2 and 3) is given in Section 5.5 of Chapter 4 which provides guidance on preparing the Project Description Report (PDR).

2.1. Minimum Setbacks

All wind turbines that meet the criteria of subsection 54(1) of O. Reg 359/09 as described above, must be located at least 550 meters (m) from the nearest noise receptor. The only exception to this is if a turbine is located near a noise receptor where the ambient noise from road traffic is consistently greater than 40 dBA. This exception is discussed in Section 2.4 of this bulletin.

The minimum setback of 550 m was developed by modeling propagation of turbine noise towards a receptor. Wind conditions, and other factors affecting

sound propagation were selected to represent a worst-case scenario to give a conservative estimate of setbacks. Further detail on the rationale and modeling methodology used to arrive at noise setbacks is provided in the Ministry of the Environment's 2009 publication "*Development of Noise Setbacks for Wind Farms*" (Publication #7394e).

2.2. Definition of Noise Receptors

Noise receptors are defined in O. Reg. 359/09 as "the centre of a building or structure that contains

one or more dwellings” or “buildings used for an institutional purpose including an educational facility, day nursery, health care facility, community centre or place of worship”. A dwelling is further defined in O. Reg. 359/09 to mean “one or more habitable rooms used or capable of being used as a permanent or seasonal residence by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities”. Examples of buildings that the MOE would consider dwellings include residences, hotels/motels, and nursing/retirement homes. Public or privately owned campsites or campgrounds are also included in the definition of noise receptors.

In addition to existing buildings, those that are planned for construction and have been issued a building permit under the Building Code Act or received site plan approval under the Planning Act, are also considered to be noise receptors. Section 2.5 below provides details around the timing considerations for including noise receptors, including noise receptors resulting from the issuance of building permits.

Since there are a range of uses of buildings that may or may not be interpreted to fit the definition of a dwelling, further guidance on this interpretation is provided in the following paragraphs.

The goal of the 550 m minimum setback between turbines and noise receptors is to limit noise at buildings where permanent or seasonal residency is possible and likely to occur. Rudimentary buildings or structures built to allow temporary or intermittent uses such as short term use for hunting are not considered dwellings. The criteria that assist in making this determination include:

- Presence of equipment for supplying potable water through connection to a drinking water supply system (i.e. municipal supply) or the establishment of a functioning well or surface water intake/treatment for human consumption
- Presence of equipment used to manage sanitary sewage such as a connection to municipal sewer or septic system
- Connection to the electrical grid or the presence of equipment for lighting and heating capable of providing for long term overnight accommodation
- Pattern of use (frequency and duration of habitation)

It is important to note that the criteria above do not automatically rule out the consideration of rural dwellings or cottages that are not serviced by municipal infrastructure such as water and sewage or even those not connected to the electricity grid as noise receptors.

All noise receptors should be identified by the proponent through reasonable inquiry prior to conducting a wind turbine noise assessment, preparing a site plan as part of a Design and Operations Report or providing notice of the issuance of a Draft Site Plan (note: more detail on Draft Site Plans and timing implications for wind projects is provided in Section 2.5). If there is doubt that a particular building is a noise receptor, the applicant should make reasonable inquiry into the nature of the building and its use. Information about the criteria described above should be included as part of the Design and Operations Report and Noise Assessment. This information should justify any determination that the building is not a noise receptor.

For calculation of setback distances, the centre of the building is used to locate the position of the noise receptor.

2.2.1. Participating vs. Non-Participating Land Owners

Setback distances apply to noise receptors if they are located on land owned by a non-participating land owner. Noise receptors on land owned by a proponent of a wind energy facility or by someone who has entered into an agreement to permit all or part of the facility on a parcel of their land are considered “participating” land owners as per subsection 1 (6) of O. Reg. 359/09. Participating land owners are not considered noise receptors for the purposes of determining noise setbacks. As a result, the 550 m setback between wind turbines and a participating receptor is not required by regulation.

It must be emphasized that to be considered a participating receptor, all or part of the facility (e.g. turbine, transmission line, road) must be constructed on the property in question. Thus the concept of a participating receptor does not apply to lease options that do not result in the construction of facility components or other agreements to waive the 550 m setback distance in consideration of financial compensation or other arrangements.

Further to this, while participating land owners are not subject to the minimum setback distances in O. Reg. 359/09, both land owners and wind energy developers should consider potential noise impacts when entering into agreements to site turbines. The Ministry of the Environment has based the regulatory approach to noise on a 40 dBA outdoor night time noise limit. This limit should be considered when discussing turbine placement on land where participating noise receptors exist. Participating land owners and developers are responsible for

negotiating the terms of agreements, which can include specified setback distances from residences or property lines, and all parties should do their own due diligence regarding the content of such agreements.

Figure 7 is a conceptual diagram demonstrating the applicability of noise setbacks as well as setbacks relating to property lines and roadways as discussed in subsequent chapters.

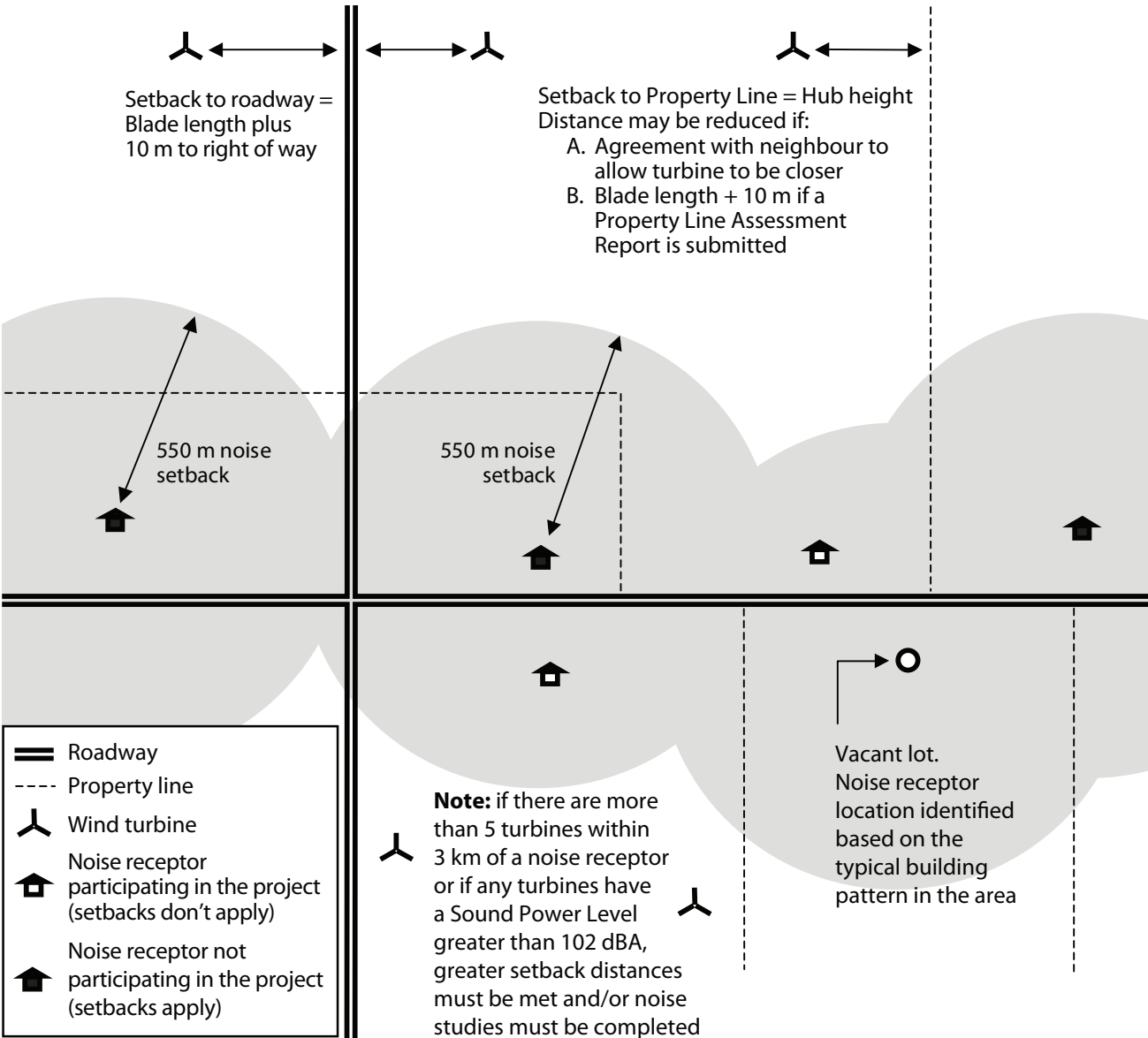


Figure 8. Diagram of various setback requirements for wind turbines in Class 4 facilities

2.2.2. Vacant Lots

REA setbacks also protect future use of vacant land where that land is zoned to allow construction of potential noise receptors (e.g. a future residence). For the purposes of defining the location of a noise receptor on vacant land the applicant must specify the position on the lot where a building would reasonably be expected to be located, having regard to the existing zoning by-laws and the typical building pattern in the area. This approach is consistent with the Ministry of the Environment's *"Noise Guidelines for Wind Farms"* (October 2008, Publication #4709e).

Where a future noise receptor is expected to be institutional in nature (e.g. a hospital or a school), the presumed locations of vacant lot noise receptors should be discussed with the MOE's REA team at an early stage of project planning.

The determination of the location of the noise receptor on the vacant lot for the purposes of O. Reg. 359/09 should be disclosed to the public as part of the draft Design and Operations Report that is made available to the public at least 60 days prior to the final public meeting.

In keeping with the intent to protect future use of land for the construction of a noise receptor, some parcels of vacant land may be located such that they are inaccessible and thus not likely to permit a noise receptor to be located there. Applicants do not need to define a noise receptor location on land that is inaccessible.

Under O. Reg. 359/09, an inaccessible vacant lot is defined as a vacant lot on private land that cannot be accessed by the owner now or in the future through the use of a road by a motor vehicle (as that is defined in the Highway Traffic Act) or that cannot be accessed by a watercraft.

Criteria that indicate inaccessibility of land include:

- No roads, suitable for the passage of a motor vehicle, are adjacent to any property line of the lot
- The lot does not border or contain access to a navigable waterway
- The land owner does not hold any legal rights (through an easement for example) to access the lot through a road suitable for the passage of a motor vehicle

2.2.3. Noise Receptors on Crown Land

In general, noise receptors shall be considered similarly whether they occur as permitted uses on Crown land or are located on privately owned land.

2.3 Multiple/Louder Turbines

Depending on the project specifics, a noise receptor may face cumulative impacts from the siting of multiple specified turbines (those specified according to the criteria of subsection 54(1) of O. Reg. 359/09). Increased setback distances have been calculated to reflect this combined impact based on the number of turbines within a 3 km radius of a noise receptor. Greater numbers of turbines within the 3 km radius result in higher required setback distances applied to the nearest turbine.

For the purpose of calculating the number of turbines within the 3 km radius, applicants must consider existing and proposed turbines with a sound power level greater than or equal to 102 dBA. This includes:

- Turbines proposed by the applicant as part of the wind facility
- Existing turbines from other wind facilities that fall within 3 km of the noise receptor
- Turbines proposed to be constructed in other wind facilities which have either been approved with a Renewable Energy Approval or Certificate of Approval issued by the Ministry of the Environment
- Turbines that are being planned to be constructed that meet the following conditions:
 - Turbines in other wind facilities where a notice of proposal for a Renewable Energy Approval has been posted to the Environmental Registry (www.ebr.gov.on.ca)
 - Turbines that are described in an Environmental Screening Report or an Environmental Review Report made available under the Environmental Screening Process pursuant to O. Reg. 116/01 under the Environmental Assessment Act
 - Turbines that are described in a Draft Site Plan issued in accordance with section 54.1. of O. Reg. 359/09. (See section 2.5 for more detail on the issuance of a Draft Site Plan)
 - Turbines that were identified before January 1, 2011 in information made available to the public by publishing the locations of the wind turbines in a newspaper or on a person's website, if the person has a website, or by disclosing the locations at a public meeting required to be held under section 16

If other projects are being proposed in proximity to an applicant's proposed project location, consultation with all neighbouring developers is strongly recommended.

Working together to manage potential turbine layout changes may be advantageous for all parties in meeting the setback requirements at the time of application.

Setbacks have also been adjusted to account for differences in the sound power level emitted from various turbine models available on the market. Sound power level is a specification of turbine design determined by the manufacturer through calculation in accordance with standard CAN/CSA-C61400-11-07, “Wind Turbine Generator Systems – Part 11: Acoustic Noise Measurement Technique”. Specifications for sound power level used for determining setbacks correspond to the sound emitted while operating at 95% of the nameplate capacity rounded to the nearest whole number. If different turbine types are used in a wind energy facility the sound power level of the loudest turbine is used for determining noise setback distances applied to the project as a whole.

The range of setbacks for wind facilities with one or more specified turbines is given in section 55 of O. Reg. 359/09 and summarized in Table 1:

Sound power level	Number of turbines within 3 km			
	1–5	6–10	11–25	26+
102 dBA	550 m	650 m	750 m	Noise study required
103–104 dBA	600 m	700 m	850 m	
105 dBA	850 m	1000 m	1250 m	
106–107 dBA	950 m	1200 m	1500 m	
>107 dBA	Noise study required			

Table 1: Setback distances for multiple turbines and various turbine sound power levels

Table 1 illustrates the closest distance the centre of the base of any turbine can be to a noise receptor. While the minimum setback of 550 m must be met in all cases, proponents are given the option of conducting a noise study to prove that siting turbines closer than the setbacks in Table 1 will not cause adverse effects. Such a study must be prepared in accordance with the Ministry of the Environment’s 2008 “Noise Guidelines for Wind Farms”. A Noise Assessment Report demonstrating that reduced setbacks comply with these guidelines must be submitted as part of the REA application.

As indicated in subsection 54(4) of O. Reg. 359/09, Noise Assessment Reports prepared in accordance with the Ministry’s “Noise Guidelines for Wind Farms” are also required under any of the following circumstances:

- If a wind energy facility is comprised of 26 or more specified turbines (unless all turbines have a sound power level < 102 dBA);
- If the project would result in 26 or more specified turbines located within a 3 km radius of a noise receptor; or
- If any of the turbines in a wind energy facility have a sound power level greater than 107 dBA.

2.4 Exception when Ambient Noise is >40 dBA due to Road Traffic

Road traffic can cause ambient sound levels at noise receptors to be greater than the minimum levels used as a basis for the noise setbacks. If traffic noise causes the lowest hourly ambient sound level at a receptor to exceed 40 dBA, a reduced setback may be used.

As per subsection 54(2) of O. Reg. 359/09, to rely on this exception in respect of a particular noise receptor, applicants must measure or calculate hourly ambient sound levels at the receptor when wind speeds are less than 4 m/s. This analysis must be performed in accordance with the Ministry of the Environment’s publication “Sound Levels due to Road Traffic” CNPC-206 (1995, Publication #3407e).

If the measurements or calculations of the analysis establish that the ambient noise from road traffic is greater than 40 dBA, this hourly ambient sound level produced by road traffic becomes the new limiting value. Consequently, the applicant may determine an appropriate reduced setback distance. This is done by conducting a noise study and submitting a report in accordance with the Ministry of the Environment 2008 publication “Noise Guidelines for Wind Farms”. The report must demonstrate that the wind turbine location will not result in noise greater than the lowest hourly ambient sound level at the receptor.

Both the analysis of ambient noise from road traffic and the noise study report in accordance with the 2008 “Noise Guidelines for Wind Farms” must be submitted as part of an application for a REA.

2.5. Issuance of a Draft Site Plan to Clarify Noise Receptor and Turbine Locations

In order for an applicant to propose a turbine layout that demonstrates compliance with the setback requirements of sections 35, 54 and 55 of O. Reg. 359/09, the locations

of noise receptors and existing or proposed turbines from other wind projects must be known. However, the presence and location of both noise receptors and other proposed turbines can change over time. For instance, a landowner may obtain a building permit to construct a residence on a previously vacant lot. Similarly, a neighbouring wind facility proposal may be announced with turbines sufficiently close to influence the cumulative analysis of noise on a particular receptor. In light of this potential for change, both the public and REA applicants need clarity about the time in which the noise landscape will be fixed so that an application can be reviewed appropriately. This timing must balance the need for applicants to have certainty for finalizing REA documents with the need for the application to reflect the normal changes to the landscape that evolve over time through development.

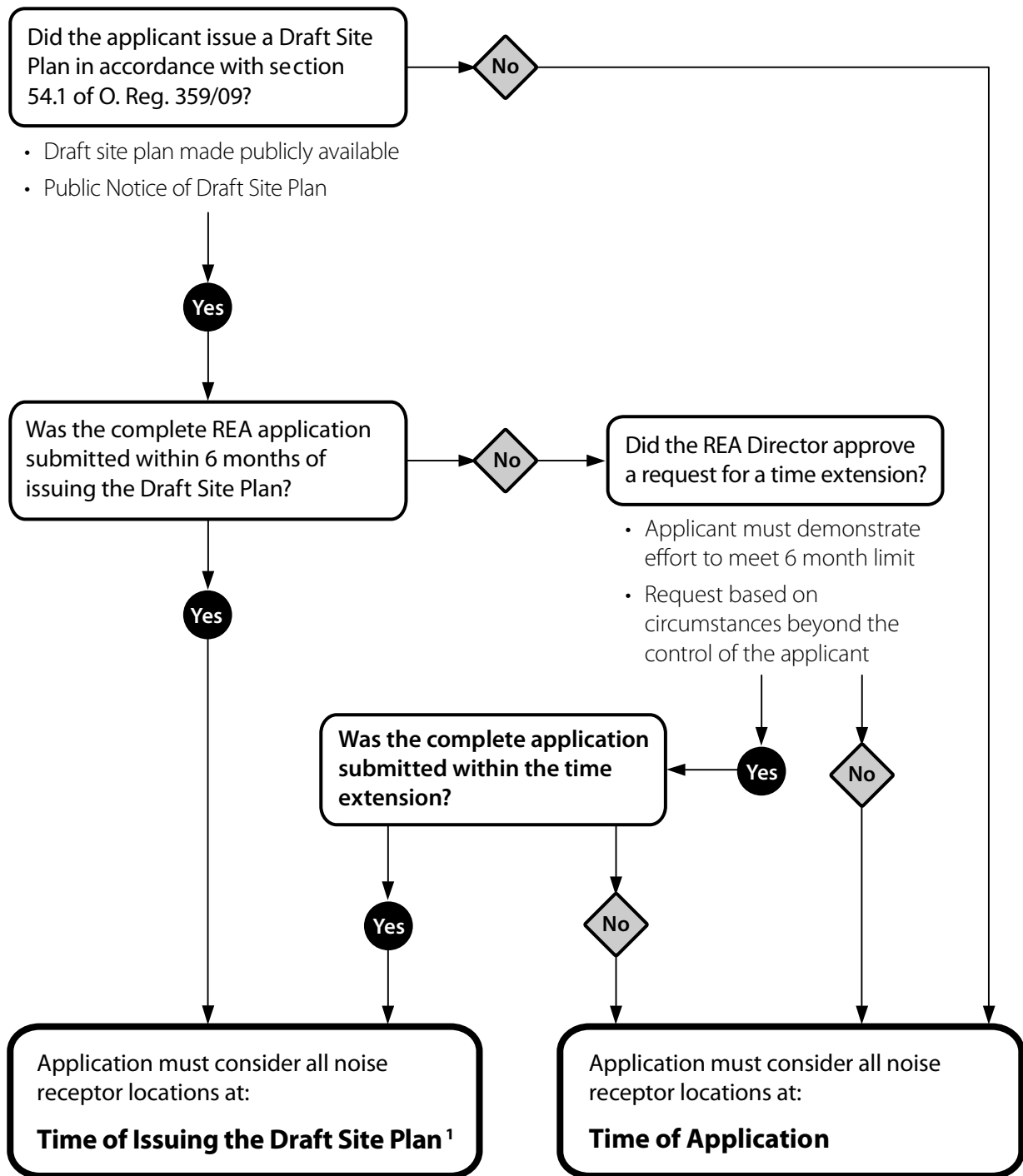
Note for projects initiated prior to January 1, 2011

Noise receptor locations are also considered fixed for such projects if a turbine layout was made publicly available by the applicant publishing the turbine locations in a newspaper, on their website or disclosing the locations at a public meeting before January 1, 2011. For projects that meet this requirement, REA applications must be submitted within 6 months of January 1, 2011 (i.e. July 1, 2011) for the noise receptor locations to remain fixed. A time extension may be granted by the REA Director under the same conditions as for projects commenced after January 1, 2011 as given in section 2.5.5 below. If the project planning was commenced as part of the Electricity Screening Process under O. Reg. 116/01 under the Environmental Assessment Act, only the noise receptors that existed at the time the applicant issued a Notice of Completion must be considered under O. Reg. 359/09.

To provide this clarity, O. Reg. 359/09 specifies that applicants proposing wind projects may issue a Draft Site Plan in advance of submitting a complete REA application. The issuance of a Draft Site Plan is governed by a number of requirements pertaining to the content and method of notification/provision to the public, as defined in the subsections that follow. However, if all the requirements are met and a public notice is made regarding the issuance of a Draft Site Plan, the noise receptor landscape will be considered fixed on the day prior to publishing or posting the notice.

As described in section 2.3 above, the issuance of a Draft Site Plan will also indicate the locations of turbines which must be considered in the analysis of cumulative noise (e.g. through the setback matrix in section 55 of O. Reg. 359/09 or noise study) from multiple turbines in other nearby projects.

If no Draft Site Plan is issued for an application subject to the Renewable Energy Approval, noise receptors will be considered fixed as of the time of submitting an application. Figure 8 demonstrates conditions that determine at which point in time the noise receptor locations will be fixed.



¹ Specifically, noise receptors that existed on the day before a Draft Site Plan was issued

Figure 9. Decision diagram depicting how the issuance of a draft site plan and related requirements influences the time at which noise receptor locations are fixed for the purpose of an REA application in respect of a Class 4 wind facility

2.5.1. Rights to Private Land Must be Secured

In order to publish a notice of a Draft Site Plan, the applicant must hold sufficient property rights / access in respect of the privately owned land to permit the construction of the proposed turbines. This can include land ownership, leases, or other legal agreements that provide the applicant rights to construct or install the proposed turbines identified on the site plans.

2.5.2. Draft Site Plan Content

As described in section 54.1 of O. Reg. 359/09, the content of a Draft Site Plan released to the public for the purpose of fixing the locations of noise receptors must include one or more maps or diagrams that depict any of the following at the wind facility or within 300 metres of the facility:

- Buildings
- Structures (e.g. turbines, transmission or distribution lines, transformer substations etc)
- Roads
- Utility corridors
- Rights of way and easements
- Noise receptors that may be negatively affected by the use or operation of the facility

In addition to the maps or diagrams, a description of each item above identified in the diagram is required to be given.

To clearly convey all of the required content and to ensure other nearby projects are aware of the position of the proposed turbines when assessing cumulative noise, the following is recommended:

- Locations of all turbines should be mapped and provided in a table that indicates the UTM coordinates of turbines.
- Turbines from existing or proposed facilities should also be included.
- Noise receptors within an appropriate distance (the ministry recommends plotting all within 2 km of the project location) should be mapped and provided in a table that indicates the UTM coordinates of the noise receptors.

2.5.3. Content and Dissemination Requirements for the Public Notice of a Draft Site Plan

To issue a Draft Site Plan, an applicant must publish a public notice to inform the local public, Aboriginal communities and interested stakeholders. The notice must contain the following required content:

- The name of the person proposing to engage in the renewable energy project
- A brief description of the renewable energy project
- A map identifying the project location
- If the project location is situated in a local municipality, the date the notice of the Draft Site Plan was first published (for instance, date first published in a newspaper)
- The locations in each local municipality or in unorganized territory where members of the public can inspect paper copies of the Draft Site Plan
- A description of the legal effect of the issuance of the Draft Site Plan. This should include the legal effect with respect to the consideration of noise receptors and turbines proposed in other projects.

The notice of the issuance of a Draft Site Plan must be published in a number of locations and provided to a number of organizations/people as described below:

Publication

- If the project location is situated in a local municipality, the notice must be published in a newspaper with general circulation in the local municipality.
 - If the project is located in more than one local municipality the notice should be posted in a newspaper or newspapers with circulation in each local municipality.
- If the project location is in unorganized territory, the notice must be published in a newspaper with general circulation within 25 kilometres (km) of the project location.
 - If no newspaper exists, the notice must be posted in at least six conspicuous locations within 25 km of the project location.

- If it is reasonable to do so, the notice must be published in a newspaper printed by each Aboriginal community on the Aboriginal Consultation List or if the list has not been received, each Aboriginal community with reserve land within or abutting the project location.
 - The publication in a newspaper in an Aboriginal community requires the publisher of the newspaper to agree to the notice's publication.
- If the applicant has a website, the notice must be posted on the applicant's website.

Notice Provided To

- Notices must also be provided to:
 - Every assessed owner of land within 550 m of the project location
 - Every assessed owner of land abutting land on which the project is located (if not already caught by the 550 m requirement above)
 - Every Aboriginal community on the applicant's Aboriginal Consultation List or if the List has not been received, each Aboriginal community with reserve land within or abutting the project location
 - The clerk of every local and upper-tier municipality in which the project is located
 - The secretary-treasurer of each local roads board of a local roads area in which the project location is situated
 - The secretary of each local services board of a board area in which the project location is situated
 - The secretary-treasurer of a planning board that has jurisdiction in an area in which the project location is situated
 - The chair of the Niagara Escarpment Commission, if the project location is in the area of the Niagara Escarpment Plan
 - The Ministry of the Environment's REA Director as well as the MOE's district manager in each district in which the project location is situated

2.5.4. Dissemination of the Draft Site Plan

The Draft Site Plan must be made available within 5 days of publishing or posting the notice described above. The locations where the Draft Site Plan must be made available are:

- On the applicant's website, if one exists
- In paper copy at a public location within each local municipality or part of unorganized territory, as applicable
- In each Aboriginal community on the applicant's Aboriginal Consultation List or if the list has not been received, each Aboriginal community with reserve land within or abutting the project location
 - The Aboriginal community must agree to the applicant making this available in the community
- To the Ministry of the Environment's REA Director

2.5.5. Limitations on the use of Draft Site Plans

To ensure that Draft Site Plans are not used inappropriately, there are two important limitations on their use. First, a site plan may only be published once in respect of a project. Second, applicants are required to submit their application for a REA within six months of publishing or posting the Draft Site Plan. If this timeline is not met, new noise receptor locations established or moved during the time between the Draft Site Plan and final submission must be accounted for in the REA application.

To allow for flexibility in the event of circumstances that are beyond the control of the applicant, the applicant may, during the initial six month period, request that the Director grant a one-time extension to this six month period. In so doing the Director must be satisfied that the applicant made all reasonable attempts towards submitting an application within six months and that there were circumstances beyond the control of the applicant that caused the delay.

3. Setbacks from Property Lines

To ensure safety on neighbouring properties all wind energy facilities with a nameplate capacity of 50 kW or greater (Classes 3, 4, and 5 in O. Reg. 359/09) must be located a minimum setback distance from neighbouring property boundaries. This distance is equivalent to the height of the turbine which is considered as the distance from the ground to the top of the turbine hub without including the blades. As with noise setbacks, the distance is calculated from the centre of the base of the turbine to the nearest property boundary.

The property boundary setback does not apply to a boundary where the abutting property is owned by:

- The proponent of the wind energy facility; or
- A person who has entered into an agreement with the proponent that permits the location of a wind turbine closer than the turbine height. It is recommended that any agreements with landowners provide sufficient detail to meet this requirement.

In the absence of an agreement with a neighbouring land owner specifically permitting a closer setback, the proponent may consider applying to reduce the property line setback to the length of the turbine blade plus 10 metres. In order to do so, the REA application must

include a Property Line Setback Assessment Report. This report must be developed to demonstrate that siting the turbine in such a location will not result in any adverse impacts on neighbouring businesses, infrastructure, or land use activities. Specifically, this assessment should evaluate the land use in the vicinity of the turbine. This should confirm the presence of structures (i.e. barns, storage buildings, stables) and if there will be any expected adverse impacts associated with the turbine being located closer than the turbine hub height setback. If there are potential adverse impacts, a description of preventative measures to address the potential adverse impacts must be included. Such an assessment must be performed separately for each turbine that is sited within the specified property line setback.

4. Setbacks from Roads and Railways

Safety setbacks from public roads and railways are also required for wind facilities 50 kW and greater (classes 3, 4, and 5 in O. Reg. 353/09). Turbines must be located a minimum distance of the blade length plus 10 m from the boundary of the right-of-way for any public road or railway. This is a requirement for which there is no exception.

5. Setbacks for Associated Transformer Substations

Transformer substations that are part of a wind facility and are capable of operating at a nominal voltage of 50 kV or more require siting considerations to avoid impacts from transformer noise. To mitigate noise impacts transformers can be set back 1000 metres from the nearest noise receptor. An alternative setback of 500 metres is permitted if the transformer is surrounded by an acoustic barrier with a density of 20kg/m². The acoustic barrier must break the line of sight from top of the transformer to the nearest noise receptor.

As a further alternative, the proponent of a wind facility may opt to submit a noise study in accordance with the Ministry of the Environment's 2008 *"Noise Guidelines for Wind Farms"* that covers the noise from the transformer.

For the purpose of identifying noise receptors at Class 4 wind facilities that may be impacted by noise from transformer substations, these are subject to the same noise receptor rules discussed in Section 2.5 in respect of wind turbines.

6. Guidance for Demonstrating Adherence to Setbacks

To enable the Ministry of the Environment to evaluate how a proposed wind energy project meets the setback requirements described in O. Reg. 359/09, information on the project location must be included in the REA application. A Design and Operations Report is required for all wind facilities with nameplate capacity 50 kW and greater. This report must include information that clearly demonstrates compliance with setbacks. To do this, the following information must be provided in a description, map or diagram of the distance between the centre of the base of any wind turbine and:

- Any public road rights of way or railway rights of way that are within a distance equivalent to the length of any blades of the wind turbine, plus 10 metres;
- All boundaries of the parcel of land on which the wind turbine is constructed, installed or expanded within a distance equivalent to the height of the wind turbine, excluding the length of any blades; and
- The nearest noise receptor.

On the Site Plan

- The location of all turbines (including turbine identification number/code)
- The location of all transformers
- The location of all “non-participating” noise receptors (including noise receptor identification number/code)
- All property lines, public roads and rail right of ways
- The location of all other project components that comprise the wind energy facility and the project location boundary
- The outer boundaries and classification of all natural features and water bodies
- Linear representation of setback distances

The site plan must clearly show that turbines are located outside of the noise, property line, and road/ railway setbacks. Setbacks from the boundary of the project location to natural features and water bodies should also be demonstrated. Where setbacks are not met through preparation of a noise assessment, property line setback assessment, environmental impact study, water body assessment or through an agreement with a neighbouring landowner in respect of property line setbacks, this should be referenced

and the studies and/or evidence of agreements provided as part of the complete application.

In a Table or Tables

- A list of all turbines with identification numbers/codes
- The location of turbines in UTM coordinates
- The make and model of all turbines
- The identification number/code of the nearest noise receptor and the distance to the turbine
- Distances from the centre of the base of the turbine to the closest noise receptor, all property lines (regardless of agreements), and road and railway right of ways for each turbine

If adhering to the noise setback matrix for greater numbers of turbines a separate table should be included with:

- All noise receptors with identification numbers/codes
- The number of turbines within a 3 km radius of each noise receptor
- The identification number/code of the closest turbine to the noise receptor
- The distance to the nearest noise receptor

Chapter 4

Guidance for preparing the Project Description Report

1. Purpose of the Project Description Report (PDR)

The Project Description Report (PDR) is the central summary document for an application for a Renewable Energy Approval (REA). It is required for all proposed renewable energy projects if they require a REA under O. Reg. 359/09. The PDR is a critical document for the purpose of reviewing an application since it will include a brief description of a renewable energy project and all potential negative environmental effects that may result from the project. It is also a critical document for the purpose of consultation since the PDR will be a window into the content of the additional project reports, summarizing the proposed activities and potential effects that will be of interest to stakeholders and the public. The PDR will also be used by the ministry to post a proposal notice on the Environmental Registry when a complete application is submitted. The sections that follow in this chapter will outline how the PDR content will be used to play this important role.

It should also be noted that as the central summary document for the project, the PDR may also be reviewed in relation to other authorizations from other provincial ministries or approval agencies, if such additional permits are required. Local Conservation Authorities may also issue permits related to certain project activities and the PDR could be used as a tool for related applications. It is recommended that in the PDR applicants consider including additional information required for other approvals, where appropriate.

2. Overview of PDR Content

The PDR provides information about the proposed renewable energy project by setting out a description of the following required information (as per Table 1 of O. Reg. 359/09):

1. Any energy sources to be used to generate electricity at the renewable energy generation facility
2. The facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity
3. If applicable, the class of the renewable energy generation facility
4. The activities that will be engaged in as part of the renewable energy project
5. The nameplate capacity of the renewable energy generation facility
6. The ownership of the land on which the project location is to be situated
7. If the person proposing to engage in the project does not own the land on which the project location is to be situated, a description of the permissions that are required to access the land and whether they have been obtained
8. Any negative environmental effects that may result from engaging in the project
9. An unbound, well marked, legible and reproducible map that is an appropriate size to fit on a 215 millimetre by 280 millimetre page, showing the project location and the land within 300 metres of the project location

When an application is submitted, the ministry will conduct a completeness review to ensure information has been provided on each of these topics. Section 3 of this chapter provides greater detail on the information expected to be provided under each of the requirements above in a PDR submitted as part of a complete application for a REA.

2.1 Use of the PDR as a Draft Document

The PDR is a key document for consultation throughout the development of the project. For most classes of facilities draft versions of the PDR must be published or submitted for the following purposes:

Purpose ¹	Timing Constraints (if any)
For submission to the Ministry of the Environment (REA Director) so the ministry can identify the Aboriginal communities that must be consulted about the project	Prior to all other consultation activities
For circulation to all Aboriginal communities identified by the ministry	Prior to issuing any public notices about the project
For public and municipal consultation in advance of the first public meeting	Made available at least 30 days prior to the first public meeting
Drafts may be made available during additional consultation meetings	N/A
For municipal consultation	At least 90 days in advance of the final public meeting
For public consultation in advance of the final public meeting	At least 60 days in advance of the final public meeting
A final version submitted as part of a complete application for a Renewable Energy Approval	At the time of submitting a complete application

¹ These requirements for publication and submission do not apply to certain facility classes such as Class 2 wind and certain bio-energy facilities. Please refer to Section 7.2.1 of Chapter 1 for complete details on requirements for publishing and submitting the PDR.

