

Part Two

Strategic Directions

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Chapter

4

NATURAL ENVIRONMENT AND RESOURCE MANAGEMENT

MUNICIPALITY OF CLARINGTON OFFICIAL PLAN

4. NATURAL ENVIRONMENT AND RESOURCE MANAGEMENT

4.1 GOALS

- 4.1.1 To enhance the *natural heritage system* and its *ecological integrity*.
- 4.2.2 To promote responsible stewardship of the *natural heritage system* and wise use of natural resources in order to provide long term and *sustainable* environmental, economic and social benefits.

4.2 OBJECTIVES

- 4.2.1 To achieve in the public interest, an appropriate balance between the protection of the Municipality's *natural heritage system* and the management of its natural resources.
- 4.2.2 To protect *natural heritage features* and functions from incompatible *development*.
- 4.2.3 To enhance ecological processes, biodiversity and connections within the *natural heritage system*.
- 4.2.4 To protect residents from natural and man-made hazards.
- 4.2.5 To recognize and protect the Oak Ridges Moraine for its unique landform characteristics, its *significant* function of groundwater recharge and discharge, its *significant natural heritage features* and their *ecological functions*, and its *significant aggregate* resources.
- 4.2.6 To recognize and protect the Lake Iroquois Beach for its *significant* function of groundwater recharge and discharge, its *significant natural heritage features* and their *ecological functions*, and its *aggregate* resources.
- 4.2.7 To recognize the Lake Ontario Waterfront as a dynamic and distinctive element of the Municipality's *natural environment*.
- 4.2.8 To protect and enhance the Ganaraska Forest and the Long Sault Forest and to provide for an appropriate natural corridor between them.
- 4.2.9 To minimize light pollution from existing and new *development*.

4.3 GENERAL POLICIES

- 4.3.1 The Municipality supports the need to undertake multi-stakeholder *watershed* planning studies in order to protect the integrity of ecological and *hydrological functions*, and shall establish priorities for the preparation of *watershed* plans. In this regard, the Municipality will work in partnership with the Ministry of Natural Resources, Conservation Authorities and other agencies in the preparation of *watershed* plans.
- 4.3.2 The Municipality will consult with the Region, the Conservation Authorities, Provincial Ministries and other interested parties, to develop and implement a system to monitor the *cumulative impacts* of urban *development* on the natural *environment*.
- 4.3.3 Land owners are encouraged to respect the integrity of the natural *environment* and the needs of future generations in the management and use of the Municipality's natural resources. Responsible stewardship may include participation in *forest management* programs, and soil and water *conservation* programs.
- 4.3.4 The Municipality will pursue a variety of mechanisms to achieve the preservation of *woodlands*, such as the preparation of *forest management* plans, municipal purchase, parkland dedication, gratuitous dedication, density transfers, and the enactment of a tree preservation by-law under the *Municipal Act*.
- 4.3.5 The Municipality will endeavour to adopt a *site alteration* by-law to regulate alteration to grade and/or the placement/depositing of fill in environmentally protected areas, agricultural areas, and the Oak Ridges Moraine. Regulation of fill coming into Clarington from other municipalities may also be considered.
- 4.3.6 The Municipality will seek to minimize light pollution by:
- a) developing lighting standards for all forms of *development* to ensure community safety while minimizing *negative impacts* from lighting;
 - b) utilizing appropriate street-lighting; and
 - c) retrofitting existing street-lighting luminaries over time.

4.4 NATURAL HERITAGE SYSTEM

- 4.4.1 The many and diverse *natural heritage features* found in Clarington, together with their *ecological functions*, collectively comprise the Municipality's *natural heritage system*. The approximate location of those *natural heritage features* which can be mapped is shown on Map C and Map D. In addition, there are a number of *natural heritage features* which cannot be shown on Map C and Map D, due to either inadequate

information or the nature of the feature. These features are also important to the integrity of the *natural heritage system*.

- 4.4.2 The *significant* components of the *natural heritage system* in the Oak Ridges Moraine include the following *natural heritage features* and hydrologically sensitive features:

Natural heritage features

- a) all *wetlands*;
- b) all *Areas of Natural and Scientific Interest (ANSI)* (life science);
- c) all *significant woodlands*;
- d) all *significant valleylands*;
- e) *fish habitat*;
- f) *significant portions of habitat of rare, threatened and endangered species*;
- g) rare vegetation communities, including *sand barrens, savannahs* and *tallgrass prairie*; and
- h) *significant wildlife habitat*.

