Proposed Renewable Energy Policies
Township of East Garafraxa Official Plan Amendment No. _____

Draft

PART B – THE AMENDMENT

INTRODUCTORY STATEMENT

All of this part of the document entitled "Part B-The Amendment" consisting of the following text and the attached map designated as "Schedule 'C' Township of East Garafraxa Official Plan Renewable Energy Management Areas" constitutes Amendment No. ___ to the Township of East Garafraxa Official Plan.

DETAILS OF THE AMENDMENT

The Township of East Garafraxa Official Plan is hereby amended as follows:

1. Schedule 'C' attached hereto is inserted into the Official Plan following Schedule 'B'.

2. Section 6.0 of the Township of East Garafraxa Official Plan, is hereby amended by:

    a) Amending the title of Section 6.0 to "Transportation, Utilities & Renewable Energy"

    b) adding the following new subsection after subsection 6.6 on page 39.

6.7 RENEWABLE ENERGY SYSTEMS

Renewable energy systems produce electrical power from an energy source that is renewed by natural processes. Examples of renewable energy systems include wind, water, a biomass resource, solar and geothermal. These policies apply to project principally for the generation of electricity.

The Objectives and Policies included in this Section of the Official Plan focus on wind, solar and biomass energy systems, as these are anticipated to be the predominate form of renewable energy system to produce electricity in the Township. The policies contained within this section of the Official Plan may be updated through the five year review cycle or at other defined junctures. Revisions and additions to the policies will be considered in light of any changes to energy systems that were not anticipated during the development of these policies.

Renewable Energy System policies are comprised of the following sub-sections:

6.7.1 Objectives

6.7.2 Definitions

6.7.3 General Renewable Energy System Policies

6.7.4 Wind Energy System Policies
- 6.7.4.1 Scales of Wind Energy Systems
- 6.7.4.2 Wind Energy System Policy Objectives
- 6.7.4.3 Management Area Policies
- 6.7.4.4 General Policies

6.7.5 Solar Energy System Policies
- 6.7.5.1 Scales of Solar Energy Systems
- 6.7.5.2 Management Area Policies
- 6.7.5.3 General Policies

6.7.6 Biomass Energy System Policies
- 6.7.6.1 Scales of Biomass Energy Systems
- 6.7.6.2 Management Area Policies
- 6.7.6.3 General Policies

6.7.7 Transmission & Distribution Utilities

6.7.1 Objectives

The primary goal of these policies is to uphold the Township's mission statement while providing opportunities for the responsible development of renewable energy systems and their wider public benefit in terms of reducing greenhouse gas emissions, off-setting on-site consumption, and securing a more sustainable and stable energy supply.

The following objectives and implementing policies provide opportunities to develop renewable energy systems that are compatible with the existing characteristics of the Township through responsible siting, construction and operation that balances environmental, social and economic benefits with any potential land use impacts.

The objectives of the Township's renewable energy system policies are to:

a) Provide opportunities for renewable energy systems of an appropriate scale, size and location that reflect the attributes and sensibilities of the Township and its residents.

b) Encouraging renewable energy systems and utilities in locations that balance the social, environmental, and economic interests of the community.

c) Maintain the open landscape character of the Township.

d) Site, orientate, and design renewable energy facilities projects that maximize the use of the resource while being consistent with other policies of this Official Plan.

e) Conserve cultural heritage landscapes and built heritage sites.

f) Protect key resource areas through the careful study of habitats and natural functions that may be affected by renewable energy systems.

g) Ensure that renewable energy are appropriately designed, buffered and/or separated from sensitive land uses to prevent adverse effects from odour, noise and other contaminants, and minimize risk to public health and safety.

h) Ensure that renewable energy systems and supporting components/facilities such as transformers and transmission lines, are designed to minimize the use of land and interference with agriculture and subsurface resources.

i) Provide appropriate standards and establish an approval process for renewable energy systems.

6.7.2 Definitions

The following definitions form part of this Plan.

a) **Adverse Effects:** Means one or more of the following: impairment of the quality of the natural environment for any use that can be made of it, injury or damage to property or plant or animal life, harm or material discomfort to any person, an adverse effect on the health of any person, impairment of the safety of any person, rendering any property or plant or animal life unfit for human use, loss of enjoyment of normal use of property and interference with normal conduct of business.

b) **Alternative Energy System:** Means sources of energy or energy conversion process that significantly reduce the amount of harmful emissions to the environment (air, earth and water) when compared to conventional systems.

c) **Archaeological resources:** Includes artifacts, archaeological sites and marine archaeological sites. The identification and evaluation of such resources are based upon archaeological fieldwork undertaken in accordance with the Ontario Heritage Act.

d) **Areas of archaeological potential:** Means areas with the likelihood to contain archaeological resources. Criteria for determining archaeological potential are established by the Province, but municipal approaches which achieve the same objectives may also be used. Archaeological potential is confirmed through archaeological fieldwork undertaken in accordance with the Ontario Heritage Act.

e) **Astronomically Worst Case:** Shall mean the period during which, theoretically, the sun shines continuously from a cloudless sky for the entire time between sunrise and sunset while the rotor surface is perpendicular to the incident solar radiation and the wind energy system is in use.

f) **Biomass Energy System:** Means a renewable electrical generation facility using renewable biomass resources and/or waste products that produces electrical power for needs of a user or to feed into the transmission or local distribution grid.

"Biomass" means (a) peat, (b) wood, other than woodwaste, or (c) organic materials that are grown or harvested for the purpose of being burned to generate electricity.

"Waste Biomass" means agricultural waste, sewage, manure, woodwaste and gases generated from the decomposition of organic materials, but does not include biogas or landfill gas.

g) **Built Heritage Resources:** Means one or more significant buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic or military history and identified as being important to a community. These resources may be identified through designation or heritage conservation easement under the Ontario Heritage Act, or listed by local, provincial or federal jurisdictions.

h) **Conserved:** Means the identification, protection, use and/or management of cultural heritage or archaeological resources in such a way that their heritage values, attributes and integrity are retained. This may be addressed through a conservation plan or heritage impact assessment.

i) **Cultural Heritage Landscape:** Means a defined geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include, but are not limited to, heritage conservation districts designated under the Ontario Heritage Act; and the village, parks, gardens, battlefields, main streets and neighbourhoods, cemeteries, trailways and industrial complexes of cultural heritage value.

Categories of cultural Heritage Landscapes include:

Designed Landscape: the clearly defined landscape designed and created intentionally by humans, such as an estate, park, or square.

Evolved Landscape: A landscape resulting from an initial social, economic, administrative, and/or religious imperative and has developed in its present form in response to its natural environment". Within this category two sub-categories exist:

Relict landscape: A landscape created by an evolutionary process came to an end at some time in the past and for

which significant distinguishing features, are, however still visible in material form", such as an abandoned mill or industrial site.

Continuing landscape: A landscape that retains and active social role in contemporary society closely associated with the traditional way of life, and which the evolutionary process is still in progress (i.e. a neighbourhood).