Note that the draft PDR may also be useful in providing information to other regulatory agencies for the purposes of obtaining additional permits or approvals as required. For instance, if the project is proposed to be located on Crown land, the applicant is encouraged to provide a copy of the draft PDR to those with Crown interests (i.e. mine claim holders, licensed bait fish operators, licensed trappers, etc.) to facilitate discussion.

2.1.1. Draft Content

The content of the drafts may continuously evolve from the first version that is submitted to the MOE to obtain an Aboriginal contact list towards the point of finalizing the PDR when submitting a complete application. For instance, as the project moves forward the description of the project and its potential negative environmental effects will be refined from the conclusions of required technical investigations and from comments received during consultation. While draft PDRs will provide a detailed description of all anticipated negative environmental effects, the final submitted PDR will reflect the final project description and final conclusions about the likelihood and magnitude of these effects.

As the PDR is finalized and additional project reports are drafted, the PDR becomes an executive summary

of the project. As a summary report, the PDR will be a useful tool for later stage public consultation such as for the final public meeting and for consultation during the application review phase through the Environmental Registry proposal notice posting. For this reason it is important that the final PDR contains a comprehensive summary of the project including repetition of the key information from other reports such as the Design and Operations Report.

At all stages (drafts and final) the PDR should include sections or chapters covering all the required PDR contents specified in Table 1 of O. Reg. 359/09. In reading the subsequent sections of this chapter which further clarify the information needed in the PDR, applicants should be aware that the level of detail indicated reflects that which would be required for the final submitted PDR. As discussed above, earlier draft versions of the PDR may contain a level of detail consistent with the applicant's progress to complete studies and investigations required for the REA.

In considering this evolution of the PDR, applicants should also be aware that some project changes may have a significant impact on the regulatory requirements that must be met. For example, if refined information about a wind turbine sound power level or nameplate capacity causes the project to be reclassified according

to the REA classes, this could add significant new requirements for the project. Applicants should exercise caution when proposing projects that have technical specifications near to the triggers for REA classes. If such a proposal is being made, it would be prudent for the applicant to confirm the Class of project prior to proceeding too far along the REA application process. In fact, this recommendation applies broadly to the proposal of renewable energy facilities: applicants should not start the approval process until they have a solidified project concept to avoid triggering new requirements part way through the project if the proposal changes significantly.

2.1.2. Specific Guidance for the Preparation of a Draft PDR to Obtain a List of Communities for Aboriginal Consultation

The purpose of this section is to provide specific direction on the information needed in a draft PDR for the purpose of obtaining a list of Aboriginal communities for consultation.

The Crown has a duty to consult all Aboriginal communities that have existing or asserted Aboriginal or treaty rights that may be adversely affected by a Crown decision. The Crown has delegated procedural aspects of this duty to the applicant through various provisions of O. Reg 359/09. With the exception of Class 2 wind projects, all REA applicants are required to obtain a list of Aboriginal communities to consult from the REA Director. To determine the communities on the list, the Director will rely on information provided in the draft PDR submitted for this purpose. Therefore, the draft PDR must include enough detail about the project to determine if there is a potential impact on an existing or asserted Aboriginal or treaty right or if an Aboriginal community is otherwise interested in the potential negative environmental effects of the project.

As with all draft PDRs, the draft submitted for an Aboriginal Contact List should include sections or chapters covering all of the required PDR contents specified in Table 1 of O. Reg. 359/09. However, two components of the report will be of greatest use for determining potential impacts on Aboriginal rights or interests and require emphasis. These are:

- The description of potential negative environmental effects
- The project location and the land use in the vicinity of the project location

While the applicant's assessment of the likelihood or magnitude of potential negative environmental effects could change as the project moves towards a complete submission, it is important for the draft PDR to include all negative effects that could potentially occur. The draft PDR should go further than simply listing effects; a description should indicate as much information as possible about the cause of the effect as well as how and where the effect will manifest in the environment. It is also important that all categories of negative environmental effects discussed in Section 5 of this chapter are considered. If the applicant believes that a negative environmental effect has no potential to occur, the draft PDR should include an explanation of how this determination was made.

The level of detail required for describing project equipment and activities in the draft PDR should reflect needs for identifying and describing potential negative environmental effects. If the project has not been defined in adequate detail to describe all potential negative environmental effects, the draft PDR may be returned for further clarification prior to the ministry providing the list of Aboriginal communities to consult. This is illustrated in the following examples:

Example 1

The applicant is proposing a large solar farm and it is uncertain if a water taking may be needed during construction of the project. The applicant is therefore not able to describe potential negative environmental effects related to water taking.

RECOMMENDED APPROACH

In this case the applicant should advance the design of the project to the point where the water taking can be confirmed or excluded. This will allow the applicant to consider and describe any negative environmental effects in the draft PDR to an extent that would be sufficient for the Ministry of the Environment to provide an Aboriginal consultation list.

Example 2

The applicant is proposing a wind energy facility with six 1.5 MW turbines but has not confirmed the exact turbine model that will be procured for the project. The applicant can confirm that all models under consideration have a similar design and noise output.

RECOMMENDED APPROACH

In this case the applicant can define the potential negative environmental effects (e.g. noise, potential impacts on birds and bats, others as determined by the applicant) based on the range of equipment under consideration. The uncertainty about turbine model should not prevent submitting the draft PDR for the purpose of obtaining an Aboriginal Consultation List.

The key difference between Example 1 and Example 2 is that in 2 the negative effect can still be described with the level of detail provided. In Example 1, an important project activity is not confirmed and thus the negative environmental effects can not be described. Applicants should bring their project planning far enough along to be able to describe all potential negative environmental effects prior to completing a draft PDR.

As noted above, the project location and the land use in the vicinity of the project are also important in determining if the potential negative environmental effects of the project may impact the exercise of an existing or asserted Aboriginal or treaty right. Thus, a good quality map depicting the project and land within 300 m of the project is required in the draft PDR submitted for an Aboriginal Consultation List.

2.2. PDR Structure

The PDR is a key document for the purposes of consultation. The PDR should be structured clearly to help stakeholders interested in the project find information related to their interest or concern. It should also be structured in a manner that aids the MOE in

determining its completeness with respect to the regulated requirements in Table 1 of O. Reg. 359/09. To assist applicants in structuring the report to achieve these goals, the following draft outline is recommended:

- General Information (see Section 3)
 - o Name of the project and applicant
 - o The project location
 - o Description of the energy source, nameplate capacity, and the class of facility
 - o Contact information
 - o Other approvals required
 - o Federal involvement
- Project Information (see Section 4)
 - o Facility components
 - o Project activities
 - o Map of project location
 - o Land ownership
- Potential negative environmental effects (see Section 5)
 - o Heritage and Archaeological Resources
 - o Natural Heritage
 - o Water Bodies
 - o Air, Odour, Dust
 - o Noise
 - o Land Use and Resources
 - o Provincial and Local Infrastructure
 - o Public Health and Safety
 - o Areas Protected under Provincial Plans and Policies

The remainder of this chapter provides details on the information needed for the PDR, organized under these headings.

3. General Information

The section on general information should provide a project overview that states the key facts of the project. This section must include the information required in Table 1 of O. Reg. 359/09 related to:

- Any energy sources to be used to generate electricity at the renewable energy generation facility
- The nameplate capacity of the renewable energy generation facility
- If applicable, the class of the renewable energy generation facility

The section will also provide additional information about the project name, the project location, contact information, and other approvals required for the project including federal involvement if applicable.

The ministry will draw upon the General Information section to create an Environmental Registry proposal notice for public consultation during the ministry review phase of the REA process. For this reason, applicants are recommended to include all of the information noted in the sections below.

3.1. Name of the Project and Applicant

This section should indicate the name of the applicant as well as the names of any previous proponent of the project if the project had been publicly discussed by a different entity at an earlier stage.

The name of the project should be given, as well as any previous name used to describe the project if the project had been publicly discussed using a different name at an earlier stage. If more than one project was merged to create the current project, this should also be indicated.

3.2. The Project Location

A description of the geographic location of the project should be given. This should include a summary map and written information such as the municipal address, legal description of the lot or lots, and the municipality in which the project will be located. The description should be selected to reflect the appropriate geographic scale of the

project. For instance, a small scale project located on one property may best be described by the legal description of the property or the municipal address. Alternatively, a large project covering multiple lots may be best described by providing the municipalities in which it is located as well as the lots or other boundaries of the project such as roadways.

To complement the description of the geographic location, the total area of land covered by the project location (i.e. area of all project equipment and activities, see the definition of the Project Location under O. Reg. 359/09 which is discussed in more detail in Chapter 1) should also be provided. For reference, the total area of the property or properties on which the project is proposed to be located should also be provided to indicate the lot coverage.

Note that there is a specific requirement for the PDR to include a more detailed map as discussed in Section 4.3. The description of the project location in the General Information section will not replace the need for this map; however reference to the map may be made in this section.

3.3. Description of the Energy Source, Nameplate Capacity, and Class of Facility

Applicants must describe any sources of energy that are proposed to be used to generate electricity, including all non-renewable supplementary fuel sources that may be used to generate electricity.

The nameplate capacity and Class of facility should also be provided if applicable. Technology-specific guidance is provided below:

Wind

- The total nameplate capacity of the turbines at the facility including the total number of turbines and their individual nameplate capacities
- The sound power level in dBA of the proposed turbines
- The Class of wind facility
- A reference to technical information related to the model of turbine can also be made to direct the reader to information substantiating the nameplate capacity and sound power level

Solar

- Total nameplate capacity of the facility (see Section 4.1 of Chapter 1 for more detail on how this should be reported)
- The Class of solar facility, if applicable
- A reference to technical information related to the model of solar module can also be made to direct the reader to information substantiating the nameplate capacity

Bio-energy

- Information about the energy source must indicate if anaerobic digestion, thermal treatment, bio-gas, or another method of generating electricity is proposed
- If the project relates to an anaerobic digestion facility or a thermal treatment facility, the applicant should indicate if the facility will be located at a farm operation
- Nameplate capacity and Class of facility (if applicable)
- The daily and annual average quantities of any biomass, source separated organics, or farm materials proposed to be processed as part of the project
- The amount of electricity generated from non-renewable resources (such as natural gas) as a percentage of the total amount of electricity generated. Applicants are advised to consult subsection 9. (1) paragraph 7 which specifies that for facilities with nameplate capacity under 500 kW, 90% of the electricity must be from renewable sources. For facilities with nameplate capacity over 500kW, 95% of the electricity must be from renewable sources. This measure includes electricity generated during start up and shut down periods. Providing the percentage of non-renewable electricity generation will demonstrate

how the project meets the requirements for being a renewable energy generation facility for the purpose of O. Reg. 359/09.

3.4. Contact Information

The contact information that the applicant should provide in the PDR includes:

- The name of the applicant and any co-applicant(s)
- The name of any project consultant(s) representing the applicant, if applicable

Contact information should include the address, telephone, fax, and e-mail that the applicant and consultant (if applicable) can be reached at. While a corporation name can be provided, an individual's name should be identified as the contact person for the project for both the applicant(s) and consultant(s). If the applicant has a website, the address of the website should be provided.

3.5. Other Approvals Required

To ensure that project approvals are evaluated in a timely and coordinated manner, it is recommended that applicants provide information relating to all required or applicable permits, licences and authorizations, other than the REA approval, that applicants believe must be obtained for the project to proceed. For example, this may include permits from MNR, MTO, municipal building permits and Conservation Authority approvals, etc.

3.6. Federal Involvement

It is recommended that applicants provide information on any federal environmental assessment required under the Canadian Environmental Assessment Act to which the project has been or could be subjected to as well as information on the status of the federal EA process, federal authorities involved, and contact persons. Additional federal approvals may apply to the project including those under the Fisheries Act and Species at Risk Act., among others. Applicants that are required to obtain other federal permits and approvals should provide information related to the status of those permits and approvals.

4. Project Information

The project information section of the PDR provides an overview of all the project components and project activities proposed. This section will include the information required for the following content outlined in Table 1 of O. Reg. 359/09:

- The facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity
- The activities that will be engaged in as part of the renewable energy project
- The ownership of the land on which the project location is to be situated
- If the person proposing to engage in the project does not own the land on which the project location is to be situated, a description of the permissions that are required to access the land and whether they have been obtained
- An unbound, well marked, legible and reproducible map showing the project location and the land within 300 metres of the project location

4.1. Facility Components

Applicants must further describe the facilities, equipment or technology used to generate electricity

and all associated and ancillary equipment needed to engage in the project.

Examples of the generation equipment and ancillary components to be considered are described in the table below:

	Electricity Generation Equipment	Ancillary Components
Wind	Wind turbine information should include the make, model, nameplate capacity, tower height, hub height above grade, blade length, blade sweep area, rotational speeds and acoustic emissions data, including the sound power level and frequency spectrum, in terms of octave-band sound power levels. Key specifications should be reported in the PDR, with reference to the Wind Turbine Specification Report for greater detail if applicable.	<ul style="list-style-type: none"> • Roads • Transmission/distribution lines, poles, or support structures if applicable • Transformers • Other electrical conversion, metering, and protection/control equipment as applicable
Bio-energy	Generation equipment related to anaerobic digestion, bio-gas, thermal treatment, biofuel or biodiesel or other energy generation equipment including the generator and any air pollution control equipment. Feed and waste handling equipment and storage facilities	<ul style="list-style-type: none"> • Laydown areas • Storage infrastructure • Buildings (temporary and permanent, required for the project)
Solar	<p>Solar module information, including make, model, nameplate capacity, size, dimensions, number of modules etc.,</p> <p>Solar thermal, generators, pressure vessels and solar photovoltaic cells</p>	<ul style="list-style-type: none"> • Water crossings (e.g bridges) <p>These may be proposed for all types of renewable energy generation facilities.</p>

4.2. Project Activities

In this part of the PDR, applicants must provide an overview of all activities engaged in as part of project throughout all project phases. At the time of submission, more detail on these activities will be included in the Design and Operations Report and sections of this report can be referenced if relevant. However it is important that the applicant still provide an overview of all activities in the PDR so that it can be a useful document for the purpose of consultation.

The following should be described:

- All activities involved in the construction, installation, use, operation, changing and retiring of the facility
- The facility phases and the timing and scheduling of each phase for a new facility or for the expansion of or modification to an existing facility (e.g. time of year, frequency and duration)
- Any solid or liquid wastes proposed to be generated while engaging in the project and any plans to manage these wastes
- Air and noise emissions that are likely to be generated while engaging in the project
- Disposal plans for any toxic or hazardous materials to be used or any by-products to be generated while engaging in the project
- Any plans for managing sewage and stormwater
- Any water-taking from groundwater or surface water

4.3. Project Location Map

Applicants must submit an unbound, well marked, legible and reproducible map showing the project location and the land within 300 metres of the project location. The map is also required to be drawn to scale and include both a scale bar and north arrow.

The map should also:

- Identify the boundaries of the project location
- Identify and briefly describe on-site land uses on the project location
- Identify and describe the off-site land uses within minimum 300 metres of the project location
- For a project proposed to be built on Crown land, illustrate Crown land users (i.e. Land Use permits, claims, cabins, camps, trap lines)
- To the extent that is feasible in depicting information clearly on the map show:
 - Any cultural heritage resources (note that the precise locations of archaeological sites are sensitive and should not be included in the map), natural features, and water bodies identified through the records review

4.4. Land Ownership

Applicants must clearly identify if the land is owned by the Crown or is privately owned. A legal description of the parcels of the land that will be used for the proposed renewable energy generation facility must be provided for private land and Crown land, where available, at the time of application.

If the applicant does not own the land over which the project is proposed, the PDR must describe through what legal means (easements, leases, etc.) they will be entitled to access and carry out all phases of the project on the land.

One example of how land ownership or rights can be described is where an applicant includes in their PDR a generic copy of the lease or other legal instrument used along with a statement that notes all the lots have been granted access through the lease.

5. Description of Environmental Effects

In this section of the PDR, potential negative environmental effects that may result from engaging in a renewable energy project must be described. Applicants may also describe any positive environmental effect that may result from engaging in a renewable energy project.

The description of potential negative environmental effects is a critical element of the REA application. This description will form the basis and framework for describing all mitigation strategies and design features contained in the other REA reports. For instance, this list should be used to generate the Environmental Effects Monitoring Plan (EEMP) in the Design and Operations Report, where each potential effect is connected to related mitigation strategies, performance objectives for mitigation, monitoring, and contingency plans, as appropriate. The description of potential negative environmental effects should also reflect all phases of the project, including construction, installation, operation, use, and decommissioning of a renewable energy generation facility.

From a project management perspective, it is recommended that applicants complete a preliminary records review and a preliminary site visit prior to preparing a draft PDR. While O. Reg. 359/09 has requirements for formal records review and site investigation within 120 metres of the project location related to natural features and water bodies, applicants are encouraged to conduct a preliminary search to help identify features of potential interest and describe potential negative environmental effects at an early stage. The preliminary site visit may simply be a non-technical walkabout survey. It is further recommended that this visit cover a broad area out to at least 300 metres of the project location, to the extent possible. In so doing, applicants will be able to consider potential negative environmental effects, even if they are likely to manifest beyond the 120 metre setback distances for most natural features and water bodies. A survey of the broader vicinity of the project location will also aid applicants in confirming the contents of the required Project Location Map (see Section 4.3 Project Location Map).

As discussed in Section 2.1, draft versions of the PDR are used at various points during the REA consultation process and the description of potential negative environmental effects will become more refined as project planning moves forward. Applicants are encouraged to revise the description of potential negative environmental effects in PDR drafts as new information is obtained through consultation with

relevant federal and provincial agencies and municipal authorities, potentially affected and interested individuals, Aboriginal communities and the public.

When submitted as part of an application for a REA, the description of potential negative environmental effects contained in the PDR should stand as a final comprehensive assessment. At that time, the PDR should also state conclusions about the likelihood and magnitude of the potential environmental effects. These conclusions will be supported by other technical reports that accompany the PDR and sections of these reports (such as the Design and Operations Report) can be referenced to assist the reader in locating relevant project details.

The reports required by Table 1 of O. Reg. 359/09 and in other sections of the regulation itself (such as for the Environmental Impact Study, Water Bodies Report etc.) contain content sections that should allow for a fulsome discussion related to most potential negative environmental effects caused by renewable energy projects. For instance, potential effects from odour at a bio-energy facility can be discussed in relation to facility design measures in the Design and Operations Report and through the evaluation of odour in an odour study report (if required). However, applicants may identify additional potential negative effects that are not easily discussed in the standard reports required by the regulation.

Two examples of additional reports that may be required to address potential negative effects are Stormwater Management Plans and Traffic Management Plans. For instance, a solar project proposal could include landscaping changes that alter the quantity or quality of stormwater flows generated on the site. An applicant may determine that to adequately describe this potential negative environmental effect a Stormwater Management Plan should be prepared even though such a report is not explicitly listed in Table 1 of O. Reg. 359/09. Similarly, a number of renewable energy projects can have potential negative environmental effects as a result of truck traffic related to construction and/or operation of the facility. If traffic issues are identified as a potential negative environmental effect, an applicant should

prepare a Traffic Management Plan to evaluate this impact and propose mitigation measures. Further clarity on the content of Stormwater Management Plans and Traffic Management Plans as well as circumstances where the ministry would expect such plans to be prepared is given in Sections 5.3 and 5.6, respectively.

The following sections provide more detail on ministry expectations about the description of potential negative environmental effects. These sections represent the principal categories of potential negative environmental effects that should be considered in preparing the PDR. If an applicant determines that a potential negative environmental effect may occur that is not captured by one of these categories, they must still include it in their description.

Description of Environmental Effects from On-Farm Bio-Energy Facilities

For on-farm bio-energy facilities (anaerobic digestion Class 1 and 2, thermal treatment, Class 1 if on farm and Class 2) the farm operation on which the facility is located might already be subject to O. Reg. 267/03 under the Nutrient Management Act, 2002. Applicants should consider, in their description of potential negative environmental effects, how these effects may be mitigated by following requirements of O. Reg. 267/03 such as through the adherence to a nutrient management strategy at the farm operation.

In addition, if O. Reg. 267/03 under the Nutrient Management Act, 2002 does not apply to the on-farm bio-energy facility, this regulation may still provide useful guidance for mitigating potential negative environmental effects. For example, applicants should consider adherence requirements related to land application for digestate, setback distances from wells and water features, in addition to construction standards, as appropriate, for their facility. Such mitigation measures should be detailed where applicable in the Construction Plan Report and the Design and Operations Reports to substantiate the description of negative environmental effects in the PDR.

5.1. Cultural Heritage (Protected Properties, Archaeological and Heritage Resources)

Applicants must meet the cultural heritage requirements of Sections 19–23 of O. Reg. 359/09 and these requirements are outlined in Section 6.1 of Chapter 1. All applicants must determine if there is a protected

property at the project location, as well as if an archaeological assessment is required. In addition, some applicants must consider whether or not the renewable energy project may or will impact heritage resources at the project location and if the project location is located on a parcel of land abutting a protected property that may or will be impacted by the renewable energy project.

In this section of the PDR, it is recommended that applicants provide information relating to all cultural heritage requirements that applicants believe must be completed in order for the application to be submitted. The information included in the PDR related to cultural heritage resources is to be determined by the applicant to reflect the unique character of a project. Applicants should provide a summary in the PDR of any potential negative environmental effects on the following cultural heritage resources identified in complying with O. Reg. 359/09: properties described in Column 1 of the Table in section 19, archaeological resources and heritage resources.

Applicants should consult the Ministry of Tourism and Culture's (MTC) guide *Protected Properties, Archaeological and Heritage Resources: An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals* for more information on how to fulfil REA requirements provided in section 19 to 23 of O. Reg. 359/09.

5.2. Natural Heritage

As outlined in Section 6.2 of Chapter 1, applicants should consider whether the proposed renewable energy project may have an impact on natural heritage features including but not limited to Areas of Natural and Scientific Interest (ANSI), wetlands, woodlots, valleylands, wildlife habitat, provincial parks, and conservation areas. This description will be largely based on conclusions drawn from reports related to the Natural Heritage Assessment prepared to fulfil REA requirements provided in sections 23.1, 24 – 28 of O. Reg. 359/09. Applicants should consult the Ministry of Natural Resources (MNR) guide *"Natural Heritage Assessment Guide for Renewable Energy Projects"* for more information on this assessment.

For applicants proposing a Class 3, 4, or 5 wind facility, an Environmental Effects Monitoring Plan is required in respect of impacts to birds and bats. The description of potential negative environmental effects for these facilities in the PDR should include impacts to birds and bats as a potential effect and provide a summary/reference to the monitoring plans. More information on preparing these plans can be found in the following guidance documents published by the MNR:

For Bird Habitat:

"Birds and Bird Habitats: Guidelines for Wind Power Projects" dated October 2010 as amended from time to time.

For Bat Habitat:

"Bats and Bat Habitats: Guidelines for Wind Power Projects" dated March 2010 as amended from time to time.

Potential negative environmental effects related to natural heritage resources may include effects that are not covered within the Natural Heritage Assessment or Bird and Bat Monitoring Plans. Other approvals, such as permits related to the Endangered Species Act, 2007 or approvals under the Fisheries Act administered by the Department of Fisheries and Oceans, may address additional potential effects. Applicants should describe all potential negative environmental effects related to natural heritage resources and indicate where additional approvals (either granted or required in the future) will address specific potential effects.

When preparing a draft PDR for the purpose of early-stage consultation activities, the Natural Heritage Assessment is not likely to be completed. In this case it is recommended that applicants provide information relating to all natural heritage requirements that applicants believe must be completed in order for the application to be submitted. A summary of any preliminary records or site visit conducted should also be included. Prior to completing a draft PDR the applicant should have enough information about the project location to be able to anticipate and generally describe all potential negative environmental effects.

At the time of submitting a REA application, the PDR should include a summary of conclusions about the significance of potential negative environmental effects on natural heritage drawn from the reports identified above and any other work to obtain additional permits.

5.3. Impacts on Surface Water and Groundwater

Applicants are expected to consider whether the proposed renewable energy project may have an impact on both surface water (e.g. lake, a permanent stream, an intermittent stream and a seepage area) and groundwater. The description of potential negative environmental effects in the PDR should be connected to the applicant's water assessment and any water bodies report prepared to describe impacts resulting from locating the facility within the required setbacks to water bodies (as described in sections 39 (2) and 40 (2) of O. Reg. 359/09). Similarly, if additional reports related to water, such as

the Hydrogeological Assessment Report, Surface Water Assessment Report and Effluent Management Plan Report, are required as part of a REA application, the conclusions from these additional reports should be summarized.

Potential impacts on water bodies may also be subject to additional permits required by a local Conservation Authority, the Ministry of Natural Resources and/or the Department of Fisheries and Oceans. Conclusions drawn from work undertaken or proposed in relation to these permits can also be used to describe potential negative environmental effects of the project.

In considering potential negative environmental effects on water bodies and groundwater, the applicant should evaluate the following activities/mechanisms:

Water takings

If a water taking activity is proposed in any of the project phases (including construction) applicants must describe all potential negative environmental effects with regard to water quality, quantity and impacts on existing uses of the surface or groundwater resource. Important environmental effects to consider include but are not limited to:

- The potential to interfere with existing uses of the water resource (especially with domestic drinking water or household supplies)
- The prospect for groundwater pumping to cause migration of contamination that can impair existing use of aquifers
- The potential to stop or reduce surface water flow to a rate or level that interferes with natural functions of water bodies
- The potential to cause flooding, erosion or contamination of water bodies to which return flow of taken water is directed
- The potential for groundwater taking to result in land subsistence and related property damage

The description should be included in the PDR for all water takings, including those less than 50,000 litres per day. Conclusions about the magnitude and likelihood of potential effects should be based on a summary of information contained in other reports, such as the Design and Operations Report where the nature of the water taking will be detailed.

It is generally advised that applicants discuss potential water takings with the MOE at an early stage of project planning. In this way, the risk of potential negative environmental effects can be addressed

commensurate with the water taking activity (short term, long term, occasional) and appropriate and relevant water conservation and use efficiency measures can be outlined according to the life cycle stage of the renewable energy generation facility.

Discharge into a Water Body

If a discharge of sewage including stormwater to a water body such as a lake or stream is proposed, applicants must describe any potential negative environmental effects arising from the discharge. In most cases, applications proposing effluent discharges will also require an Effluent Management Plan Report and a Surface Water Assessment Report as part of a complete application. Since equipment such as piping conveying the effluent to the water body is considered part of the “project location”, discharges to surface water will likely also require the applicant to submit a Water Body Report as a result of not adhering to setback requirements under sections 39, 40, 44, and 45 of O. Reg. 359/09. The conclusions of these reports should be summarized to indicate the significance of any potential negative environmental effects.

Discharges of sewage to the surface of the land or underground (for instance to a septic tank) may also be proposed. Potential negative environmental effects of such discharges must also be described if they are proposed as part of a renewable energy project.

Spills

Applicants should identify if there are any activities proposed in any of the project phases that could result in accidental spills of contaminants. The significance of this potential negative environmental effect should be described in the context of information provided in the facility design, operations plan and emergency response plan in the Design and Operations Report where mitigation measures may reduce the risk of spills.

Surface Water Runoff

Applicants should determine if changes to the site during any phases of the project may affect the quality and quantity of surface water runoff. If changes to the quality or quantity of runoff could result in negative environmental effects, these effects should be described. Furthermore, if a water body exists within the setback distances prescribed under sections 39, 40, 44, and 45 of O. Reg. 359/09, any specific impacts on the water body and the land within 30 metres of the water body as a result of surface water runoff should also be described.

As mentioned at the beginning of Section 5, an applicant may determine that a Stormwater Management Plan is the best way to describe potential negative effects due to surface water runoff. Such a conclusion could be drawn if landscape changes (such as an increase in impervious surface) were likely to result in a significant change to surface water flow or quality. Since the content of a Stormwater Management Plan is not prescribed by Table 1 of O. Reg. 359/09, the applicant should determine the appropriate content of such a report in order to best support conclusions about potential negative environmental effects. This can be done by consulting with the Ministry of the Environment Regional office that has jurisdiction over the proposed project location. The Ministry of the Environment publication “*Stormwater Planning and Design Manual*” (2003, Publication #4329e) can also be used to assist applicants in determining appropriate stormwater management practices. A local Conservation Authority, if one exists, can also be an important source of information for preparing a Stormwater Management Plan. For instance such an authority may have previously generated a watershed or subwatershed plan that may provide relevant information.

If a Stormwater Management Plan is prepared, conclusions drawn from this plan should be summarized to describe the significance of potential negative environmental effects in the PDR.

Solar Facilities and Groundwater Monitoring

Depending on site location and characteristics, solar power proponents may implement pre- and post-construction groundwater monitoring to ensure that any potential impacts on groundwater are known and addressed prior to construction, particularly where drinking water sources stand potentially to be affected. In order to assess potential groundwater issues and whether or not groundwater monitoring may be required, applicants should contact the local Ministry of the Environment Regional Office early in the planning process to discuss any potential need for assessment and monitoring. The Ministry’s technical staff in the regional offices can provide guidance on what information may be required in order to properly assess the geological and hydrogeological conditions at the project site. If anything of environmental concern or significance is found during the groundwater monitoring, the Ministry will work with the applicants to ensure they take appropriate steps address and mitigate any potential impacts. Contact information for regional offices can be found in Appendix 2.

5.4. Emissions to Air including Odour and Dust

Applicants are expected to describe any negative effect that would result from engaging in a project on air quality due to emissions of contaminants, including but not limited to, nitrogen dioxide, sulphur dioxide, suspended particulates; and any negative effects from the emission of dust or odour. This description should consider activities in all project phases including construction.

5.5. Noise

Applicants are expected to describe any potential negative environmental effects from the emission of noise on noise receptors in the vicinity of the project. All project phases should be considered, including construction.

Specific Guidance for Class 2 Wind Projects

Small wind projects that fall under the definition of Class 2 (greater than 3 kW but less than 50 kW nameplate capacity) do not have noise-based setback requirements under O. Reg. 359/09. These projects also have streamlined reporting requirements where the application requires only the PDR and a Specifications Report (Class 2 Wind Facility). While the application requirements have been scaled to reflect the more limited potential impact of Class 2 wind facilities, it is still important that the applicant discuss potential environmental effects due to noise in the submitted PDR. To do so, it is recommended that the applicant include the following information:

- A summary the noise emissions of the proposed turbines with reference to the Class 2 Wind Facility Specifications Report
- A description of the location of the wind turbine (or turbines) in relation to the location of noise receptors in the vicinity of the project
- Conclusions about the likelihood and magnitude of any potential environmental effects from noise as a result of the project and how these are addressed/mitigated

This information does not need to include a noise study unless the applicant determines that the scale or uncertainty of potential environmental effects from noise is sufficient to warrant such a study.

Specific Guidance for Class 3 Wind Projects

Class 3 wind projects are those with nameplate capacity greater than or equal to 50 kW but with turbines that all have a Sound Power Level less than 102 dBA as determined through standard CAN/CSA-C61400-11-07. Such turbines are quieter than normal industrial scale turbines and as such are not required to meet the noise setback requirements in O. Reg. 359/09. However, even though these turbines may have less impact than those with a Sound Power Level greater than or equal to 102 dBA, Class 3 facilities cover a range of project scales that can include large projects with multiple turbines. For this reason applicants are strongly recommended to prepare a noise study in accordance with the Ministry of the Environment Publication *"Noise Guidelines for Wind Farms"* (October 2008, Publication #4709e) as a way to evaluate noise effects for Class 3 facilities and determine appropriate setback distances from noise receptors.

While other means for describing noise impacts could be considered by an applicant, if the information provided does not allow for the rigorous review of turbine noise the Director can request a noise study be submitted during the review phase under authority of section 47.4 (2) of the Environmental Protection Act. Since a request during the application phase has the potential to delay application review timelines, applicants proposing to not submit a noise study are advised to discuss their approach with the REA Team at the Ministry of the Environment at an early stage of project planning.

5.6. Local Interests, Land Use and Infrastructure

In this section of the PDR, applicants are expected to describe any negative environmental effect on local interests and infrastructure. Some examples of local interests and infrastructure that may be potentially affected include:

- Road capacity and local traffic
- Road infrastructure itself (i.e. damage to roads during construction)
- Water and sewage infrastructure (note that impacts on surface and groundwater are covered in Section 5.3)
- Electrical, telecommunications, and/or natural gas infrastructure, if applicable
- Local airports or aerodromes
- Recreation areas
- Hiking or other recreational trails

Applicants are advised to consult early in the REA process with municipalities, local service boards and other federal/provincial government agencies, as applicable, to identify local interests in the vicinity of the project and to determine if the project could potentially result in negative effects. This discussion will also outline the need for any additional permits (such as building permits, road use agreements, and others). Specifically with respect to provincial highways and roads it is recommended that applicants contact the Ministry of Transportation (MTO) early in the process to determine any additional permit requirements.

Municipal consultation on these interests is further facilitated by the Municipal Consultation Form which must be provided 30 days in advance of the first public meeting to each municipality (both upper and lower tiers where tiered jurisdictions exist) in which the project is located. Sections on the Municipal Consultation Form will allow the municipality to comment on the potential impacts on local interests. This feedback should assist the applicant in assessing the magnitude and likelihood of any potential negative environmental effects related to local interests and infrastructure.

The description of effects related to local interests will also benefit from meaningful consultation with the public and Aboriginal communities, which may identify additional interests not known to the applicant or provide suggestions for mitigation that can be used to minimize impact.

At the time of submitting the PDR as part of a REA application, the description of negative effects on local interests and infrastructure should reflect any changes that result from comments received from all avenues of consultation.

Traffic Management Plans

As discussed at the beginning of Section 5, applicants may determine that the potential negative environmental effects of project construction and/or operation related to road capacity and local traffic warrant the preparation of a Traffic Management Plan. Such plans are not a strict requirement for REA applications but may be the only way to adequately describe the effects on local traffic, how the effects will be mitigated and justify conclusions about the significance of the potential negative environmental effects. A Traffic Management Plan will also assist with consultation with the municipality, which may have valuable suggestions regarding the management of traffic based on municipal expertise and knowledge of local traffic issues. It should be noted that the Director has the authority to request that an applicant submit

a Traffic Management Plan if one is not provided and the Director is of the opinion that such a plan is needed in order to make a decision with respect to granting a REA. Applicants are encouraged to discuss traffic management with the Ministry of the Environment's REA Team at an early stage in project planning.