Hydrologically Sensitive Features

- i) all *wetlands*;
- j) permanent and intermittent streams; and
- k) seepage areas and springs.

- 4.4.3 Within the Oak Ridges Moraine, all *development* and *site alteration* with respect to land within a natural heritage feature and/or a hydrologically sensitive feature identified in Section 4.4.2 or the related minimum vegetation protection zone as identified in Table 4-1 is prohibited, except the following:

- a) forest, fish and wildlife management;
- b) *conservation* and flood or erosion control projects, but only if they have been demonstrated to be necessary in the public interest after all alternatives have been considered;
- c) transportation, *infrastructure*, and utilities, but only if the need for the project has been demonstrated and there is no reasonable alternative;
- d) *low intensity recreation*.

- 4.4.4 Within the Oak Ridges Moraine, an application for *development* or *site alteration* within the minimum area of influence that relates to a natural heritage feature or a hydrologically sensitive feature, but outside the feature itself and the related minimum vegetation protection zone as identified in Table 4-1, shall be accompanied by a Natural Heritage Evaluation and/or a Hydrological Evaluation in accordance with Sections 4.4.39, 4.4.40 and 4.4.41 of this Plan.

Where *site* specific studies or updated information from the Province results in refinements to the boundary or extent of a key natural heritage feature identified on Map D, or its related vegetation protection zone, such refinement shall not require an amendment to this Plan. However, where such refinement of the boundary or extent of the feature is proposed for a *wetland*, area of natural and scientific interest and/or *significant* portions of the *habitat of endangered, rare and threatened species*, or their related minimum vegetation protection zones, then formal confirmation of said refinement is required from the Province, prior to any *development* or *site alteration*. If an evaluation determines a greater minimum vegetation protection zone is required than that which is identified in Table 4-1, then the greater shall be provided.

Table 4-1 <i>Natural heritage features, Hydrologically Sensitive Features and Areas of Natural and Scientific Interest (Earth Science) on the Oak Ridges Moraine: Minimum Areas Of Influence and Minimum Vegetation Protection Zones</i>		
Feature	Minimum Area of Influence	Minimum Vegetation Protection Zone
<i>Wetlands</i>	All land within 120 metres of any part of feature	All land within 30 metres of any part of feature, subject to Section 4.4.40 h)
<i>Significant portions of habitat of endangered, rare and threatened species</i>	All land within 120 metres of any part of feature	As determined by a Natural Heritage Evaluation carried out under Section 4.4.40
<i>Fish habitat</i>	All land within 120 metres of any part of feature	All land within 30 metres of any part of feature, subject to Section 4.4.40 h)
Areas of natural and scientific interest (life science)	All land within 120 metres of any part of feature	As determined by a Natural Heritage Evaluation carried out under Section 4.4.40
Areas of natural and scientific interest (earth science)	All land within 50 metres of any part of feature	As determined by an Earth Science Heritage Evaluation carried out under Section 4.4.43
<i>Significant valleylands</i>	All land within 120 metres of stable top of bank	All land within 30 metres of stable top of bank, subject to Section 4.4.40 h)
<i>Significant woodlands</i>	All land within 120 metres of any part of feature	All land within 30 metres of the base of outermost tree trunks within the wood-land, subject to Section 4.4.40 h)
<i>Significant wildlife habitat</i>	All land within 120 metres of any part of feature	As determined by a Natural Heritage Evaluation carried out under Section 4.4.40
<i>Sand barrens, Savannahs and tallgrass prairies</i>	All land within 120 metres of any part of feature	As determined by a Natural Heritage Evaluation carried out under Section 4.4.40 h)
Permanent and intermittent streams	All land within 120 metres of <i>meander belt</i>	All land within 30 metres of <i>meander belt</i> , subject to Section 4.4.41 c) and d)
Seepage areas and springs	All land within 120 metres of any part of feature	All land within 30 metres of any part of feature, subject to Section 4.4.41 c) and d)

If more than one feature is identified on the subject lands, the provisions that are more restrictive apply.