Associative Cultural Landscape: A landscape which is justifiable by virtue of the powerful religious, artistic, or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent", such as sacred sites and battlefields.

j) **Energy from Waste:** Means the thermal treatment of municipal solid waste (garbage) to produce electricity. Energy (electricity) from waste is primarily to provide a means for generation of renewable energy. Waste reduction and disposal is a secondary consideration of this process.

k) **Geothermal Energy System:** Electrical generation using geothermal energy is based on the principal of using heat energy below the earth's surface for the creation of steam to drive an electrical generator. Geothermal electrical generation should not be confused with heating using geothermal resources. This form of geothermal energy requires much lower levels of heat energy not sufficient enough for the creation of steam. In addition, heating and cooling technologies require electrical energy inputs to extract heat energy.

l) **Grand River Valley:** For the purposes of identifying a significant cultural heritage landscape, the topographic feature of the Grand River Valley was defined using GIS data from the Grand River Valley conservation Authority. Specifically, GIS layers associated with Slope Valley, Slope Erosion, and Regulated Area were used.

m) **Nameplate Generating Capacity:** Means, with respect to a generation facility, the total of the design electricity generating capacities of all the generation units in the facility.

n) **Natural heritage features and areas:** Means features and areas, including significant wetlands, significant coastal wetlands, fish habitat, significant woodlands south of the Canadian Shield, significant valleylands south of the Canadian Shield, significant habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific

interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area.

o) **Natural heritage system:** Means a system made up of natural heritage features and areas, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include lands that have been restored and areas with potential to be restored to a natural state.

p) **Negative Impacts:** Means

i) in regard to water, degradation to the quality and quantity of water, sensitive surface water features and sensitive ground water features, and their related hydrologic functions, due to single, multiple or successive development or site alteration activities;

ii) in regard to fish habitat, the harmful alteration, disruption or destruction of fish habitat, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act, using the guiding principal of no net loss of productive capacity; and

iii) in regard to other natural heritage features and areas, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities.

q) **Point of Reception:** Means any point on the premises of a person within 30 metres of a dwelling or a camping area, where sound, vibration or shadow flicker originating from other than those premises is received. For the purpose of approval of new sources, including verifying compliance with Section 9 of the Environmental Protection Act, the Point of Reception may be located on any of the following existing or zoned for future use premises: permanent or seasonal residences, hotels/motels, nursing/retirement homes, rental residences, hospitals, camp grounds, and noise sensitive buildings such as schools and places of worship. For equipment/facilities proposed on premises such as nursing/retirement homes, rental residences, hospitals and schools, the point of Reception may be located on the same premises.

r) **Renewable Energy System:** Means the production of electrical power from an energy source that is renewed by natural processes

including, but not limited to, wind, water, a biomass resource or product, or solar and geothermal energy.

s) **Rural Residential Cluster:** Mean four (4) or more rural residential lots with an average area of 0.8 hectares or less that share a common boundary including lots located directly across a roadway from one another. Measurements shall be taken as the shortest distance between the lot line of the closest lot to a proposed turbine.

t) **Sensitive Land Uses:** Means buildings, amenity areas, or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more adverse effects from contaminant discharges generated by a nearby major facility. Sensitive land uses may be a part of the natural or built up environment. Examples of sensitive land uses may include, but are not limited to: residences, day care centres, and educational and health facilities.

u) **Setback:** Means the distance between the closest edge of the turbine base and the lot line or feature except where otherwise defined in specific policies in this Plan. Examples include measuring the setback distance to natural heritage features at the most outward extension of the blade arc.

v) **Significant:** As per the Provincial Policy Statement 2005, shall mean:

i) in regard to wetlands, coastal wetlands and areas of natural and scientific interest, an area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time;

ii) in regard to the habitat of endangered species and threatened species, means the habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of endangered species or threatened species, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle;

iii) in regard to woodlands, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically

important due to site quality, species composition, or past management history;

iv) in regard to other features and areas in policy 2.1, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system;

v) in regard to mineral potential, means an area identified as provincially significant through comprehensive studies prepared using evaluation procedures established by the Province, as amended from time to time, such as the Provincially Significant Mineral Potential Index;

vi) in regard to potential for petroleum resources, means an area identified as provincially significant through comprehensive studies prepared using evaluation procedures established by the Province, as amended from time to time; and

vii) in regard to cultural heritage and archaeology, resources that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people.

Criteria for determining significance for the resources identified in sections (c)-(g) are recommended by the Province.

While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation.

w) **Site Alteration:** Means activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site.

x) **Solar Energy System:** Means a renewable electrical generation facility that produces power from the sun using photovoltaic technology to provide all, or a portion of, the electrical power needs for a user or to feed into the transmission or local distribution grid. A solar energy system includes all arrays, supporting infrastructure, and outbuildings.

y) **Specialty Crop Area:** Means areas designated using evaluation procedures established by the province, as amended from time to time, where specialty crops such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil lands are predominantly grown, usually resulting from:

i) soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both; and/or,

ii) a combination of farmers skilled in the production of specialty crops, and of capital investment in related facilities and services to produce, store, or process specialty crops.

z) **Stray Voltage:** Occurs when infrastructure devices, such as lamp posts, manholes, gratings and junction boxes become unintentionally charged with electricity. The cause of this unintended electric leakage is due to a variety of conditions including cracked insulation, frost heaving, expansion and contraction of wiring, physical damage to the lines and so on.

The term "stray voltage" is also used, primarily in rural areas, to describe the gradient of electrical potential with respect to soil surface location associated with single-wire earth return electricity distribution systems used in some rural locations.

aa) **Turbine Height:** The height of a renewable energy system shall be measured from the base of the structure to the highest point of the structure. For instance, in the case of a typical horizontal axis wind turbine, the height is measured from the average ground level upon which the base/foundation sits to the tip of the rotor blade at its highest point.

bb) **UTM (Universal Transverse Mercator):** Means a coordinate system with a grid-based method of specifying locations on the surface of the Earth. UTM coordinates are used to identify locations on the earth, but differs from the traditional method of latitude and longitude. The UTM system is not a single map projection but instead employs a series of sixty zones to define specific coordinates anywhere on the earth's surface.

cc) **Volt:** Means the amount of 'pressure' required to transport electricity and push electrical energy through a wire. A measure of the Potential Difference between two points of an electrical field.

dd) **Watt:** Means a unit to describe the size of an electrical generation system. One megawatt equals 1,000 kilowatts or 1,000,000 watts. Watts of energy is the amount of electricity produced.

ee) **Wind Energy System:** Means a renewable electrical generation facility that produces power from wind primarily to provide all or a portion of the electrical power needs for a user or to feed into the transmission or local distribution grid. A wind energy system

includes all supporting infrastructure, outbuildings and access roads.

6.7.3 General Renewable Energy System & Utility Policies

The following policies apply to all renewable energy systems.

6.7.3.1 Agency Approvals

a) New expanded renewable energy facilities shall not have a negative impact on surface water quality or ground water quality either as a result of construction activities or long term operation. Sites proposed for new or expanded renewable energy systems on lands regulated by Ontario Regulations, as amended, for the Grand River Conservation Authority and Credit Valley Conservation Authority will be subject to the provisions, policies and regulations there under.

b) The development of renewable energy systems shall be prohibited where they cause a potential aviation safety hazard. The development of new or expanded renewable energy facilities within the Areas of Influence of airports and aerodromes, as shown on Schedule "C", and within 4 km of airports and aerodromes located outside of the Township, shall be sited to the satisfaction of Transport Canada and NavCanada. In addition, proponents shall consult with and consider the needs of airport/aerodrome operators within 4 km of new or expanded renewable energy system while considering Transport Canada and NavCanada siting guidelines. Where applicable, an Aeronautical Obstruction Clearance form must be approved by Transport Canada and a Land use Proposal Submission form must be approved by NavCanada.

c) Relevant Certificates of Approval shall be obtained from the Ministry of Environment prior to the removal of any holding provision of the implementing zoning by-law. Where a particular development may be exempt from requiring a Certificate of Approval, the Township will require that the proponent demonstrate that any applicable provincial technical requirements will still be met.

6.7.3.2 Amenity Agreements

As part of any new or expanded renewable energy system, the Township may require the execution of an Amenity Agreement under the Municipal Act to provide certain amenities and assurances to the municipality as compensation for any land use impacts. These agreements may also include securities for the Township to undertake future comprehensive reviews to determine policy effectiveness.

6.7.3.3 Applicability to Other Parts of this Plan

Applications for renewable energy systems shall be considered within the context of all of the policies in this Plan.