Since the content of a Traffic Management Plan is not prescribed by Table 1 of O. Reg. 359/09, the applicant should determine the appropriate content of such a report in order to best support conclusions about potential negative environmental effects and mitigating measures. An example of the content that could be included is:

- The current traffic flow in the vicinity of the project location
- The truck or other vehicular traffic proposed during various phases of the project including the number of trucks, timing of use and routing/path of site access
- A description of how truck timing, routing, or other mitigation measures will be used to minimize impacts to traffic flow and the safety of road users
- An evaluation of the net effects on traffic and road safety in light of the mitigation commitments proposed

Stray Voltage Impacts on Livestock from Associated Electrical Distribution Lines

Stray voltage from distribution lines on livestock farms has been found in some circumstances to result in negative effects on the health of livestock as described in the Ontario Energy Board (OEB) discussion paper *"Farm Stray Voltage: Issues and Regulatory Options"* (May 2008, Publication #EB-2007-0709) available at www.oeb.gov.on.ca. While stray voltage can come from a variety of on and off farm sources, under certain circumstances the installation of electrical distribution lines and other electrical equipment as part of a renewable energy project could have the potential to increase stray voltage on a livestock farm.

If an applicant for a REA determines that the proposed project has potential to contribute to stray voltage on a livestock farm in proximity to the electrical project components, this potential negative environmental effect should be described in the PDR. The description, if provided, should discuss the likelihood and magnitude of the potential effect in light of the electrical design of the project. For instance, applicants should note in their application all electrical equipment that must be certified by the Electrical Safety Authority to meet the Ontario Electrical Safety Code.

Currently, suspected farm stray voltage issues are investigated by the local distribution company servicing the livestock farm in question since the electrical servicing of the impacted farm is often the most likely outside source of stray voltage. Such investigations are governed by section 4.7 of the OEB Distribution System Code (available at www.oeb.gov.on.ca).

If an applicant determines that electrical equipment associated with the project has the potential to cause a stray voltage impact, the Environmental Effects Monitoring Plan in the Design and Operations Report should describe how the applicant will work with the local distribution company to investigate and remedy any realized impacts.

A good reference for further information on stray voltage can be found on the website of the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) at: www.omafra.gov.on.ca/english/livestock/dairy/facts/strayvol.htm.

5.7. Other Resources

Potential negative environmental effects related to other resources should also be described in the PDR. These effects should take into consideration the land use depicted on the Project Location Map and any land use changes resulting from the project. Additional examples of resources that may be impacted by a project include, but are not limited to:

- Aggregate resources
- Landfill sites
- Petroleum wells
- Forest resources

If potential negative environmental effects on the use of other resources are identified, they should be discussed in the PDR.

5.8. Public Health and Safety

Applicants are expected to describe any negative environmental effect on public health and safety. In order to make conclusions about the magnitude and likelihood of health and safety effects, key sections of other documents, such as the demonstrated adherence to setback distances for wind facilities and the emergency response and communications plan in the Design and Operations Report, should be referenced.

In light of the ministry's transparent setback standards for turbine siting, REA applicants for Class 3, and 4 wind facilities should indicate how the project will comply with the setback requirements when describing potential negative environmental effects on public health and safety related to turbines.

5.9. Areas Protected under Provincial Plans and Policies

Applicants are also expected to determine if any part of the project location is proposed on land in key provincial land use plans. These plans include the Greenbelt Plan, Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan, and the Lake Simcoe Protection Plan.

Projects located on land protected by key provincial plans may have additional approval, setback and reporting requirements under O. Reg. 359/09. Examples of these requirements are described below:

Greenbelt Plan

If the proposed renewable energy generation facility is located in the Protected Countryside (other than a settlement area) as described in the Greenbelt Plan, the Natural Heritage Assessment will also assess additional natural features such as sand barrens, savannahs, tallgrass prairies, non-provincially significant wetlands, life science ANSIs and alvars. Natural Heritage setback distances and Environmental Impact Study requirements will apply to these features.

See Section 41 of O. Reg. 359/09 for more information on requirements under the REA.

The Ministry of Municipal Affairs and Housing has information on its website related to the Greenbelt plan, including maps, at www.mah.gov.on.ca/Page187.aspx.

Lake Simcoe Watershed

If any part of the project location is within the Lake Simcoe Protection Plan Area applicants are required to include additional information in the Design and Operations Report. Specifically they must describe project impacts on the shore of Lake Simcoe as well as a description of how the project will be engaged in to maintain the natural contour of the shoreline and use vegetative riparian areas.

See Table 1 of O. Reg. 359/09, Item 4: Design and Operations Report, Column 2, Paragraph 6 for more information on requirements under the REA.

The Ministry of the Environment has information on its website related to the Lake Simcoe Protection Plan, including maps, at www.ene.gov.on.ca/en/water/lakesimcoe/index.php.

Niagara Escarpment Plan

If the proposed renewable energy generation facility will be located in the area of the Niagara Escarpment Plan (NEP), applicants must describe the following:

- The land use designations for the area on which the renewable energy generation facility is proposed to be built
- The need to obtain a development permit and an overview of the requirements of such a permit

If a development permit is required under the Niagara Escarpment Plan, applicants will be required to submit a copy of the permit obtained from the Niagara Escarpment Commission (NEC) as part of their complete REA application.

Applicants should note that in order to make a decision on a development permit application, the NEC may require information other than the information required for the PDR. It is recommended that applicants contact the NEC as early as possible for a complete list of information that will be required. Applicants are also encouraged to set-up a joint meeting with the MOE and NEC, early in the process, to discuss all the requirements for the projects that will be proposed within the Niagara Escarpment Plan area.

Consult Sections 32 of O. Reg. 359/09 for more information on requirements under the REA.

The Niagara Escarpment Commission has information on its website related to the Niagara Escarpment Plan, including maps, at www.escarpment.org/landplanning.

Oak Ridges Moraine Conservation Plan

If any part of the project location is within the area designated as Oak Ridges Moraine Conservation Area, the Natural Heritage Assessment will also assess additional natural features such as sand barrens, savannahs, non-provincially significant wetlands, life science ANSIs and tallgrass prairies. Natural Heritage setback distances and Environmental Impact Study requirements will apply to these features.

Consult Sections 42, 43, 44, 45, and 46 of O. Reg. 359/09 for more information on requirements under the REA.

The Ministry of Municipal Affairs and Housing has information related to the Oak Ridges Moraine Conservation Plan, including maps, at www.mah.gov.on.ca/Page1707.aspx.

In addition to the specific requirements related to provincial plans in O. Reg. 359/09, applicants should

broadly consider the policy intent of the relevant plan when designing their project in a protected area.

Chapter 5

Guidance for preparing the Construction Plan Report

1. Purpose of the Construction Plan Report

The Construction Plan Report is a component of an application for a Renewable Energy Approval (REA) under O. Reg. 359/09. This report is required as part of an application for all renewable energy projects that require a REA with the exception of Class 2 wind facilities (those with nameplate capacity greater than 3 kW but less than 50 kW). Due to the relative simplicity of Class 2 wind projects, they only require description in the Project Description Report.

The purpose of the Construction Plan Report is to describe in sufficient detail the project activities undertaken during the construction phase so that all potential negative environmental effects may be identified. The report must also describe mitigation measures in respect of negative environmental effects that could result from construction or installation activities.

The Construction Plan Report should contribute to and be consistent with information presented in other reports submitted as part of a REA application. For instance the report is expected to describe the installation of all project components detailed in the Design and Operations Report. As well, the Construction Plan Report should provide details on how construction activities will be planned to mitigate potential negative environmental effects which should support conclusions around the significance of negative environmental effects presented in the Project Description Report.

An additional function of the Construction Plan Report is to act as a communication tool for consultation with municipalities, the public, Aboriginal communities, and other interested stakeholders. A draft report must be made available to all municipalities (upper and lower tier) in which the project is located at least 90 days prior to the final public meeting. The public must also be

provided with a draft report at least 60 days prior to the final public meeting for the renewable energy project in accordance with section 16 of O. Reg. 359/09. It should be noted that the following facility classes do not require applicants to hold public meetings:

- Class 2 wind facility
- Class 1 or 2 anaerobic digestion facility
- Class 1 thermal treatment facility, if the generating unit of the facility is located at a farm operation
- Class 2 thermal treatment facility

In these cases (except Class 2 wind, which doesn't require a Construction Plan Report), the draft report must be provided to all municipalities (upper and lower tier) at least 30 days prior to submitting an application for a REA.

Applicants should note that construction plans may be of particular interest to municipalities since these plans could have potential to impact municipal infrastructure and services. Construction plans should be summarized in the applicant's municipal consultation form either through description on the form or through specific references to the Construction Plan Report.

2. Overview of Construction Plan Report Content

The principal content of the Construction Plan Report is defined in Table 1 of O. Reg. 359/09 and provides a description of the planned construction phase activities at the project location. This would include a description of:

- Details of any construction or installation activities
- The location and timing of any construction or installation activities for the duration of the construction or installation
- Any negative environmental effects that may result from construction or installation activities
- Mitigation measures in respect of any negative environmental effects

A Construction Plan Report submitted as part of an application for a REA must contain information on all of the required content.

The structure of the report should be selected by the applicant to provide a clear account of these contents. One approach that could achieve clarity would be to structure the report according to sections that address each of the key required content requirements above. Pertinent sections of other reports, such as the site plan in the Design and Operations Report can be reprinted or referenced where appropriate.

3. Description of Construction and Installation Activities

The Construction Plan Report must contain a detailed description of all activities that will occur in order to bring the facility into operation. This should cover the construction and installation of all equipment, roads, transmission/distribution lines, transformers, and other ancillary components proposed to be constructed as part of the project including the construction of associated buildings or structures (a more detailed definition of what is included in a renewable energy project is provided in Chapter 1). The use of maps and figures may assist with providing a clear description of where and how construction and installation activities will be conducted. Activities are project-specific but can include:

- Site preparation
- Equipment installation and connection
- Post-installation activities such as the restoration of vegetation or impacted water bodies

For each component installed and/or constructed a number of attributes should be considered in completing the description of activities. These include:

- A description of the materials brought on site (and how they will be transported)
- Equipment used for constructing or installing the project component
- The timing and operational plan for conducting the construction or installation
- Whether any land will be affected through a temporary use for the purpose of constructing or installing the component (i.e. construction laydown areas)
- Whether the construction or installation will require a water taking
- A description of any materials generated at the site (including waste) during construction and how they will be used/disposed of/transported offsite

Details on attributes that should be described are provided in the sections that follow.

3.1. Materials Brought on Site

A description of materials needed for constructing or installing the project components should be given. The purpose of providing such a description is to define the scale of the construction and installation activities and to ensure the description of negative environmental effects reflects impacts related to bringing the materials to the site. This could be broken down on a component basis or given as an aggregate description of materials required for the project as a whole. The description should provide, if applicable:

- An estimate of the quantities and types of materials that will be transported onsite for construction
- The method of transporting the materials, such as by truck, with an estimate of the size and number of trucks
- The expected overall timeline and operational plan for transporting materials to the site
- The site locations where materials will be used
- Any plans to temporarily store materials on-site, including the duration of storage

3.2. Construction Equipment Used

A description of construction and installation machinery should be provided. This could involve equipment to excavate or grade ground, drill footings, or erect structures such as through the use of cranes. The description should provide:

- The general type of construction equipment expected to be required
- The approximate size or weight of construction equipment if relevant to describe negative environmental effects
- The potential for the equipment to emit noise and dust
- Any chemicals used in the operation of construction equipment including fuel
- How the equipment will be brought into and out of the site, if relevant for describing potential negative environmental effects related to traffic and road infrastructure impacts

3.3. Timing and Operational Plans

The timing of proposed construction and installation activities must be described. This should indicate:

- The sequence of events of each construction and installation activity including their expected duration
- The timing with regard to seasons, if such timing may influence potential environmental effects
- The time of day that activities will be conducted, if such timing may influence or mitigate the impact of negative environmental effects

3.4. Temporary Uses of Land

Construction activities may result in temporary changes to land surface or grading as well as the installation of temporary structures such as culverts. This may be due to the construction of temporary access roads or staging areas. Any change to land that occurs during construction and is not reflected in the permanent design of the renewable energy facility (i.e. site plan of the Design and Operations Report) should be described. This should include:

- The extent of the affected area
- A description of the land use prior to construction
- A description of the temporary land use during construction
- A description of how the temporary land use is reasonable for the soil conditions of the project location
- The timing and duration of the temporary change
- Activities planned to restore the condition of the land, if any

3.5. Temporary Water Takings

If the proposed construction or installation of a project component includes the taking of water from a ground or surface water source, such as when quantities of groundwater are pumped out to facilitate excavation, the water taking should be described. See Section 4.3 below for more detail on the information required to describe the water taking and any potential negative environmental effects related to the water taking.

3.6. Materials/Waste Generated at, or Transported from, the Project Location

Some construction activities will result in the generation of materials that have no further use at

the project location. This could include aggregates excavated or vegetation removed in respect of installation of a generation facility, among others. Such materials may be stored/disposed of on-site or transported offsite. Any materials generated as a result of construction or installation activities should be described, including the following:

- The estimated quantity and type of material generated
- If stored or disposed of at the project location, an account of how the storage or disposal will be undertaken
- If transported offsite, the proposed future use or final disposal of the material. If materials excavated are contaminated their disposal may be regulated under Regulation 347 (General — Waste Management), made under the Environmental Protection Act
- If transported offsite, the proposed method of transporting the material including an estimate of the type and number of trucks, if relevant

It should be noted that on-site disposal of waste generated during construction or installation may require a Certificate of Approval for waste under Part V of the Environmental Protection Act. If on-site disposal of waste generated during construction or installation of a renewable energy generation facility is proposed, project proponents should contact the Ministry of the Environment to determine if a Certificate of Approval is needed for this disposal.

4. Description of Negative Environmental Effects

As required in Table 1 of O. Reg. 359/09, the Construction Plan Report must include a description of any negative environmental effects that may result from construction or installation of the renewable energy generation facility.

The negative environmental effects from construction will also be included in the description of potential negative environmental effects for the project in the Project Description Report (PDR) as described in Section 5 of Chapter 4. Applicants are required to provide this description in both locations to enhance the usability of the REA reports. For instance, the draft PDR generated at earlier stages in the application process will allow for an early discussion of potential negative environmental effects from construction. This will also ensure that a stakeholder with a specific interest in construction activities, such as a local municipality, will find a complete account of the construction-related impacts in the Construction Plan Report. Cross references to specific information between the Project Description Report and the Construction Plan Report may be used where it would enhance the clarity of the application.

As in the PDR, when describing the potential negative effects in the Construction Plan Report, the significance of the potential effect should also be given with consideration of the likelihood and magnitude of the effect. Conclusions drawn about the significance can be based on proposed mitigation measures the applicant will commit to implementing during construction. If mitigation is proposed, the description of these measures must be included in the Construction Plan Report as well (see Section 5), and reference should be made where appropriate to assist the reader in linking potential negative environmental effects with related mitigation.

While it is the applicant's responsibility to include all potential negative environmental effects as they relate to the project, the following sections provide guidance regarding common potential environmental effects during construction:

4.1. Dust and Noise Emissions

Construction activities have the potential to emit contaminants to air. The emission of dust through excavation, drilling or the use of trucks on dirt roads,

among others, should be considered for potential negative effects, if applicable. Likewise if the operation of heavy machinery could result in noise emissions that may impact neighbouring noise receptors, these emissions should be described. Reference can be made to the Emergency Response and Communications Plan which should provide a description of how the public can report complaints related to noise and dust.

4.2. Destruction of Vegetation

The proposed construction and installation activities may cause the destruction/removal of vegetation. Any destruction or removal of vegetation should be described. This description should depict the areas where vegetation destruction or removal is proposed to occur as well as describe the nature of the vegetation. While vegetation in significant natural features will be subject to the natural heritage assessment, setback distances and/or the requirement to submit an Environmental Impact Study (as per sections 25, 26, and 27 of O. Reg. 359/09), applicants must still determine appropriate steps to evaluate and mitigate negative environmental effects from destruction of vegetation that is not located in a significant natural feature. Generally, planning construction to minimize destruction and removal of vegetation and to replace impacted vegetation following construction is a recommended approach.

The removal of vegetation may also contribute to other potential negative effects such as changes to surface water runoff or the production of dust on site. Any removal or destruction of vegetation should also be reflected in the discussion of these impacts if it may contribute to potential negative environmental effects.

If project activities that include the removal of vegetation will occur within the defined setback distances to water bodies (e.g. within 120 m of a lake), the impact of vegetation removal on the water body should be discussed further in the required Water Bodies Report. Applicants should consult Chapter 8 for details on preparing the Water Body Report.

4.3. Impacts to Water Resources

In the planning of construction activities, applicants should consult Ministry of the Environment policies for managing the quality and quantity of surface and groundwater. These are outlined in the following documents:

Water Management Policies Guidelines and Provincial Water Quality Objectives, 1994
Publication #3303e

Deriving Receiving Water-based, Point Source Effluent Requirements for Ontario Waters, 1994
Publication #3302e

Several impacts related to water resources should be considered in the Construction Plan Report:

Surface Water Runoff

Construction activities can change land surface properties that may result in a negative environmental effect related to changes in the quantity and quality of surface water runoff. Any activities that alter the surface properties of land or water drainage should be considered for potential to cause negative impacts. Some examples include:

- Removal of vegetation
- Impervious surface treatments such as concrete or asphalt
- Re-grading land
- Compacting soils through use of heavy machinery

If there is potential for significant negative effects from surface water runoff during construction, the applicant may determine that a Stormwater Management Plan is the only way to adequately describe surface runoff and the efficacy of proposed stormwater management facilities used to mitigate impacts. More information on Stormwater Management Plans can be found in Section 5.3 of Chapter 4.

Impacts on Water Bodies

Some project components such as roads or transmission/distribution lines may be built in proximity to, or over water bodies. The construction may include temporary culverts, weirs, or diversion of streams, among other things. If such components could negatively affect the water quality and/or quantity, a description of the potential negative

effects is required. For projects where a Water Body Report has been prepared, such a report may be referenced to support the description of the environmental effects caused by construction and installation activities. Applicants should refer to Chapter 8 of this guide for further information on the Water Body Report.

In addition, the construction of project components near water bodies may trigger additional permit requirements from the federal Department of Fisheries and Oceans, as well as the Ministry of Natural Resources and/or local conservation authorities. These organizations, where applicable, should be contacted early in project planning to determine the requirements of any additional permits. If such permits will address potential negative environmental effects described in the Construction Plan Report, they should be referenced.

Impacts related to Water Takings

If a project includes a proposal to take water from a ground or surface water source in order to conduct construction activities, such as when quantities of groundwater are pumped from excavated areas, potential impacts on water resources must be described. An important environmental effect to consider is the potential for the project to interfere with existing uses of the water resource. If no impacts on water resources are expected as a result of water taking activities, a description of how that conclusion was reached should be provided.

Applicants are recommended to discuss any water takings with the MOE's REA Team at an early stage in project planning.

To describe water takings under 50,000 L/day, applicants should provide the following information in the Construction Plan Report:

- A description of the water taking (e.g. location, source, quantity etc)
- Any measures proposed to mitigate potential environmental effects
- Conclusions about the magnitude and likelihood of potential environmental effects

It should be noted that while all water takings must be described, for takings that involve small quantities below 50,000 L/day, an applicant may conclude that the potential negative environmental effects are insignificant without preparing technical studies.

For water takings over 50,000 L /day, if the water taking is part of a project subject to the Renewable Energy Approval the water taking does not also require a separate Permit to Take Water (PTTW) under the Ontario Water Resources Act. However, the description of water taking in the Construction Plan Report for a REA application should provide the information/assessments that would be normally required in respect of a PTTW application.

Applicants should use the table below as a starting point to determine the type of information that will be needed to describe the water taking. This table reflects the categories that apply to PTTW applications according to the Ministry of the Environment publication "*Permit to Take Water (PTTW) Manual*" (2005, Publication #4932e). Applicants proposing water takings should consult this manual for further direction on what type of studies and/or information must be submitted to the ministry in respect of water takings.

Groundwater — Category 1	Surface Water — Category 1	General Requirements
Renewal (of an existing water taking)	Renewal (of an existing water taking)	Self Assessment
Ponds (e.g. irrigation and agriculture)	Ponds less than 1500 cubic meters in volume	
	Great Lakes or connecting channel takings less than 1,000,000 L/day	
Groundwater — Category 2	Surface Water — Category 2	General Requirements
Short-term, non-recurring taking less than 7 days (e.g. pumping test and hydro-static test).	Great Lakes or connecting channels takings less than the Great Lakes Charter threshold (19,000,000 L/day)	Engage qualified person to complete screening level evaluation schedules as defined in the PTTW manual
Short-term, non-recurring taking less than 30 consecutive days and less than 400,000 litres/day (e.g. construction dewatering and dust suppression)	Takings from sources with previous assessments	
	River and Streams (3 rd order or higher order)	
	Transitional Permits	
	Takings and Returns where water is removed for a short time only	
	Lakes and Ponds takings less than 1,000,000 L/day twice per week	
Groundwater — Category 3	Surface Water — Category 3	General Requirements
All groundwater takings that do not meet Category 1 or Category 2 criteria	All surface water takings that do not meet Category 1 or Category 2 criteria	Full Technical Assessment required as defined in the PTTW manual

** A sensitive feature includes a stream and/or wet-land and/or dug well or dugout pond owned by a different person.

4.4. Spills

Fuels and other chemicals (including dry materials) used for construction and installation activities can potentially cause negative environmental effects if they are spilled during fuelling or storage. If the planned construction activities present the potential for fuel spills this should be described. Reference can be made to the Emergency Response and Communications Plan included as a component of the Design and Operations Report.

The Environmental Protection Act places specific duties and obligations on persons with respect to spills. Anyone involved in the construction of a renewable energy project should be familiar with their legal obligations in the event of a spill before beginning construction.

4.5. Impacts on Cultural Heritage (Protected Properties, Archaeological and Heritage Resources)

In preparing a complete REA application, applicants are required to consider whether the renewable energy project may or will impact protected properties, archaeological and/or heritage resources at the project location. Some applicants may also be required to consider if the project location is on a parcel of land that is abutting a protected property that will or may be impacted by the renewable energy project. Depending on the characteristics of the project location and the actual or potential impacts of the renewable energy project, applicants may be required to obtain authorizations related to protected properties, to complete archaeological assessments, heritage

assessments or both and to implement appropriate avoidance, mitigation measures, etc., consistent with O. Reg. 359/09 and guidance from the Ministry of Tourism and Culture. If such concerns are raised in any such assessment, the applicant should describe the potential for negative effects. Applicants are encouraged to engage a consultant archaeologist and/or heritage consultant at an early stage in project planning to prepare an archaeological assessment and/or heritage assessment that will consider impacts and will provide appropriate avoidance or mitigation measures if cultural heritage may be impacted by the project.

4.6. Impacts on Local Roads and Traffic

The construction phase of a renewable energy project could involve considerable vehicular traffic related to the movement of equipment and materials on and off site. There is potential for negative environmental effects to occur with respect to impacts to the road infrastructure and/or the traffic flow on roads in the vicinity of the project. All negative effects should be described in the Construction Plan Report (and in the Project Description Report, as given in Section 5 of Chapter 4).

The applicant may determine that a Traffic Management Plan is the only way to adequately evaluate the impacts on local traffic flow and propose appropriate mitigation measures. A Traffic Management Plan will also assist with consultation with the municipality or municipalities, which may have valuable suggestions regarding the management of traffic based on municipal expertise and knowledge of local traffic issues.

Further guidance on potential content for a Traffic Management Plan is given in Section 5.6 of Chapter 4.

5. Mitigation Measures

For each potential negative environmental effect caused during construction and installation, the applicant is required to describe any mitigation measures proposed.

Mitigation measures can include:

- Modifying the types of construction activities engaged in
- Installation of additional treatment technologies such as those that remediate or contain discharges of contaminants
- Changing the schedule or operational practices of construction activities

Any mitigation measures proposed should support conclusions about the magnitude or likelihood of the negative environmental effect they are proposed to mitigate. The mitigation measures should be described in sufficient detail so that they can be reviewed by the Ministry of the Environment to determine their adequacy. Where appropriate, applicants are recommended to include details on any risks to the efficacy of a mitigation measure. For instance, a storm event may pose a risk to sediment control measures proposed.

Mitigation measures will also be discussed in consultation with municipalities to determine potential impacts on provision of municipal services. See Chapter 2 for more information on consultation requirements and guidance on preparing the Consultation Report.

The examples below illustrate different approaches to mitigation and the information that could be presented to describe them:

Modification to construction activities

An example of a modification to a construction activity is where horizontal directional drilling is used to install a subsurface transmission/distribution line as opposed to a trench installation. This technique may mitigate impacts on water bodies or natural features under which the line is installed. If such a mitigation measure is proposed, the information required in the Construction Plan Report in describing the measure would include describing the equipment used for installation and any additional potential effects as a result of the horizontal directional drilling equipment itself.

Treatment technologies

An example of the use of treatment technologies is the use of sediment containment structures such as

siltation fencing or stormwater management ponds to mitigate negative effects on a water body due to stormwater runoff. In this case the structures/equipment should be defined with respect to their location, technical specifications, and duration of installation. Information on how these structures will be monitored, operated and maintained must also be provided. The report must also describe how any repairs required to address construction-related damage to structures such as stormwater management ponds will be made. If the equipment is designed to achieve a performance objective such as a concentration limit, the applicant should describe how the technology will be monitored and maintained to ensure proper function. In some cases, the treatment technologies used for mitigation will be more fully described in a Water Body Report, Stormwater Management Plan or another report, as applicable. Details of mitigation measures contained in these other reports can be referenced in the Construction Plan Report where applicable.

Scheduling and operational changes

Examples of how scheduling and operational aspects of construction and installation activities can mitigate impacts include:

- Conducting excavations on days with low wind to prevent dust emissions and using water to control the dust
- Operating loud machinery during daytime hours only
- Planning material and equipment deliveries outside of rush hour periods to mitigate traffic flow impacts
- Timing construction activities in wildlife habitats to be outside of periods of wildlife use (e.g. breeding period, migratory period)

When describing these measures, the specific criteria for determining the timing of activities should be discussed (e.g. what would constitute a windy day?

Or what are the seasonal bounds for reproduction of wildlife of interest?) with rationale given for such determinations.

6. Environmental Monitoring

Environmental monitoring of the identified potential negative environmental effects from construction may be proposed in addition to the mitigation measures. Where the likelihood of a significant negative environmental effect is low, the applicant may also propose a monitoring approach in lieu of a mitigation measure.

While an Environmental Effects Monitoring Plan (EEMP) is not a specific requirement of the Construction Plan Report, it is a requirement of the Design and Operations Report as described in Table 1 of O. Reg. 359/09. If monitoring related to a potential negative environmental effect from construction is proposed, the details should be added to the EEMP of the Design and Operations Report. Applicants may consider referencing the Design and Operations Report in the Construction Report Plan where relevant to describe monitoring.

Any monitoring approach proposed should be described in sufficient detail, including:

- Methodologies to be used
- Sampling protocols (where and when, quality assurance)
- Performance objectives used to evaluate effectiveness

The description should also identify, where applicable, what actions will be taken if monitoring reveals that negative effects are occurring.

Chapter 6

Guidance for preparing the Design and Operations Report

1. Purpose of the Design and Operations Report

The Design and Operations Report is required as part of a complete submission for all renewable energy projects that require a REA with the exception of Class 2 wind projects (those with nameplate capacity greater than 3 kW and less than 50 kW). Due to the relative simplicity of Class 2 wind projects, these only require description in the Project Description Report.

The Design and Operations Report is the principal document where the details of a renewable energy generation facility are presented. It builds on the Project Description Report by defining:

- The exact site plan
- The design of the facility and the equipment to be used
- How the facility will be operated
- How environmental effects will be monitored and mitigated
- How emergencies and communications will be managed

The contents of the report should support the description of potential negative environmental effects presented in the Project Description Report.

It should be noted that when completing the Design and Operations Report it is the applicant's responsibility to demonstrate compliance with the regulation. The manner in which a project meets the specific requirements that pertain to it must be clearly conveyed in the figures, tables, and text of the report. In addition to this, it is the applicant's responsibility to ensure all information provided is accurate. If elements of the report are found to be unclear or inaccurate, this may form the basis of the MOE determining the application to be incomplete, requesting further reports or not approving the project.

An additional function of the Design and Operations Report is to act as an information tool for municipal, public and Aboriginal consultation. A draft report must be made available to all municipalities (upper and lower tier) in which the project is located at least 90 days prior to the final public meeting. The public must also be provided with a draft report at least 60 days prior to the final public consultation meeting for the renewable energy project in accordance with section 16 of O. Reg. 359/09. It should be noted that the following facility classes do not require applicants to hold public meetings:

- Class 2 wind facility
- Class 1 or 2 anaerobic digestion facility
- Class 1 thermal treatment facility, if the generating unit of the facility is located at a farm operation
- Class 2 thermal treatment facility

In these cases (except Class 2 wind, which doesn't require a Design and Operations Report), the draft report should be provided to all municipalities (upper and lower tier) at least 30 days prior to submitting an application for a REA.

Upon submitting a complete application, the final copy of the Design and Operations Report must be posted to the applicant's website, if one exists, within 10 days of a proposal notice being posted to the Environmental Registry as required by section 15.1 of O. Reg. 359/09. See Section 9.3.1 of Chapter 1 for more information on this requirement.

1.1. Outline of Report Contents

Specific content required for a complete Design and Operations Report is given in Table 1 of O. Reg. 359/09. For reference, the pertinent rows of the table are reprinted in Section 10 of this Chapter. While the structure of the Design and Operations Report is at the applicant's discretion, the following key components must be incorporated:

1. Site Plan
2. Facility Design Plan
3. Facility Operational Plan
4. Environmental Effects Monitoring Plan
5. Emergency Response and Communications Plans

Whatever structure is chosen to organize these contents, the report must be clear and contain all required information.

1.2. Chapter Organization

The guidance provided in this Chapter is organized according to the key report components listed above. Sections 2, 3, and 4 describe what should be included in the site plan, facility design plan, and facility operations plan. Section 5 then provides additional detail on project activities that require specific direction, including water takings, sewage/stormwater management, discharges to air, and waste and biomass management equipment. Section 6 provides additional information on technology-specific considerations in preparing the site plan, facility design plan, and facility operations plan. Sections 7 and 8 describe the Environmental Effects Monitoring Plan, and the Emergency Response and Communications Plans, respectively. Section 9 provides additional considerations if the project is located in a specified land use planning area.

1.3. Integration of Additional Reports

Depending on the type of renewable energy project and the details of the proposal, additional reports may be required for a complete REA application. These reports include:

- Archaeological Assessment Report
- Effluent Management Plan Report

- Emission Summary and Dispersion Modelling Report
- Environmental Impact Study Report
- Heritage Assessment Report
- Hydrogeological Assessment Report
- Natural Heritage Assessment Report
- Noise Study Report
- Odour Study Report
- Property Line Setback Assessment Report
- Surface Water Assessment Report
- Water Bodies Report
- Wind Specification Report

The required content of the additional reports is outlined in various sections and Table 1 of O. Reg. 359/09. Guidance on preparing these reports is contained in Chapter 9 of this Guide. Although these reports are not contained within the Design and Operations Report, they will contain details that contribute to its content. For instance, the description of natural features required in the site plan may be contained in a Natural Heritage Assessment. To create a cohesive application package and to facilitate its timely review and processing, applicants are encouraged to summarize and reference work done in additional reports to fulfil the requirements of the Design and Operations Report where applicable.

2. Site Plan

The Design and Operations Report must contain scaled diagrams of the site with project equipment and other relevant features indicated. Although this chapter refers to site plan in the singular, for many projects it will be necessary to include multiple site plan diagrams to clearly describe the project.

The site plan builds upon the conceptual map contained in the Project Description Report. The conceptual map in the Project Description Report shows where the project is located and lands within 300 m of the project location. The site plan in the Design and Operations Report provides greater detail of the specific location and extent of all components of the renewable energy generation facility. All proposed components of the facility must be clearly shown along with any relevant features adjacent to the project location (such as natural features and water bodies) that are subject to siting requirements in O. Reg. 359/09.

2.1. Site Plan Format

The site plan should be presented so that it is clear to read and evaluate. To do this, the applicant should consider the following:

- All diagrams, plans or maps must be drawn to scale and include a scale bar and a north arrow.
- The diagrams must be dated and include the name of the project.
- The scale should be selected to demonstrate compliance with the requirements of O. Reg. 359/09. This may be achieved by using multiple maps or insets as necessary.
- A colour/demarcation scheme should be selected that allows all plan features to be observed and delineated clearly.
- If aerial photos or satellite imagery are used in a site plan, the date the image was collected and its source should be referenced.
- Electronic versions of site plans should be created using a software format that allows for the plan to be read clearly. If this poses challenges for the applicant, the applicant can submit a hard copy version for ministry evaluation.
- Tables should be appended and referenced in the site plan.

Site plans are important technical documents but are not considered engineering drawings.

For general context, a site plan must include maps or diagrams that provide the topographical land contours and surface water drainage for all land within 120 m of the project location. It is recommended that land uses within 120 m of the project should also be shown in one or more of the maps or diagrams.

Every significant feature that is shown in the site plan, including project components, cultural heritage (note that the location of an archaeological site is sensitive information and should not be depicted in the site plan in a level of detail that would allow it to be located), natural features, and water bodies should also be described in other sections of the Design and Operations Report.

There are certain features that must be depicted on the site plan for all renewable energy facilities. These include facility components, cultural heritage, natural heritage, water bodies, and noise/odour receptors.

2.2. Facility Components

The components that comprise a renewable energy facility under O. Reg. 359/09 are defined in the regulation and key definitions are also presented in Chapter 1. All components of a renewable energy facility must be depicted in the site plan, including:

- Any buildings or structures
- Any transportation systems, such as roads, established solely to provide access for construction or operation of the facility and not open to any other public use
- Electrical transmission/distribution lines, transformers, and other electrical equipment associated with the facility. This should include any rights of way or easements required for these components as well

In addition to these general facility components, applicants must specify on the site plan the location of the following:

- Any roads, utility corridors, rights of way, and easements situated within 300 metres of the project location
- Groundwater wells, water bodies, and infrastructure related to water and sewage
- Any things that discharge contaminants to the air such as flares, vents and stacks
- Any works that collect, transmit, treat, or dispose of sewage related to the project
- Any areas where waste, biomass, source separated organics or farm material are stored, handled, processed or disposed of

The site plan should be depicted in sufficient detail to show the external boundaries of all components as proposed. For instance, a location where a wind turbine is to be installed should be depicted in sufficient detail that the outer extent of the turbine staging area and any access roads can be defined.

O. Reg. 359/09 contains a number of provisions that define distances for site investigation and for setbacks from natural features and water bodies that reference distance to the “project location” which is defined as:

A part of land and all or part of any building of structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project.

More information on the interpretation of the “project location” can be found in Chapter 1, including specific examples.

The locations of the facility components in the site plan should be provided in a way that will clearly demonstrate the boundary of the project location so that the application can be evaluated with respect to compliance with setback and other provisions of O. Reg. 359/09.