4.4.5 Approval of any *development* application within the Oak Ridges Moraine shall ensure that *natural self-sustaining vegetation* will be maintained or restored in order to protect any on-site or adjacent natural heritage feature or hydrologically sensitive feature.

4.4.6 In order to ensure corridor functions are maintained, and where possible improved or restored, every application for *development* or *site alteration* shall identify planning, design and construction practices that ensure that no buildings or other *site alterations* impede the movement of plants and animals among *natural heritage features*, hydrologically sensitive features and adjacent land.

- 4.4.7 Additional information regarding *natural heritage features* and hydrologically sensitive features may become available through the detailed evaluation of *development* applications or further study. Map C or Map D may be revised to incorporate such additional information without the need for an amendment to this Plan.
- 4.4.8 The Municipality will use all efforts to require the restoration of any natural heritage feature identified on Map C and Map D which has been damaged or removed. The removal of a natural heritage feature, in particular *woodlands*, shall not be considered as the basis for approving any *development* application.
- 4.4.9 The policies of this Plan shall also apply to any natural heritage feature which has been identified by the Municipality, the Region, a Conservation Authority or the Province, but which is not presently shown on Map C or Map D. Where a natural heritage feature is not identified on Map C or Map D, it does not necessarily mean that the feature or part thereof may be developed or altered in any way. Should a natural heritage feature be identified through the review of a *development* application and written notice given to the applicant, the preparation of an Environmental Impact Study pursuant to Section 4.4.35 or a Natural Heritage Evaluation or Hydrological Evaluation pursuant to Sections 4.4.40 and 4.4.41 shall be required.
- 4.4.10 *Development* will not be approved where an Environmental Impact Study, Natural Heritage Evaluation or a Hydrological Evaluation completed in accordance with Sections 4.4.39 or 4.4.40 or 4.4.41 identifies unacceptable *negative impacts* on the *natural heritage system*.
- 4.4.11 The following areas in the Municipality are particularly important to the *natural heritage system* of the Municipality:
- the Oak Ridges Moraine
 - the Lake Iroquois Beach
 - the Lake Ontario Waterfront

OAK RIDGES MORaine

- 4.4.12 The Oak Ridges Moraine is a unique landform, valued for its combination of scenic qualities, *natural heritage features*, particularly its forests, its groundwater resources and its *aggregate* resources. This Plan seeks to achieve an appropriate balance between the use of the Moraine's resources and the maintenance and enhancement of its scenic values, landform character, and essential *ecological functions*, including the provision of *wildlife habitat*, and the recharge and discharge of groundwater.

- 4.4.13 The geographic area of the Oak Ridges Moraine is identified on Maps A,C,D,E and G. The boundary of the Oak Ridges Moraine coincides with the “Plan of the Boundary of the Oak Ridges Moraine Area” (O.Reg. 01/02). The limit of the boundary of the Moraine applies to lands above the 245 ASL CGD contour line. In the event of a question regarding the limit of the boundary, a topographic survey by an Ontario Land Surveyor based on filed surveys tied to Ontario Geodetic Datum shall be required. Wherever possible, the trail system should be accessible to all, including persons with disabilities.
- 4.4.14 The *ecological integrity* of the Oak Ridges Moraine shall be maintained and where possible improved or restored by;
- a) maintaining, and where possible improving or restoring, the health, diversity, size, and *connectivity of natural heritage features*, hydrologically sensitive features and the related *ecological functions*;
 - b) maintaining the quantity and quality of groundwater and surface water;
 - c) maintaining groundwater recharge;
 - d) maintaining natural stream form and flow characteristics;
 - e) protecting *landform features*;
 - f) maintaining or restoring *natural self-sustaining vegetation* and *wildlife habitat* within the Natural Core Area;
 - g) maintaining, and where possible improving or restoring *natural self-sustaining vegetation* over large parts of the area to facilitate movement of plants and animals within the Natural Linkage Areas; and
 - h) maintaining a natural continuous east-west connection and additional connections to stream and river valleys north and south of the Oak Ridges Moraine within the Natural Linkage Areas.
- 4.4.15 The Ganaraska Forest and the Long Sault Forest, both of which are located partially within the Oak Ridges Moraine, are identified on Map C and Map D. This Plan also recognizes that the Forests extend beyond the Municipality’s boundaries. The Forests are *significant* because of their size, the diversity of *wildlife habitat* they provide including large areas of interior forest *habitat*, and their important *watershed* functions of groundwater recharge and discharge and erosion control. It is Council’s policy that the Ganaraska and Long Sault Forests are to be protected and managed through appropriate public acquisition and public and private land stewardship initiatives in accordance with Section 4.3.3 to enhance their natural heritage value.
- 4.4.16 The Municipality will partner with conservation authorities, the provincial government and other appropriate stakeholders, to develop and maintain a data management system to collect, store, update and share natural

heritage, water resources and geotechnical information needed to interpret, apply and monitor the policies within the Oak Ridges Moraine.