6.7.3.4 Below Grade Infrastructure

New transmission and distribution facilities and electricity corridors shall be located below grade, except where physical and environmental constraints dictate otherwise. Infrastructure below grade will be identified on the implementing site plans and noted in the Site Plan Control agreement that shall be registered on title. This policy applies to all new or expanded renewable energy project and does not supersede policies contained in Section 7.7.7 related to transmission and utilities established by Provincial power authorities.

6.7.3.5 Consultation

Preliminary consultation shall occur for large and medium scale renewable energy systems between the applicant, Ministry of Municipal Affairs and Housing, County, municipality, First Nations, Six Nations, and applicable conservation authority prior to the submission of any Planning Act applications and/or the commencement of any environmental assessment process.

6.7.3.6 Cultural Heritage Landscapes, Built Heritage Resources, & Archaeological Resources

a) Significant built heritage resources and significant cultural heritage landscapes shall be conserved.

b) Where a new or expanded renewable energy facility will potentially be located in an Area of Archaeological Potential, an archaeological assessment by a licensed archaeologist will be required together with a possible heritage impact assessment by a qualified heritage consultant. Proposals must also take into account any Official Plan policies regarding heritage resources.

6.7.3.7 Dispute Resolution

All renewable energy projects will require a Dispute Resolution Protocol to the satisfaction of the Township. Such agreement shall be established through a project's implementing development agreement. This protocol will specifically address natural heritage, noise (including low frequency noise), shadow flicker and stray voltage issues. The Dispute Resolution Protocol will establish a complaint procedure and identify solutions for remediation.

6.7.3.8 Holding By-Law

A Holding By-law may be enacted by the Township to ensure that various aspects of a renewable energy project are finalized prior to removal of the holding symbol. A Holding By-law may be used, but not necessarily limited to, for the finalization of grid connection agreement(s), completion of the site plan approval process, establishment of an amenity agreement(s) and maintenance and decommissioning details.

6.7.3.9 Integration with the Ontario & Federal Environmental Assessment Process

The intent of this Plan is not to duplicate any requirements of a proponent under the Environmental Assessment Act. Wherever possible, these policies seek to integrate the Environmental Assessment Act(s) and Planning Act through:

a) The scope of any documentation required under the Environmental Assessment Act(s) will be expanded to include any information requirements required to assess the proposal under the Planning Act and the Provincial Policy Statement.

b) The Township expects a proponent to coordinate their activities with the municipality (i.e. timing of notices, public information sessions, release of reports, and assessments of reports).

c) A Zoning By-law Amendment or any other implementing Planning Act approval will not be approved until a Notice of completion has been issued under the Environmental Screening Process (i.e. Environmental Screening Report and/or Environmental Review Report) and the minimum 30 day public and agency review has been completed. After this period, copies of all comments and any elevation requests received during the minimum 30 day public and agency review period will be provided to the Township to ensure that the Township is satisfied that there are no fundamental land use planning issues that remain unaddressed.

6.7.3.10 Management Areas

Schedule “C” of this Plan outlines Management Areas for renewable energy systems:

a) Wind energy systems are permitted in Management Areas defined under Section 6.7.4 of this Plan. Some of the features identified under the Management Areas have not been mapped on Schedule “C”.

b) Solar energy systems are permitted in Management Areas defined under Section 6.7.5 of this Plan. Some of the features identified under the Management Areas have not been mapped on Schedule "C".

c) Biomass energy systems are permitted in Management Areas defined under Section 6.7.6 of this Plan. Some of the features identified under the Management Areas have not been mapped on Schedule "C".

d) Where the Management Areas on Schedule "C" overlap, the policies associated with all applicable Management Areas will apply. Management Area 3 policies shall be applicable to all areas of the Township.

Renewable energy systems other than wind, solar and biomass, such as hydro, geothermal, and solar thermal, require an amendment to this Plan to define which Management Area may be appropriate due to their particular requirements, potential size and land use compatibility impacts.

6.7.3.11 Mineral Aggregate Resources

a) The development of renewable energy systems in areas adjacent to or on identified High Potential Aggregate Resources as shown in Schedule "B" shall be permitted only where it has been demonstrated that the energy system serves a greater long-term public interest during the lifetime of the renewable energy system than the aggregate resource and does not compromise its future extraction.

b) Renewable energy systems are not permitted on any lands subject to Ministry of Natural Resources extraction licenses.

6.7.3.12 Monitoring and Township Review

a) Only one project of a large scale wind, solar or biomass renewable energy systems shall be approved until the Township has undertaken a comprehensive review of the first commissioned large scale wind, solar, or biomass project. A further comprehensive review may be undertaken after the commissioning of 50 large or medium scale wind turbines.

b) The comprehensive review will consider the effectiveness of these utility and renewable energy policies. Such review shall include but not be limited to the following:

i) An evaluation of the density of renewable energy system(s).

ii) The visual impact of the renewable energy system on the landscape and result impacts on rural character and/or cultural heritage.

iii) Analysis of any written comments received by the Township.

iv) Comments received through public and agency consultation.

v) The cumulative land use impacts of successive projects.

6.7.3.13 Natural Heritage

Site alteration for the development of a new or expanded renewable energy system shall not be permitted in significant woodlands, significant valleylands, significant wildlife habitat and significant areas of natural and scientific interest.

6.7.3.14 Peer Reviews

All required supporting reports and studies, and their peer reviews, are to be prepared and signed by qualified individuals. The Township shall require the peer review of any supporting information at the applicant's cost.

6.7.3.15 Processing of Planning Applications

a) For the purposes of assessing applications for new or expanded renewable energy systems under the policies of this Official Plan and the Provincial Policy Statement, the term "site alteration" as defined in the Provincial Policy Statement, is considered to apply to all renewable energy projects regardless of those projects being considered as "infrastructure" or subject to an approval process under the Environmental Assessment Act.

b) A new or expanded renewable energy facility requiring an amendment of this Official Plan will have the application processed as a single application for the entire project.

c) All applications for new or expanded renewable energy facilities will require a project specific zoning by-law amendment.

d) Applications for rezoning and site plan control shall be made for each individual lot comprising of the subject lands for a new or expanded renewable energy system. However, the Township shall only approve individual rezoning applications together with all other

rezoning applications comprising the subject lands of the renewable energy system. No individual rezoning application shall be approved until the Township has considered all other rezoning applications comprising of the renewable energy facility.

e) No planning application for renewable energy systems shall be approved without specific UTM coordinates identifying the location (within a 20 metres radius) of the proposed renewable energy systems and all of its supporting infrastructure.

6.7.3.16 Provincial Greenbelt Plan

All renewable energy projects within the Provincial Greenbelt Plan as identified on Schedule "C" shall be subject to the policies of the Provincial Greenbelt Plan 2005. Where there are conflicts between the policies of this Official Plan and the Greenbelt Plan, the more restrictive policy shall apply.

6.7.3.17 Siting, Buffering, and Cumulative Impacts

a) Renewable energy systems shall be designed and constructed to be buffered and/or separated from sensitive land uses to prevent adverse effects such as but not limited to noise, odour and other contaminants and to minimize the risk to public health and safety.

b) Multiple renewable energy systems shall be permitted per lot subject to each individual renewable energy system utilizing a different energy source (i.e. biomass, solar, wind).

c) Applications to construct more than one renewable energy system per lot or construct any large scale renewable energy system if one is already present in the Township shall be considered with regard to any cumulative impacts (for both existing and proposed facilities) that may result to adjacent landowners, the general area, the municipality, or surrounding municipalities.

d) Prior to the development of new or expanded renewable energy systems in Hazard Lands, an amendment to the Township's Comprehensive Zoning By-law will be required which conforms with the Natural Hazards policies in the Provincial Policy Statement 2005 and the requirements for permits by the respective Conservation Authority under applicable Ontario Regulations.

6.7.3.18 Site Plan Control

All lands containing a new or expanded renewable energy system, or part thereof, shall be subject to site plan control and associated development agreements.