2.2.1. Associated Transformers

One project component that requires specific consideration in the site plan is associated transformers which operate at a nominal voltage of 50 kV or more. Section 35 of O. Reg. 359/09 requires that all transformers 50 kV or greater be sited to mitigate noise impacts on noise receptors. This can include meeting minimum setback distances from noise receptors (1000 m, or 500 m if shielded with an acoustic barrier with a density of at least 20 kg/m² that breaks

the line of sight with any noise receptors, as defined in section 35 of O. Reg. 359/09) or by conducting a noise study to demonstrate that the transformer meets noise guidelines. No matter which option is used to comply with the regulation, the location of all transformers must be shown clearly in the site plan with UTM coordinates. Setback distances between the transformer and the nearest noise receptor should be noted directly on the site plan and/or through appended tables.

2.3. Cultural Heritage

Prior to drafting the Design and Operations Report, applicants should determine if any of the following cultural heritage resources are on the project location: protected properties, heritage resources, and archaeological resources, as determined through the assessment of cultural heritage described by sections 19, 20, 21, 22, and 23 of O. Reg. 359/09. Some applicants may also be required to consider if the project location is on a parcel of land that is abutting a protected property that will or may be impacted by the renewable energy project. Applicants are encouraged to contact the Ministry of Tourism and Culture at an early stage to discuss the cultural heritage requirements of O. Reg. 359/09.

The location of any identified protected properties, or heritage resources that are identified through the assessment of cultural heritage must be depicted in the site plan. Note that the precise location of an archaeological resource is sensitive information and should not be depicted on the site plan in a level of detail that would allow it to be located.

2.4. Natural Heritage

A natural heritage assessment should be conducted to identify and evaluate natural heritage features in the vicinity of the project location prior to drafting the site plan in the Design and Operations Report. Guidance for conducting a natural heritage assessment is presented in the “*Natural Heritage Assessment Guide for Renewable Energy Projects*” from the Ministry of Natural Resources.

Natural features found through the natural heritage assessment should be depicted in the site plan. This depiction should show the boundary of the feature that is closest to the project location and note the distance between the project location boundary and the natural feature. If practical, the project location and natural feature boundary points used in determining the closest distance should be given as UTM

coordinates. This information could also be included in tables, especially where multiple natural features have been identified near the project location. Where an Environmental Impact Study will be submitted to justify locating the project within the setback requirements that relate to natural heritage, applicants are encouraged to note and reference such a study on the site plan and/or appended tables.

While an evaluation of significance conducted as part of the natural heritage assessment may determine that an identified natural feature is not a significant feature and thus not subject to setback requirements, applicants are strongly encouraged to include all natural features in the site plan. Creating site plans with detailed information about the area in the vicinity of the project location will enhance consultation and the evaluation of potential negative environmental effects.

2.5. Water Bodies

A water assessment should also be conducted to identify and evaluate water bodies in the vicinity of the project location prior to drafting the site plan in the Design and Operations Report. Guidance for conducting a water assessment is described in Chapter 8 of this guide.

If any water bodies are found in the vicinity of the project location through the water assessment, they must be depicted in the site plan. This depiction should show the boundary of the water body (the high water mark) and note the distance between the project location boundary and the nearest point of the water body. If practical, the project location and water body boundary points used in determining the closest distance should be given as UTM coordinates. This information could also be included in tables, especially where multiple water bodies have been identified near the project location. Where a Water Body Report will be submitted to justify locating the project within the setback requirements that relate to water bodies, applicants are encouraged to note and reference such a study on the site plan and/or appended tables.

2.6. Noise/Odour Receptors

Some renewable energy projects emit noise and/or odour which may impact neighbouring land uses. The site plan must include any noise or odour receptors that may be negatively impacted by the proposed project.

Noise receptors are defined in O. Reg. 359/09 as the centre of buildings used as dwellings or those used as an educational facility, day nursery, or place of worship. Examples of buildings that the MOE would consider dwellings include residences, hospitals, hotels/motels, and nursing/retirement homes. Public or privately owned campsites or campgrounds are also included in the definition of noise receptors.

Since there are a range of uses of buildings that may or may not be interpreted to fit the definition of a dwelling, further guidance on this interpretation is provided in Section 2.2 of Chapter 3. Chapter 3 also provides information on how noise receptors should be identified on vacant lots as well as on Crown Land. It is recommended that all REA applicants read Section 2.2 of Chapter 3 prior to completing a site plan in the Design and Operations Report so that noise receptors are identified and located appropriately.

In addition to the existing buildings described above, those that are planned for construction and have been issued a building permit under the Building Code Act or site plan approval under the Planning Act are also considered to be noise receptors. There are timing restrictions that pertain to the consideration of building permits as noise receptors and these are discussed in Section 2.5 of Chapter 3.

Noise receptors on land owned by a proponent of a wind energy facility or by someone who has entered into an agreement to permit all or part of the facility on a parcel of their land are not considered noise receptors for the purposes of determining noise setbacks.

Odour receptors include all structures defined as noise receptors and some additional receptors. These are:

- A portion of property that is used for recreational purposes but is not accessory to a building or structure used for overnight accommodation
- A portion of property used for commercial activity
- A community centre
- A health care facility

Determining the scope of noise and odour receptors to include in the site plan is guided by technology-specific setbacks described in O. Reg. 359/09. Compliance with all setback requirements must be demonstrated through descriptions, tables, maps or diagrams in the site plan. A recommended approach for wind turbine setbacks to noise receptors is to include tables with UTM coordinates of all turbines and noise receptors. See Section 7.2 for more technology-specific guidance for wind projects.

3. Facility Design Plan

The facility design plan is the section of the report that describes the types, sizes, and design of proposed facility components. While the site plan shows the geographical layout of the facility, the design plan provides schematic diagrams and technical descriptions of the facility components. The focus of these conceptual plans and descriptions should be to detail attributes of the project that have the potential to cause negative environmental effects identified in the Project Description Report. For environmental effects that have been addressed by adhering to setback distances (for instance, avoiding development within 120 m of a significant natural feature), this mitigation approach should be noted. The facility design plan is paired with the operations plan, which details how equipment and processes will be operated during the life of the project and how operation may impact the environment.

The conceptual plans, specifications and descriptions in the facility design plan should indicate:

- Dimensions and design drawings of all electrical generation equipment.
- Proposed generation equipment supplier, make and model numbers, and specifications, as applicable. This may be achieved by including specification reports from equipment suppliers as an appendix; however it is important that this information be presented in a manner that allows the Ministry of the Environment to evaluate potential negative environmental effects.
- A description of how all functional components are connected/used to generate and transmit electricity to the grid.
- The nature of the structural components that support the equipment such as foundations and footings.
- For electrical transmission/distribution equipment: electrical specifications, type of line (above ground, buried line), and proposed dimensions of all equipment.
- For associated transformers: electrical conversion specifications, dimensions, a diagram of each transformer including any acoustic barriers, and if acoustic barriers are proposed the materials of construction, density, and dimensions of the barriers.
- Where specifications for equipment are given, a description of the potential variability in stated parameters, particularly if changes in such parameters have the potential to affect the evaluation of negative environmental effects.

The facility design plan must also describe equipment related to any water takings, sewage/stormwater management, air discharges, and waste and biomass management. Guidance for describing these features is given in Section 5 below.

4. Facility Operations Plan

The operational plan for a renewable energy project describes the daily function of the facility in generating electricity and any planned maintenance or ancillary activities that will occur continuously or intermittently over the course of the project life. The plan should emphasize how operations may contribute to or mitigate negative environmental effects. It should also include a discussion of site supervision and staff training.

The content of the operations plan will depend on the renewable energy technology and specific activities such as water takings, sewage treatment, air discharges, or waste handling. While solar and wind projects may have simple operating regimes, some bio-energy projects will have more complex processes to describe.

Section 5 below provides guidance on how to address key process features that may occur during operation of a renewable energy facility.

5. Guidance for Key Process Features

5.1. Water Taking

If a project includes a proposal to take water from a ground or surface water source during ongoing operation of the facility, the water taking must be described regardless of the quantity of water that is proposed to be taken. Examples of ongoing water taking that may be proposed include:

- Water takings to supply facilities operations and processes, for example cooling water. This water taking may be relatively continuous and long term.
- Water taking for intermittent and/or periodically scheduled site maintenance, for example: cleaning solar panels, other wash water use, landscape watering/irrigation, and for site dust suppression.

While the Project Description Report will include a description of the potential negative environmental effects resulting from water takings, the Design and Operations Report should provide all the details required to substantiate conclusions about the significance of potential effects. An important environmental effect to consider is the potential for the project to interfere with existing uses of the water resource. If no impacts on water resources are expected as a result of water taking

activities, a description of how that conclusion was reached should be provided.

Applicants are recommended to discuss any water takings with the MOE's REA Team at an early stage in project planning.

To describe water takings under 50,000 L/day, applicants must provide the following information in the Design and Operations Report:

- A description of the water taking (e.g. location, source, quantity etc)
- Any measures proposed to mitigate potential environmental effects
- Conclusions about the magnitude and likelihood of potential environmental effects

It should be noted that while all water takings must be described, for takings that involve small quantities below 50,000 L/day, an applicant may conclude that the potential negative environmental effects are insignificant without preparing technical studies.

For water takings over 50,000 L/day, if the water taking is part of a project subject to the Renewable Energy Approval the water taking does not also require a

separate Permit to Take Water (PTTW) under the Ontario Water Resources Act. However, the description of water taking in the Design and Operations Report for a REA application should provide the information/assessments that would be normally required in respect of a PTTW application.

Applicants should use the table below as a starting point to determine the type of information that will

be needed to describe the water taking. This table reflects the categories that apply to PTTW applications according to the Ministry of the Environment publication "*Permit to Take Water (PTTW) Manual*" (2005, Publication #4932e). Applicants proposing water takings should consult this manual for further direction on what type of studies and/or information must be submitted to the ministry in respect of water takings.

Groundwater — Category 1	Surface Water — Category 1	General Requirements
Renewal (of an existing water taking)	Renewal (of an existing water taking)	Self Assessment
Ponds (e.g. irrigation and agriculture)	Ponds less than 1500 cubic meters in volume	
	Great Lakes or connecting channel takings less than 1,000,000 L/day	
Groundwater — Category 2	Surface Water — Category 2	General Requirements
Short-term, non-recurring taking less than 7 days (e.g. pumping test and hydro-static test).	Great Lakes or connecting channels takings less than the Great Lakes Charter threshold (19,000,000 L/day)	Engage qualified person to complete screening level evaluation schedules as defined in the PTTW manual
Short-term, non-recurring taking less than 30 consecutive days and less than 400,000 litres/day (e.g. construction dewatering and dust suppression).	Takings from sources with previous assessments	
	River and Streams (3rd order or higher order)	
	Transitional Permits	
	Takings and Returns where water is removed for a short time only	
	Lakes and Ponds takings less than 1,000,000 L/day twice per week	
Groundwater — Category 3	Surface Water — Category 3	General Requirements
All groundwater takings that do not meet Category 1 or Category 2 criteria.	All surface water takings that do not meet Category 1 or Category 2 criteria	Full Technical Assessment required as defined in the PTTW manual

Further guidance on how the description of water takings can be incorporated into the key components of the Design and Operations Report is given below.

Site Plan

The locations of all water takings must be noted in the site plan, including those proposed only during construction. The purpose of including water takings during construction is to ensure the site plan can be referenced from other reports and provide a complete picture of project activities.

Facility Design Plan

The design of proposed equipment used to take water should be described. This includes all pumps, piping and other ancillary equipment such as flow monitoring and control devices related to the water taking.

Facility Operations Plan

If engaging in the proposed project will require the taking of water from the ground or surface water, information must be provided to describe the water taking. This includes a complete inventory of the proposed water takings associated with the operation of the facility, specifying:

- Times
- Durations
- Rates
- Quantities

In conjunction with this inventory, an assessment must be undertaken to ensure the quantities proposed will be available to meet expected demand and to assess the potential for the water takings to interfere with existing uses of the water resource.

5.2. Sewage/Stormwater Management

Applicants should always consider how water can be conserved as well as how wastewater and stormwater can be reduced at the source through reuse and low impact development practices when designing renewable energy facilities. However, some renewable energy projects will generate sewage or stormwater runoff that must be managed to prevent potential

impact on the environment. For this reason, project proponents may need to include plans to build sewage works or for stormwater management measures to mitigate environmental risk. There is a range of potential treatment systems that may be contemplated, including but not limited to:

- A simple leachate collection scheme from biomass storage areas for direct addition to an on-farm anaerobic digester
- A series of swales to direct stormwater runoff from a solar facility to a municipal drain
- A complete secondary treatment system to treat effluents generated from a large-scale thermal treatment facility

If the collection, transmission, treatment, or disposal of sewage, the management of stormwater or the provision of sediment control on an ongoing basis (not simply in the construction phase) is required as part of a renewable energy facility, then the Design and Operations Report must describe these activities/works.

For applicants who are planning sewage works or stormwater management measures, it is advised that they first determine if the project requires the preparation of the Effluent Management Plan Report, Hydrogeological Assessment Report, and/or the Surface Water Assessment Report as given by the inclusion criteria in column 3 of Table 1 of O. Reg. 359/09. These reports will provide some of the details needed to describe the collection and treatment system as well as the surrounding environment. The Design and Operations Report should summarize and refer to elements of these reports that contribute to the facility design plans.

Although the sewage works or stormwater management measures included in a renewable energy facility are governed by a REA and exempt from approval under the Ontario Water Resources Act (OWRA), the MOE will assess sewage works or stormwater management measures in a manner that is consistent with how these works/measures would be evaluated as an application for an Approval (CofA) under the OWRA. Therefore, the information required in the Design and Operations Report should be guided by ministry publications that address the application for a CofA for sewage works and stormwater management. The Ministry of the Environment has published guidance and manuals, as updated from time to time, to describe the information requirements and to suggest recommended design strategies. They are:

"Water Management Policies, Guidelines and Provincial Water Quality Objectives," 1994 Publication #3303e

- Describes the policies and guidelines for managing the quality and quantity of surface and groundwaters including provincial water quality objectives and provides a starting point for establishing wastewater effluent requirements. Used to assess ambient water quality conditions, infer use impairments and assist in assessing spills.

"Deriving Receiving Water-based, Point Source Effluent Requirements for Ontario Waters,"
1994 Publication #3302e

- Describes the methods for deriving receiving water-based requirements for discharge into waters bodies.

"Guide for Approval of Sewage Works,"
2010 Publication #7339e

- Describes the approval process and the requirements for application. Part III— Approval Requirements details the information that should be included in a Design and Operations Report. This Guide may be amended from time to time. Applicants are advised to use the most recent Guide.

"Design Guidelines for Sewage Works,"
2008 Publication #6879e

- For information on recommended design guidelines for sewage works such as sewers and sewage treatment plants.

"Stormwater Management Planning and Design Manual,"
2003 Publication #4329e

- For information on approaches to manage stormwater through facility design and installation of stormwater management equipment.

These publications do not contemplate applications to REA and while they provide necessary guidance they should be read in consideration of their intended context.

Site Plan

The locations of all sewage works and stormwater management measures must be depicted in the site plan.

Facility Design Plan

The facility design plan must provide a description of any works for the collection, transmission, treatment and disposal of sewage including details of any sediment control features and stormwater management

facilities. Sewage works and stormwater management measures in the facility design plan should be designed in accordance with the guidance contained in other Ministry documents as referenced above.

Facility Operations Plan

The operational plan contributes to the description of facility design by detailing the operational matters including:

- Expected quantities of sewage/stormwater collected, treated or discharged
- The flow rates and times/duration (if intermittent) of sewage collection and treatment
- Concentrations of key contaminants in sewage or stormwater at various points in the collection/ treatment system
- Calculations demonstrating the basis for the expected quantity/quality of sewage or stormwater. Calculations should also be included to show how the quantity and quality of sewage/stormwater supports the design parameters of any treatment equipment
- The make and design specifications of any commercially available equipment for treating sewage or stormwater proposed for use at the facility
- Procedural aspects of operating or maintaining any of the equipment including details on any measurements taken in respect of process control
- Any chemical inputs required in respect of a sewage or stormwater treatment process. For any chemicals that have the potential to be emitted to the environment, the Material Safety Data Sheets of the chemicals should be included
- The derivation of any byproducts or residual wastes as a result of a treatment process including how such byproducts will be managed

In addition to this suggested content, applicants should include any operational details that they determine to be relevant for evaluating the potential for negative environmental effects as a result of the project.

5.3. Discharge of Contaminants to Air

Renewable energy generation facilities may have equipment that discharges contaminants to the air. Examples of this include, among others:

- Flares at anaerobic digestion facilities
- Combustion unit stacks at a biomass thermal treatment facility
- Stacks used to discharge exhaust from large heating units for a maintenance or storage of equipment at a wind farm
- A biofilter treating odour or other air contaminants from a biomass storage area
- A generating unit emitting noise

All the components of the facility that discharge contaminants to the air must be described in the Design and Operations Report.

For some bio-energy facilities, the project will specifically require the preparation of an Emissions Summary and Dispersion Modelling Report (ESDM) as per the requirements listed in Table 1 of O. Reg. 359/09. If a facility requires such a report, the Design and Operations Report can reference sections of the report that describe the relevant equipment. At the minimum, information provided to describe the air discharge must be sufficient to allow for the calculations included in the ESDM. An ESDM must be prepared in accordance with Section 26 of O. Reg. 419/05 (Air Pollution — Local Air Quality) under the Environmental Protection Act. Applicants should refer to the following Ministry of the Environment publications for further guidance on ESDMs:

"Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Monitoring (ESDM) Report," 2009 Publication #3614e03

"Guideline A-11: Air Dispersion Modelling Guideline for Ontario," 2009 Publication #5165e02

"Technical Bulletin: Methodology for Modelling Contaminants with 10-Minute Average Standards and Guidelines under O. Reg. 419/05," 2008 Publication #6007e

Site Plan

The location of any project components that discharge contaminants to air must be included in the site plan.

Facility Design Plan

The purpose of this description is to determine the potential adverse environmental effect of the discharge. While guidance on the preparation of an ESDM referenced above should be the principal reference for required information, the following characteristics of the equipment should be included at a minimum:

- The height of the point of discharge
- The dimensions and configuration of any point source discharge such as a smokestack
- Any monitoring and control instrumentation related to the emissions with a description of the control and/or monitoring scheme
- The site elevation profile in the vicinity of the discharge location
- Any ancillary equipment (such as pollution control equipment) that may influence the concentration or emission rate of the contaminant discharge
- For flaring systems, the combustion efficiency of the flare

Facility Operations Report

The expected concentration of air contaminants discharged from the facility must be described. This should include:

- A list of all contaminants expected to be discharged both at point sources and as fugitive emissions
- A description of the maximum concentrations of all contaminants expected at locations required through the preparation of an ESDM (e.g. at points of impingement)
- A description of the mass transfer/emission rate and times/duration (if intermittent) of the discharge
- Reference to calculations which show the basis for the concentrations and mass transfer/flow rates expected
- Procedural aspects of operating the facility that can influence the mass transfer/emission rate or concentration of contaminants

5.4. Waste and Biomass Management Equipment

If a renewable energy project includes any systems, facilities, or equipment for handling, storing and processing any waste, biomass, source separated organics, farm material, biogas, and/or waste materials generated by the facility these project components must be described in the Design and Operations Report.

For reference purposes, applicants preparing a facility design plan with biomass, source separated organics, farm material and process waste storage areas can consult Appendix 3 of the Ministry of the Environment publication *"Sample Application Package for a Comprehensive Waste Transfer and Processing Facility"*

Certificate of Approval" (2009, Publication #6837e). This document provides a hypothetical example of a design and operations report describing a waste transfer facility. The information in this example can serve as a reference for reporting expectations under the REA for facilities with similar components.

Site Plan

The locations of all biomass, source separated organics, farm material and process waste storage and management equipment should be shown in the site plan.

Facility Design Plan

A description of any systems, facilities and equipment for receiving, handling, storing and processing waste, biomass, source separated organics, farm material and biogas is required. Design features relevant for determining the potential for adverse environmental effects should be given, such as:

- Design, dimensions and capacities of any storage areas
- Materials used for construction
- Measures to prevent contaminants from entering surface water or groundwater such as a leachate collection system
- Equipment or systems used to prevent fires, if applicable
- Equipment or systems used to prevent odours or other air contaminant emissions
- Equipment or systems used to prevent overflow from tanks
- Design features intended for the containment or mitigation of spills

Facility Operations Plan

Operational matters governing how biomass, source separated organics, farm material and process waste

is managed must be provided. A flow chart showing flow of the waste through the process should be included in this description. Operational matters to describe include:

- The types and sources of received materials used at the facility, including a description of how their quality with respect to the concentration of heavy metals and other contaminants will be determined
- The maximum average daily and annual quantity that will be accepted at the facility as well as a description of the expected frequency for receiving shipments
- How the materials will be unloaded and handled
- The estimated average time that the material will remain at the facility prior to being processed
- The estimated average rate at which the materials will be used
- The composition, type or classification of any waste generated
- The amount of waste generated on average on a daily basis or a description of times/ amounts if waste is generated intermittently
- Procedures for collecting and handling wastes
- The amount, if any, of waste that will be stored at any time on the site
- Details on the procedure for storing wastes including operational measures to mitigate negative environmental effects (e.g. only unloading waste within an enclosed structure to mitigate dust and odour emissions)
- Information on the process for final disposal of waste including a description of the disposal method, frequency, and procedures for transporting waste from storage and destination of the wastes generated. Waste generated at the facility must be disposed of at an MOE approved facility
- Description of sampling and analysis of outgoing biomass/digestate intended for land application including the frequency of sampling

6. Technology-Specific Guidance

The following sections describe some additional considerations for completing the Design and Operations Report for different renewable energy technologies.

6.1. Solar Projects

Only solar projects with nameplate capacity >12 kW and mounted at a location other than on the roof or wall of a building require a REA. These facilities are typically comprised of a number of solar modules mounted with support structures footed in the ground and ancillary electrical equipment to invert, transform and transmit the generated electricity to the grid.

Site Plan

There are no unique site plan requirements for solar projects beyond those for all renewable energy projects.

Facility Design Plan

To describe the design of solar projects, applicants should include the following:

- Make and model of the solar module
- Diagram of the dimensions of each solar module
- Diagram and specifications of how the solar modules are mounted
- Description of the mechanism and range of motion if solar modules track the sun
- Description of any treatments to land on which the solar modules are proposed, particularly with regard to soil permeability and the potential for negative environmental effects related to stormwater runoff from the facility
- Description of how power is inverted, transformed and transmitted, including specifications of all power conversion equipment

Facility Operations Plan

Solar energy projects may have unique considerations that should be discussed in the operational plan. Some examples include (amongst others determined by the applicant):

- How the land upon which the solar modules are mounted will be managed to maintain specified land use conditions. This could include procedures to limit

the growth of vegetation. This should be described if such activities have the potential to cause negative environmental effects

- How solar modules will be maintained including a description of all maintenance activities, their frequency, and any operational details that contribute to the evaluation of negative environmental effects

6.2. Wind Projects

Site Plan

Wind energy projects are subject to a number of unique requirements for siting turbines under O. Reg. 359/09. These requirements are discussed in Chapter 3 along with guidance for demonstrating compliance in the site plan.

It is important to note that since wind projects include setback requirements from noise receptors, roads and all property lines, these features must be shown in the site plan for such projects.

Facility Design Plan

All class 2, 3, 4 and 5 wind energy projects require the submission of a Specifications Report as outlined in Table 1 of O. Reg. 359/09. There are two separate table entries to delineate the information required for Class 2 and the higher Classes (3–5). These reports are further described in Chapter 9.

Specifications provided in a Specifications Report can be summarized and referenced in the Design and Operations Report design plan. A discussion of the potential variance in any of the quoted parameters (i.e. sound power levels) should be included to support conclusions about potential negative environmental effects.

Turbine tower lighting, for transportation obstruction marking or other purposes, is an additional feature of wind turbines that can be described in the facility design plan.

Facility Operations Plan

The technology-specific considerations for wind energy project operations include:

- How wind turbines will be operated and monitored to ensure proper function. Since damaged turbines can cause increased sound power levels or risk of fire or structural instability, monitoring for damage may mitigate potential negative effects
- How meteorological data will be monitored and used to make operational decisions
- All maintenance activities, including a description of their frequency and any operational details that could cause or mitigate negative environmental effects

6.3. Bio-Energy Projects

Bio-energy facilities include those that use anaerobic digestion, thermal treatment, biofuels or biogas to generate electricity. Compared to solar and wind projects, bio-energy projects are more likely to involve multiple discharges of contaminants to air, collection and treatment of sewage/stormwater, and the storage or processing of biomass and waste generated at the facility. These facilities may require greater detail in drafting the facility design plan and facility operations plans. Since many of the complexities of these projects relate to proposed water takings, emissions, discharges and/or biomass/waste management as described in Section 6 above, this guidance may be applicable but is not repeated in this section.

Site Plan

Specific siting requirements under O. Reg. 359/09 apply to anaerobic digestion and thermal treatment facilities. Siting constraints must be depicted in the site plan as described in Sections 6.3.1 and 6.3.2 below. Additional features to indicate on the site plan include (if applicable):

- Receiving, loading and unloading areas for biomass, source separated organics, farm material and process waste including a depiction of the footprint of each area
- Sorting, screening processing including dewatering and drying areas
- Digester tank(s) and digested output storage tank, pasteurization equipment
- Flares and biofilters
- Buildings where generators, combustion engines, turbines and associated equipment are located
- Location of any secondary containment measures such as berms, structures and other equipment to control run off or noise from the facility
- Location of biomass storage areas, including underground/above ground storage tanks, bunkers and pads
- Parking lots and storage areas for vehicles

6.3.1. Anaerobic Digestion Facilities

Anaerobic digestion facilities are subject to requirements to prevent impacts from air emissions including odour and noise on nearby receptors. These requirements can be found in sections 47, 48, and 50 and Table 1 of O. Reg. 359/09. They are also summarized, along with the approval requirements for all renewable energy technologies in Appendix 1 of this document. The requirements govern project components that have the potential to emit odour, including:

- Storage areas/tanks for biomass, farm materials, source separated organics, and digestate material
- Generating units
- Flares
- Anaerobic digesters

The regulation defines a range of requirements for mitigating impacts from anaerobic digestion facilities that include applying setback distances, equipping anaerobic digesters with gas storage covers of limited permeability, and/or conducting odour, noise and emissions studies.

Where odour setback distances are used to mitigate potential effects from odour emissions, distances should be calculated from the outer boundary of the area or structure nearest the odour receptor to the odour receptor. This distance must be demonstrated on the site plan directly.

Applicants must include in the site plan all noise and odour receptors that may be adversely impacted by the project. These should also be identified on the plan or in associated tables, with the position of the receptor defined according to the discussion in Section 3.4 above.

6.3.2. Thermal Treatment Facilities

Thermal treatment facilities also have technology-specific requirements in O. Reg. 359/09. These

requirements address potential noise and odour emissions and are contained in sections 51 and Table 1 of the regulation. Appendix 1 provides a summary of these requirements for reference. Certain thermal treatment projects (Class 2 in O. Reg. 359/09) can adhere to setback distances in lieu of submitting Noise, Odour and Emissions Summary and Dispersion Modelling Reports. Applicants must demonstrate compliance to this setback distance by indicating the location of all relevant odour receptors as well as any biomass storage areas and the generating unit. Locations for the purposes of setback distances must be taken from the outer boundary of the area or unit nearest the odour receptor. For Class 3 thermal treatment facilities, environmental effects will be evaluated in a site-specific manner through the preparation of Noise, Odour, and Emission Summary and Dispersion Modelling Reports, among others.

Facility Design Plan

It is important to note that the purpose of the facility design plan is to describe technical elements of the facility so that the environmental impact of the facility can be evaluated. While bio-energy facilities may have relatively more complex electrical generation equipment (compared to solar and wind) the goal of the description of the facility should be to allow for analysis of potential or expected emissions to the environment. For instance, while it may be pertinent to describe the exact height, diameter and design of a stack used for venting exhaust from combustion of biogas, the exact piping specifications for transmitting gas from an anaerobic digester to the generator may not be relevant to evaluating environmental effects. Applicants are advised to focus their facility design plan on elements that mitigate environmental effects.

Bio-energy projects may include components that take water, store biomass, source separated organics, farm material, generate waste, collect, treat or discharge sewage or stormwater, as well as components that discharge contaminants to the air. These unique features can be addressed according to the guidance in Section 5 above.

In addition to this, some bio-energy projects are governed by prescribed setback and/or technology requirements to mitigate potential noise and odour emissions (see O. Reg. 359/09 for all requirements, Appendix 1 provides a summary). For instance, some anaerobic digesters can demonstrate compliance by having a gas storage cover with a design permeability less than 500 cm³/m²/day/bar. The facility design plan must describe how the proposed equipment adheres to all technological requirements if they apply.

Facility Operations Plan

To illustrate the types of considerations to include in the operations plan, the following is an example of content sections that could be used to describe the operation plan for a bio-energy facility:

- Description of on-site operations for electricity generation
- Biomass, source separated organics and farm material screening and processing procedure
- Waste generation, storage and disposal
- Facility equipment maintenance
- Staff training
- Spill prevention and response
- Site inspections and nuisance conditions
 - o Dust control
 - o Litter prevention and control
 - o Pest control
 - o Complaint response procedure
 - o Record keeping
 - o Operational practice in the event of a disruption of shipment

Bio-energy projects may also have unique operational procedures during start-up, shutdown and maintenance periods. These procedures should also be included in the description of facility operation, particularly if these operational procedures may influence the environmental effects caused by the facility or any mitigation measures.

Bio-energy facilities may require the combustion of non-renewable fuels such as natural gas in order to bring the generator into an operational state or under other operational situations. Since the REA regulation places limits on the annual amount of non-renewable fuel that can be used to generate electricity (as per Section 36 of O. Reg. 359/09), the operational plan should substantiate the fact that the use of non-renewable fuel will be in compliance. The operational circumstances that require the combustion of non-renewable fuel (if applicable) should be described including the amount of fuel to be combusted. This should be accompanied by rationale for how this will lead to an annual percentage of non-renewable electricity generation below the thresholds in O. Reg. 359/09.

Financial Assurance

The Ministry of the Environment has the authority under section 132 of the Environmental Protection Act to require Financial Assurance on a project-specific basis for any project issued a REA. A Financial Assurance estimate is specifically required for Class 2 and 3 anaerobic digestion facilities and thermal treatment facilities that are managing waste as identified in section 49, 50 and 52 of O. Reg. 359/09. The applicant is required to provide an estimated Financial Assurance amount that is calculated based on the amount of waste that will be managed in such facilities. This calculation and the provision of funds must be made in accordance with the Ministry of the Environment publication “*Guideline F-15: Financial Assurance Guideline*” (2005 publication #0226e03). For projects that require a calculation of estimated Financial Assurance, this calculation should be included in the Design and Operations Report.

7. Environmental Effects Monitoring Plan

To show how negative environmental effects will be mitigated and how ongoing monitoring by the applicant will ensure compliance with O. Reg. 359/09, an Environmental Effects Monitoring Plan must be prepared as a part of the Design and Operations Report. The plan will be primarily supported by conclusions and descriptions found in other sections of the Design and Operations Report or in other reports prepared for submission to the Renewable Energy Approval. References to other sections should be made where applicable.

The Environmental Effects Monitoring Plan should include the following, using summary tables and text descriptions as well as references to other reports as required:

1. A **summary of all potential negative environmental effects** caused by the project as given in the description of negative environmental effects in the Project Description Report. This summary is included for context.
2. **Performance objectives** in respect of each potential negative effect. Performance should be defined such that in achieving the objective the negative effect will be mitigated. This is a critical component of the Environmental Effects Monitoring Plan since the objectives relate to the commitments an applicant will make to protect the environment during project implementation. Applicants are encouraged to meet with the Ministry of the Environment at an early stage to discuss the application process and one topic that can be covered is project-specific guidance on appropriate performance objectives.
3. A description of all **mitigation strategies** planned to achieve performance objectives.
4. Where there is an ongoing risk of potential negative environmental effects, description of **how the project will be monitored** to ensure that mitigation strategies are meeting performance objectives.
5. **Contingency measures** that will be undertaken should monitoring reveal that any mitigation measures are failing.

Examples of the nature of these plan requirements are depicted in Table 1 below. Note that the evaluation of appropriate performance objectives and mitigation/monitoring strategies is to be determined by the applicant to reflect the unique character of a project and Table 1 is for illustrative purposes only. However, using a table format to summarize the Environmental Effects Monitoring Plan is a recommended approach to ensure all required elements of the plan are included. A summary table can also be an effective way to present the environmental effects monitoring plan for the purposes of application review and consultation.

Potential Negative Effect	Performance Objective	Mitigation Strategy	Monitoring Plan and Contingency Measures
Noise from a wind turbine may impact a nearby noise receptor	Noise at all nearby noise receptors below 40 dBA	<ul style="list-style-type: none"> Adherence to all noise setback requirements as shown in the site plan Meteorological monitoring to prevent damage to turbines 	<ul style="list-style-type: none"> Turbine aerodynamic monitoring to identify damaged turbines Follow-up monitoring in response to public complaints <p>Contingency Measures</p> <ul style="list-style-type: none"> Repairing/replacing turbines that are unable to meet standard Suspending operation of turbines determined to be out of compliance until they can be fixed
Leachate from biomass storage area may discharge into nearby stream	Complete containment of all leachate	<ul style="list-style-type: none"> See the Effluent Management Plan Report for a full discussion of mitigation measures. Principal measures include: <ul style="list-style-type: none"> Covered storage area prevents rainfall contact Leachate trap included in storage area design Maintenance to ensure proper function of leachate trap Unloading of biomass conducted within the covered storage area 	<ul style="list-style-type: none"> Post construction inspection of storage area and potential contaminant transport route to stream Annual inspection of stream to confirm no adverse effects <p>Contingency Measures</p> <ul style="list-style-type: none"> If leachate is found to impact stream, additional leachate collection equipment will be installed Suspension of biomass storage until adequate mitigation in place Monitoring of surface water to ensure no more discharge of leachate into the stream
Stormwater runoff from solar facility may contaminate nearby wetland	No significant change in stormwater quality and quantity entering wetland as a result of project activities	<ul style="list-style-type: none"> Adherence to natural feature setback requirements as shown in the site plan Stormwater containment measures during construction as described in the Construction Plan Report and Stormwater Management Plan Maintenance of vegetative cover under solar panels as described in the facility design plan 	<ul style="list-style-type: none"> Post construction monitoring of generated stormwater runoff and the wetland according to the methods and schedules described in the monitoring plan below <p>Contingency Measures</p> <ul style="list-style-type: none"> If stormwater is found to impact wetland, additional stormwater containment and treatment technologies will be installed as described in the monitoring plan below

Table 1. Example template and summary content of the Environmental Effects Monitoring Plan

While applicants may use a table format as shown above to summarize the Environmental Effects Monitoring Plan, sufficient detail must be provided to fully describe the table contents. If any monitoring or contingency measures are not detailed sufficiently in other reports or sections, they should be discussed in the Environmental Effects Monitoring Plan. This should include details on:

- Methodologies and equipment to be used (in general)
- Locations of monitoring
- Frequency of sample collection
- Rationale for how the monitoring plan will provide technically and statistically valid conclusions about meeting the performance objectives
- How results of the monitoring plan will be reported
- The specific contingency measures that will be undertaken, including their timing, design and operational considerations if applicable
- The timing or duration of monitoring, if applicable

Making commitments to monitor renewable energy generation facilities is an important component of being a good neighbour in the local community. Applicants should consider how results of ongoing monitoring can be communicated to the public for the sake of the long term engagement. For other tips on how to be a good neighbour, please read Chapter 10 of this guide.