- 4.4.17 In addition to the other provisions of this Plan, the use of land on the Oak Ridges Moraine shall be subject to the policies set out in Chapters 12, 13, 14 and 15.

WATERSHED PLANS AND THE OAK RIDGES MORaine

- 4.4.18 The Municipality shall incorporate through an Official Plan Amendment the applicable objectives and requirements of completed *watershed* plans and *subwatershed* plans undertaken by the Region of Durham, as appropriate.

Within the Oak Ridges Moraine, *major development* for which a *development* application is received on or after April 23, 2007, is prohibited unless:

- a) the *watershed* plan for the relevant *watershed* has been completed;
- b) the *major development* conforms with the *watershed* plan;
- c) a water budget and *conservation* plan prepared to the satisfaction of the Region of Durham demonstrates that the water supply required for the *major development* is *sustainable*.

- 4.4.19 Within the Oak Ridges Moraine, if an application for *major development* commences prior to April 23, 2007, the application shall not be approved unless:

- a) a water budget and *conservation* plan prepared to the satisfaction of the Region of Durham demonstrates that the water supply required for the *major development* is *sustainable* or;
- b) the applicant;
 - i. identifies any hydrologically sensitive features and related *hydrological functions* on the *site* and how they will be protected;
 - ii. demonstrates that an adequate water supply is available for the *development* without compromising the *ecological integrity* of the Oak Ridges Moraine; and
 - iii. provides, with respect to the *site* and such other land as the approval authority considers necessary, a water budget and water *conservation* plan that; characterizes groundwater and surface water flow systems by means of modeling, identifies the availability, quantity and quality of water sources, and identifies water *conservation* measures.

LANDFORM CONSERVATION WITHIN THE OAK RIDGES MORAINE

4.4.20 The Oak Ridges Moraine possesses many *landform features* including steep slopes, ravines and ridges that makes the Oak Ridges Moraine a distinctive landscape within the Municipality. Council shall endeavour to maintain the form, character and variety of landscapes within the Moraine by encouraging only minimal modifications to the natural contours of the land and the retention of natural landscape features such as *woodlands*. Within the Oak Ridges Moraine, 2 categories of *Landform Conservation Areas* are identified on Map E.

4.4.21 Except for mineral *aggregate* extraction areas, an application for *development* or *site alteration* within a *Landform Conservation Area* (Category 1 or 2) shall identify planning, design and construction practices that will keep disturbance to landform character to a minimum; maintain *significant landform features* such as steep slopes, ravines and ridges in their natural undisturbed form and ensure the following in accordance with Table 4-2:

	Landform Conservation Category 1	Landform Conservation Category 2
Maximum <i>net developable area</i> that may be disturbed	25% of total area of <i>site</i>	50% of total area of <i>site</i>
Maximum <i>net developable area</i> that may have <i>impervious surfaces</i>	15% of total area of <i>site</i>	20% of total area of <i>site</i>

4.4.22 Within the Oak Ridges Moraine, an application for *major development* with respect to land in a *Landform Conservation Area* Category 1 or 2 as identified on Map E, shall be accompanied by a *Landform Conservation Plan* in accordance with Section 4.4.42.

4.4.23 An application for *development* or *site alteration*, except with respect to mineral *aggregate* extraction, that does not constitute *major development*, with respect to land in a *landform conservation area* of either category, shall be accompanied by a plan that:

- a) identifies the areas within which all building, grading, and related construction will occur;
- b) minimizes the amount of *site alteration* required; and
- c) provides for the protection of areas of natural and scientific interest (earth science) in accordance with Section 4.4.43.