6.7.3.19 Vacant Lots & Severances

a) Prior to the approval of a new renewable energy system, the proponent shall ensure that where there is vacant lot of record in the vicinity of the project upon which a point of reception could be built in accordance with the local zoning for the lot, that a receptor could be built on the lot without being subjected to adverse effects. This shall be accomplished by demonstrating that a one hectare building envelope exists on a portion of the lot that would reasonably be expected to contain the use and which conforms to the following provisions:

   i) Located outside of natural heritage constraints (i.e. Provincially Significant Wetlands, Significant Woodlots);

   ii) Located outside of obvious site constraints such as steep topography, or other natural hazard lands;

   iii) Located such that safe and reasonable access is available;

   iv) Is consistent with the typical building pattern in the area or recognizes unique site attributes that would relate to building location such as amenity areas or significant viewsheds from the lot;

   v) Conforms to all other provisions of By-Law 60-2004.

   vi) Where vacant lots of record comprise less than one hectare, or where less than one hectare of building envelope is available on the lot, then the modeling must demonstrate that the building envelope is reasonable. Where a one hectare building envelope is not available due to existing site constraints or lot size, then an actual available building envelope should be modeled.

b) Notwithstanding other severance policies contained within this Official Plan, the proponent of a new lot in the vicinity of a proposed (with a complete application) and/or approved renewable energy project, shall demonstrate that any land use developed on the proposed lot would not be subjected to adverse affects from the nearby renewable energy system.

6.7.4 Wind Energy Systems

The following policies apply to wind energy systems.

6.7.4.1 Scales of Wind Energy Systems

The development of new or expanded wind energy systems within the Township are categorized according to the following scales of production:

a) **Micro Scale:** Any wind energy system with a nameplate generating capacity that does not exceed 1 kilowatt and has a maximum height of 13.5 metres or 3 metres above an existing roof line, whichever is less. A micro scale wind energy system is generally ancillary to the principal permitted use.

b) **Small Scale:** Any wind energy system with a nameplate generating capacity that does not exceed 50 kilowatts and has a height greater than 13.5 metres to a maximum of height of 36 metres. A small scale wind energy system is generally ancillary to the principal permitted use.

The electricity produced by small scale wind energy systems may be used on-site or credited into the Provincial electricity grid to off-set the electricity consumption costs incurred by the principal use on the lot.

c) **Medium Scale:** Any wind energy system with a combined nameplate generating capacity greater than 50 kilowatts and less than 500 kilowatts for the entire system, and a height less than 100 metres. A medium scale wind energy system may be the principal use of the lot or ancillary to the principal permitted use.

d) **Large Scale:** Any wind energy system comprising one or more turbines with a combined nameplate generation capacity of 500 kilowatts or more for the entire system, or a height greater than 100 metres. A large scale wind energy system may be the principal use of the lot or ancillary to the principal permitted use.

6.7.4.2 Wind Energy System - Management Area Policies

Schedule “C” of this Plan defines Management Areas.

6.7.4.2.1 Management Area 1

New or expanded large, medium and small scale wind energy systems and associated site alteration are not permitted in Management Area 1, which contains one or more of the following features:

a) Endangered/Threatened species habitat.

b) Provincially Significant Wetlands.

c) Significant Woodlands.

d) Significant Valleylands.

e) Significant Wildlife Habitat.

f) Significant Areas of Natural and Scientific interest.

g) Floodways and areas of flooding hazards.

h) The Grand River Valley, as defined within Management Area 1 in Schedule “C”, due to its natural heritage features and cultural heritage landscape.

i) Settlement Areas as shown in Schedules “A-1” and “A-2”.

j) Estate Residential designations as shown in Schedule “A”.

6.7.4.2.1.1 Micro scale wind energy systems are permitted in Management Area 1 provided they are mounted onto a building or structure and subject to a zoning by-law amendment.

6.7.4.2.2 Management Area 2

New or expanded large and medium scale wind energy systems may be permitted in Management Area 2, subject to the approval of an amendment to the Official Plan and site specific zoning by-law amendment.

6.7.4.2.2.1 Management Area 2 contains the following features:

a) Settlement areas.

b) One kilometre setback from all settlement areas.

c) One kilometre setback from the Grand River Valley for the purposes of cultural heritage landscape conservation.

6.7.4.2.2.2 Proposals for new or expanded large and medium scale wind energy systems located in Management Area 2 require an Official Plan amendment demonstrating:

a) That sufficient opportunities for residential and employment growth are available through intensification, redevelopment and designated growth areas to accommodate the Township's projected needs over the 25 year planning horizon.

b) That infrastructure and public service facilities can be available to meet current and projected needs.

c) That significant built heritage resources and significant cultural heritage landscapes shall be conserved so that the heritage values, attributes and integrity are retained.

d) That the location of the wind energy system will not negatively impact on:

i) the orderly progression of development and the timely provision of the infrastructure and public service facilities.

ii) settlement orientation and layout that ensures efficiency and convenient access for complete communities.

iii) The attributes of the cultural heritage landscape.

e) That the application meets the following tests:

i) The need to locate the use in Management Area 2, including consideration of the nature and scale of the proposal.

ii) Whether the amendment is in keeping with the general intent or purpose of the policy direction of the Official Plan.

iii) The benefit to the Township including, but not limited to, social, environmental and financial benefits.

iv) The impact of the proposal on local resources;

v) The impact of the proposal while being consistent with the general intent or purpose of the policy direction contained in the Official Plan.

vi) The impact of the proposal on the transportation network.

vii) The means of preventing adverse effects.

6.7.4.2.2.3 Micro and small scale wind energy systems shall require a site specific zoning by-law amendment.

6.7.4.2.3 Management Area 3:

Large and Medium Scale Wind Energy Systems shall require an Official Plan Amendment in addition to a site specific zoning by-law amendment. Small and Micro Scale Wind Energy Systems are permitted in Management Area 3 subject to the approval of a site specific zoning by-law amendment. Management Area 3 is the underlying management area for all areas of the Township.

6.7.4.3 General Policies

In addition to policies contained in the Management Areas, the following General Policies apply to Wind Energy Systems:

6.7.4.3.1 Wind testing facilities may be permitted on a permanent basis in conjunction with an approved wind energy system. Otherwise, wind testing facilities will be permitted through a temporary use by-law with a specified time period and decommissioning procedure.

6.7.4.3.2 Wherever possible, wind energy systems shall be sited in a manner that maximizes the use of the wind resource (including the reduction of air turbulence on abutting properties) while minimizing the potential for off-site land use impacts.

6.7.4.3.3 A wind energy system that does not produce electrical energy for a period greater than one year, and for which the operator has not identified a reasonable plan to bring that system back into operation, shall be decommissioned and the site re-instated to its pre-development condition. Decommissioning procedures and the source(s) of funding for decommissioning shall be determined based on the results of a decommissioning study which will form part of the Management Plan for large scale energy systems. The developer shall demonstrate that appropriate funding mechanisms are secured to cover decommissioning costs, which may include decommissioning securities, to ensure there is no residual liability to the Township for the removal of the system.

6.7.4.3.4 No advertising sign or logo shall be visible on any wind turbine.

6.7.4.3.5 A wind energy system shall be setback a minimum of 1.25 times the turbine height from any right-of-way.

6.7.4.3.6 Shadow flicker experienced at any Point of Reception shall not exceed 30 hours per year and 30 minutes per day, modeled based on the astronomically worst case conditions, as a result of the operation of a wind energy system.