7.1. Monitoring Requirements for Bird and Bat Impacts from Wind Facilities

Operation of large scale wind turbines can potentially result in bird and bat mortality. To monitor and manage this, applications for Class 3, 4 or 5 wind projects (nameplate 50 kW or greater) are required to include an

Environmental Effects Monitoring Plan for birds and bats as per section 23.1 of O. Reg. 359/09. The monitoring activities in the plan must adhere to the following guidance from the Ministry of Natural Resources:

- *"Birds and Bird Habitats: Guidelines for Wind Power Projects"* dated October 2010, as amended from time to time
- *"Bats and Bat Habitats: Guidelines for Wind Power Projects"* dated March 2010, as amended from time to time

These guidelines describe the monitoring that must be undertaken as well as contingency measures that must be imposed if excessive impacts to birds or bats are observed.

For the purpose of the environmental effects monitoring plan in the Design and Operations Report, the information related to birds and bats must either be included as a section of the broader monitoring plan or through reference in the Design and Operations Report to a separate document or documents covering the details related to monitoring bird and bat impacts. The information provided about environmental effects monitoring of birds and bats must be reviewed by MNR prior to their issuing a confirmation letter related to natural heritage assessment under subsection 28 (1) of O. Reg. 359/09.

As noted in Section 1.1 of this chapter, applicants who issued a notice of proposal to engage in the project before January 1, 2011 may elect to follow section 23.1 as described above or, under transition provisions, follow the pre-2011 regulation which did not include section 23.1. However, even if an applicant chooses not to follow section 23.1, it is still expected that bird and bat monitoring plans will be included in the general Environmental Effects Monitoring Plan in the Design and Operations Report. These plans will be reviewed as part of the REA application review process following the submission of a complete application. Current MNR guidance, as cited above, should still be followed when preparing bird and bat monitoring plans for inclusion in the Design and Operations Report in respect of a transition project.

Enforcement Activities

The ministry expects that renewable energy facility owners/operators, as long term good neighbours in their local community, will be proactive in investigating and addressing complaints if they arise. They will also be expected to notify the ministry whenever complaints are made.

As part of our compliance monitoring approach the Ministry of the Environment has undertaken unannounced, proactive inspections of renewable energy facilities. As well, the ministry routinely undertakes inspections, as warranted, in response to complaints. If a facility is found to be failing to comply with the conditions of its Renewable Energy Approval, the ministry can use enforcement powers under the Environmental Protection Act, as appropriate, to bring the facility into compliance.

8. Emergency Response and Communications Plans

The proponent of a renewable energy project must create plans to manage emergencies at the project location and to provide channels for communication to the public, Aboriginal communities and municipalities, relevant Ministries of the Ontario Government including the Ministry of the Environment, local road boards and local service boards (in this section these organizations will collectively be referred to as “organizations” for brevity). The minimum required content for the Emergency Response and Communications Plans is contained in Table 1 of O. Reg. 359/09, which is provided in Section 10 of this Chapter.

At the time of applying for a REA, the Emergency Response and Communications Plans should clearly indicate the organizations that will be contacted under different communications scenarios. The applicant should further commit to creating functional Emergency Response and Communications Plans for use by employees that will include up-to-date contact information and be maintained at the facility (or other accessible location, as appropriate) during the construction, operation and retiring of the facility.

The response plan should include the following components:

Emergency Response

- A plan for communications in the event of an emergency including a description of the chain of communications between the proponent and relevant stakeholders under emergency scenarios applicable to the project.
- A description of how the information will be disseminated to all relevant stakeholders such as the local fire department.
- The emergency response plan should refer to obligations under the Environmental Protection Act with respect to spills.

Non-Emergency Communications

- A plan for non-emergency communications related to the project. This should describe how the public and other organizations will be provided with information about the project. This could include notification of any project changes, results of the ongoing project monitoring, or other matters considered relevant by the applicant.
- A plan for receiving communications from the public and any stakeholder. This should describe how the public and any stakeholders will be directed to correspond with the proponent, how correspondence

will be recorded, how the proponent will address any concerns raised, and the communications plan for the response. This should also describe if/how correspondence will be shared with other stakeholders such as the Ministry of the Environment.

- The procedure for recording any complaints from the public should include the following:
 - a) Notifying the local Ministry of the Environment district office (e.g. the office having jurisdiction over the project location) upon receiving a public complaint. See Appendix 2 for district office contact information. If complaints are received outside of normal business hours, the applicant should notify the MOE’s Spills Action Centre (1-800-268-6060).
 - b) Recording each complaint in a log book or in an electronic file. The information recorded should include name, address and the telephone number of the complainant; time and date of the complaint; details of the complaint; actions taken to remediate the cause of the complaint; and proposed actions to be taken to prevent reoccurrence in the future. The applicant should ensure that these records of complaints can be made available to ministry staff (e.g. ministry field inspection staff) during regular business hours on request.

Reporting Spills

Under Section 92 of the Environmental Protection Act, any person having control of a pollutant that is spilled must report the spill forthwith to the Ministry of the Environment and the municipality. The ministry’s Spills Action Centre (SAC) should be the primary point of contact with the MOE in the event of a spill. SAC can be reached 24 hours a day at 1-800-268-6060.

Emergency Response and Communication Plans must cover the entire life of the project including construction, operation, and decommissioning phases. If it is anticipated that these phases will lead to changes in the plans, a description of how and when the plans will be updated should be included. This description should also note how stakeholders will be informed of changes in practice.

Having a plan to continue dialogue with the local residents for the entire project lifecycle demonstrates an ongoing desire to be a good neighbour in the local community. For more information on this and other tips for being a good neighbour, applicants should consult Chapter 10 of this guide.

9. Considerations for Projects Subject to Specific Land Use Plans

The Ontario Government has worked to protect sensitive and important lands through several land use planning laws. Special considerations apply to the Design and Operations Report for projects that are proposed to be located entirely or in part on lands subject to these defined land use planning areas. These areas (as defined in their respective acts) include the Niagara Escarpment, Lake Simcoe Watershed, Oak Ridges Moraine, and the Greenbelt. The sections below describe what should be considered for each planning area for the purposes of this report.

9.1. Niagara Escarpment

Section 32 of O. Reg. 359/09 stipulates that applicants proposing projects in the Niagara Escarpment Plan Area must submit drafts of REA reports to the Niagara Escarpment Commission (NEC) 90 days prior to the final public meeting or, if public meetings are not required to be held, 30 days before the application is submitted to the REA Director. Depending on the nature of the project, development permits may be required by the NEC and evidence of such permits, if applicable, must be included in the complete submission for a REA. If applicants must seek approval from the NEC, it is advised that the REA documents, such as the Design and Operations Report, be drafted in consideration of the requirements of the NEC. Applicants are encouraged to contact the NEC directly to discuss development permits.

9.2. Lake Simcoe Watershed

If the project location is in the Lake Simcoe watershed applicants must provide additional documentation as a component of the Design and Operations Report. The documentation should demonstrate how the project adheres to the goals of the Lake Simcoe Protection Plan by mitigating negative environmental effects on the shore of Lake Simcoe, the shore of fresh water estuaries

of a stream connected to Lake Simcoe, or the shores of any other water bodies in the Lake Simcoe watershed.

The documentation must include a description of:

- Whether the project requires alteration of the shore of Lake Simcoe, the shore of a fresh water estuary of a stream connected to Lake Simcoe or other lakes or any permanent or intermittent streams in the Lake Simcoe watershed
- How the project may impact any shoreline, including ecological functions
- How the project will be engaged in so as to:
 - Maintain the natural contour of the shoreline by planting natural vegetation and bioengineering as mitigation strategies
 - Use a vegetative riparian area in respect of water bodies, except where the land is and will continue to be used for agricultural purposes

Further information on the goals of the Lake Simcoe Protection Plan and suggested mitigation strategies to guide development of a renewable energy project in the watershed can be found in the Plan itself. This Ministry of the Environment publication is entitled “Lake Simcoe Protection Plan” (2009, Publication #6932e01). Applicants

proposing projects in the Lake Simcoe watershed are also advised to contact the Lake Simcoe Region Conservation Authority to discuss any potential permits that may be required.

9.3. Oak Ridges Moraine

Renewable energy projects at project locations that are located entirely or partly on land subject to the Oak Ridges Moraine Conservation Plan have special provisions that must be considered in an application for a REA. These provisions are located in sections 42–47 of O. Reg. 359/09. The provisions were incorporated in the regulation to maintain protection of the Oak Ridges Moraine in respect of renewable energy projects since these are now exempt from the Planning Act. While O. Reg. 359/09 describes the minimum legal requirements that pertain to projects in the Oak Ridges Moraine, applicants are expected to consider the full intent of the Oak Ridges Moraine Conservation Plan when evaluating the potential for negative environmental effects as a result of the proposed project. Depending on the case-specific details of the project, this could be achieved by expanding the Design and Operations Report as follows:

- For projects in landform conservation areas of the plan, providing greater detail on the topography of landforms and a description of how the project may impact landforms including mitigation measures. Such projects should also describe the percentage of developed area and the dimensions of any land rendered impervious as a result of the project.
- Including a stormwater management plan.
- Describing how the project design adheres to a watershed plan developed by a municipality or conservation authority where one exists / is in effect for the area under consideration.
- Providing an account of how planning, design and construction practices ensure that no buildings

or other site alterations impede the movement of plants and animals among key natural features, hydrologically sensitive features and adjacent land within Natural Core Areas and Natural Linkage Areas defined in the Oak Ridges Moraine Conservation Plan.

Applicants for a REA are encouraged to refer to the O. Reg. 140/02 made under the Oak Ridges Moraine Conservation Plan Act and to consult with local municipalities and conservation authorities who have additional experience interpreting the plan as it relates to the project location.

9.4 Greenbelt

Proposed projects located in the Protected Countryside of the Greenbelt are subject to additional requirements under section 41 of O. Reg. 359/09. Though these are the minimum additional requirements, as with projects in the Oak Ridges Moraine it is advised that applicants consider the intent of the Greenbelt Act, 2005 in designing renewable energy projects located in the Greenbelt. Depending on the case-specific details of the project, this could be achieved by expanding the Design and Operations Report as follows:

- Indicating the percentage of developed area and the dimensions of any land rendered impervious as a result of the project
- Including a Stormwater Management Plan
- Describing how the project design adheres to a watershed plan developed by a municipality or conservation authority

Proponents of projects in the Greenbelt are encouraged to refer to the Ministry of Municipal Affairs and Housing 2005 publication “Greenbelt Plan” and to consult with local municipalities and conservation authorities who have additional experience interpreting the plan as it relates to the project location.

10. Requirements for the Design and Operations Report in Table 1 of O. Reg. 359/09

Name of document	Requirements	Renewable energy project
Design and operations report	<ol style="list-style-type: none"> 1. Set out a site plan of the project location at which the renewable energy project will be engaged in, including, <ol style="list-style-type: none"> i. one or more maps or diagrams of, <ol style="list-style-type: none"> A. all buildings, structures, roads, utility corridors, rights of way and easements required in respect of the renewable energy generation facility and situated within 300 metres of the facility, B. any ground water and surface water supplies used at the facility, C. any things from which contaminants are discharged into the air, D. any works for the collection, transmission, treatment and disposal of sewage, E. any areas where waste, biomass, source separated organics and farm material are stored, handled, processed or disposed of, F. the project location in relation to any of the following within 125 metres: the portion of the Oak Ridges Moraine Conservation Plan Area that is subject to the Oak Ridges Moraine Conservation Plan, the area of the Niagara Escarpment Plan, the Protected Countryside, the Lake Simcoe watershed, and G. any noise receptors or odour receptors that may be negatively affected by the use or operation of the facility, ii. a description of each item diagrammed under subparagraph i, iii. one or more maps or diagrams of land contours, surface water drainage and any of the following, if they have been identified in complying with this Regulation: properties described in Column 1 of the Table to section 19, heritage resources, archaeological resources, water bodies, significant or provincially significant natural features and any other natural features identified in the Protected Countryside or in the portion of the Oak Ridges Moraine Conservation Plan Area that is subject to the Oak Ridges Moraine Plan, iv. a description, map or diagram of the distance between the base of any wind turbines and any public road rights of way or railway rights of way that are within a distance equivalent to the length of any blades of the wind turbine, plus 10 metres, <ol style="list-style-type: none"> v. a description, map or diagram of the distance between the base of any wind turbines and all boundaries of the parcel of land on which the wind turbine is constructed, installed or expanded within a distance equivalent to the height of the wind turbine, excluding the length of any blades, and vi. a description, map or diagram of the distance between the base of each wind turbine and the nearest noise receptor. 2. Set out conceptual plans, specifications and descriptions related to the design of the renewable energy generation facility, including a description of, 	Any renewable energy project, other than a project in respect of a Class 2 wind facility.

Name of document	Requirements	Renewable energy project
Design and operations report	<ul style="list-style-type: none"> i. any works for the collection, transmission, treatment and disposal of sewage, including details of any sediment control features and storm water management facilities, ii. any things from which contaminants are discharged into the air, and iii. any systems, facilities and equipment for receiving, handling, storing and processing any waste, biomass, source separated organics, farm material and biogas. <p>3. Set out conceptual plans, specifications and descriptions related to the operation of the renewable energy generation facility, including,</p> <ul style="list-style-type: none"> i. in respect of any water takings, <ul style="list-style-type: none"> A. a description of the time period and duration of water takings expected to be associated with the operation of the facility, B. a description of the expected water takings, including rates, amounts and an assessment of the availability of water to meet the expected demand, and C. an assessment of and documentation showing the potential for the facility to interfere with existing uses of the water expected to be taken, ii. a description of the expected quantity of sewage produced and the expected quality of that sewage at the project location and the manner in which it will be disposed of, including details of any sediment control features and storm water management facilities, iii. a description of any expected concentration of air contaminants discharged from the facility, iv. in respect of any biomass, source separated organics and farm material at the facility, <ul style="list-style-type: none"> A. the maximum daily quantity that will be accepted, B. the estimated annual average quantity that will be accepted, C. the estimated average time that it will remain at the facility, and D. the estimated average rate at which it will be used, and v. in respect of any waste generated as a result of processes at the project location, the management and disposal of such waste, including, <ul style="list-style-type: none"> A. the expected types of waste to be generated, B. the estimated maximum daily quantity of waste to be generated, by type, C. processes for the storage of waste, and D. processes for final disposal of waste. <p>4. Include an environmental effects monitoring plan in respect of any negative environmental effects that may result from engaging in the renewable energy project, setting out,</p> <ul style="list-style-type: none"> i. performance objectives in respect of the negative environmental effects, ii. mitigation measures to assist in achieving the performance objectives mentioned in subparagraph i, 	Any renewable energy project, other than a project in respect of a Class 2 wind facility.

Name of document	Requirements	Renewable energy project
Design and operations report	<ul style="list-style-type: none"> iii. a program for monitoring negative environmental effects for the duration of the time that the project is engaged in, including a contingency plan to be implemented if any mitigation measures fail. <p>5. Include a response plan setting out a description of the actions to be taken while engaging in the renewable energy project to inform the public, Aboriginal communities and municipalities, local roads boards and Local Services Boards with respect to the project, including,</p> <ul style="list-style-type: none"> i. measures to provide information regarding the activities occurring at the project location, including emergencies, ii. means by which persons responsible for engaging in the project may be contacted, and iii. means by which correspondence directed to the persons responsible for engaging in the project will be recorded and addressed. <p>6. If the project location is in the Lake Simcoe watershed, a description of whether the project requires alteration of the shore of Lake Simcoe, the shore of a fresh water estuary of a stream connected to Lake Simcoe or other lakes or any permanent or intermittent stream and,</p> <ul style="list-style-type: none"> i. how the project may impact any shoreline, including the ecological functions of the shoreline, and ii. how the project will be engaged in to, <ul style="list-style-type: none"> A. maintain the natural contour of the shoreline through the implementation of natural shoreline treatments, such as planting of natural vegetation and bioengineering, and B. use a vegetative riparian area, unless the project location is used for agricultural purposes and will continue to be used for such purposes. 	Any renewable energy project, other than a project in respect of a Class 2 wind facility.

Chapter 7

Guidance for preparing the Decommissioning Plan Report

1. Purpose of the Decommissioning Plan Report

The Decommissioning Plan Report (DPR) is described in item 3 of Table 1, found in the Renewable Energy Approval Regulation (O. Reg. 359/09). It is a mandatory report that is included as part of the complete submission sent to the Ministry of the Environment (MOE) for approval of all renewable energy projects that require a Renewable Energy Approval (REA) other than small scale Class 2 wind facilities (> 3 kW and < 50 kW).

A DPR is required to describe how the applicant proposes to restore the project location to a clean and safe condition suitable for the likely future use of the land on which it is located. This includes retiring the elements of the renewable energy generation facility, restoring the land and water and managing the excess materials and waste.

At the time of submitting a DPR as part of a REA application, actual decommissioning will likely be a number of years in the future. For this reason, an applicant may not be able to predict with complete certainty the specific details for how decommissioning activities will ultimately be carried out. The importance of the DPR at the time of submission is to require the proponent to consider the proposed decommissioning activities and to identify potential negative environmental effects that may arise as a result of

decommissioning and outline potential mitigation measures when the project is still being planned.

In most cases, when a project is approved, the Director will impose a condition that requires the applicant to generate an updated and comprehensive decommissioning plan six months in advance of the start of decommissioning and submit it to the Director. While this final comprehensive decommissioning plan will be more detailed than the DPR submitted with a REA application, it is important that the submitted DPR still provide an outline of all anticipated decommissioning activities. This will be important for demonstrating to the ministry, the public, and other stakeholders that the applicant has carefully considered how decommissioning will be done in a manner that will mitigate potential negative environmental effects.

2. Determining the Probable Future Use for the Facility

The first step in preparing a decommissioning plan is to determine the probable future use of the project location after the project is decommissioned. This determination should be made by the applicant and indicated clearly in the DPR. To guide the applicant in describing the probable future use, the following should be considered:

- For many projects the current land use prior to development of the project may be the most probable future use. For instance a wind or solar project on agricultural land would most probably be returned to a similar agricultural use at the termination of the project.
- Current zoning or Official Plans of the local municipality may be helpful in determining a probable future use.
- If the project is located within a specified land use planning area such as the Oak Ridges Moraine, Greenbelt, Niagara Escarpment, Lake Simcoe watershed, among others, the relevant land use plans may assist in determining appropriate conditions of the probable future use.
- In some cases it may be probable that certain components of a facility would be needed for an alternative future use. For instance, a bio-energy facility may include buildings used for housing generating equipment and/or material storage that could be used for a future industrial use. In this situation, the applicant may define a potential future industrial use and create a DPR that reflects the activities needed to allow for this future use.
- While defining the probable future use is important for creating a meaningful plan, the ministry recognizes that there is potential for the future use to change prior to actual decommissioning. Applicants will likely be required to update their decommissioning plan in advance of decommissioning and to describe if any circumstances have changed.

3. Content Overview

The DPR describes the plans for decommissioning the renewable energy generation facility and is required to contain, at a minimum, the following information:

- 1. Procedures for dismantling or demolishing components of the facility
- 2. Activities related to the restoration of any land and water to bring the site into a condition consistent with the probable future use
- 3. Procedures for managing excess materials and waste

Since these items are contained in Table 1 of O. Reg. 359/09, the DPR must contain information about each of them in order to ensure that a REA application will be deemed complete when submitted to the ministry.

In addition to describing how the project will be decommissioned at the end of the project life, the DPR should also include separate section with a plan

for decommissioning in the event that the project is abandoned during construction. This plan should account for the mitigation of any impacts from stormwater runoff or dust resulting from an incomplete construction process. The probable end use for the site if abandoned during construction should be the use of the site prior to construction.

4. Description of Decommissioning Activities

Decommissioning of a renewable energy generation facility will require dismantling and removal of equipment and site restoration. The DPR should provide a plan for the decommissioning of all structures, foundations and infrastructure that are not consistent with the defined probable future use. Applicants should note that practices that limit the need for clearing an area or that minimize other potential negative environmental effects for the purposes of equipment removal are preferred. Any equipment or infrastructure not proposed to be removed should be clearly noted with an appropriate rationale justifying this approach.

4.1. Procedures for Dismantling and Demolishing

The tables below represent a general description of decommissioning activities for different renewable

energy technologies. It should be noted that the decommissioning plan in respect of these activities should include but is not limited to the items presented in these tables. The probable future use of the project location should also be considered in selecting the appropriate activities from the tables.

4.1.1. Above-ground Structure Decommissioning

Wind	<ul style="list-style-type: none">• Dismantling and removal of turbine components including blades, nacelle, tower and transformers• Removal of cables, access roads (in consultation with the land owner, if applicable), crane pads/laydown areas, transmission/distribution lines, buildings, transformers
Bio-energy	<ul style="list-style-type: none">• Dismantling and removal or cleaning/preparing for future use of above-ground buildings, structures, and equipment used for the generation of energy and the storage of process feedstocks and byproducts• Dismantling and removal of access roads and parking/loading areas as appropriate for the probable future use of the site• Disconnecting and removing all transmission/distribution lines, connections and any supporting structures such as distribution poles, if applicable
Solar	<ul style="list-style-type: none">• Removal of solar photovoltaic modules, mounts and supporting structures, transformers and inverters• Removal of transmission/distribution lines• Removal of access roads (in consultation with the landowner, if applicable)

4.1.2. Below-ground Structure Decommissioning

Wind	<ul style="list-style-type: none">• Removal of the wind turbine foundation to an extent consistent with the probable future use• Removal of any underground electrical lines
Bio-energy	<ul style="list-style-type: none">• Removal of below-ground structures, such as storage tanks, pipes, electrical components, foundations• Disconnecting and removing all electrical lines and connections
Solar	<ul style="list-style-type: none">• Removal of underground mounts, supporting structures, electrical connections, foundational structures, if any

In preparing the DPR, applicants should indicate the processes by which the equipment will be dismantled and removed from the site. This should be done to indicate commitments for mitigating potential negative environmental effects. For instance, erosion and sedimentation control measures as well as other Best Management Practices could be proposed as mitigation strategies during decommissioning. Applicants should also consider the potential for the decommissioning activities to impact cultural heritage (such as archaeology) and discuss any steps that would be taken to assess/mitigate such impacts.

4.2. Site Restoration

In the DPR, applicants are required to describe how the lands and water will be restored to bring the site into a condition consistent with the probable future use. The site restoration activities that may be considered as part of the DPR include but are not limited to removal of all non-native material placed in the project location area including stone, concrete and asphalt. Restoration can also include seeding and re-vegetation to mitigate potential soil erosion. In describing the site restoration

activities, applicants are strongly encouraged to consider the soil type as well as the size and type of infrastructure implemented and develop measures accordingly. For example, if the renewable energy generation facility is to be decommissioned to a probable future agricultural land use the applicant should propose methods for restoring the nutrient content of the soil to provide for that use.

4.3. Managing Excess Materials and Waste

In the DPR, applicants must describe the plans to manage the excess material and waste that will be generated as part of the decommissioning of the renewable energy generation facility. It is recommended that applicants provide a description of

the type of the excess material and waste that would be generated as a result of the decommissioning of the facility. The DPR should describe how this excess material and waste will be managed including an indication of whether this material will be transported off-site. If the waste materials are expected to be disposed of at a landfill site, some information about the type of landfill site (i.e. hazardous waste) that would be used should be provided. For bio-energy projects, for example, applicants are required to describe the process of the removal and proper disposal of any biomass that would remain at the facility. If any facility components can be recycled or reused, this should also be described. Where it is proposed to leave any materials on site, the plan needs to clearly explain how this will not adversely impact the current and likely future use of the land. Any material that would be considered waste must be disposed of in accordance with all applicable legislation.

5. Emergency Response and Communications Plans

Depending on the nature of the decommissioning activities proposed, applicants may need to include measures in the Emergency Response and Communications Plans to address concerns related to decommissioning. For a detailed discussion on Emergency Response and Communications Plans please refer to Section 8 of Chapter 6.

6. Public, Municipal and Aboriginal Community Notification

The DPR may include decommissioning activities that warrant issuing notice to potentially affected stakeholders. For instance, a municipality should be notified in advance if decommissioning activities may impact local traffic on a municipally controlled road. At the time of submitting an application, the applicant may not be able to provide exact details about everyone who will be notified and at what time, however this should be updated with the DPR six months in advance of decommissioning. Applicants should also note that an Emergency Response and Communications Plan is a component of the Design and Operations Report that must also be submitted as part of a complete application for a REA. Applicants can describe the details of who will be notified in relation to decommissioning activities in this plan and provide a link through reference in the DPR.

7. Other Approvals

Applicants should note that they may require approvals other than REA related to their proposed decommissioning activities. For example, if the probable future use of the site is a more sensitive land use, the applicant may require a Record of Site Condition under the Ministry of the Environment's Records of Site Condition Regulation, O. Reg. 153/04 made under the Environmental Protection Act (Records of Site Condition - XV.1 of the act).

For the renewable energy projects proposed to be located in an area under the jurisdiction of the Niagara Escarpment Commission (NEC), the DPR must be submitted to the NEC as part of the NEC permit process. Applicants should note that for the decommissioning activities for a project located in an area under the jurisdiction of the NEC, they will require a Development Permit from NEC to carry out the decommissioning. It is highly recommended that applicants consult with NEC on the issues related to the decommissioning of a renewable energy generation facility if the facility is proposed to be located in an area under the jurisdiction of the NEC.

In addition, decommissioning activities may require permits from other agencies, including but not limited to, the Federal Department of Fisheries and Oceans, MNR and Conservation Authorities, as well as municipal permits. Applicants should also note that for projects within areas under forest management plans, there may be additional conditions regarding decommissioning and site restoration set out in the existing forest management plan that will need to be respected. For projects which will be located on Crown land, MNR should be consulted for additional requirements.

8. Ongoing Compliance Monitoring and Financial Assurance

The requirements of the Renewable Energy Approval regulation and any conditions of approval attached to a REA issued to an applicant will set out the rules the project must follow to be in compliance throughout the project lifetime.

As part of our compliance monitoring approach, the Ministry of the Environment undertakes unannounced, proactive inspections of renewable energy facilities. As well, the ministry routinely undertakes inspections, as warranted, in response to complaints. If a facility is found to be failing to comply with the conditions of its Renewable Energy Approval, the ministry can use enforcement powers under the Environmental Protection Act, as appropriate, to bring the facility into compliance.

The Ministry of the Environment also retains the authority under Section 132 of the Environmental Protection Act to require Financial Assurance on a project-specific basis on any project issued a REA. Typically the ministry requires Financial Assurance against potential future environmental impacts and liability and against potential future waste disposal costs.

A Financial Assurance estimate is required specifically for Class 2 and 3 anaerobic digestion facilities and

thermal treatment facilities that are managing waste as identified in section 49, 50 and 52 of O. Reg. 359/09. Applicants are required to provide an estimated Financial Assurance amount that is calculated based on the amount of waste that will be managed in such facilities. This calculation and the provision of funds must be made in accordance with the Ministry of the Environment publication “Financial Assurance Guideline”, Guideline F-15, (Publication #0226e03). For projects that require a calculation of estimated financial assurance, this calculation should be included in the Design and Operations Report.

While well-planned and well-managed renewable energy facilities are not expected to pose environmental risks at the time of decommissioning, the ministry will use its powers of compliance enforcement and the requirement for financial assurance, as appropriate, to ensure risks are managed.

Chapter 8

Guidance for preparing the Water Assessment and Water Body Reports

1. Purpose

The purpose of this chapter is to clarify the requirements for the water assessment (sections 29, 30 and 31) and the water body reports (subsections 39 (2) and 40(2)) required under Ontario Regulation 359/09 (O. Reg. 359/09). It should be noted that this guidance document covers all renewable energy generation facilities that require a Renewable Energy Approval (REA), except Class 2 ($> 3 \text{ kW} < 50 \text{ kW}$) wind facilities. Class 2 wind facilities require a REA but do not require a water assessment.

2. Key Definitions

Permanent Stream	"Permanent stream" means a stream that continually flows in an average year
Intermittent Stream	"Intermittent stream" means a natural or artificial channel, other than a dam, that carries water intermittently and does not have established vegetation within the bed of the channel, except vegetation dominated by plant communities that require or prefer the continuous presence of water or continuously saturated soil for their survival
Kettle Lake	"Kettle lake" means a depression formed by glacial action and permanently filled with water
Lake Trout Lake	"Lake trout lake" means a lake that has been designated by the Ministry of Natural Resources for lake trout management, as set out in records maintained by and available from that Ministry
Lake Simcoe Watershed	"Lake Simcoe watershed" has the same meaning as in the Lake Simcoe Protection Act, 2008
Seepage Area	A "seepage area" means a site of emergence of ground water where the water table is present at the ground surface, including a spring
Wetland	<p>A "wetland" means land such as a swamp, marsh, bog or fen, other than land that is being used for agricultural purposes and no longer exhibits wetland characteristics, that:</p> <ul style="list-style-type: none">• Is seasonally or permanently covered by shallow water or has the water table close to or at the surface; and• Has hydric soils and vegetation dominated by hydrophytic or water-tolerant plants.
Wildlife Habitat	"Wildlife habitat" means an area where plants, animals and other organisms live or have the potential to live and find adequate amounts of food, water, shelter and space to sustain their population, including an area where a species concentrates at a vulnerable point in its annual or life cycle and an area that is important to a migratory or non-migratory species

3. Regulation Requirements

All Renewable Energy Approval (REA) applications, with the exception of those in respect of a Class 2 wind facility, require a water assessment in accordance with sections 29, 30 and 31 of O. Reg. 359/09. The water assessment includes both records review and site investigation with the purpose of identifying and characterizing water bodies in the vicinity of the project location. A Water Assessment Report must be submitted as part of a complete REA application.

If the conclusion of the Water Assessment Report is that a proposed project location is within the setbacks described in sections 40 and 39 of O. Reg. 359/09, then a Water Body Report will be required for the project. Furthermore, sections 44 and 45 of O. Reg. 359/09 describe additional setback requirements for projects that are proposed within the Oak Ridges Moraine Conservation Plan Area.

A Water Body Report must be prepared in accordance with section 39(2) and must assess negative environmental effects, identify mitigation measures to address negative environmental effects, and describe how the Environmental Effects Monitoring Plan and Construction Plan Report address the effects which are submitted as part of the REA application.

Water Body Reports, which are submitted for review to the Ministry of the Environment (MOE), deal specifically with issues pertaining to water quality and water quantity. In the course of preparing a water assessment study any issues that have been identified that are ecologically relevant, such as impacts to plants, animals or ecosystems, must be referenced in the Water Assessment Report. If a Water Body Report is required in respect of that water body the information about plant, animal or ecosystems should be cross referenced in the Water Body Report that would be submitted to the MOE for review. Any information that would be collected about natural features during the water assessment study or Water Body Report preparation stages (e.g. wildlife habitat) must be dealt with in detail in the Natural Heritage Assessment (NHA) Report and submitted for review to the Ministry of Natural Resources (MNR).

In accordance with O. Reg. 359/09, applicants are required to prepare separate reports for NHA and for water bodies. The MNR will review NHAs and the MOE will review Water Body Reports. Any information collected during the Water Assessment Report and the Water Body Report preparation stages that would inform the work required under the NHA study should be included in the NHA Report which will be submitted to the MNR.

In addition to the content of a Water Body Report, if required, applicants must still describe potential negative environmental effects related to surface and groundwater in several of the required REA reports. These reports include the Project Description Report, the Construction Plan Report and the Design and Operations Report and guidance on discussing impacts to water is provided in Chapters 4, 5, and 6, respectively.

Applicants are encouraged to initiate the water assessment studies as early as possible and consult with the MOE REA team to determine the requirements. The MOE REA team will ensure that the appropriate MOE District and Regional Offices are involved as well.

3.1. Potential Additional Requirements

While the REA is a streamlined approval that takes the place of a number of permits previously issued by the MOE for such facilities, there are additional permits separate from the REA that could apply depending on the unique features of each proposal.

Applicants are encouraged to contact other agencies such as local Conservation Authorities, local MNR District Offices and local Department of Fisheries and Oceans (DFO) Offices in order to identify, early in the process, any additional permit requirements and discuss project design requirements.

The contact information for local Conservation Authorities and local MNR District Offices is available in Appendix 2 of this document.

Should there be any permit or project design requirements under the Conservation Authorities Act, Fisheries Act and/or the Endangered Species Act, 2007, applicants should discuss these requirements both in the Project Description Report as well as in the Water Body Report that would be submitted to the MOE as part of a complete REA application. Further information

in respect of other potential additional permits can be found in Chapter 1 of this document.

3.1.1. Conservation Authorities Act

Renewable energy projects may require approval/permission from the local Conservation Authority (where one exists) under the Conservation Authorities Act. Through Conservation Authorities' Development, Interference and Alteration Regulations, made under Section 28 of the Conservation Authorities Act, Conservation Authorities are empowered to regulate development and activities in or adjacent to wetlands, river or stream valleys, watercourses, Great Lakes and large inland lakes as well as shorelines and hazardous lands. Development taking place on these lands may require permission from the local Conservation Authority to confirm that the control of flooding, erosion, dynamic beaches or pollution is not affected.

Conservation Authorities also regulate the straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream, watercourse or the changing or interfering in any way with a wetland. It is recommended that applicants contact local Conservation Authorities early in the Water Assessment and Water Body Report process to arrange a site visit (where possible) to determine specific application requirements for such approvals/permissions.

Should applicants propose to construct facility components within an area under the regulatory jurisdiction of a Conservation Authority, pre-consultation with the appropriate local Conservation Authority is strongly recommended as early in the process as possible. For example, local Conservation Authorities may not be able to approve the proposal if the infrastructure proposed within the regulated area creates an unacceptable flooding or erosion risk.