- 4.4.24 An application for an *Aggregate* Extraction Area within a landform *conservation* area, shall identify approaches in the rehabilitation plans to create compatible landforms and provide continuous forest cover where reasonably practical.

OAK RIDGES MORAINÉ TRAIL SYSTEM

- 4.4.25 The Municipality supports the establishment of an Oak Ridges Moraine Trail System as part of the Municipality's integrated trail network. The Municipality will consult with provincial agencies, the Conservation Authorities and the public with respect to such matters as trail location, design and funding. Wherever possible the trail system should be accessible to all, including persons with disabilities.
- 4.4.26 The Oak Ridges Moraine Trail System shall be designed to maintain and, where possible, improve or restore the *ecological integrity* of the Oak Ridges Moraine. The trail system shall be located in the Natural Core Area and Natural Linkage Area as much as possible.
- 4.4.27 Notwithstanding the provisions of this Plan, the following uses, buildings and structures are permitted on the trail system:
- a) non-motorized trail uses except the use of motorized wheelchairs by persons who need them;
 - b) parking, signage, washrooms and interpretive facilities to support access to the trail system;
 - c) fencing to define and protect the trails;
 - d) works to improve access to the trail system and remove barriers to its use, for the benefit of all including persons with disabilities;
 - e) works to protect ecologically sensitive portions of the trail system; and
 - f) *conservation* and erosion control to protect or restore *natural heritage features* and hydrologically sensitive features and related *ecological functions* along the trail system.

LAKE IROQUOIS BEACH

- 4.4.28 The Lake Iroquois Beach, as identified on Map C, is an important landform within the Municipality's landscape. The extensive forested areas and *wildlife habitat* of the Beach provide an east-west natural corridor across the Municipality. This landform is also valued for its groundwater recharge and discharge functions, its landscape features and its *aggregate* resources.
- 4.4.29 Except for *aggregate* extraction, Council shall endeavour to maintain the form, character and variety of landscapes within the Lake Iroquois Beach

by encouraging only minimal modification to the natural contours of the land and the retention of natural landscape features, including *woodlands* and *wetlands*. In the case of an *Aggregate* Extraction Area, the extraction and rehabilitation plans for the pit shall seek to create compatible landforms and provide continuous forest cover where reasonably practicable.

LAKE ONTARIO WATERFRONT

- 4.4.30 The Lake Ontario Waterfront is a unique and dynamic feature and a vital public resource. The Municipality shall promote greater awareness, understanding, access and recreational use of the waterfront and encourage community pride and participation in its regeneration.
- 4.4.31 The Municipality will establish a continuous Waterfront Trail for such purposes as walking and cycling along the Lake Ontario Waterfront. The Waterfront Trail shall connect, wherever reasonably practicable, to other trails, corridors and natural areas within the Municipality and adjacent municipalities.
- 4.4.32 The Municipality recognizes that the completion of a Waterfront Trail may exceed the 20 year time horizon of this Plan. However, the Municipality will endeavour to implement the trail in phases having regard to the need and the financial capability of the Municipality.
- 4.4.33 There is an Area of Natural and Scientific Interest and a provincially *significant wetland* at the mouth of the Wilmot Creek. The Municipality will explore the possibility of establishing a nature reserve in this location.
- 4.4.34 The creation or reclamation of additional waterfront land through lakefilling is prohibited. However, limited erosion control work to protect existing *development* may be permitted subject to the approval of the relevant Conservation Authority, and Federal and Provincial agencies.

STUDIES

- 4.4.35 An Environmental Impact Study shall be undertaken for *development* applications located on lands within or *adjacent* to the Lake Iroquois Beach, any natural heritage feature identified on Map C, and any natural heritage feature which may exist but which is not presently identified on Map C but of which notice is given in accordance with Section 4.4.9. The Municipality, in consultation with the Region of Durham, the Conservation Authority and other agencies, will select and retain qualified professional expertise to prepare the Environmental Impact Study. The expense of the study shall be borne by the proponent. The Study shall:
- a) examine the functions of the *natural heritage features*;

- b) identify the location and extent of *natural heritage features*;
- c) identify the potential impacts of the proposed *development* on the *natural heritage features* and their *ecological functions*;
- d) identify any lands to be preserved in their natural state;
- e) identify mitigating measures to address the adverse affects of *development* on the *natural heritage features*, and their *ecological functions*, including setbacks for *development*;
- f) identify the potential for restoration and/or creation of *wildlife habitat*, and
- g) examine the *cumulative impact* of the existing, proposed and potential *development*, including the impact on groundwater function and quality.