6.7.4.3.7 It is a policy of this Plan that public notification of wind energy system applications will exceed the minimum requirements of the Planning Act due to their off-site impacts. The costs for the increased notification will be borne by the applicant and shall include all of the following as determined during pre-consultation:

a) On-site signage for each lot subject to the wind energy system proposal.

b) Newspaper notification prior to the Public Meeting, in the local paper(s) with the largest local circulation in the vicinity of the proposed large or medium scale wind energy system.

c) Posting of the application notice on the municipal website.

d) Mail notification prior to any Open Houses and Public Meetings, to all landowners within one and a half kilometres of a parcel of land that will contain any part of a medium or large scale wind energy system.

e) All other requirements of the Planning Act and Environmental Assessment Act.

6.7.4.3.8 The following policies apply to **Micro Scale** Wind Energy Systems:

a) Micro Scale Wind Energy Systems are generally permitted in Management Areas 2 and 3. In addition, they are generally permitted in Management Area 1 when located on an existing building.

b) Wind turbines for Micro Scale Wind Energy Systems are encouraged to co-locate on or adjacent to existing on-site buildings and structures.

c) Free standing micro wind energy systems shall generally be sited a minimum of the height of the turbine from any side or rear lot line.

d) A micro scale wind energy system shall generally be ancillary to the principal permitted use.

e) A micro scale wind energy system shall generally not exceed a sound level limit of 40dBA at the lot boundary containing the wind energy system.

6.7.4.3.9 The following policies apply to **Small Scale** Wind Energy Systems:

a) Small Scale Wind Energy Systems are generally permitted in Management Areas 2 and 3, but are generally not permitted in Management Area 1.

b) Small scale wind energy systems shall generally be sited a minimum of the height of the turbine from any side or rear lot line.

c) A small scale wind energy system shall generally not exceed a sound level limit of 40dBA at the lot boundary containing the wind energy system with the exceptions of existing background noise levels that exceed 40 dBA and/or where wind speeds are considered in accordance with MOE technical documents (regardless of whether a project is exempt from MOE requirements).

6.7.4.3.10 The following policies apply to **Medium Scale** Wind Energy Systems:

a) The establishment of any new or expanded medium scale wind energy facility will require a site specific zoning by-law amendment, in addition to any necessary official plan amendment.

b) The minimum setback to any (on-site and off-site) Point of Reception & Sensitive Land Use shall generally be a distance equal to 450 metres.

c) The minimum setback to a Rural Residential Cluster shall generally 500 metres from any turbine, whichever is lesser.

d) The minimum setback to any interior side or rear yard shall be a distance equal to the height of the turbine.

6.7.4.3.11 The following policies apply to **Large Scale** Wind Energy Systems:

a) The establishment of any new or expanded large scale wind energy facility will require a site specific zoning by-law amendment, in addition to an official plan amendment.

b) Large Scale Wind Turbines shall be able to have a zero (0) metre setback along common boundaries of participating properties forming part of a multiple large scale wind energy system proposal. For clarification when applying this policy, properties must contain

at least one turbine of the large scale wind energy system to be considered a participating lot.

c) The minimum setback to any (on-site and off-site) Point of Reception & Sensitive Land Use shall generally be a distance equal to 4 times the height of the turbine or 450 metres, whichever is greater.

d) The minimum setback to a Rural Residential Cluster shall generally be 4.5 times the height of the turbine or 500 metres from any turbine, whichever is greater.

e) The minimum setback to any interior side or rear yard shall be a distance equal to the height of the turbine.

6.7.4.3.12 The following technical reports will be required for all large scale wind energy systems, and may be required for lesser scales of wind energy systems as determined through pre-consultation:

a) **Scoped Environmental Impact Assessment**.
Large and medium scale wind energy systems proposed outside of the natural heritage features identified in Management Areas 1 and 2 may be permitted provided that a Scoped Environmental Impact Assessment (Scoped EIA) has verified that the natural heritage features identified in Management Areas 1 and 2 are not present. If the Scoped EIA identifies Management Area 1 significant features that are not identified on Schedule “C”, a Full Environmental Impact Assessment (Full EIA) will be required. Study requirements may be scoped based on pre-consultation with the Township and the Conservation Authority.

All projects shall be subject to the requirements of Section 7.7 of this Plan.

b) **Noise report** demonstrating compliance with Ministry of the Environment requirements used in the consideration of issuing a Certificate of Approval.

Any exemptions afforded to agricultural or residential uses under the Certificate of Approval process by Regulation, do not exempt proponents from meeting MOE publication requirements as part of the review of the Planning Act application.

In determining noise limits, all areas in the Township will be considered a “Class 3 Area” as defined in NPC-232 (Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)). Furthermore, special audible characteristics (audible tones,

impulses, or sound level modulation) shall have a 5 dB penalty applied to the measured sound level.

The Township expects the Proponent and the Ministry of the Environment to also consider:

i) weather effects including prevailing wind direction, wind speed and specifically addressing variations in wind speed at ground level and turbine hub height that may result in lower background noise levels have been addressed as part of the noise review.

ii) cumulative effects of multiple turbines within the same project and those of other previous/proposed projects;

iii) tonal noise at discrete frequencies that may be heard through background noise;

iv) low frequency noise and vibration.

c) **Shadow Flicker report** assessing all turbines against points of reception demonstrating that no point of reception shall experience shadow flicker greater than 30 hours per year, and 30 minutes per day modelled based on the astronomically worst case conditions. Astronomically worst case is defined as the period during which, theoretically, the sun shines continuously from a cloudless sky for the entire time between sunrise and sunset while the rotor surface is perpendicular to the incident solar radiation and the wind power plant is in use.

The shadow flicker assessment shall include:

i) the distance shadow flicker shall be modelled outward from a turbine shall be 100 metres for every 10 metres of turbine height (for example, shadow flicker from a 120 metre high turbine shall measured outward to 1200 metres from the turbine).

ii) points of reception located on a lot containing a turbine, may be excluded from the maximum hour and minute requirement, provided a warning clause is contained in the site plan agreement.

iii) the shadow flicker report shall include graphic modelling of impact at all points of receptions on the site plan.

d) **Risk Assessment report** based on the following methodology:

i) Assessment of the likelihood and recommend mitigation measures from the potential for falling ice from the turbine tower and its blades. Mitigation measures shall include the use of an ice detection system to shut down turbines prior to icing events and operational protocols to eliminate or minimize ice throw risks.

ii) Map the extent of the risk of ice throw around each turbine overlaid on a site plan illustrating features on and off-site such as lot boundaries, nearby residences, outbuildings, roads, trails, and other land uses.

iii) Design standards (i.e. certification and type approval), safety protocols, and maintenance and management plans to reduce the risks associated with ice throw and blade/turbine failure.

iv) Documenting and requiring the use of ice detection equipment.

e) **Electro Magnetic Interference report** which demonstrates no negative impacts such as obstruction, reflection or scattering and considers the following:

i) Government of Ontario's Public Safety Network, as evidenced by a clearance from the Ontario Ministry of Government Services.

ii) NavCanada infrastructure.

iii) Interference with existing and proposed transmission and receiving facilities.

iv) Consideration of Radio Advisory Board of Canada and Canadian Wind Energy Association publication "Technical Information ON The Assessment of the Potential Impact Of Wind Turbines On Radio Communication, Radar And Seismoacoustic Systems".

v) Mitigation and remediation measures shall be included in the report.

f) **Wake Modelling and Assessment** that demonstrates what, if any impact exists on neighbouring properties that contain a wind energy

system or would prevent or restrict their ability to install a renewable energy system.

The purpose of this assessment is to ensure that the maximization of the wind resource through the development of multiple wind energy systems on abutting properties has been considered. This policy is not intended to prevent a wind energy system that creates wake on an abutting lot.

g) **Visual Impact Assessment** may be required for all scales of turbines but shall be conducted for all large scale wind energy systems (individual and multiple) and include but not be limited to the following items:

i) Landscape assessment of the potentially affected area.

ii) Effects of night lighting on ground level land uses.

iii) Analysis of the effects of the proposal on key viewpoints or tourist routes within the affected area, including day and night visibility.

iv) Identify guidelines and designs for site plan review to assess and mitigate identified impacts.

v) Consider measures for conserving cultural heritage landscapes.

vi) Visual modelling of the proposal for the purposes of assessing community acceptance.