3.1.2. Fisheries Act

In Canada, fish habitat is regulated under the federal Fisheries Act and the Policy for the Management of Fish Habitat. The Department of Fisheries and Oceans Canada administers its Fish Habitat Management Program and plays a pivotal role in the conservation and protection of fish habitat in Canada. The Fish Habitat Protection provisions of the federal Fisheries Act provide for the protection of fish habitat. The

principle provision (section 35) states that no one *may carry on any work or undertaking that results in the harmful alteration, disruption or destruction (HADD) of fish habitat*, unless authorized to do so by the Minister of Fisheries and Oceans Canada.

An applicant of a project which may impede fish passage, change water flow in a watercourse, impact fish habitat, or kill fish by means other than fishing, should contact a local Conservation Authority where one exists, or otherwise, should contact the appropriate local DFO Office to discuss their requirements. Before they get too far in the project planning, applicants must make sure that they are clear as to which process they need to follow to be in compliance with the Fisheries Act. If it is required, applicants should note that authorizations under the Fisheries Act must be obtained from the appropriate federal authority.

The Fisheries Act has other provisions related to Fish Habitat Protection and Pollution Prevention, including those related to the prohibition of depositing deleterious substances into fish-bearing waters (section 36) and fish passage (found in several sections). Subsection 36(3) of the Fisheries Act is administered by Environment Canada and specifies that, unless authorized by federal regulation, no person shall deposit or permit the deposit of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water. Applicants should note that for renewable energy projects no authorizations could be obtained for disposing any deleterious substances into the water.

Applicants should also note that the DFO and Conservation Authorities have partnership agreements whereby Conservation Authorities review proposals under the Fisheries Act on DFO's behalf.

3.1.3. Endangered Species Act, 2007

Applicants may also need to obtain a permit under the Endangered Species Act, 2007 from the MNR. Applicants should contact the appropriate local MNR District Office, early in the process, to discuss any potential requirements for their projects under the Endangered Species Act, 2007. Applicants should also consult the MNR's *"Approval and Permitting Requirements Document for Renewable Energy Projects."*

4. Water Assessment Requirements

4.1. Water Body Definitions

Under O. Reg. 359/09, a “water body” is defined to include a lake (including kettle lakes and Lake Trout lakes), a permanent stream, an intermittent stream and a seepage area but does not include:

- Grassed waterways
- Temporary channels for surface drainage, such as furrows or shallow channels that can be tilled and driven through
- Rock chutes and spillways
- Roadside ditches that do not contain a permanent or intermittent stream
- Temporarily ponded areas that are normally farmed
- Dugout ponds
- Artificial bodies of water intended for the storage, treatment or recirculation of runoff from farm animal yards, manure storage facilities and sites and outdoor confinement areas

Kettle lakes are defined to mean a depression formed by glacial action and permanently filled with water.

A Lake Trout lake at or above development capacity is defined to mean a lake that has been designated by the MNR for lake trout management. Development capacity is defined as having dissolved oxygen content of 7 mg/l.

Permanent streams are defined to mean those that continually flow during an average year.

An intermittent stream is defined to mean a natural or artificial channel, other than a dam, that carries water intermittently and does not have established vegetation within the bed of the channel, except vegetation dominated by plant communities that require or prefer the continuous presence of water or continuously saturated soil for their survival.

Seepage areas are defined to be sites where ground water emerges and the water table is present at the ground surface including springs. Applicants should note that some seepage areas are also wetlands. In accordance with O. Reg. 359/09, wetlands are defined as a natural feature. Information gathered regarding any potential negative environmental effects to wetlands, may need to be addressed both in the Water Body Report and the NHA.

4.2. Project Location and Water Body Boundaries

The development prohibitions and setbacks from natural features and water bodies established in O. Reg. 359/09 are measured from the boundary of the renewable energy project location. As per the definition in O. Reg. 359/09, a renewable energy project location includes: “...a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project”.

A renewable energy project includes all activities associated with the construction, installation, use, operation, maintenance, changing or retiring of the renewable energy generation facility. Therefore, for the purposes of measuring the distance from the project location to a natural feature or a water body, a project location boundary is considered to be the outer limit where all project activities (e.g. site preparation and construction) will occur or where infrastructure will be located (e.g. temporary structures, lay down areas, storage facilities, generation equipment, access roads, transmission lines less than 50 kilometres in length, etc.).

Measurement from the project location boundary to the feature should be made from the outer extent of the project location along a horizontal plane to the boundary of the natural feature or water body. As the renewable energy project location includes air space that the project occupies, the outer boundary of a project location may be above ground level. Schematic diagrams of this interpretation are presented in Chapter 1 as Figures 1, 2, and 3.

The setbacks for lakes and streams, both permanent and intermittent, are required to be measured from the average annual high water mark. For the purposes of the REA applications, the average annual high water mark for streams means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land. In flowing waters this refers to the “active channel/bankfull level” which is often the one-to two-year flood flow return level. For inland lakes, it refers to those parts of the water body bed and banks that are frequently flooded by water so as to leave a mark on the land and where the

natural vegetation changes from predominately aquatic vegetation to terrestrial vegetation (excepting water-tolerant species). For reservoirs (or controlled lakes) this refers to normal high operating levels (adapted from Fisheries and Oceans Canada, 2009). For projects within the Lake Simcoe watershed area, in determining the average annual high water mark, applicants should take into consideration the “Lake Simcoe shoreline” definition provided in the Lake Simcoe Protection Plan.

This approach is consistent with the definitions provided in the policies made under the Public Lands Act and the MNR’s *“Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement”* 2005 publication, Second Edition (this publication is available from the MNR’s website).

4.3. Water Assessment Requirements

In accordance with O. Reg. 359/09, a records review and a site investigation are required for all renewable energy generation facilities which require a REA, except Class 2 wind facilities.

4.3.1. Records Review

In accordance with section 30 of O. Reg. 359/09, applicants must determine whether the project location is:

- In a water body
- Within 120 metres of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity
- Within 300 metres of the average annual high water mark of a lake trout lake that is at or above development capacity
- Within 120 metres of the average annual high water mark of a permanent or intermittent stream
- Within 120 metres of a seepage area

O. Reg. 359/09 requires the search and analysis of the records that relate to water bodies and that are maintained by:

- The MNR
- The Crown in right of Canada
- A conservation authority, if the project location is in the area of jurisdiction of the conservation authority

- Each local and upper-tier municipality in which any part of the project location is situated
- The planning board of an area of jurisdiction of a planning board in which the project location is situated
- The municipal planning authority of an area of jurisdiction of a municipal planning authority in which the project location is situated
- The local roads board of a local roads area in which the project location is situated
- The Local Services Board of a board area in which the project location is situated
- The Niagara Escarpment Commission, if the project location is in the area of the Niagara Escarpment Plan

In addition, the MOE District and Regional Offices can provide relevant information. Appendix 2 contains contact information for the MOE District and Regional Offices.

In accordance with section 30(2) of O. Reg. 359/09, applicants must prepare a report that sets out a summary of the records that were searched and the results of the analysis.

4.3.2. Site Investigation

Applicants should note that this section provides a description of the site investigation requirements for the purposes of water bodies prior to the amendments to O. Reg. 359/09 which came in effect on January 1, 2011 as well as the requirements after the amendments which came in effect on January 1, 2011.

Water bodies identified in the records review must be investigated to confirm the presence, location and boundary of the feature. Section 31 of O. Reg. 359/09 requires that an investigation of the land and water located within 120 metres of the project location be conducted for the purpose of determining:

- Whether the results of the records review are correct or require correction, and to identify any required corrections
- Whether any additional water bodies exist, other than those identified in the records review
- The boundaries, located within 120 metres of the project location, of any water body that was identified in the records review or the site investigation
- The distance from the project location to the boundaries of any water body that was identified in the records review

Applicants who issued project notices by December 31, 2010, as described in section 15(1) of O. Reg. 359/09, may continue to conduct and finalize the water assessment in accordance with the requirements before the amendments. In respect of 31(2) this would require a site investigation within 300 m of the entire project location if the records review identified a Lake Trout lake at or above development capacity. Alternatively, the applicant may also choose to follow the amended requirements which came in effect on January 1, 2011, if they give notice to the Director as part of their renewable energy application.

For further information with respect of the amendments to O. Reg. 359/09, applicants may refer to Chapter 1, Section 1.1 in this document.

In accordance with subsection 31(2) of O. Reg. 359/09, for Lake Trout lakes at or above development capacity that have been identified within 300 metres of the project location the investigation is required in respect of the land and water located between the project location and the Lake Trout lake that is at or above development capacity.

The investigation for a Lake Trout lake is conducted to determine:

- The boundaries of any Lake Trout lake that is at or above development capacity, if:
 - o The lake was identified in the records review; and
 - o The boundaries are within 300 metres of the project location; and
- The distance from the project location to the boundaries of the Lake Trout lake which is at or above development capacity.

Identifying intermittent streams and seepage areas properly may require a careful site investigation conducted at an appropriate time of the year. Information related to identifying intermittent streams and seepage areas is provided below. Considering that Conservation Authorities and local MNR District Offices have important knowledge about local watercourses, applicants are also strongly encouraged to consult with the local Conservation Authority and local MNR District Office on the issues related to identifying water bodies early in the process.

Site Investigation to Identify an Intermittent Stream

- Walk and investigate carefully any drainage channels that exist upstream beyond the areas containing flowing water.
- Preferably undertake this survey at a time of year when the water table is high, normally the spring.
- In the absence of observable water, watch for the following as they may be indicative of an intermittent stream:
 - o Streambed material that differs from the surface of the ground surrounding the stream, e.g. recent accumulations of silt, sand, cobble, or gravel in the streambed
 - o Ridges of sand or silt deposited roughly parallel to the stream on its flood plain
 - o Presence of seepage areas, springs, or a high water table near the stream channel
 - o Presence in or near the stream channel of wetland plants, attached algae, clam or mussel shells, crayfish chimneys or exoskeletons, or aquatic insect larvae
 - o Sediments deposited on top of plants or plant debris in the streambed
 - o Absence of leaf litter in the streambed
 - o Accumulations of debris, such as leaves, twigs or litter, on the upstream side of obstructions in the stream channel
 - o Presence of hydric soils in the streambed

SITE INVESTIGATION TO IDENTIFY A SEEPAGE AREA

- Conduct site-scale topographic surveys, groundwater or vegetation investigations.
- Follow all watercourses to their sources.
- Preferably undertake this survey at a time of year when the water table is high, normally the spring.
- Identify areas with vegetation indicative of wet areas, i.e., areas where water table may be close to ground surface and are likely locations of seepage areas or springs.
- Identify areas with red or rust coloured stains on the soil surface, i.e., areas which usually precipitate iron hydroxides indicating areas of groundwater discharge.
- Locate patches of ground which are free of ice and snow in winter as these may indicate locations of seepage areas and springs.

Source: Oak Ridges Moraine Conservation Plan
Technical Paper 12 – Hydrological Evaluations for
Hydrologically Sensitive Features accessible at
www.mah.gov.on.ca/AssetFactory.aspx?did=4898

In accordance with subsection 31(4) of O. Reg. 359/09, the Water Assessment Report, must present the findings of the site investigation and discuss:

- Any corrections to the records review; and
- Information relating to each water body identified in the records review and in the site investigation, including:
 - o The type of water body;
 - o The plant and animal composition; and
 - o The ecosystem of the land and water investigated.

Applicants should note that the information related to plant and animal composition and the ecosystem of the land and water investigated may help to inform the Natural Heritage Assessment which considers potential negative environmental effects to natural features (e.g. wildlife habitat).

In the Water Assessment Report, which would include the findings of the records review and site investigation, applicants are required to present a map showing:

- All boundaries of water bodies located within 120 or 300 metres of the project location, depending on the type of water body
- The location and type of each water body identified in relation to the project location
- All distances from the project location to the boundaries of any water body identified during the records review and site investigation

In the report, applicants must provide the following information:

- A summary of methods used to make observations for the purposes of the site investigation
- The name and qualifications of any person conducting the site investigation

Note that while a physical site investigation is generally required, O. Reg. 359/09 allows for an alternative site investigation where physical investigation cannot reasonably be completed due to physical or legal barriers to accessing land. Applicants should contact the MOE REA team to discuss an alternative site investigation if they believe physical investigation is not reasonable.

If the site investigation was conducted by visiting the site the Water Assessment Report must contain the following information:

- The dates and times of the beginning and completion of the site investigation
- The duration of the site investigation
- The weather conditions during the site investigation
- Field notes kept by the person conducting the site investigation

If applicants are conducting an alternative site investigation the Water Assessment Report must discuss why it was not reasonable to conduct a physical site investigation and the dates of the generation of the data used in the alternative investigation of the site.

4.3.3. Baseline Information

As part of the water assessment study, applicants may consider collecting baseline information which will be used in describing, assessing and monitoring any negative environmental effects from their projects.

Applicants should note that depending upon the type of project and activity proposed and type of water body (e.g. a Lake Trout lake at or above development capacity versus a stream), the necessary baseline information would vary. A meeting with the MOE's REA team is generally encouraged to determine/finalize the scope and extent of baseline information for renewable energy projects. The MOE's REA team will ensure the participation of appropriate MOE District Offices in these discussions. In addition, applicants are encouraged to consult with the local MNR District Office and local Conservation Authority to determine if additional information exists to assist in addressing baseline information needs. Contact information for these offices is provided in Appendix 2.

Applicants may obtain water bodies information from the Natural Resources Canada's (NRCan) topographic mapping databases. This information is available at the NRCan's Centre for Topographic Information website at <http://maps.nrcan.gc.ca/>.

WATER QUALITY AND QUANTITY

In collecting baseline information, applicants can have access to the MOE's Provincial Water Quality Monitoring Network to collect information on stream flow and water levels at the following web link:
www.ene.gov.on.ca/programs/5310e.htm.

MNR's Surface Water Monitoring Centre in Peterborough also collects data from stream flow and precipitation gauges weekly for the Ontario Low Water Response

Program. Lake Partner information can be found at the following MOE website
www.ene.gov.on.ca/en/water/lakepartner/index.php.

SOURCE PROTECTION AREAS

Under the Clean Water Act, 2007, Assessment Reports for source protection areas (in areas generally covered by Conservation Authority boundaries) have been prepared outlining surface water vulnerability (including identification of intake protection zones), groundwater vulnerability (including identification of wellhead protection areas, highly vulnerable aquifers, and significant groundwater recharge areas), water budgets and water quantity stress assessments, and drinking water quality threat assessments. Proposed, draft and approved Assessment Reports can be useful reference materials in collecting baseline information in respect of vulnerable drinking water source protection areas. In addition, by 2012, Source Protection Plans will be completed containing area specific protection policies in each source protection area. Applicants should document whether they are within a vulnerable area identified in Assessment Reports and (post 2012) whether the Source Protection Plan identifies any policies that would be applicable to their proposed facility. The available Source Water Assessment Reports can be viewed at
www.conservation-ontario.on.ca/source_protection/otherswpreionsindex.htm.

AVERAGE ANNUAL HIGH WATER MARK

For projects proposed in an area under the jurisdiction of a Conservation Authority, local Conservation Authorities may have information to assist with determining the average annual high water mark for lakes and streams. For projects proposed to be located in areas outside the jurisdiction of a Conservation Authority, local MNR District Offices may have useful information related to

determining the average annual water mark for lakes and streams and measuring setbacks from seepage areas. The Water Survey of Canada may also have information in respect of water levels. This data is available at:
www.ec.gc.ca/rhc-wsc/default.asp?lang=En&n=894E91BE-1
and www.wateroffice.ec.gc.ca/index_e.html.

Applicants should note that this information may not be readily available and, as such, they may need to conduct studies to determine the average annual high water mark. For any questions specific to determining the average annual high water mark for lakes and streams and measuring setbacks from seepage areas, applicants may contact the MOE's REA team.

FISH AND FISHERIES

Applicants may need to collect information related to cold water or warm water fisheries as well. This information may be used to assess any negative effects to fisheries that could be resulting from any changes to water quality and/or water quantity.

Fish and fisheries information may be obtained from local Conservation Authorities or the DFO and may also be supplemented by local MNR District Offices if more current information is available in the local MNR District Office database. There are publicly available information sources, e.g. Land Information Ontario and Natural Heritage Information Centre, which could be immediately reviewed by applicants.

This information could also be used for other permit applications that would be submitted to other agencies including the Conservation Authorities and the DFO to fulfill the requirements under the Conservation Authorities Act and the federal Fisheries Act.

SOIL, DRAINAGE AND VEGETATION

The MNR District Offices and local municipalities may have useful soil, drainage and vegetation information.

5. Water Body Report Requirements

A water study is required when the construction, installation or expansion of a renewable energy generation facility is within setback distances set out in O. Reg. 359/09. The findings of this study will be documented in a Water Body Report.

A Water Body Report must be prepared in accordance with section 39(2) of O. Reg. 359/09 and is required to include an assessment of the negative environmental effects related to the project (e.g. site preparation, construction, maintenance, operation and decommissioning activities) on the water body and the 30 metres of land around the water body in the area adjacent to the project location. In addition to the assessment of negative environmental effects, in a Water Body Report, applicants must identify mitigation measures to address negative environmental effects and describe how the Environmental Effects Monitoring Plan and Construction Plan Report address the effects which are submitted as part of the REA application.

5.1. Setbacks

In general there are two setback prohibitions in respect of water bodies in O. Reg. 359/09. They are found in section 39 and section 40.

5.1.1. Section 39

Subsection 39(1) prohibits the construction, installation or expansion of a renewable energy generation facility in a project location that is in or within the 30 metres of the average annual high water mark of a lake (including a Lake Trout lake), intermittent stream, permanent stream or seepage area. The provision is intended to protect direct impacts on shoreline vegetation.

However, this prohibition does not apply if, in addition to the preparation of a Water Body Report, certain components of the renewable energy generation facility remain outside of the setbacks described above.

For Class 3 or 4 wind facilities, turbines and transformer substations must be located outside of the lake, stream or seepage area and cannot be located within 30 metres of them.

A wind turbine is defined to mean:

- The structure that supports an electrical generator used to convert wind energy into electricity
- The electrical and mechanical equipment, including electrical generators, used to convert wind energy into electricity

- The base and foundation to which the structure that supports an electrical generator used to convert wind energy into electricity

This definition includes the tower, the blades, the base and foundation. Accordingly, the measurement of 30 metres distance from the water body to a wind turbine should be from the outer limit of a turbine, which is usually the tip of the blade.

For Class 3 solar facilities, solar photovoltaic modules or device and transformer stations must be located outside of the lake, stream or seepage area and cannot be located within 30 metres of them.

For anaerobic digestion facilities, the biomass storage areas, source separated organics storage areas, farm material storage areas, digestate storage tanks, generating units, flares, anaerobic digesters and transformer substations are not permitted to be installed, constructed or expanded in or within 30 metres of a lake, stream or seepage area.

For a thermal treatment facility no biomass storage areas or transformer substation are permitted to be constructed, installed or expanded in or within 30 metres of a lake, stream or seepage area.

Development of other facility components such as transmission/distribution lines and roads can be built within the water body or 30 metre setbacks; however, a Water Body Report must be prepared in accordance with section 39(2) of O. Reg. 359/09 and submitted for review.

Further, should there be proposed facility components within 30 metres of a water body, pre-consultation with the appropriate Conservation Authority is strongly recommended as early in the process as possible to discuss any permitting issues with the proposed facility components. For example, local Conservation Authorities could not issue a development permit if the infrastructure creates an unacceptable flooding or erosion risk. For projects proposed in an area outside the jurisdiction of a Conservation Authority, applicants should contact local MNR District Offices to discuss the matters related to flooding, erosion or other hazards. Applicants should note that the area under the regulatory jurisdiction of a Conservation Authority may expand beyond 30 metres of a water body.

5.1.2. Section 40

Subsection 40(1) of O. Reg. 359/09 prohibits the construction, installation or expansion of a renewable energy generation facility in a project location that is within:

- 120 metres of the average annual high water mark of a lake (other than a Lake Trout Lake at or above development capacity), intermittent stream, permanent stream or seepage area; and
- 300 metres of the average annual high water mark of a Lake Trout Lake at or above development capacity.

The provision is intended to protect the drainage area related to the water body. While water bodies like lakes, streams and seepage areas are subject to the 120 metre setback to protect drainage areas, a 300 metre setback applies for Lake Trout lakes at or above development capacity. Applicants should contact the local MNR District Office to identify any Lake Trout

lakes at or above development capacity within 300 metres of the project location. Development within the drainage area setbacks of 120 or 300 metres is permitted; however, only if a Water Body Report is prepared in accordance with section 40(2) of O. Reg. 359/09 and submitted as part of the REA application.

O. Reg. 359/09 includes specific requirements for the projects which would be proposed to be built within the Oak Ridges Moraine Conservation Plan Area. Within the Oak Ridges Moraine Conservation Plan Area, only transmission/distribution lines can be located in or within 30 metres of the land around the water body in the area adjacent to the project location. Doing so requires a Water Body Report that identifies and assesses any negative effects of the construction, installation or operation of the transmission line on the water body and the land within 30 metres of the water body in the area adjacent to the project location.

Table 2 presents the setback requirements discussed above:

Table 2: Setback Requirements

Water body other than those in the Oak Ridges Moraine Conservation Plan Area	Prohibition on Facility Construction, Installation or Expansion	Exceptions to Prohibitions based on Water Body Report
Any lake (including a kettle lake and a Lake Trout lake at or above development capacity), permanent or intermittent stream	In or within 30 metres of the average annual high water mark	<p>Only ancillary equipment (e.g. transmission line, road, bridge, and culvert) provided that Water Body Report satisfies the Director that a REA is appropriate.</p> <p>Does not include:</p> <ul style="list-style-type: none"> • Wind turbines that are part of Class 3 or 4 wind facilities • Solar panels that are part of Class 3 solar facilities • Biomass storage areas, farm material storage areas, digestate storage tanks, generating units, flares, anaerobic digesters • Transformer substations
Any lake (other than a Lake Trout lake at or above development capacity), permanent or intermittent stream	Within 120 metres of the average annual high water mark	All components of a facility with a Water Body Report that satisfies the Director that a REA is appropriate
Lake Trout lake that is at or above development capacity	Within 300 metres of the average annual high water mark	All components of a facility with a Water Body Report that satisfies the Director that a REA is appropriate

Water body other than those in the Oak Ridges Moraine Conservation Plan Area	Prohibition on Facility Construction, Installation or Expansion	Exceptions to Prohibitions based on Water Body Report
Seepage area	In or within 30 metres	<p>Only ancillary equipment (e.g. transmission line, road, bridge, and culvert) provided that Water Body Report satisfies the Director that a REA is appropriate.</p> <p>Does not include:</p> <ul style="list-style-type: none"> • Wind turbines that are part of Class 3 or 4 wind facilities • Solar panels that are part of Class 3 solar facilities • Biomass storage areas, farm material storage areas, digestate storage tanks, generating units, flares, anaerobic digesters • Transformer substations
Seepage area	Within 120 metres	All components of a facility with a Water Body Report that satisfies the Director that a REA is appropriate
Water body in the Oak Ridges Moraine Conservation Plan Area	Prohibition on Facility Construction, Installation or Expansion	Exceptions to Prohibitions based on Water Body Report
Kettle lake, Lake Trout lake, permanent or intermittent	In or within 30 metres of the annual high water mark	Only transmission lines provided that Water Body Report satisfies the Director that a REA is appropriate
Kettle lake, permanent or intermittent stream (other than a water body and project location entirely or partially within a settlement area)	Within 120 metres of the average annual high water mark	All components of a facility with a Water Body Report that satisfies the Director that a REA is appropriate
Kettle lake that is also a Lake Trout lake that is at or above development capacity (other than a water body and project location entirely or partially within a settlement area)	Within 300 metres of the average annual high water mark	All components of a facility with a Water Body Report that satisfies the Director that a REA is appropriate
Seepage Area	In or within 30 metres	Only transmission lines provided that Water Body Report satisfies the Director that a REA is appropriate
Seepage area (other than a water body and project location entirely or partially within a settlement area)	Within 120 metres	All components of a facility with a Water Body Report that satisfies the Director that a REA is appropriate

5.2. Addressing Potential Negative Environmental Effects on Water Bodies

In accordance with O. Reg. 359/09, and as part of a Water Body Report, applicants are required to:

- Identify and assess any negative environmental effects on the water body and the area within 30 metres of land around the water body in the area adjacent to the project location
- Identify mitigation measures such as planning, design and construction practices that will minimize and, where possible, improve or restore the health and diversity of the water body
- Describe how the Environmental Effects Monitoring Plan in the Design and Operation report and the Construction Plan Report address any negative environmental effects on the water body and 30 metres land around the water body adjacent to the project location

In a Water Body Report, applicants should characterize and evaluate the nature of any anticipated negative environmental effects (in terms of likelihood, significance and duration) within the 120 or 300 metre setbacks and how those potential effects would affect/change the water body as well as the 30 metres of land around the water body in the area adjacent to the project location. There may be cases where applicants need to consider effects on an area larger than 30 metres of land around the water body in the area adjacent to the project location depending on the likelihood, significance and duration of the potential negative effects within the 120 and 300 metre areas, as applicable. Applicants are encouraged to consult with the MOE REA team, local Conservation Authority and local MNR District Office in determining the need for expanding the area beyond the 30 metres.

In considering any negative environmental effects from a proposed project to a water body and the area within 30 metres of land around the water body in the area adjacent to the project location, applicants must examine potential negative effects of engaging in the project including the construction, operation and decommissioning of the facility.

In the Water Body Report, any potential negative effects on the water body and the 30 metres of land around the water body in the area adjacent to the project location should be discussed. This should include any negative

environmental effects on water quality and quantity; any potential environmental effects to plant and animal compositions or ecosystems as well as any negative environmental effects on the existing uses in the area should be assessed. Any information/assessment in respect of any potential negative environmental effects to plant and animal compositions or ecosystems that would inform the work required under the NHA study should be included in the NHA Report which will be submitted to the MNR.

In assessing potential effects of a proposed project on the environment, applicants should consider the information collected through records review and site investigation and the characteristics of the water body and proposed project activities.

5.2.1. Water Body Report Study

A water study that would be documented in the Water Body Report should include all or some of the following components:

Describe the project and the characteristics of the environment within which the project is proposed including:

- Any area that will be replaced with an impermeable surface
- Any area where soil compaction may occur
- Any area where vegetation will be removed
- Vegetative cover pre- and post-development
- Existing uses in the watershed, including but not limited to regulated water takings (under a PTTW), water intakes, discharges, recreation, contaminated sites etc.
- Potential for any contamination
- Predicted use of water resources
- Description and characterization of pre- and post- (predicted) development water regime

Describe significant changes to the water regime that would be generated by the proposed project, including:

- Increase/decrease in runoff (amount and rate)
- Redirection of runoff
- Increase/decrease in sedimentation
- Changes in water quality (surface and groundwater)
- Change in water temperature

- Change in recharge capacity of the site
- Water uses that will be part of the proposed development and associated impacts on baseflow, surface storage, and the groundwater table

Examine the effect of the proposed project on the size, diversity, health, connectivity, functionality and resilience of the water body:

- The potential level of effects including the spatial extent, magnitude, frequency and duration of likely adverse effects
- The extent and degree to which adjacent lands (the area within 30 metres of land around the water body in the area adjacent to the project location) may be affected
- Whether the impacts are likely to result in cumulative impacts
- Potential impacts on specific water bodies and their functions

Depending on the proposed activities and characteristics of the site, applicants may need to further describe the hydrologic function and sensitivity of ecosystem features for an effective assessment of potential negative effects. This could require:

- Assessing the relationship of the feature to the hydrologic system and ecological linkages (in consideration of any potential effects to natural heritage features in the area)
- Conducting fieldwork with a focus on the nature of the interaction between the ground water system and the surface water system and the

associated sensitivity of the ecosystem within the spatial extent of the area of investigation

- Conducting sampling on the underlying aquifer(s), surface water bodies, and any ecological linkages to significant natural heritage features
- Conducting sampling (scale of the study) in the catchment area providing both base-flow and surface water input to the natural heritage features within and beyond the 120 metres setback in some cases
- Extrapolating the data to assess stress resulting from the proposed development

It is strongly recommended that applicants make use of the information gathered for the purposes of Water Body Report, including but not limited to the information regarding the ecosystems, plant and animal compositions, to inform the work required under the NHA study for their projects.

In a Water Body Report, applicants are required to identify any action necessary to mitigate any negative environmental effect on the water body and 30 metres of land around the water body in the area adjacent to the project location that may result from proposed project activities. In a Water Body Report, in addition to the description of potential negative effects, applicants are required to describe specific mitigation measures that will be implemented to minimize any negative effects and, where possible, improve or restore the health, diversity and size of the water body.

Table 3 presents a sample list of potential environmental effects in respect of a specific activity, such as site preparation, construction and operation and potential mitigation measures to address potential environmental effects.

Table 3: Potential Environmental Effects and Mitigation Measures

Activity	Potential Environmental Effects	Potential Mitigation Measures
Site Preparation <ul style="list-style-type: none"> • Vegetation Removal • Grading • Installation of services and utilities (roads, storm-water management activities) 	<ul style="list-style-type: none"> • Loss of vegetation resulting in increased water temperature • Reduced bank stability and ability to trap sediment from upland areas • Increased erosion, sedimentation and turbidity • Increased inputs of nutrients and contaminants to water bodies • Changes in natural drainage 	<ul style="list-style-type: none"> • Consult available guidance documents for Best Management Practices • Maintain vegetative buffers • Develop and implement an erosion and sediment control plan • Control access and movement of equipment • Schedule to minimize area and duration of soil exposure • Minimize vegetation removal, changes in land contours and natural drainage • Maintain streams (permanent and intermittent) and timing and quantity of flows • Re-establish vegetation as soon as possible • Identify any potential changes to hydrological regime and take measures to maintain existing regime
Construction <ul style="list-style-type: none"> • Building construction • Water crossings (roads) • Paving • Water taking 	<ul style="list-style-type: none"> • Increased erosion, sedimentation and turbidity • Increased inputs of nutrients and contaminants to water bodies • Potential contamination by oils, gasoline, grease and other materials • Increase in impervious surfaces; increased surface runoff, reduced infiltration and groundwater discharge • Pollutants from road • Loss of vegetation resulting in Increased water temperature • Realignment of stream channel; changes in water velocity 	<ul style="list-style-type: none"> • Consult available guidance documents for Best Management Practices • Maintain and provide vegetative buffers; control erosion, sedimentation and nutrient inputs through use of Best Management Practices • Control water contamination through use of Best Management Practices • Control quantity and quality of storm water discharge using Best Management Practices • Minimize width of right of way • Install adequate culverts and gravel base to maintain flow of surface water and shallow groundwater • Collect and treat road runoff • Minimize area of paved surfaces; design roads without curbs, gutters and sidewalks to promote infiltration
Operation <ul style="list-style-type: none"> • Water taking • Discharge into the environment • Accidental spills 	<ul style="list-style-type: none"> • Reduced groundwater discharge; reduced stream base-flows; increased water temperature • Increased inputs of nutrients and contaminants to water bodies; increased algal growth, reduced oxygen levels 	<ul style="list-style-type: none"> • Consult available guidance documents for Best Management Practices • Control rate and timing of water pumping

In conducting the required studies in respect of identifying and assessing potential negative environmental effects and proposing appropriate mitigation measures to address any potential effects, applicants are encouraged to consult and take into consideration various MOE technical guidance documents. The relevant MOE technical guidance materials are accessible through the MOE's website at www.ene.gov.on.ca/environment/en/resources/index.htm.

CONSIDERATION OF POTENTIAL EFFECTS FROM SURFACE RUN-OFF/STORMWATER

If a water body exists within the setback distances prescribed under sections 39, 40, 44, and 45 of O. Reg. 359/09, any specific environmental effects on the water body and the 30 metres of land around the water body in the area adjacent to the project location as a result of surface/storm water runoff should also be described. If there is surface run-off and stormwater considerations, applicants should consider using the MOE's stormwater management manual: "*Stormwater Management Planning and Design Manual*" (2003, Publication #4329e) as guidance as well as any current applicable watershed and/or sub-watershed study for the area available from local Conservation Authorities.

CONSIDERATION OF POTENTIAL EFFECTS FROM WATER TAKING ACTIVITIES

If a water body exists within the setback distances prescribed under sections 39, 40, 44, and 45 of O. Reg. 359/09, any specific environmental effects on the water body and the 30 metres of land around the water body in the area adjacent to the project location as a result of a water taking activity should be discussed in the Water Body Report.

If there are proposed water taking activities, applicants should refer to the following MOE technical guidance documents:

- *Permit To Take Water Manual*, Publication #4932e; and
- *Guide to Permit To Take Water Application Form*, Publication #5046e.

Depending on the nature of water taking activity they are proposing, applicants may need to characterize the water body so that the potential for interference can be assessed. In order to clarify the study and baseline information needs for any proposed water taking activity, applicants are encouraged to contact the MOE REA team.

Detailed guidance in respect of the assessment of potential negative environmental effects from water taking activities is provided in Chapters 5 and 6 of this document.

CONSIDERATION OF POTENTIAL EFFECTS FROM DISCHARGE INTO THE ENVIRONMENT

If a water body exists within the setback distances prescribed under sections 39, 40, 44, and 45 of O. Reg. 359/09, any specific environmental effects on the water body and the 30 metres of land around the water body in the area adjacent to the project location as a result of a discharge into that water body and into the land around it should be identified and assessed in the Water Body Report.

If there are proposed discharge activities, applicants should refer to the following MOE guidance documents:

- *Blue Book — Water Management Policy Guidelines, Provincial Water Quality Objectives*, 1994 Publication #5046e; and
- *Green Book — Deriving Receiving Water-based, Point Source Effluent Requirements for Ontario Waters*, Publication #5046e.

For projects with discharge activity, applicants should characterize the discharged water and the receiving water for the specific parameters of concern. Applicants should note that the specific parameters of concern could vary based on the effluent and receiving water characteristics for each project. Accordingly, applicants are encouraged to contact the MOE REA team to determine these parameters that would be area specific and would apply to the effluent discharge in question. For MOE contact information, applicants can refer to Appendix 2 in this document.

Detailed guidance in respect of the assessment of potential negative environmental effects from a discharge activity is provided in Chapter 6 of this document.

Applicants should also note that there are additional reporting requirements for certain types of bio-energy projects including anaerobic digestion and thermal treatment. The guidance for additional reporting requirements can be found in Chapter 9 of this document. For projects other than these bio-energy projects, applicants should also consider potential for any discharge into the environment, both land and water, and take appropriate action to identify and assess any potential negative environmental effects that would be associated with a discharge activity and proposed appropriate mitigation.

CONSIDERATION OF POTENTIAL EFFECTS FROM ACCIDENTAL SPILLS AND CONTAMINANTS

Applicants should identify if there are any activities proposed in any of the project phases that could result in accidental spills of contaminants. For projects, for example, which will have a transformer station or converter/inverter component or digestate storage tanks that would be built as part of the project, applicants need to discuss measures they will be implementing to prevent spill, including spill containment and the amount of containment that would be provided.