4.4.36 *Development* proposals below the limits of the Oak Ridges Moraine located within 120 metres of the boundary of a *wetland* or *wetland complex* shall require the preparation of an Environmental Impact Study in accordance with Section 4.4.35 of this Plan. This Study shall also demonstrate that the proposed *development* will not result in the loss of *wetland functions* or *wetland area*, will not conflict with existing *site-specific wetland* management practices, and will not create subsequent demand for future *development* which will negatively impact on existing *wetland functions*.

4.4.37 Prior to the approval of any *development* proposal that includes the removal of part or all of a *woodland* located within an existing or proposed settlement area but not identified on Map C or Map D, the *woodland* shall be assessed in accordance with Section 4.4.35 or Section 4.4.40 of this Plan and, if appropriate, a *woodland* preservation and management plan shall be prepared and submitted to the satisfaction of the Municipality, Conservation Authorities and other review agencies.

4.4.38 Any subdivision proposal located on the Lake Iroquois Beach shall be accompanied by an Environmental Impact Study as required by Section 4.4.35. As a condition of draft approval, plans of subdivision located within the Lake Iroquois Beach shall contain provisions to implement the recommendations of any Environmental Impact Study, *watershed* study or *subwatershed* study to maintain or enhance groundwater functions, including but not limited to, special house and *infrastructure* design requirements, stormwater management or construction techniques.

4.4.39 Within the Oak Ridges Moraine, a Natural Heritage Evaluation and/or Hydrological Evaluation shall be undertaken for any *development* or *site alteration* proposed within the minimum area of influence of any natural heritage feature or hydrological sensitive feature but outside the feature itself and the related minimum vegetation protection zone as identified in Sections 4.4.2 of this Plan. The minimum area of influence is identified in

Table 4-1 of this Plan. The study shall demonstrate how the specific planning, siting, design or construction practices for the proposed *development* would maintain or enhance the *ecological integrity* of the Moraine, including the natural heritage, water resources and landform *conservation* systems. The Municipality may select and retain qualified professional expertise to prepare the study or peer review a study with the expense being borne by the proponent.

Where *development* or *site alteration* may be permitted in accordance with Section 4.5.18 and Section 23.9.2 of this Plan within a natural heritage feature or hydrological sensitive feature or within the respective minimum vegetation protection zone, a Natural Heritage Evaluation and/or Hydrological Evaluation shall be undertaken in accordance with the above provisions.

- 4.4.40 In accordance with Section 4.4.39, a Natural Heritage Evaluation for any *development* or *site alteration* within the Oak Ridges Moraine shall:
- a) provide an inventory of vegetation and *wildlife habitat* on and within the vicinity of the proposed *development site*;
 - b) provide a comprehensive survey of wildlife use of the proposed *development* and *adjacent* lands;
 - c) identify the anticipated impacts from the proposed *development* and its associated activities, including noise, dust and vegetation removal, on the *natural heritage features*;
 - d) identify lands where forest cover should be preserved or enhanced;
 - e) demonstrate that the *development* or *site alteration* applied for will have no *adverse effects* on the *natural heritage features* or on their *ecological functions*;
 - f) identify planning, design and construction practices that will maintain and, where possible, improve or restore the health, diversity and size of the natural heritage feature and its *connectivity* with other *natural heritage features*;
 - g) demonstrate how *connectivity* within and between *natural heritage features* will be maintained and, where possible, improved or restored before, during and after construction;
 - h) determine whether the dimensions of a minimum vegetation protection zone as specified in Table 4-1 of this Plan are sufficient, and if it is not sufficient, specify the dimensions of the required minimum vegetation protection zone and provide for the maintenance and, where possible, improvement or restoration of *natural self-sustaining vegetation* within it;
 - i) specify the need for and dimensions of a minimum vegetation protection zone where Table 4-1 of this Plan does not identify the dimensions of a minimum vegetation protection zone and provide for

the maintenance and, where possible, improvement or restoration of *natural self-sustaining vegetation* within it;

- j) in the case of a natural heritage feature that is *fish habitat*, ensure compliance with the requirements of the Department of Fisheries and Oceans (Canada); and
- k) in the case of a Life Science ANSI identified in Table 4-1, the basis on which the determination and specification mentioned in subsection i) above is done, shall include without limitation, an analysis of land use, soil type, slope class and vegetation type, using criteria established by the Government of Ontario, as amended from time to time.