Means of reducing visual impacts shall include, but are not limited to the following:

i) Requiring all turbines to be of a monopole or similar appearance and finished in an appropriate matte finish.

ii) Prohibiting artificial lighting except for minimum aircraft safety requirements.

iii) Prohibiting any form of signage or commercial identification on the turbines.

iv) Locating storage areas in one location co-located with the primary maintenance building and appropriately screened by landscaping to the satisfaction of the local municipality.

v) Requiring all buildings and structures associated with the wind energy facility to be consistent with the predominant character of buildings in the area.

Where new opportunities for reducing visual impacts occur through technological advancements, these should be considered as additional means of reducing visual impacts.

h) **Management Plan** including but not limited to:

i) Procedures for rehabilitation/reinstatement of temporary disturbance areas.

ii) Construction details concerning staging, access, silt control, construction areas, hours of construction, and any temporary structures.

iii) Traffic management which details volumes, frequencies and haul routes of construction and supply vehicles. Haul routes should minimize impacts on existing services/infrastructure and local residents.

iv) Decommissioning procedures and the source(s) of funding for decommissioning shall be determined based on the results of a decommissioning study which will form part of the Management Plan for large scale energy systems. The developer shall demonstrate that appropriate funding mechanisms are secured to cover decommissioning costs, which may include decommissioning securities, to ensure there is no residual liability to the County or local municipality to remove the systems.

v) Emergency management which includes details concerning on-site safety, measures to ensure emergency services personnel are adequately trained, and fire prevention measures.

vi) Preventative maintenance, including an identification of treatments to the blades to prevent icing, insect or other accumulations.

vii) Design standards (i.e. certification and type approval) and safety protocols to reduce the risks associated with ice throw and blade/turbine failure.

i) **Mineral Aggregate Resource Assessment** if located in an area of high aggregate potential, as shown in Schedule “B”, the applicant

must demonstrate that the wind energy system serves a greater long-term public interest during the lifetime of the system than the aggregate resources and does not compromise future extraction of the aggregate resource.

j) **Archaeological Assessment.**

k) **Heritage Impact Assessment** if located within 1km of the Grand River Valley as shown as Management Area 1 on Schedule "C". This study shall consider:

i) Designed, Evolved and Associative landscapes.

ii) Consideration of any design, physical, historical, associative, and contextual values of the subject lands and surrounding area.

iii) Historic research of the Township and site survey/analysis.

iv) Establishment of the criteria for conserving the cultural heritage landscape including consideration of mitigation measures and minimizing visual impact.

l) **Agricultural Impact Assessment** which will address the following:

i) Agricultural land, infrastructure (i.e. artificial field tiles, drainage ditches, culverts, field entrances, fences etc.), operations and activities shall be avoided to the greatest extent possible.

ii) If unavoidable, the amount of agricultural land to be used shall be minimized to the greatest extent possible and disruption to the above-mentioned agricultural functions and features shall be minimized to the greatest extent possible and appropriately repaired and restored.

iii) Any work on prime agricultural lands that is in addition to the land directly needed for the wind energy system, shall be conducted according to appropriate construction standards such that substantially the same areas and same average soil quality for agriculture are restored after such work is completed.

m) **Site plan** prepared by a qualified professional illustrating the location of the proposed renewable energy system(s) (including make, model and power output), the location of all buildings, structures, works, access roads, supporting infrastructure, and lot

lines, as well as municipal roads, trails, vegetation, elevations, adjacent buildings and structures to a distance of 100 metres for every 10 metres of renewable energy system height from the lot proposed for the renewable energy system. The level of detail may be simplified as determined through a pre-consultation meeting with the municipality depending upon the nature and scale of the proposal.

6.7.4.3.13 The minimum setback for large and medium scale wind energy systems from all right-of-ways shall be 1.25 times the height of the wind energy system.

6.7.4.3.14 The determination of the appropriate land use provisions for small and micro scale wind energy systems in terms of height, location, blade dimensions, construction type and any other land use planning matter shall be implemented by the Township's comprehensive zoning by-law.

6.7.5 Solar Energy Systems

The following policies apply to solar energy systems.

6.7.5.1 Scales of Solar Energy Systems

The development of new solar energy systems within the Township are categorized according to the following scales of production:

a) **Small Scale:** Any solar energy system that is mounted to an existing building or any ground installed facilities that occupy a maximum lot coverage of 10% up to a maximum of 1 hectare.

b) **Large Scale:** Any solar energy system with ground installed facilities that occupy 1 hectare or more of land.

6.7.5.2 Management Area Policies

Schedule “C” of this Plan defines Management Areas.

6.7.5.2.1 **Management Area 1:** Ground mounted small and large scale solar energy systems are not permitted in Management Area 1, which contains one or more of the following features:

a) Endangered/Threatened species habitat.

b) Provincially Significant Wetlands.

c) Significant Woodlands.

d) Significant Valleylands.

e) Significant wildlife habitat.

f) Areas of Natural and Scientific interest.

g) Floodways and areas of flooding hazards.

h) The Grand River Valley, as defined within Management Area 1 in Schedule “C”, due to its natural heritage features and cultural heritage landscape.

6.7.5.2.2 Small scale solar energy systems are permitted in Management Area 1 provided they are mounted onto a building or structure and subject to local policy and by-law provisions.

6.7.5.2.3 **Management Areas 2 and 3:** Small scale solar energy systems are permitted in Management Areas 2 and 3. Large scale solar energy systems shall require an amendment to the Official Plan. Solar energy systems shall require the approval of a site specific zoning by-law amendment.

6.7.5.3 General Policies

In addition to policies contained in the Management Areas, the following General Policies apply to Solar Energy Systems:

6.7.5.3.1 Large scale solar energy systems are not permitted within the Provincial Greenbelt Plan as shown on Schedule "C".

6.7.5.3.2 The use of small scale solar energy systems is highly encouraged and the Township shall be supportive of innovative systems that can be integrated into existing/proposed buildings while minimizing off-site land use impacts.

6.7.5.3.3 The following policies apply to the siting of new or expanded **small scale solar energy facilities**:

a) Small scale solar energy systems are allowed in any designation as shown in Schedules "A", "A-1" and "A-2".

b) Small scale solar energy systems shall be generally mounted to existing buildings within the "Community" designations shown in Schedules "A-1" and "A-2".

c) The maximum height of building mounted small scale solar energy systems shall generally be 1 metre above the existing roofline or maximum permitted building height in all designations shown as "Community" in Schedules "A-1" and "A-2", whichever is less. In all other designations, including those shown on Schedule "A", the maximum height shall generally be 2 metres above the existing roofline or the maximum permitted building height, whichever is less.

d) The height of ground mounted systems in all designations shall generally be 10.5 metres.

e) Small scale solar energy systems shall generally be setback in accordance with the comprehensive zoning by-law.

6.7.5.3.4 The following policies apply to the siting of new or expanded **large scale solar energy systems**:

a) Large scale solar energy systems shall only be allowed in the "Agricultural" and "Rural" designations as shown on Schedule "A".

b) The lot coverage of any large scale solar energy systems shall generally not exceed 95%.

c) Large scale solar energy systems shall generally be sited as follows:

i) 30 metres from any right-of-way.

ii) 10 metres from any side lot line (0 metres may be allowed where each lot contains solar panels).

d) Large scale solar energy systems shall generally be no higher than 10.5 metres.