In the Water Body Report, applicants are expected to describe potential effects associated with accidental spills and contaminants to the water body which is subject to the Water Body Report and the 30 metres of land around the water body in the area adjacent to the project location. Any actions that would be taken in the event that a spill occurs should be discussed both in the Design and Operations Report and Water Body Report. With respect to spills, applicants should refer to Section X (Spills) of the Environmental Protection Act. In case of a spill, applicants should notify the MOE Regional and District Offices and take corrective action. The MOE Regional and District Office contact information is presented in Appendix 2 of this document.

5.3. Construction Plan Report and Environmental Effects Monitoring Plan

In accordance with O. Reg. 359/09, and as part of the Water Body Report, applicants will also describe how the Construction Plan Report, prepared in accordance with Table 1 of O. Reg. 359/09, addresses any negative environmental effects to each specific water body or water bodies which are subject to the Water Body Report and the 30 metres of land around the water body in the area adjacent to the project location. Further guidance on the Construction Plan Report is provided in Chapter 5 of this document.

In accordance with O. Reg. 359/09, and as part of the Water Body Report, applicants will also describe how the Environmental Effects Monitoring Plan addresses any negative environmental effects on the water body.

The Environmental Effects Monitoring Plan will include a summary table of each monitoring action related to potential environmental effects on the water bodies and the 30 metres of land around the water body in the area adjacent to the project location. In preparing this summary table, applicants should refer to the findings of the water assessment study and Water Body Report and develop the sections of the summary table with the specific details of the monitoring approach such as methodology and rationale used in selecting appropriate mitigation measures to address potential negative environmental effects on water bodies.

As part of the Environmental Effects Monitoring Plan required for the Design and Operations Report, Contingency Plans should also be prepared for any of the construction, operation or decommissioning phases of the project life cycle to minimize/mitigate negative environmental effect on water bodies, and where possible, improve or restore the health, diversity and size of the water body. In preparation of the assessment and mitigation exercises, existing lake management, coastal management and shoreline management plans would become very useful references. Lake management plans can be accessed at www.epa.gov/greatlakes/lamp/index.html. Additionally, fisheries and watershed management plans may be available through local Conservation Authorities.

If the project is not proposed to be located within prescribed setbacks, any potential negative environmental effects related to surface and storm water runoff, water taking, discharge into the environment, both land and water, and accidental spills should be considered within the Project Description Report, Construction Plan Report and/or Design and Operations Report. The specific mitigation measures will be outlined in the Construction Plan Report, (e.g. Erosion and Sediment Control) and within the Environmental Effects Monitoring Plan Report within the Design and Operations Report. Specific consideration of performance objectives for the Environmental Effects Monitoring Plan are to be included. If the project is proposed to be located within prescribed setbacks, the Water Body Report should include a description of mitigation measures. Applicants should ensure that information/assessment provided in these reports is consistent.

6. Areas with Additional Considerations

O. Reg. 359/09 includes additional requirements which are related to water bodies in specific areas including the Oak Ridges Moraine Conservation Plan area, the Lake Simcoe watershed area, and the Great Lakes. In fulfilling these requirements, applicants should have consideration of or refer to the following documents:

- Oak Ridges Moraine Conservation Plan
- Lake Simcoe Protection Plan, Publication #6932e01
- Great Lakes Charter — charter signed by the premiers of Ontario and Quebec and the governors of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin on February 11, 1985 and amended by the Great Lakes Charter Annex, dated June 18, 2001

6.1. Oak Ridges Moraine Conservation Plan Area

In addition to the prohibitions described above, section 46 of O. Reg. 359/09 prohibits the construction, installation or expansion of a part of a renewable energy generation facility to be used or operated, as a rapid infiltration basin or a rapid infiltration column. Under O. Reg. 359/09 “rapid infiltration basin” and “rapid infiltration column” have the same meanings as in subsection 47 (3) of O. Reg. 140/02 (Oak Ridges Moraine Conservation Plan) made under the Oak Ridges Moraine Conservation Act, 2001.

According to Oak Ridges Moraine Conservation Plan “rapid infiltration basin” means a basin or system of basins at or below surface grade that is constructed in porous soil and punctures through a relatively impermeable layer to gain access to more permeable sand or gravel, so as to rapidly infiltrate into the ground, at a single point or area of concentration, surface runoff collected from impervious surfaces.

Also “rapid infiltration column” means a column or system of columns at or below surface grade that is constructed in porous soil and punctures through a relatively impermeable layer to gain access to a more permeable sand or gravel layer, so as to rapidly infiltrate into the ground, at a single point or area of concentration, surface runoff collected from impervious surfaces.

6.2. Lake Simcoe Protection Area

If the project location is in the Lake Simcoe watershed, in the Design and Operations Report, applicants must describe:

- Whether the project requires alteration of the shore of Lake Simcoe, the shore of a fresh water estuary of a stream connected to Lake Simcoe or other lakes or any permanent or intermittent stream
- How the project may impact any shoreline, including the ecological functions of the shoreline
- How the project will be engaged in to:
 - Maintain the natural contour of the shoreline through the implementation of natural shoreline treatments, such as planting of natural vegetation and bioengineering
 - Use a vegetative riparian area, unless the project location is used for agricultural purposes and will continue to be used for such purposes

6.3. The Great Lakes

Applicants should note that in considering a REA application, the Director, MOE REA Program, is required to ensure that Ontario’s obligations under the Great Lakes Charter with respect to the application are complied with.

The “Great Lakes Charter” is the charter signed by the premiers of Ontario and Quebec and the governors of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin on February 11, 1985 and amended by the Great Lakes Charter Annex, dated June 18, 2001. This may require completing additional studies other than those required by O. Reg. 359/09.

In the assessment of potential negative environmental effects and preparation of construction, design and

operations and mitigation plans, it is recommended that consideration be given to the distinct natural features of the Great Lakes e.g., near-shore shunt, direct phosphorus runoff/discharge, spills, coastal habitat and species. Accordingly, existing Lake Management Plans, coastal management areas and shoreline management plans, if there is any for the project location, would become very useful references in collecting baseline information and developing mitigation measures, if necessary.

Chapter 9

Additional reports that may be required as part of a REA application

1. Purpose of this Chapter

The following sections provide an overview of the requirements for additional reports that may be needed for a complete REA submission. The requirement to prepare many of these reports, their function, and the minimum requirements with respect to making them publicly available have been introduced at other places in this guide, such as in Chapter 1. The sections that follow present the reader with a consolidated place to describe the content requirements for all the additional reports that may be required by O. Reg. 359/09.

The minimum required content of these reports is stipulated in Table 1 of O. Reg. 359/09 and in some cases within the text of the regulation itself. For several of the reports, guidance is provided in other government documents, and the sections that follow provide references where appropriate.

1.1. Archaeological Assessment Report

Through assessment of cultural heritage required in sections 20 and 21 of O. Reg. 359/09, Applicants must determine if there are archaeological resources present at the project. If an archaeological assessment is undertaken, as required by subsection 22. (1) of O. Reg. 359/09, the archaeological assessment must be conducted by a licensed consultant archaeologist as defined in O. Reg. 8/06 under the Ontario Heritage Act. The archaeological assessment must be prepared in advance of submitting a complete REA application since it must be reviewed by the Ministry of Tourism and Culture in order for this ministry to issue a letter with comments as described in Chapter 1 of this guide.

The archaeological assessment process can include between 1 and 4 stages, with increasing levels of investigation as the presence and significance of archaeological resources is clarified. MTC will generally issue written comments to the applicant once a Stage 2 archaeological assessment report has been accepted by the ministry, or a Stage 1 report where it is determined that a Stage 2 is not required. If archaeological resources are identified, further stages of assessment may be required during the development process. All archaeological assessments must be conducted in accordance with the *Standards and Guidelines for Consultant Archaeologists* (2011) issued by the Ministry of Tourism and Culture and available on the MTC website: (www.mtc.gov.on.ca).

1.2. Effluent Management Plan Report

The Effluent Management Plan Report is required for the following bio-energy facilities:

- A Class 2 or 3 Anaerobic Digestion Facility
- A Class 1, 2 or 3 Thermal Treatment Facility

These are facilities where it is likely that some sewage or stormwater effluent will be produced and require assessment and management. The goal of the Effluent Management Plan Report is to provide sufficient detail about all potential effluents, their treatment/mitigation, and the potential for negative impacts on surface water and ground water if treated effluents are discharged. Applicants should consult with staff from the local MOE Regional Technical Support Unit prior to completing the Effluent Management Plan Report.

If an application requires an Effluent Management Plan Report but no sewage generation is proposed, the Effluent Management Plan Report can be constrained in scope. In this case the applicant should state that no sewage is proposed to be generated and provide a description of the components of the facility design that provide the rationale for this conclusion.

For some facilities, a Hydrogeological Assessment Report and Surface Water Assessment Report may also be required (see Sections 1.6. and 1.12.). If these reports are required, applicants are encouraged to prepare the three reports such that they complement in providing a clear account of the potential impacts of the project on surface water and groundwater. To this end, the Effluent Management Plan Report should focus on the amount and nature of generated effluents and treatment technology used for mitigation of impacts. The Hydrogeological Assessment Report and Surface Water Assessment Report provide greater detail on the water resources (surface and

groundwater) where effluents may be discharged and characterize the potential negative environmental effects of the project on these resources.

When an Effluent Management Plan Report is required to be prepared, the content provided should include the following components:

Description of Effluent (Sewage)

All effluents produced as a result of engaging in the project must be completely described. This description is required to include:

- Expected qualities and quantities of sewage produced by or at the facility
- The manner in which the sewage is expected to be disposed
- Mitigation measures to ensure that the sewage will not result in negative environmental effects on the quality of water

As part of this the following information should be provided:

- The expected flow rates and times/duration (if intermittent) of sewage collection and treatment
- Expected concentrations of key contaminants in sewage at various points in the collection/treatment system
- Calculations demonstrating the basis for the expected quantity/quality of sewage. A description of the rationale for estimating effluent quantity and flow rates should be provided. Calculations should also be included to show how the quantity and quality of sewage supports the design parameters of any treatment equipment

Description of Sewage Collection, Treatment and Disposal

Any sewage collection, treatment and disposal equipment used to mitigate potential negative environmental effects must be described. The detail required to complete this description will depend on the complexity of the sewage works proposed. Simple solutions may only require details on the design specifications such as dimensions and performance objectives of the collection system. On the other hand, a more complex solution, such as a biological treatment facility may require more detailed design descriptions as well as operational plans and control schemes.

Sewage Treatment at an Offsite Facility

If the application only proposes the collection and treatment of sewage through discharge to a municipal sanitary sewer or through the hauling of sewage to an offsite disposal facility this must be stated. For discharge to a municipal sanitary sewer, the applicant should specify the contaminant limits that apply (such as those required by a sewer use bylaw) with respect to the discharge. These limits should be compared with the contaminant levels and sewage flows proposed. For sewage transported offsite for treatment, both the sewage hauler and the receiving facility must be approved to manage the sewage and the applicant should state this in their report. Details on how sewage is collected and stored at the site as well as how it is transferred to the sewage hauler should be provided.

In all cases, the treatment performance objective of the process should be stated in regards to any contaminant that is to be removed or converted as a result of treatment. This should include the concentration or other appropriate measure of the contaminant that could be used to assess the potential negative impacts when discharged to a receiving water body.

With regard to this range of potential works, applicants should consult relevant Ministry of the Environment guidance documents in relation to sewage treatment to assist with determining the appropriate details to include. These documents are listed below:

"Guide for Applying for Approval of Sewage Works,"
2010 Publication #7339e

- This guide describes the approval process and the requirements for application. Part III — Approval Requirements details the information that should be included in a Design and Operations Report. This Guide may be amended from time to time. Applicants are required to use the most recent Guide.

"Design Guidelines for Sewage Works,"
2008 Publication #6879e

- This document provides information on recommended design guidelines for sewage works such as sewers and sewage treatment plants.

"Stormwater Management Planning and Design Manual,"
2003 Publication #4329e

- This document provides information on approaches to manage stormwater through facility design and installation of stormwater management equipment.

Description of the Receiving Water Body

If any sewage will be discharged to a receiving surface water body, the assimilative capacity of the water body must be assessed and described.

Policy 2 for Water Resource Management

For certain renewable energy projects, a discharge of wastewater may be proposed in contravention of MOE's Policy 2 for Water Resources Management. Policy 2, defined in the MOE publication *"Water Management: Policies, Guidelines, and Provincial Water Quality Objectives of the Ministry Of Environment And Energy"* (1994, Publication #3303B), states:

"Water quality which presently does not meet the Provincial Water Quality Objectives [PWQO] shall not be degraded further and all practical measures shall be taken to upgrade the water quality to the Objectives." (Section 3.2.2).

If a discharge is proposed to a receiving water body that has the potential to be in contravention of Policy 2, applicants are advised to consult with the ministry's regional Technical Support Section at an early stage in project planning. Applicants proposing a discharge that deviate from Policy 2 are expected to seek authorization for the deviation from the MOE prior to submitting a complete REA application. See Section 5.2.1 of Chapter 1 for more information.

Where a Surface Water Assessment Report has been prepared as part of the REA application, this may be referenced. If the sewage discharge results in the project location being within 120 m of a water body, a Water Body Report will also require preparation. Please refer to Chapter 8 for more information on these reports.

The requirements for the assimilative capacity study vary from site to site; however, in general, the applicant should provide the following information:

- Low flow conditions in the receiving water body, e.g., the 7Q20 for a stream, i.e., the 7-day average low flow occurring once in 20 years
- The background concentration of any contaminant parameter of concern
- The maximum allowable downstream increase for each parameter of concern, e.g., the difference between the background level and the Provincial Water Quality Objective (PWQO)
- A proposed effluent load allocation for the facility based on the entire watershed and watershed users (downstream/upstream)

- Methods used to reduce impact of the effluent on the receiving water body, e.g., use of diffusers, effluent and receiving water density considerations, discharging at rates proportional to stream flow, etc.

The evidence presented to describe the assimilative capacity should allow for a determination of potential negative environmental effects as a result of the effluent discharge. In drawing such conclusions, the applicant should present and provide all calculations and the rationale used to evaluate impact on the water body.

1.3. Emission Summary and Dispersion Modelling Report

The Emission Summary and Dispersion Modelling Report (ESDM) is a common requirement in obtaining a Certificate of Approval for an air emission under the Environmental Protection Act. Renewable energy projects are not subject to Certificates of Approval but applicants must prepare an ESDM, when required, in accordance with section 26 of O. Reg. 419/05 (Air Pollution — Local Air Quality) under the Environmental Protection Act. The following Ministry of the Environment guidance material can be used to assist with preparing this report:

"Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling (ESDM) Report," 2009 Publication #3614e03

"Guideline A-11: Air Dispersion Modelling Guideline for Ontario," 2009 Publication #5165e02

"Technical Bulletin: Methodology for Modelling Contaminants with 10-Minute Average Standards and Guidelines under O. Reg. 419/05," 2008 Publication #6007e

1.4. Environmental Impact Study Report

Environmental Impact Studies are required whenever a project is proposed within specified setback distances to natural features as described in section 38 of O. Reg. 359/09. Guidance for the preparation of an Environmental Impact Study is presented in the *"Natural Heritage Assessment Guide for Renewable Energy Projects"* available from the Ministry of Natural Resources. This Environmental Impact Study may be included within a Natural Heritage Assessment Report as outlined in Section 1.9 below.

1.5. Heritage Assessment Report

Through assessment of cultural heritage required in sections 20 and 21 of O. Reg. 359/09, an applicant may determine that there are protected properties or other heritage resources at the project location that require further assessment. If this is the case, as per section 23 of O. Reg. 359/09, the applicant must prepare a Heritage Assessment Report as described in that section and in accordance with guidance from the Ministry of Tourism and Culture. This report must be prepared in advance of submitting a complete REA application since it must be reviewed by the Ministry of Tourism and Culture in order for this ministry to issue a letter with comments as described in Chapter 1 of this guide. The Heritage Assessment Report should evaluate any potential heritage resources and include a description of how the renewable energy project may impact the heritage resources as well as describe measures taken to avoid, eliminate or mitigate the impact, which may include a creating a heritage conservation plan.

1.6. Hydrogeological Assessment Report

The Hydrogeological Assessment Report is required for Class 3 anaerobic digestion facilities and Class 3 thermal treatment facilities. A Hydrogeological Assessment Report is also required for Class 2 anaerobic digestion facilities located at a farm operation and Class 2 thermal treatment facilities if they are not already regulated under sections 10 or 13 of O. Reg. 267/03 (General) made under the Nutrient Management Act, 2002.

Preparation of the Hydrogeological Assessment Report must be completed by a professional engineer or professional geoscientist (or by someone under supervision of such professionals). Applicants should consult with staff from the local MOE Regional Technical Support Unit prior to completing the Hydrogeological Assessment Report.

The principle components of the report are:

Description of Project Geology/ Hydrogeology

The geological and hydrogeological conditions of the land must be described for all land within 300 metres of any storage areas for biomass, source separated organics, farm materials, or residual waste as well as from any digestate storage tanks or digester tanks.

The description in the report should include:

- An overview of the local physiographic and hydrogeological setting, including ground water and surface water features and functions
- The key topographic / geological features in the study area
- Details on soil materials present in the study area, including thicknesses, composition, and texture
- The geological stratigraphic framework should be provided. In bedrock environments this should include known fractures, joints, bedding planes, faults, and shear zones, if applicable.
- The hydrogeological features of local aquitards and aquifers (confined, semi-confined and unconfined) that the licensed engineer or geoscientist considers relevant to the proposed taking. This may include details of their depth, thickness, lateral continuity, porosity, vertical/horizontal hydraulic gradients, hydraulic conductivity, transmissivity, storativity/specific storage and the location / nature of aquifer recharge supplying the well.
- Location of all water wells at the site and within 300 m of the project location
- A site-specific conceptual hydrogeological model should be developed based on published geological and hydrogeological mapping, supplemented with site-specific hydrogeological information as defined above. Wherever possible, this should be done within the context of existing regional scale watershed studies or ground water studies, which commonly include pertinent information such as local recharge rates and surface water base flows.

The format for presenting this information can include descriptions, specifications and plans including maps and diagrams as long as they are clear and accurate.

Assessment of Site Suitability

After characterizing the site geology and developing a conceptual model of the site hydrogeology, the report must set out an assessment of the suitability of the project location for the handling, storage and processing of biomass taking into account a number of factors. One factor is the facility design. Relevant details include:

- Aspects of the facility related to the storage of biomass, source separated organics, farm materials, residual waste or any other materials that have the potential to generate leachate or seepage that

may affect groundwater. This should include an assessment of the design of such project components and the appropriateness of the design in regard to preventing negative effects. For example secondary containment may be proposed for the capture of any accidental spills from liquid biomass storage tanks.

- Any aspects of the facility that have the potential to cause the discharge of contaminants to groundwater through normal operation or through accidental spills or leakage (for instance through the use of underground storage tanks).
- Any major perturbation to landforms arising from installation of the facility that could impact groundwater flow or quality.

Another factor that needs to be taken into account is the ability to identify through monitoring any negative environmental effects to groundwater as a result of leachate production. The sampling protocol with respect to sampling locations and frequency should be described, including:

- The methodology for sampling and measurement
- The reliability/appropriateness of any equipment used for sampling or measurement
- Name of the accredited laboratory to be used for analysing the samples

The last factor that must be taken into account when preparing the assessment is the feasibility of contingency plans that could be implemented in unexpected circumstances.

Scenarios that should be considered include:

- A spill at the project location;
- Structural failure of the storage tanks leading to seepage of stored material into the groundwater;
- Runoff from storage area and access to a water well on or off-site;
- If greater than anticipated volumes of leachate are produced;
- If leachate quality is worse than expected;
- If mitigation measures are ineffective; or
- If adverse effects are detected through monitoring site groundwater.

It should be noted that depending on the circumstances of the project and the potential for the project to impact groundwater resources at the project location or on

nearby properties, the REA Director may request that a Reasonable Use Agreement be prepared in respect of the project.

1.7. Natural Heritage Assessment Report

A Natural Heritage Assessment Report is required to describe how natural heritage assessment requirements specified in sections 24, 25, 26, and 27 of O. Reg. 359/09 have been met. These sections are required for all renewable energy facilities except Class 2 wind projects. The natural heritage assessment process can involve records review, site investigation (including alternative site investigation as described in section 26 of O. Reg. 359/09), evaluation of significance of natural features, and the preparation of an Environmental Impact Study, depending on the proximity of the project location to natural features. Guidance for the preparation of a Natural Heritage Assessment Report is presented in the *"Natural Heritage Assessment Guide for Renewable Energy Projects"* available from the Ministry of Natural Resources.

1.8. Noise Study Report (General)

Noise study reports (excluding noise studies for wind facilities, which are covered separately in Section 1.9 below) are required for certain bio-energy facilities and class 3 solar projects. They are required to be prepared in accordance with Appendix A of the Ministry of the Environment publication:

"Basic Comprehensive Certificates of Approval (Air & Noise) – User Guide," 2004 Publication #4391e.

A noise study report may also be required for evaluating noise for associated transformers at a renewable energy generation facility as per subsection 35 (2) (b) of O. Reg. 359/09. Such a report must also be prepared in accordance with the user guide described above.

1.9. Noise Study Report for Wind Facilities

Certain provisions of O. Reg. 359/09 refer to the creation of a noise study in accordance with the Ministry of the Environment publication *"Noise Guidelines for Wind Farms"* (2008, Publication #4709e). These include requirements for evaluating cumulative noise from multiple turbines as per subsection 54 (3) and 55 (3) and for assessing noise from turbines at a receptor

where road traffic noise is greater than 40 dBA as per subsection 54 (2), both of O. Reg. 359/09. A noise study report can also be required for evaluating noise for associated transformers at wind facilities as per subsection 35 (2) (a) of this regulation. Such a report must be prepared in accordance with the noise guidelines for wind farms as cited above and submitted as part of an application for a REA.

1.10. Odour Study Report

An Odour Study Report is required for Class 3 anaerobic digestion facilities, Class 3 thermal treatment facilities as well as for all biofuel and biogas facilities. The purpose of this report is to identify sources of odour and determine the potential for the odour to cause negative effects at odour receptors in the vicinity of the project. The required content of this report is defined in Table 1 of O. Reg. 359/09 as follows:

1. The significant process and fugitive sources of odour discharge from the renewable energy generation facility
2. Any negative environmental effects that may result from the odour discharge mentioned in paragraph 1 at all odour receptors
3. The technical methods that are expected to be employed to mitigate any negative environmental effects mentioned in paragraph 2 and the negative environmental effects that are expected to result if the technical methods are employed

Further guidance on the required content is provided below:

Description of Potential Odour Sources

The report should identify and describe all significant potential sources of odour including those from process equipment and fugitive sources. The description should include:

- Details on the project component that relates to the odour, such as the design specifications of a storage tank or biomass/residual waste storage area that could emit odour
- A description of the materials that have the potential to cause odour including proposed quantities
- Identification of any variables or operational conditions that can influence the rate of odour generation or frequency of odour generation events

- A quantification of the magnitude of the odour source including a description of the methodology used to calculate this value

Evaluation of Potential Negative Environmental Effects

The report must describe any negative environmental effects that may result from the odour discharge at all odour receptors. This should be done by providing the following:

- Identification of the location of any odour receptor that has the potential to be negatively affected by odour arising from the project. The distance from receptors to all sources of odour should be provided. This can be done through reference to the Site Plan of the Design and Operations Report, where locations of odour sources and receptors can be shown graphically and in tables as appropriate
- Through reference to the ESDM report, a quantification of the magnitude of potential odour at all receptors should be provided, including a description of the methodology used
- A discussion of any technical uncertainty or statistical variance associated with the quantification of odour magnitude at receptors
- A conclusion about the potential for negative environmental impacts

The Ministry of the Environment publication *"Technical Bulletin: Methodology for Modelling Contaminants with 10-Minute Average Standards and Guidelines under O. Reg. 419/05"* (2008, Publication #6007e) can be used to guide applicants in modelling the dispersion of odour, if applicable.

Description of Mitigation Measures

The Odour Study Report must describe all technical methods employed to mitigate any negative environmental effects as well as describe any negative environmental effects that are expected to result after the technical methods are employed. This description should include:

- The mechanism for controlling odour. For instance, a description of how odours are contained or treated
- The specifications of any equipment used to control the odour. Such equipment should also be depicted in the Design Plan and Site Plan where applicable

- The performance objective of the mitigation equipment such as the magnitude of expected odour emitted following mitigation
- A discussion of any technical uncertainty or statistical variance associated with the efficacy of the mitigation technology
- Any variables or circumstances that could impact the efficacy of the mitigation measure
- Through reference to the ESDM report, a quantification of the magnitude of potential odour at all receptors
- A description of any negative environmental effects that are expected to result after implementation of the mitigation measure
- Any proposed ongoing maintenance and monitoring of the mitigation equipment or of odour control equipment
- A response plan for any public complaints about odour. This could reference the Emergency Response and Communication Plan in the Design and Operations Report

1.11. Property Line Setback Assessment Report

As described in more detail in Chapter 3, Class 3, 4, and 5 wind projects are subject to property line setback requirements that require turbines to be located a distance equal to the hub height from a property line. A turbine may be sited closer to the property line (to a limit of the length of the turbine blade plus ten metres from the property line) if the applicant submits a Property Line Setback Assessment Report to fulfil the requirement of subsection 53 (3) of O. Reg. 359/09. This additional report can also be incorporated in the Design and Operations Report as a separate section or sections.

The Property Line Setback Assessment must be developed to demonstrate that siting the turbine in such a location will not result in any adverse impacts on neighbouring businesses, infrastructure, or land use activities. Specifically, the assessment should evaluate the land use in the vicinity of the turbine. This should confirm the presence of structures (i.e. barns, storage buildings, stables) and if there will be any expected adverse impacts associated with the turbine being located closer than the turbine hub height setback. If there are potential adverse impacts, a description of preventative measures to address the potential adverse

impacts must be included. Such an assessment must be performed separately for each turbine that is sited within the specified property line setback. Diagrams of the turbine locations in question depicting the land uses could be incorporated in the assessment to provide greater clarity.

1.12. Surface Water Assessment Report

A Surface Water Assessment Report is required for:

- Class 2 anaerobic digestion facilities, if section 10 or 13 of O. Reg. 267/03 (General) made under the Nutrient Management Act, 2002 does not apply to the farm operation
- Class 3 anaerobic digestion facilities
- Class 1, 2 and 3 thermal treatment facilities

The Surface Water Assessment Report must be completed by a licensed professional engineer or professional geoscientist (or by someone under supervision of such professionals). Applicants should consult with staff of the local MOE Regional Technical Support Unit prior to completing the Surface Water Assessment Report.

The Surface Water Assessment Report is required to include the following information:

- Plans, specifications and descriptions of the surface water features at the project location and any surface water features that will receive a direct discharge of treated sewage as part of engaging in the project
- An assessment of the suitability of the facility for the handling, storage and processing of biomass, source separated organics, farm materials, and digestate material, taking into account:
 - o The design of the facility, including features that will be implemented to control the expected production of leachate
 - o The flow of surface water and erosion and sedimentation resulting from the flow of surface water
 - o The surface water features within 300 metres of the location where biomass, source separated organics or farm material will be handled, stored or processed

- o Any surface water features that will receive a direct discharge of treated sewage from the facility and the surface water features of the project location
 - o The ability to identify any negative environmental effects of leachate production on the surface water by monitoring
 - o The feasibility of contingency plans that can be implemented to control the negative environmental effects on surface water resulting from the production of leachate in a quantity greater than expected or with a quality worse than expected
- Any aspects of the facility that have the potential to cause the discharge of contaminants to surface water through normal operation or through accidental spills or leakage (for instance through the use of storage tanks or piping)
 - The structure and materials of construction for any storage or processing facilities
 - The structure and materials of construction of any secondary containment area
 - Any major perturbations to landforms arising from installation of the facility that could impact surface water flow or quality

Further guidance on specific elements of the required content is given below.

Description of Surface Water Features

Surface water features at the project location must be surveyed and described. Any surface water features that receive a direct discharge of treated sewage must also be described. Applicants should discuss the appropriate parameters to describe with the MOE's Regional Technical Support Unit. Parameters can include physical and chemical characteristics of the water body such as the dimensions, depth, seasonal flow and fluctuations, high water mark, and as necessary pH, dissolved oxygen, biochemical oxygen demand (BOD), temperature and others.

Assessment of Facility Suitability

After describing the water bodies at the project location an assessment of the facility for the suitability for the handling, storage and processing of biomass, source separated organics, farm material, residual waste, and digestate material must be prepared. To perform this evaluation a number of key factors must be taken into account.

One factor is how aspects of the facility are designed in relation to the storage and processing of biomass, source separated organics, farm materials, or residual waste to control the production of leachate, erosion and sedimentation. This should include an assessment of the design of such project components and the appropriateness of the design in regards to preventing negative effects including:

Another factor to be taken into account is the surface water features at the project location and within 300 m of the location where biomass, source separated organics, farm material, or residual waste will be stored, processed or handled, in addition to those that will receive a direct discharge of sewage from the facility. This should include an assessment of potential negative environmental effects on the water body and this discussion can refer to the conclusions drawn regarding the assimilative capacity of the water body in the Effluent Management Plan Report.

An additional factor to be taken into account in evaluating the facility is the ability to identify any negative environmental effects of leachate production on the surface water through monitoring. This discussion should evaluate:

- The sampling protocol with respect to sampling locations, frequency and parameters to be sampled
- The methodology for sampling and measurement
- The reliability/appropriateness of any equipment used for sampling or measurement

The last factor that must be taken into account when preparing the assessment is the feasibility of contingency plans that could be implemented in unexpected circumstances. Scenarios that should be considered include:

- If greater than anticipated volumes of leachate are produced
- If leachate quality is worse than expected
- If mitigation measures are ineffective
- If adverse effects are detected through monitoring site surface water

1.13. Specifications Report, Wind Facility (Not Class 2)

This Specifications Report is required for all Class 3, 4 and 5 wind facilities. The principal content of the report is specified in Table 1 of O. Reg. 359/09. It requires that the following be specified for the turbine type(s) proposed:

- Make and model of the turbine
- Nameplate capacity
- Hub height above grade
- Rotational speeds

Acoustic emissions data, in accordance with standard CAN/CSA-C61400-11-07, *“Wind Turbine Generator Systems — Part 11: Acoustic Noise Measurement Techniques”*, dated October 2007, must also be provided. This must include:

- The overall sound power level
- Measurement uncertainty value
- Octave-band sound power levels (linear weighted)
- Tonality and tonal audibility

1.14. Specifications Report, Class 2 Wind Facility

This Specifications Report is required for all Class 2 wind facilities. The principal content of the report is specified in Table 1 of O. Reg. 359/09. It requires that the following be specified for each turbine:

- All of the manufacturer’s specifications that are available in respect of the wind turbine
- The acoustic emissions in terms of overall sound power level and the corresponding frequency spectrum, in terms of octave-band sound power levels
- A site plan, drawn to scale, including the project location, property boundaries, location of all proposed wind turbines and all noise receptors and public roads (within a 1 kilometre radius from the base of each wind turbine)
- A table listing the distances from the base of each proposed wind turbine relative to each noise receptor in metres

This information will provide important details that the applicant can refer to in describing potential negative environmental effects from the project in their Project Description Report.

Chapter 10

A good neighbour approach: tips for applicants

1. Being a Good Neighbour

The preceding chapters of this guide explain Ontario's rules for renewable energy projects under the Renewable Energy Approval (REA) regulation (O. Reg. 359/09). These requirements provide the tools for energy developers to be good neighbours in their communities. While this guide is primarily focused on helping applicants understand and meet their regulatory requirements for a complete application, it should be the goal of every applicant for a Renewable Energy Approval to develop a strategy for enhancing a long lasting positive relationship with local residents. Most of these projects will be in operation for over 20 years, so it's critical that the public, municipalities and developers get off on the right foot.

Rules in the regulation require developers to prepare assessments and environmental reports to describe how the project will be undertaken to protect human health, the environment, as well as cultural and natural heritage resources. They are also required to develop plans for ongoing communications with the public both in response to complaints and in the case of emergencies. The ministry's minimum requirements also include holding at least two public meetings (except small wind projects and on farm bio-energy facilities) and sharing reports and project plans with the municipality, the public and Aboriginal communities. However, meeting the minimum requirements may not be enough to be considered a good neighbour in some communities. Where a community shows a high interest or concern with an incoming renewable energy project, the applicant should consider going beyond the minimum requirements to help facilitate a positive relationship with the community. Below are some things that applicants should consider.

You can be a good neighbour by:

- Engaging the public, municipalities and Aboriginal communities - early and often. While Ontario's regulations have minimum consultation requirements, the more you engage the community, the better neighbour you can be.
- Getting involved in local community projects. Getting the community involved in the development will lead to greater understanding and can help generate support. You might consider establishing a representative group or "Public Liaison Committee" (PLC). Having a group that represents local residents, the local municipality and other interested groups early demonstrates your intent to establish long-term positive relations and encourages local participation in the development process.
- Making it easy for community members to express and resolve their concerns. One of the ways you can do this is by establishing a formal complaint resolution process and making it available early in the development process. There are rules in the regulation that require developers to have a plan to respond to the public and to provide information regarding the activities occurring at the project location.
- Eliminating and/or minimizing impacts of the operation on the community by:
 - o Responding promptly to complaints
 - o Having agreements on operation in place, e.g. voluntary slow-downs or shut-downs under specified conditions
 - o Working with the community to identify locally valued resources and take measures to mitigate impacts
 - o Considering provisions for adjusting a project's setbacks/locations or operation practices (e.g. times of operation, turbine speeds) if a sensitive or concerned receptor (human or ecological) is in the area
 - o Ensuring that tourism implications are considered, both in the location of the project and the project as a whole
 - o Considering visual barriers between receptors and a project (e.g. tree buffer or berm between road and solar farm)

- Keeping the lines of communication open beyond the development and approvals stages of a project. Establishing continuing dialogue with the local residents for the entire project lifecycle demonstrates an ongoing desire to be a good neighbour by:
 - o Maintaining a website and posting meetings, project reports and notification of any proposed changes to the facility including upgrades and maintenance to ensure the community is aware of workers in the area and reasons for their presence
 - o Responding to complaints in writing and demonstrating how issues have been addressed
 - o Maintaining customer service standards (inquiry/response times, complaint resolutions, etc.) and posting information publicly.
 - o Conducting site visits at appropriate times so that the community can see how the project is being maintained and how safety precautions are being taken
 - o Providing ongoing information sessions and educational opportunities for local community groups/schools
 - Consider joining an industry association; many developers are members of respective industry associations and commit to codes of conduct and ethics.
 - Pro-actively providing a code of ethics to the community can help demonstrate commitment to good environmental and development practices.
 - Documenting a Good Neighbour Approach in an agreement and making it publicly available for the local community to view.
- If there are public complaints about an existing project in operation, the ministry will work with the developer to help them become a good neighbour. You can find many more resources to help be a good neighbour on the Ministry of the Environment's webpage: www.ene.gov.on.ca/environment/en/subject/renewable_energy/index.htm.