6.7.5.3.5 The following technical reports will be required for all large scale solar energy system proposals, after preliminary consultation and scoping with the Township, Conservation Authority, and the peer review consultant, where appropriate:

a) **Scoped Environmental Impact Assessment** that addresses the following:

i) Natural heritage requirements of the Provincial Policy Statement.

ii) Address Section 7.7 Environmental Impact Assessment of this Plan.

iii) Consideration of applicable natural heritage features outlined in Section 6.7.5.2.1.

b) **Agricultural Impact Assessment:** If proposed in designated Agricultural Areas, a report must assess the following:

i) The quality of the agricultural land proposed for the use and whether lower quality lands are available on or off-site. In addition, this study will assess the impacts on any existing agricultural operations.

ii) Agricultural land, infrastructure (i.e. artificial field tiles, drainage ditches, culverts, field entrances, fences etc.), operations and activities shall be avoided to the greatest extent possible.

iii) If unavoidable, the amount of agricultural land to be used shall be minimized to the greatest extent possible and disruption to the above-mentioned agricultural functions and features shall be minimized to the greatest extent possible and appropriately repaired and restored.

That in prime agricultural areas:

i) The lands do not comprise specialty crop areas.

ii) There are no reasonable alternatives which avoid prime agricultural areas.

iii) There are no reasonable alternative locations in prime agricultural areas with lower priority agricultural lands.

iv) Any work on prime agricultural lands that is in addition to the land directly needed for the renewable energy system, shall be conducted according to appropriate construction standards such that substantially the same areas and same average soil quality for agriculture are restored after such work is completed.

c) **Aggregate Assessment:** If located in an area of high aggregate potential as shown in Schedule 'B', the applicant must demonstrate that the solar energy system serves a greater long-term public interest during the lifetime of the system than the aggregate resources and does not compromise future extraction of the aggregate resource.

d) **Growth management assessment** if located within Management Area 2. This assessment will demonstrate:

i) That sufficient land is available through intensification and redevelopment and designated growth areas to accommodate an appropriate range and mix of employment opportunities, housing and other land uses to meet projected needs for up to 20 years.

ii) That the location of the solar energy system will not negatively impact on:

- The orderly progression of development and the timely provision of the infrastructure and public service facilities required to meet current and projected needs.

- Settlement orientation and layout to ensure efficiency and convenient access to retail facilities, schools, recreational facilities and services.

e) **Noise report** demonstrating compliance with Ministry of the Environment requirements concerning any required transformers and other mechanical noises. This report shall demonstrate compliance with applicable Ministry requirements regardless of exemptions that may be afforded for particular land uses.

f) Agricultural Impact Assessment: If proposed in designated Agricultural Areas, a report must assess the following:

i) The quality of the agricultural land proposed for the use and whether lower quality lands are available on or off-site. In addition, this study will assess the impacts on any existing agricultural operations.

ii) Agricultural land, infrastructure (i.e. artificial field tiles, drainage ditches, culverts, field entrances, fences etc.), operations and activities shall be avoided to the greatest extent possible.

iii) If unavoidable, the amount of agricultural land to be used shall be minimized to the greatest extent possible and disruption to the above-mentioned agricultural functions and features shall be minimized to the greatest extent possible and appropriately repaired and restored.

iv) That in prime agricultural areas:

- The lands do not comprise specialty crop areas.
- There are no reasonable alternatives which avoid prime agricultural areas.
- There are no reasonable alternative locations in prime agricultural areas with lower priority agricultural lands.
- Any work on prime agricultural lands that is in addition to the land directly needed for the renewable energy system, shall be conducted according to appropriate construction standards such that substantially the same areas and same average soil quality for agriculture are restored after such work is completed.

g) **Reflectivity analysis** which demonstrates that sensitive land uses will not experience adverse effects and public safety is not compromised (i.e. public roads).

h) **Stormwater management report** assessing quality and quantity runoff during and post construction.

i) **Management Plan** including but not limited to:

i) Procedures for rehabilitation/reinstatement of temporary disturbance areas.

ii) Construction details concerning staging, access, silt control, construction areas, hours of construction, and any temporary structures.

iii) Traffic management which details volumes, frequencies and haul routes of construction and supply vehicles. Haul routes should minimize impacts on existing services/infrastructure and local residents.

iv) Decommissioning details where the proposed energy system has a set lifespan and which should include the method of removal, reinstatement of the lands to their prior use, and the estimation of the costs of decommissioning and how this would be funded entirely by the developer, including the determination of securities.

v) Rehabilitation of the subject lands after the life of the solar energy system in a manner that the site substantially has the same areas and same average soil quality for future agricultural use.

vi) Emergency management which includes details concerning on-site safety and measures to ensure emergency services personnel are adequately trained.

vii) Preventative maintenance.

j) **Site plan** prepared by a qualified professional illustrating the location of the proposed renewable energy system(s) (including make, model and power output), the location of all buildings, structures, works, access roads, supporting infrastructure, and lot lines, as well as municipal roads, trails, vegetation, elevations, adjacent buildings and structures to a distance of 100 metres for every 10 metres of renewable energy system height from the lot proposed for the renewable energy system. The level of detail may

be simplified as determined through a pre-consultation meeting with the municipality depending upon the nature and scale of the proposal.

6.7.6 Biomass Energy Systems

The following policies apply to biomass energy systems. Biomass policies within this Official Plan apply only to biomass facilities that are principally used for renewable energy.

6.7.6.1 Scales of Biomass Energy Systems

The development of new or expanded biomass energy systems within the Township are categorized according to the following scales of production:

a) **Small Scale:** Any biomass energy system with a nameplate generating capacity that does not exceed 250 kilowatts associated with a principal permitted use.

b) **Large Scale:** Any biomass energy system with a nameplate generating capacity of 250 kilowatts or greater.

6.7.6.2 Management Area Policies

Schedule “C” of this Plan defines Management Areas.

6.7.6.2.1 **Management Area 1:** Small and large scale biomass energy systems are not permitted in Management Area 1, which contains one or more of the following features:

a) Endangered/Threatened species habitat.

b) Provincially Significant Wetlands.

c) Significant Woodlands.

d) Significant Valleylands.

e) Significant wildlife habitat.

f) Significant Life Science Areas of Natural and Scientific interest.

g) Floodways and areas of flooding hazards.

h) The Grand River Valley, as defined within Management Area 1 in Schedule “C”, due to its natural heritage features and cultural heritage landscape.

6.7.6.2.2 **Management Areas 2 and 3:** Small scale biomass energy systems may be permitted in Management Areas 2 and 3 subject to the approval of a site specific zoning by-law amendment.

6.7.6.2.3 Proposals for new large scale biomass energy systems in Management Areas 2 and 3 require an amendment to the local Official Plan, in addition to a site specific zoning by-law amendment, demonstrating:

a) Consideration of the nature and scale of the proposal.

b) The appropriateness of locating the system on the lands proposed.

c) The benefit to the Township including, but not limited to, social, environmental and financial benefits.

d) The impact of the proposal on local resources.

e) The impact of the proposal on the local municipality and if it is in keeping with the general intent or purpose of the policy direction contained in the local Official Plan.

f) The impact of the proposal on the transportation network.

g) The extent to which the public has been consulted regarding the proposed amendment.

h) The means of minimizing any adverse effects.

6.7.6.3 General Policies

In addition to policies contained in the Management Areas, the following General Policies apply to Biomass Energy Systems:

6.7.6.3.1 The determination of the appropriate land use provisions for biomass energy systems in terms of height, location, lot coverage, setbacks and any other land use planning matter shall be implemented through the comprehensive zoning by-law at the local level.

6.7.6.3.2 Biomass policies within this Official Plan apply only to biomass facilities that are principally used for renewable energy. In other words, the generation of electricity is considered to be the primary use of the biomass facility.

6.7.6.3.3 All biomass facilities will be required to demonstrate through appropriate supporting studies that emissions from dust, noise, contaminants, odour, water, wastewater, storm drainage and solid waste disposal will not have an adverse affect on sensitive land uses. Supporting reports to this effect will be required by the Township demonstrating compliance with applicable Ministry requirements regardless of exemptions that may be afforded for particular land uses. Where applicable, a Certificate of

Approval for emissions issued by the Ontario Ministry of Environment will be required prior to the Township's prior to any release of a holding provision.

6.7.6.3.4 All biomass energy systems will be sited in a manner that minimizes visual impacts and is complementary to other uses that may already be established on the site in addition to the surrounding neighbourhood/rural character. This shall be achieved through siting, architectural design, and/or landscape/buffer treatments. General policies for siting include:

a) Maximum lot coverage should be approximately 10%.

b) Storage areas should not occupy more than 5% of the site area and not be included in any front or exterior side yard.

c) Setbacks for storage areas shall be consistent with By-law 60-2004.

d) Storage areas should not exceed 6 metres in height.

e) Storage areas should be screened from public view.

f) Storage areas should consist of a stable compacted surface of gravel, asphalt, or concrete and treated to minimize dust.

g) Storage areas should not be used for parking.

h) Lighting from a biomass facility and its storage areas should be directed away from Points of Reception and public right-of-ways.

i) Stormwater from storage areas should be collected and treated in accordance with an approved servicing plan to the satisfaction of the Ministry of Environment, Conservation Authority and the Township.

j) Anaerobic digestate storage shall be subject to Provincial MDS setbacks.

k) Certain Biomass systems, such as anaerobic digestion systems are also subject to the requirements of Ontario Regulation 267/03 of the Nutrient Management Act, 2002, which provides specific requirements for the receipt and storage of off-farm materials, the treatment of materials, the storage of outputs (i.e. digestate), and the land application output materials.

6.7.6.3.5 Biomass energy systems will be required to demonstrate compatibility with existing services or confirmation that all servicing can be provided in a

manner that does not negatively impact surrounding uses or the municipality.

6.7.6.3.6 All storage areas will be adequately buffered, maintained, and managed to minimize land use impacts associated with fires, pests, odour and appearance. The management and operation of the facility will recognize the potential for off-site impacts and seek to minimize these impacts in a manner consistent with the approval under the Planning Act and other applicable legislation.

6.7.6.3.7 Large Scale Biomass Energy Systems shall be located adjacent to higher order roads such as County Roads and arterials in order to minimize traffic impacts.

6.7.6.3.8 Small biomass facilities shall only be permitted as an accessory use to a principal use.

6.7.6.3.9 The following technical reports will be required for all biomass energy system proposals, after preliminary consultation and scoping the with the County, local municipality, and the Conservation Authority:

a) **Scoped Environmental Impact Assessment** that addresses the following:

i) Natural heritage requirements of the Provincial Policy Statement.

ii) Address Section 7.7 Natural Environment Areas of this Plan.

iii) Environmental Assessment requirements.

b) **Aggregate Assessment** if located in an area of high aggregate potential the applicant must demonstrate that the solar energy system serves a greater long-term public interest during the lifetime of the system than the aggregate resources and does not compromise future extraction of the aggregate resource.

c) **Noise report** demonstrating compliance with Ministry of the Environment requirements concerning any required transformers, operations and traffic. This report shall demonstrate compliance with applicable Ministry requirements regardless of exemptions that may be afforded for particular land uses.

d) **Agricultural Impact Assessment:** If proposed in designated Agricultural Areas, a report must assess the following:

i) The quality of the agricultural land proposed for the use and whether lower quality lands are available on or off-site. In addition, this study will assess the impacts on any existing agricultural operations.

ii) Agricultural land, infrastructure (i.e. artificial field tiles, drainage ditches, culverts, field entrances, fences etc.), operations and activities shall be avoided to the greatest extent possible.

iii) If unavoidable, the amount of agricultural land to be used shall be minimized to the greatest extent possible and disruption to the above-mentioned agricultural functions and features shall be minimized to the greatest extent possible and appropriately repaired and restored.

iv) That in prime agricultural areas:

- The lands do not comprise specialty crop areas.
- There are no reasonable alternatives which avoid prime agricultural areas.
- There are no reasonable alternative locations in prime agricultural areas with lower priority agricultural lands.
- Any work on prime agricultural lands that is in addition to the land directly needed for the renewable energy system, shall be conducted according to appropriate construction standards such that substantially the same areas and same average soil quality for agriculture are restored after such work is completed.

e) **Haul Route Analysis & Traffic Impact Assessment**.

f) **Emissions** analysis in accordance with the Ministry of the Environment Certificate of Approval processes relative to noise, as well as dust, odour and other contaminants. This report shall demonstrate compliance with applicable Ministry requirements regardless of exemptions that may be afforded for particular land uses.

g) **Site plan** prepared by a qualified professional illustrating the location of the proposed renewable energy system(s) (including make, model and power output), the location of all buildings, structures, works, access roads, supporting infrastructure, and lot lines, as well as municipal roads, trails, vegetation, elevations,

adjacent buildings and structures to a distance of 100 metres for every 10 metres of renewable energy system height from the lot proposed for the renewable energy system. The level of detail may be simplified as determined through a pre-consultation meeting with the municipality depending upon the nature and scale of the proposal.

6.7.7 Transmission/Distribution Utilities and Transformers

The following policies apply to new and expanded transmission and distribution utilities for the electricity.

While Hydro One may be exempt from applications under the Planning Act, local policies are contained below that should be considered as part of any EA process or the siting process for the establishment of new or expanded transmission and distribution utilities. These policies shall also be considered when the Township assesses easement applications for transmission and distribution utilities along municipal right-of-ways.

These policies do not apply to below grade infrastructure associated with new or expanded renewable energy systems. These policies do not supersede and are subservient to underground transmission policies contained in Section 6.7.3.

Policies related to transformer installations apply to all electricity projects.

6.7.7.1 New or upgraded transmission lines shall be co-located on existing structures or replace existing structures. Where co-location on existing structures is not possible, new structures shall be located within the same transmission corridor. Any extensions in width to the corridor will be minimized to reduce land requirements and off-site land use impacts.

6.7.7.2 Before any future expansion of the Bruce to Milton Transmission Line, the Township expects that Hydro One will undertake a feasibility study to assess alternative transmission routes for the purposes of minimizing further land use impacts on the Township of East Garafraxa.

6.7.7.3 Any upgraded or new transmission infrastructure in the Township will be subject to a visual impact assessment to minimize visual change on the landscape.

6.7.7.4 Any upgraded or new transmission infrastructure in proximity to the Grand River Cultural Heritage Landscape shall take specific measures such as alternative routing and supporting structures, to conserve the Cultural Heritage Landscape. An impact assessment for the Cultural Heritage Landscape will be prepared together with the identification of impact mitigation measures.

6.7.7.5 Any upgraded or new transmission infrastructure shall not result in an adverse effect to nearby residents and sensitive receivers. Any upgraded or new transmission facility shall undertake an impact assessment regarding electromagnetic emissions demonstrating that the project will not result in any adverse effects as defined in the PPS.

6.7.7.6 New transformers must demonstrate compliance with Ministry of the Environment requirements. Any exemptions for transformer facilities under the Certificate of Approval process by Regulation, do not exempt proponents from meeting MOE publication requirements as part of the review of the Planning Act application.

6.7.7.7 New transformers shall be sited to maximize separation from sensitive land uses while at the same time recognizing that natural topographic features may assist in reducing possible noise nuisances.

6.7.7.8 New transformers (excluding any external enclosures) shall be designed and constructed to minimize the amount of noise emitted in a manner characteristic of background noise levels. The extra cost of such a transformer shall not be a reason for failing to satisfy this policy.

6.7.7.9 Noise mitigation shall primarily rely on the design and construction of the actual transformer and not on external mitigation measures such as sound walls, curtains or blankets. External mitigation measures shall be considered where a transformer cannot be designed or located to be consistent with background noise levels or where an established transformer is creating a noise nuisance.