Appendices

Appendix 1. REA requirement summary tables for renewable energy facilities by technology

Solar

		Class 1	Class 2	Class 3
		Any Location ≤ 12 kW	On Roof/Wall > 12 kW	On Ground > 12 kW
Plans & Reports	No REA	X	X	
	REA Required			X
	Project Description Report			X
	Construction Plan Report			X
	Design and Operations Report			X
	Decommissioning Plan Report			X
Consultation	Notice of Proposal			X
	Meeting Notice(s)			X
	Public Meetings			X
	Municipal Consultation			X
	Aboriginal Consultation			X
	Consultation Report			X
Cultural Heritage	Protected Properties			X
	Heritage Resources			X
	Archaeological Resources			X
Natural Heritage / Water Bodies	Natural Heritage Assessment			X
	Water Assessment			X
Additional Technical Reports	Site-specific Noise Study Report			X

Wind

		Class 1	Class 2	Class 3	Class 4		Class 5
		Turbine ≤ 3kW	Turbine 3 > 50kW	Turbine ≥ 50 kW and < 102 dBA	Turbine ≥ 50 kW and with ≥ 102 dBA	Turbine ≥ 50 kW >107 dBA	Off- Shore* Turbine Facility
Plans & Reports	No REA	X					Off-shore requirements to be considered following further scientific research. See Section 1.2. of Chapter 1 for more information.
	REA Required		X	X	X	X	
	Project Description Report		X	X	X	X	
	Construction Plan Report			X	X	X	
	Design and Operations Report			X	X	X	
	Decommissioning Plan Report			X	X	X	
Consultation	Notice of Proposal		X	X	X	X	
	Meeting Notice(s)			X	X	X	
	Public Meetings			X	X	X	
	Municipal Consultation			X	X	X	
	Aboriginal Consultation			X	X	X	
	Consultation Report			X	X	X	
Cultural Heritage	Protected Properties		X	X	X	X	
	Heritage Resources			X	X	X	
	Archaeological Resources		See Note 1	X	X	X	
Natural Heritage / Water Bodies	Natural Heritage Assessment			X	X	X	
	Water Assessment			X	X	X	
Additional Technical Reports	Specifications Report, Class 2 Wind		X				
	Specifications Report, not Class 2			X	X	X	
	Wind Farm Noise Report			See Note 2	Maybe+	X	
Setbacks	Parcel Boundary Setback			Hub height	Hub height	Hub height	
	Lower Parcel Boundary Setback with Study			Blade + 10 m	Blade + 10 m	Blade + 10 m	
	Road/railway right of way setback			Blade + 10 m	Blade + 10 m	Blade + 10 m	
	Minimum noise setback				550 m	550 m	

* In direct contact with surface water other than in a wetland

+ An applicant may prepare a Wind Farm Noise Report in order to determine site-specific setback distances when multiple turbines (or those with a sound power level > 102 dBA) are proposed. If a Wind Farm Noise Report is not prepared, the turbines must meet regulated setback distances given in the table in section 55 of O. reg. 359/09. These table standards range from 550 m to 1.5 km.

Note 1: Applicants for Class 2 wind facilities are exempt from consideration of heritage resources other than protected properties at the project location. However, an archaeological assessment may be required depending on the specific characteristics of the project location, consistent with section 21 of O.Reg. 359/09.

Note 2: While not a strict requirement applicants proposing Class 3 wind facilities are recommended to complete a wind farm noise report in order to describe potential negative environmental effects due to noise.

Bio-energy

(Anaerobic Digestion, Biofuel, Biogas)

			Class 1 AD Facility		Class 2 AD Facility		Class 3 AD Facility	Biogas	Biofuel
		NMA approved On-farm AD and no EPA waste certificate of approval	Farm-Based AD ≤500 kW	Farm-Based AD >500 kW	Farm-Based AD ≤500 kW	Farm-Based AD >500 kW	Non-farm AD		
Plans & Reports	No REA	X							
	REA Required		X	X	X	X	X	X	X
	Project Description Report		X	X	X	X	X	X	X
	Construction Plan Report		X	X	X	X	X	X	X
	Design and Operations Report		X	X	X	X	X	X	X
	Decommissioning Plan Report		X	X	X	X	X	X	X
Consultation	Notice of Proposal		X	X	X	X	X	X	X
	Meeting Notice(s)						X	X	X
	Public Meetings						X	X	X
	Municipal Consultation		X	X	X	X	X	X	X
	Aboriginal Consultation		X	X	X	X	X	X	X
	Consultation Report		X	X	X	X	X	X	X
Cultural Heritage	Protected Properties		X	X	X	X	X	X	X
	Heritage Resources						X	X	X
	Archaeological Resources		See Note 1	See Note 1	See Note 1	See Note 1	X	X	X

Note 1: Class 1 and 2 anaerobic digestion facilities are exempt from consideration of heritage resources other than protected properties at the project location. However, an archaeological assessment may be required depending on the specific characteristics of the project location, consistent with section 21 of O.Reg. 359/09.

Bio-energy

(Anaerobic Digestion, Biofuel, Biogas)

(continued)

			Class 1 AD Facility		Class 2 AD Facility		Class 3 AD Facility	Biogas	Biofuel
		NMA approved On-farm AD and no EPA waste certificate of approval	Farm-Based AD ≤500 kW	Farm-Based AD >500 kW	Farm-Based AD ≤500 kW	Farm-Based AD >500 kW	Non-farm AD		
Natural Heritage / Water Bodies	Natural Heritage Assessment		X	X	X	X	X	X	X
	Water Assessment		X	X	X	X	X	X	X
Additional Technical Reports	Emissions Summary and Dispersion Modelling Report						X	X	X
	Noise Study Report						X	X	X
	Odour Study Report						X	X	X
	Effluent Management Plan Report				X	X	X		
	Hydrogeological Assessment Report				See Note 2	See Note 2	X		
	Surface Water Assessment Report				See Note 2	See Note 2	X		
	Financial Assurance Estimate				X	X	X		
Setbacks & Mitigation	Setback from Odour Receptors		250 m	250 m	250 m	250 m			
	Lower Setback with Mitigation / Additional Studies		See Note 3	See Note 3	See Note 3	See Note 3			

Note 2: Class 2 anaerobic digestion facilities must submit a hydrogeological assessment when the prescribed construction and siting standards for nutrient storages in section 10 or 13 of the General Regulation O. Reg. 267/03 under the Nutrient Management Act, 2002 do not apply.

Note 3: Class 1 and 2 anaerobic digestion facilities may be sited closer than the 250 m setback to odour receptors if the following apply: For facilities <500 kW, a 125 m setback can be applied if the facility adheres to prescribed mitigation requirements given in section 47 of O. Reg. 359/09. However, all Class 1 and 2 anaerobic digestion facilities may also use alternative setback distances if they are supported by the submission of an ESDM report, noise study report, and odour study report as part of the REA application.

Bio-energy

(Thermal Treatment)

		Class 1		Class 2	Class 3
		Woodwaste Only on a farm	Woodwaste Only non- farm	Not only woodwaste on a farm	Not only woodwaste non-farm
Plans & Reports	No REA				
	REA Required	X	X	X	X
	Project Description Report	X	X	X	X
	Construction Plan Report	X	X	X	X
	Design and Operations Report	X	X	X	X
	Decommissioning Plan Report	X	X	X	X
Consultation	Project Notice	X	X	X	X
	Meeting Notice		X		X
	Public Meetings		X		X
	Municipal Consultation	X	X	X	X
	Aboriginal Consultation	X	X	X	X
	Consultation Report	X	X	X	X
Cultural Heritage	Protected Properties	X	X	X	X
	Heritage Resources		X		X
	Archaeological Resources	See Note 1	X	See Note 1	X
Natural Heritage / Water Bodies	Natural Heritage Assessment	X	X	X	X
	Water Assessment	X	X	X	X
Additional Technical Reports	Emissions Summary and Dispersion Modelling Report (ESDM)		X		X
	Noise Study Report		X		X
	Odour Study Report				X
	Effluent Management Plan Report	X	X	X	X
	Hydrogeological Assessment Report			See Note 2	X
	Surface Water Assessment Report	X	X	X	X
	Financial Assurance Estimate			X	X
Setbacks & Mitigation	Setback from Odour and Noise Receptors			250 m	
	Lower Setback with studies			See Note 3	

Note 1: Applicants for Class 1 thermal treatment facilities located at a farm operation and Class 2 thermal treatment facilities are exempt from consideration of heritage resources other than protected properties at the project location. However, an archaeological assessment may be required depending on the specific characteristics of the project location, consistent with section 21 of O.Reg. 359/09.

Note 2: Class 2 thermal treatment facilities must submit a hydrogeological assessment when the prescribed construction and siting standards for nutrient storages in section 10 or 13 of the General Regulation O. Reg. 267/03 under the Nutrient Management Act, 2002 do not apply.

Note 3: Class 2 thermal treatment biomass storage areas can be sited closer than the 250m setback to odour receptors provided an odour study is submitted. Class 2 thermal treatment generating units can be sited closer than the 250 m setback to noise receptors provided an ESDM and noise study are submitted

Appendix 2. Agency Contact List

MINISTRY OF THE ENVIRONMENT

Environmental Assessment and Approvals Branch Renewable Energy Approval Unit

2 St. Clair Avenue West, Floor 12A
Toronto Ontario M4V 1L5

Phone: 416-314-8001

Toll free: 1-800-461-6290

Fax: 416-314-8452

E-mail: eaabgen.moe@ontario.ca

Regional and District Offices

NORTHERN REGION

Location	Address	Contact
Thunder Bay Regional Office	435 James St. S., Suite 331, 3 rd Floor Thunder Bay, Ontario P7E 6S7	Toll free from area codes 705/807: 1-800-875-7772 Tel: (807) 475-1205 Fax: (807) 475-1754
Kenora Area Office	808 Robertson St. P. O. Box 5150 Kenora, Ontario P9N 3X9	Toll free from area code 807: 1-888-367-7622 Tel: (807) 468-2718 Fax: (807) 468-2735
North Bay Area Office	191 Booth Road, Unit 16 & 17 North Bay, Ontario P1A 4K3	Toll free: 1-800-609-5553 Tel: (705) 497-6865 Fax: (705) 497-6866
Sault Ste Marie Area Office	289 Bay Street, 3 rd Floor Sault Ste. Marie Ontario P6A 1W7	Tel: 705-942-6354 Fax: 705-942-6327
Sudbury District Office	199 Larch St., Suite 1201 Sudbury, Ontario P3E 5P9	Toll free from area codes 705/807: 1-800-890-8516 Tel: (705) 564-3237 Fax: (705) 564-4180
Thunder Bay District Office	435 James St. S., Suite 331 Thunder Bay, Ontario P7E 6S7	Toll free from area code 705/807: 1-800-875-7772 Tel: (807) 475-1315 Fax: (807) 475-1754
Timmins District Office	Hwy 101 East P.O. Bag 3080 South Porcupine, Ontario P0N 1H0	Toll free in area codes 705/807: 1-800-380-6615 Tel: (705) 235-1500 Fax: (705) 235-1520

CENTRAL REGION

Location	Address	Contact
Central Region Office	5775 Yonge St., 8 th floor North York, Ontario M2M 4J1	Toll free: 1-800-810-8048 Tel: (416) 326-6700 Fax: (416) 325-6345
Halton-Peel District Office	4145 North Service Road, Suite 300 Burlington Ontario L7L 6A3	Toll free: 1-800-335-5906 Tel: (905) 319-3847 Fax: (905) 319-9902
Metro Toronto District Office	5775 Yonge St., 8 th Floor North York, Ontario M2M 4J1	Toll free: 1-800-810-8048 Tel: (416) 326-6700 Fax: (416) 325-6346
York-Durham District Office	230 Westney Rd. S., 5 th Floor Ajax, Ontario L1S 7J5	Toll free: 1-800-376-4547 Tel: (905) 427-5600 Fax: (905) 427-5602
Barrie District Office	54 Cedar Pointe Dr., Unit 1203 Barrie, Ontario L4N 5R7	Toll free: 1-800-890-8511 Tel: (705) 739-6441

EASTERN REGION

Location	Address	Contact
Kingston Regional Office	Box 22032 1259 Gardiners Road Kingston, Ontario K7M 8S5	Toll free for area codes 613, 705, and 905: 1-800-267-0974 Tel: (613) 549-4000 Fax: (613) 548-6908
Belleville Area Office	345 College Street East Belleville ON K8N 5S7	Toll free from area code 613: 1-800-860-2763 Tel: (613) 962-9208 Fax: (613) 962-6809
Cornwall Area Office	113 Amelia St. Cornwall ON K6H 3P1	Toll free number for area code 613: 1-800-860-2760 Tel: (613) 933-7402 Fax: (613) 933-6402
Kingston District Office	Box 22032 1259 Gardiners Road Kingston, Ontario K7M 8S5	Toll free for area codes 613, 705, and 905: 1-800-267-0974 Tel: (613) 549-4000 ext 2692 Fax: (613) 548-6920
Ottawa District Office	2430 Don Reid Drive Ottawa, Ontario K1H 1E1	Toll free: 1-800-860-2195 Tel: (613) 521-3450 Fax: (613) 521-5437
Peterborough District Office	300 Water Street, Robinson Place Peterborough, Ontario K9J 8M5	Toll free from area codes 613, 705, and 905: 1-800-558-0595 Tel: (705) 755-4300 Fax: (705) 755-4321

WEST CENTRAL REGION

Location	Address	Contact
Hamilton Regional Office	119 King St. W., 12 th Floor Hamilton, Ontario L8P 4Y7	Toll free: 1-800-668-4557 Tel: (905) 521-7640 Fax: (905) 521-7820
Guelph District Office	1 Stone Road W. Guelph, Ontario N1G 4Y2	Toll free: 1-800-265-8658 Tel: (519) 826-4255 Fax: (519) 826-4286
Hamilton District Office	119 King St. W., 9 th Floor Hamilton, Ontario L8P 4Y7	Toll free: 1-800-668-4557 Tel: (905) 521-7650 Fax: (905) 521-7806
Niagara District Office	301 St. Paul St., 9 th Floor St. Catharines, Ontario L2R 3M8	Toll free: 1-800-263-1035 Tel: (905) 704-3900 Fax: (905) 704-4015

SOUTHWESTERN REGION

Location	Address	Contact
London Regional Office	733 Exeter Road, 2 nd Floor London, Ontario N6E 1L3	Toll free number from area code 519: 1-800-265-7672 Tel: (519) 873-5000 Fax: (519) 873-5020
Windsor Area Office	4510 Rhodes Drive, Unit 620 Windsor, Ontario N8W 5K5	Toll free number: 1-800-387-8826 Tel: (519) 948-1464 Fax: (519) 948-2396
Owen Sound Area Office	101 17 th Street East Owen Sound, Ontario N4K 0A5	Toll free number from area code 519: 1-800-265-3783 Tel: (519) 371-2901 Fax: (519) 371-2905
Sarnia District Office	1094 London Rd. Sarnia, Ontario N7S 1P1	Toll free number: 1-800-387-7784 Tel: (519) 336-4030 Fax: (519) 336-4280

MINISTRY OF NATURAL RESOURCES

MAIN MNR OFFICE LOCATIONS

Location	Address	Telephone
Renewable Energy Program (for policy development and Crown Land application information)	Ministry of Natural Resources 300 Water Street, P.O. Box 7000, Peterborough, Ontario, K9J 8M5	(705) 755-5041(local) (705) 755-1206 (fax) renewable.mnr@ontario.ca
Ministry of Natural Resources Regional and District Offices (for project development/ review information)	Please visit: www.mnr.gov.on.ca/en/ ContactUs/2ColumnSubPage/STEL02_179002. html for office contacts and locations	(800) 667-1940

MINISTRY OF ENERGY

Renewable Energy Facilitation Office

Toll-free: 1-877-440-REFO (7336)

Within the GTA: (416) 212-6582

E-mail: REFO@ontario.ca

MINISTRY OF TOURISM AND CULTURE

Programs and Services Branch

Culture Division

401 Bay Street, Suite 1700

Toronto, Ontario M7A 0A7

Telephone: 416-325-4602

Fax: 416-314-7175

Email: general_info@mtc.gov.on.ca

MINISTRY OF TRANSPORTATION

Corridor Management and Property Office

301 St. Paul Street, 2nd Floor,
St. Catharines, Ontario
L2R 7R4

Telephone: (905) 704-2191

Fax: (905) 704-2777

Corridor Management Regional Offices:

www.mto.gov.on.ca/english/engineering/management/corridor/district.shtml#regional

MINISTRY OF AGRICULTURE, FOOD AND RURAL AFFAIRS

Agricultural Information Contact Centre (AICC)

1 Stone Rd W
Guelph, Ontario N1G 4Y2
1-877-424-1300
ag.info.omafra@ontario.ca

LOCAL CONSERVATION AUTHORITIES

Location	Address	Telephone
Ausable Bayfield Conservation Authority	71108 Morrison Line, RR #3, Exeter, ON, N0M 1S5	(519) 235-2610
Cataraqui Region Conservation Authority	PO Box 160, Glenburnie, ON, K0H 1S0	(613) 546-4228
Catfish Creek Conservation Authority	8079 Springwater Rd, RR # 5, Aylmer, ON, N5H 2R4	(519) 773-9037
Central Lake Ontario Conservation Authority	100 Whitling Ave, Oshawa, ON, L1H 3T3	(905) 579-0411
Conservation Halton	2596 Britannia Rd West, RR2, Milton, ON, L9T 2X6	(905) 336-1158
Credit Valley Conservation Authority	1255 Old Derry Rd, Mississauga, ON, L5N 6R4	(905) 670-1615
Crowe Valley Conservation Authority	70 Hughes Lane, PO Box 416, Marmora, ON, K0K 2M0	(613) 472-3137

Location	Address	Telephone
Essex Region Conservation Authority	360 Fairview Ave West, Suite 311, Essex, ON, N8M 1Y6	(519) 776-5209
Ganaraska Region Conservation Authority	2216 County Rd 28, Port Hope, ON	(905) 885-8173
Grand River Conservation Authority	400 Clyde Rd, PO Box 729, Cambridge, ON, N1R 5W6	(519) 621-2763
Grey Sauble Conservation Authority	237897 Inglis Falls Rd, RR 4, Owen Sound, ON, N4K 5N6	(519) 376-3076
Hamilton Conservation Authority	PO Box 81067, 838 Mineral Springs Rd, Ancaster, ON, L9G 4X1	(905) 525-2181
Kawartha Conservation Authority	277 Kenrei Rd, Lindsay, ON, K9V 4R1	(705) 328.2271
Kettle Creek Conservation Authority	44015 Ferguson Line, St. Thomas, ON, N59 3T3	(519) 631-1270
Lakehead Region Conservation Authority	PO Box 10427, 130 Conservation Rd, Thunder Bay, ON, P7B 6T8	(807) 344-5857
Lake Simcoe Region Conservation Authority	120 Bayview Parkway, Box 282, Newmarket, ON, L3Y 4X1	(905) 895-1281
Long Point Region Conservation Authority	146 Radical Rd, RR #3, Simcoe, ON, N3Y 4K2	(519) 428-4623
Lower Thames Valley Conservation Authority	100 Thames St., Chatham, ON, N7L 2Y8	(519) 354-7310
Lower Trent Conservation	714 Murray St., RR 1, Trenton, ON, K8V 5P4	(613) 394-3915
Maitland Valley Conservation Authority	103 Marietta St., Box 127, Wroxeter, ON, M9G 2X0	(519) 335-3557
Mattagami Region Conservation Authority	100 Lakeshore Rd, Timmins, ON, P4N 8R5	(705) 360-2660
Mississippi Valley Conservation Authority	4175 Hwy 511, RR#2, Lanark, ON, K0G 1K0	(613) 259-2421
Niagara Peninsula Conservation Authority	250 Thorold Rd., Welland, ON, L3C 3W2	(905) 788-313
Nickel District Conservation Authority	200 Brady St, 1st Floor, Tom Davies Square, Sudbury, ON, P3E 5K3	(705) 674-5249
North Bay-Mattawa Conservation Authority	15 Janey Ave, North Bay, ON, P1C 1N1	(705) 474-5420
Nottawasaga Valley Conservation Authority	8195 8 th Line, Utopia, ON, L0M 1T0	(705) 424-1479
Otonabee Conservation Authority	250 Milroy Drive, Peterborough, ON, K9H 7M9	(705) 745-5791
Quinte Conservation	2061 Old Highway 2, RR#2, Belleville, ON, K8N 4Z2	(613) 968-3434
Raisin Region Conservation Authority	18045 County Rd 2, Cornwall, ON	(613) 938-3611
Rideau Valley Conservation Authority	PO Box 599, 3889 Rideau Valley Drive, Manotick, ON, K4M 1A5	(613) 692-3571
Saugeen Conservation Authority	RR #1, Hanover, ON, N4N 3B8	(519) 364-1255
Sault Ste Marie Region Conservation Authority	1100 Fifth Line East, Sault Ste. Marie, ON, P6A 5K7	(705) 946-8530
South Nation Conservation Authority	38 Victoria St, PO Box 29, Finch, ON, K0C 1K0	(613) 984-2948
St. Clair Region Conservation Authority	205 Mill Pond Cres, Strathroy, ON, N7G 3P9	(519) 245-3710
Toronto and Region Conservation Authority	5 Shoreham Dr, Downsview, ON, M3N 1S4	(416) 661-6600
Upper Thames River Conservation Authority	1424 Clarke Rd, London, ON, N5V 5B9	(519) 451-2800

OTHER ONTARIO AGENCIES

Agency	Address	Contact
Niagara Escarpment Commission Georgetown Office	232 Guelph Street, Georgetown, Ontario L7G 4B1	Telephone: (905) 877-5191 Fax: (905) 873-7452
Electrical Safety Authority	155A Matheson Blvd. West, Suite 202 Mississauga, Ontario L5R 3L5	Telephone: (905) 507-4949 Fax: (905) 507-4712
Independent Electricity System Operator	Station A, Box 4474 Toronto, ON M5W 4E5	Telephone: (905)-403-6900 Toll-Free: 1-888-448-7777 Fax: (905) 403-6921 E-mail: customer.relations@ieso.ca
Ontario Energy Board	2300 Yonge Street, P.O. Box 2319 Toronto, Ontario M4P 1E4	Toll-free: (888) 632-6273 Telephone: (416) 481-1967 Fax: (416) 440-7656
Technical Standards and Safety Authority	3300 Bloor Street West Toronto, Ontario M8X 2X4	Telephone: 877 682-8772

FEDERAL GOVERNMENT AGENCIES

Agency	Address	Contact
Canadian Environmental Assessment Agency	22 nd Floor, Place Bell 160 Elgin Street Ottawa, Ontario K1A 0H3	Toll-free: (866) 582-1884 Telephone: (613) 957-0700 Fax: (613) 957-0862
Fisheries and Oceans Canada Communications Branch	200 Kent Street 13 th Floor, Station 13E228 Ottawa, Ontario K1A 0E6	Telephone: (613) 993-0999 Fax: (613) 990-1866 TTY: (800) 465-7735 Email: info@dfo-mpo.gc.ca
Radio Advisory Board of Canada	811-116 Albert Street, Ottawa, Ontario K1P 5G3	Telephone: (613) 230-3261 Telephone: (888) 902-5768 E-mail: rabc.gm@on.aibn.com
Royal Canadian Mounted Police	1200 Vanier Parkway Ottawa, Ontario K1A 0R2	Phone: (613) 993-7267 TTY: (613) 993-2232 Fax: (613) 993-0260
Transport Canada, Aerodromes and Air Navigation Ontario Region Regional Manager's Office	4900 Yonge Street, Suite 400 (PAD) Toronto, ON M2N 6A5	Telephone: (416) 952-0248 Fax: (416) 952-0050
Natural Resources Canada	580 Booth Street Ottawa, Ontario K1A 0E4	Telephone: (613) 995-0947 TTY: (613) 996-4397
Environment Canada	77 Westmorland Street, Suite 260 Fredericton, New Brunswick E3B 6Z3	Fax: (506) 451-6010 TTY: (819) 994-0736
Parks Canada	25-7-N Eddy Street Gatineau, Quebec K1A 0M5	Telephone: (888) 773-8888 TTY: (866) 787-6221

Appendix 3. Templates for Project Proposal Notices and Notices of Public Meetings

NOTICE OF A PROPOSAL

by *[Insert Applicant Name]* to Engage in a Renewable Energy Project

Project Name: *[Insert Project Name]*

Project Location: *[Insert a description of the lands on which the project is being proposed]*

Dated at *[insert local municipality]* **this the** *[Insert day]* **of** *[Insert month and year]*

[Insert Name of applicant] is planning to engage in a renewable energy project in respect of which the issuance of a renewable energy approval is required. The distribution of this notice of a proposal to engage in this renewable energy project and the project itself are subject to the provisions of the *Environmental Protection Act (ACT)* Part V.0.1 and Ontario Regulation 359/09 (Regulation). This notice must be distributed in accordance with section 15 of the Regulation prior to an application being submitted and assessed for completeness by the Ministry of the Environment.

Project Description:

Pursuant to the Act and Regulation, the facility, in respect of which the project is to be engaged in, is considered to be a *[insert type of renewable energy source]* Facility *[if the facility is classified under the Regulation, include the classification here]*. If approved, this facility would have a total maximum name plate capacity of ____MW . The project location is described in the map below.

This project is being proposed in accordance with the requirements of the Act and Regulation. The Draft Project Description Report titled *[Insert Title of document]* describes the facility as *[Insert a brief description of the proposed facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity.]* A written copy of the Draft Project Description Report is being made available for public inspection at *[Insert public location where documents can be inspected or Insert applicants website address]*.

Project Contacts and Information:

To learn more about the project proposal or to communicate concerns please contact:

[insert proponent and/or consultant contact information]

[insert project website address if applicable]

NOTICE OF PUBLIC MEETING

To be held by *[Insert Applicant Name]* regarding a Proposal to Engage in a Renewable Energy Project

Project Name: *[Insert Project Name]*

Project Location: *[Insert a description of the lands on which the project is being proposed]*

Dated at *[insert local municipality]* **this the** *[Insert day]* **of** *[Insert month and year]*

[Insert Name of applicant] is planning to engage in a renewable energy project in respect of which the issuance of a renewable energy approval is required. The proposal to engage in the project and the project itself is subject to the provisions of the *Environmental Protection Act (ACT)* Part V.0.1 and Ontario Regulation 359/09 (Regulation). This notice must be distributed in accordance with section 15 of the Regulation prior to an application being submitted and assessed for completeness by the Ministry of the Environment.

Meeting Location:

DATE: *[Insert Date]*

TIME: *[Insert Time]*

PLACE: *[Insert facility name, address and municipality]*

Project Description:

Pursuant to the Act and Regulation, the facility, in respect of which this project is to be engaged in, is a *[insert type of renewable energy source and classification, if the facility is classified under the Regulation]* Facility *[if the facility is classified under the Regulation, indicate the classification as well]*. If approved, this facility would have a total maximum name plate capacity of ____ MW . The project location is described in the map below.

Documents for Public Inspection:

The Draft Project Description Report titled *[Insert Title of document]* describes the project as *[Insert a brief description of the proposed facilities, equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity.]* A written copy of the Draft Project Description Report was made available for public inspection on *[Insert date]* at *[Insert public location where documents can be inspected or Insert applicant's website address if the document has been posted there]*.

Further, the applicant has obtained or prepared, as the case may be, the following supporting documents in order to comply with the requirements of the Act and Regulation. Written copies of the draft supporting documents will be made available for public inspection on *[Insert date]* at *[Insert public location where documents can be inspected or Insert applicants website address]*.

Project Contacts and Information:

To learn more about the project proposal, public meetings, or to communicate concerns please contact:
[insert proponent and/or consultant contact information]
[insert project website address if applicable]

[Insert map showing the project location and lands within 300 meters]

[Insert project location]

[Insert scale bar and north arrow]



Appendix 4. Consultation Form: Municipalities, Local Authorities



Ministry of the Environment

Renewable Energy Approval Consultation Form: municipalities, local authorities ss. 18(2) Ontario Regulation 359/09

Ce formulaire est disponible en français

PART A: TO BE COMPLETED BY THE APPLICANT BEFORE SUBMITTING TO MUNICIPALITY OR LOCAL AUTHORITY

Section 1 - Project Description

1.1 - Renewable Energy Project					
Project Name <i>(Project identifier to be used as a reference in correspondence)</i>					
Project Location					
Same as Applicant Physical Address? <input type="checkbox"/> Yes <input type="checkbox"/> No (If no, please provide site address information below)					
Civic Address- Street information <i>(includes street number, name, type and direction)</i>					Unit Identifier <i>(i.e. apartment number)</i>
Survey Address <i>(Not required if Street Information is provided)</i>					
Lot and Conc.: used to indicate location within a subdivided township and consists of a lot number and a concession number.		Part and Reference: used to indicate location within unorganized territory, and consists of a part and a reference plan number indicating the location within that plan. Attach copy of the plan.			
Lot	Conc.	Part		Reference Plan	
Location Information <i>(includes any additional information to clarify physical location)(e.g. municipality, ward/ township)</i>					
Geo Reference <i>(e.g. southwest corner of property)</i>					
Map Datum	Zone	Accuracy Estimate	Geo Referencing Method	UTM Easting	UTM Northing
Project Phasing <i>(outline construction, operation and decommissioning activities)</i>					

1.2 - Environmental Context

Describe any negative environmental effects that may result from engaging in the project (*consider construction, operation and decommissioning activities.*)

Propose early avoidance/prevention/mitigation concepts and measures.

1.3 - Renewable Energy Generation Facility

Type of Facility / Operation (*select all that apply & complete all appropriate sections*)

<input type="checkbox"/>	Wind Facility (Land Based)	<input type="checkbox"/>	Biofuel Facility
<input type="checkbox"/>	Wind Facility (Off-Shore)	<input type="checkbox"/>	Solar Photo Voltaic Facility
<input type="checkbox"/>	Biogas Facility (Anaerobic Digesters)	<input type="checkbox"/>	Other Describe :
<input type="checkbox"/>	Biomass Facility (Thermal Treatment)	<input type="checkbox"/>	Class (if applicable) :

Name Plate Capacity	Expected Generation	Service Area	Total Area of Site (<i>hectares</i>)

Provide a description of the facilities equipment or technology that will be used to convert the renewable energy source or any other energy source to electricity.

1.4 – Renewable Energy Generation Activities

Describe the activities that will be engaged in as part of the renewable energy project

Section 2 – Supporting Documents

2.1 – Requirement	Name of Draft documents distributed for consultation	Date available to Municipal or Local Authority Contact
DRAFT Project Description Report		
DRAFT Design and Operations Report		

DRAFT Construction Plan Report		
DRAFT Decommissioning Plan Report		
List of other Documents		
Location where written draft reports can be obtained for public inspection <i>(physical location for viewing and the applicants project website if one is available):</i>		

Section 3 – Applicant Address and Contact Information

3.1 - Applicant Information <i>(Owner of project/facility)</i>				
Applicant Name <i>(legal name of individual or organization as evidenced by legal documents)</i>				Business Identification Number
Business Name <i>(the name under which the entity is operating or trading - also referred to as trade name)</i>				<input type="checkbox"/> same as Applicant Name
Civic Address- Street information <i>(includes street number, name, type and direction)</i>				Unit Identifier <i>(i.e. apartment number)</i>
Survey Address <i>(Not required if Street Information is provided)</i>				
Lot and Conc.: used to indicate location within a subdivided township and consists of a lot number and a concession number. Lot Conc.		Part and Reference: used to indicate location within an unsubdivided township or unsurveyed territory, and consists of a part and a reference plan number indicating the location within that plan. Attach copy of the plan. Part Reference Plan		
Municipality	County/District	Province/State	Country	Postal Code

PART B: TO BE COMPLETED BY THE MUNICIPALITY OR LOCAL AUTHORITY

Section 4 - Municipal or Local Authority Contact Information (check the one that applies)

Local Municipality <i>(include each local municipality in which project location is situated)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No					
Name of Municipality	Address	Phone	Clerk's Name	Clerk's Phone/Fax	E-Mail Address
Upper Tier Municipality <i>(include each upper tier municipality in which project location is situated)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No					
Name of Municipality	Address	Phone	Clerk's name	Clerk's Phone/Fax	E-Mail Address
Local roads area <i>(include each local roads area in which project location is situated)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No					
Name of local roads board	Address	Phone	Secretary-treasurer's Name	Secretary-treasurer's Phone/Fax	E-Mail Address
Board Area <i>(include each board area in which project location is situated)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No					
Name of Local Service Board	Address	Phone	Secretary's name	Secretary's Phone/Fax	E-Mail Address

Section 5: Consultation Requirement

5.1 - Project Location
Provide comment on the project location with respect to infrastructure and servicing.
5.2 – Project Roads
Provide comment on the proposed project's plans respecting proposed road access.
Identify any issues and provide recommendations with respect to road access
Provide comment on any proposed Traffic Management Plans

Identify any issues and provide recommendations with respect to the proposed Traffic Management Plans
5.3 – Municipal or Local authority Service Connections
Provide comment on the proposed project plans related to the location of and type of municipal service connections, other than roads.
Identify any issues and provide recommendations with respect to the type of municipal service connections, other than roads.
5.4 – Facility Other
Identify any issues and recommendations with respect to the proposed landscaping design for the facility
Provide comment on the proposed project plans for emergency management procedures / safety protocols.
Identify any issues and recommendations with respect to the proposed emergency management procedures / safety protocols.
Identify any issues and recommendations with respect to any Easements or Restrictive Covenants associated with the Project Location
5.5 Project Construction
Identify any issues and recommendations with respect to the proposed rehabilitation of any temporary disturbance areas and any municipal or local authority infrastructure that could be damaged during construction.

Identify any issues and recommendations with respect to the proposed location of fire hydrants and connections to existing drainage, water works and sanitary sewers
Identify any issues and recommendations with respect to the proposed location of buried kiosks and above-grade utility vaults
Identify any issues and recommendations with respect to the proposed location of existing and proposed gas and electricity lines and connections
Provide comment on the proposed project plans with respect to Building Code permits and licenses.
Identify any issues and recommendations related to the identification of any significant natural features and water bodies within the municipality or territory.
Identify any issues and recommendations related to the identification any archaeological resource or heritage resource.