4.4.41 In accordance with Section 4.4.39, a Hydrological Evaluation shall also be conducted for any *development* or *site alteration* within the Oak Ridges Moraine. This evaluation shall:

- a) demonstrate that the *development* or *site alteration* will have no *adverse effects* on the hydrologically sensitive Feature or on the related *hydrological functions*;
- b) identify planning, design and construction practices that will maintain, and where possible improve or restore, the health, diversity and size of the hydrologically sensitive feature;
- c) determine whether the minimum vegetation protection zone whose dimensions are specified in Table 4-1 is sufficient, and if it is not sufficient, specify the dimensions of the required minimum vegetation protection zone and provide for the maintenance and, where possible, improvement or restoration of *natural self-sustaining vegetation* within it; and
- d) in the case of permanent and intermittent streams, and seepage areas and springs as identified in Table 4-1, the basis on which the determination and specification mentioned in subsection c) above is done shall include, without limitation, an analysis of land use, soil type and slope class, using criteria established by the Government of Ontario, as amended from time to time.

4.4.42 Landform *Conservation* Plan shall include:

- a) one or more maps showing:
 - elevation contours in sufficient detail to show the basic topographic character of the *site*, with an interval of not more than two metres
 - analysis of the *site* by slope type (for example, moderate or steep)
 - *significant landform features* such as ravines and ridges
 - all water bodies including intermittent streams and ponds

- b) a *development* strategy that identifies appropriate planning, design and construction practices to minimize disruption to landform character, including:
- retention of *significant landform features* in an open, undisturbed form
 - road alignment and building placement to minimize grading requirements
 - concentration of *development* on portions of the *site* that are not *significant*
 - use of innovative building design to minimize grading requirements
 - use of selective grading techniques

4.4.43 Within the Oak Ridges Moraine, an application for *development* or *site alteration* with respect to land in an area of natural and scientific interest (earth science) or the related minimum area of influence shall be accompanied by an Earth Science Heritage Evaluation that:

- a) identifies planning, design and construction practices that will ensure protection of the geological or geomorphological attributes for which the area of natural and scientific interest was identified; and
- b) determines whether a minimum vegetation protection zone is required, and if so, specifies the dimensions of that zone and provides for the maintenance and, where possible, improvement or restoration of *natural self-sustaining vegetation* within it.

4.5 NATURAL RESOURCES

4.5.1 The Municipality will encourage the wise use and management of natural resources.

SOIL

4.5.2 Soils with a Class 1-3 rating under the Canada Land Inventory of Soil Capability for Agriculture shall generally be preserved and protected for agriculture. Land uses that are not compatible with agriculture shall be discouraged from locating on or *adjacent* to lands with Class 1-3 soils.

4.5.3 The removal of topsoil is prohibited except for those exemptions pursuant to the *Top Soil Preservation Act*.

WATER

4.5.4 Groundwater resources are a vital component of the *ecosystem* and a source of drinking water. The Municipality does not support the removal for commercial sale of groundwater, and the uses associated with this activity shall not be permitted.

- 4.5.5 The maintenance of an abundant supply of clean water is essential to the health of *ecosystems* and the quality of life of residents. The Municipality will co-operate with other levels of government and private and public agencies to promote the *conservation* and wise use of surface water and groundwater resources.
- 4.5.6 The Municipality will promote public education and awareness of the pollution of surface water and groundwater resources, including the effects of pesticides, herbicides, manure, road salt, industrial pollutants, private waste disposal systems, and urban stormwater run-off.
- 4.5.7 The headwaters of many of the rivers, creeks and streams in Clarington originate within the Oak Ridges Moraine. In addition to protecting drinking water sources, protection of the quality and quantity of groundwater is key in ensuring the *ecological integrity* of natural features and functions, including hydrological features.
- 4.5.8 Maintaining, improving and restoring the water resources within the Oak Ridges Moraine is important in ensuring that the overall *ecological integrity* of the Oak Ridges Moraine is achieved. Areas of high *aquifer vulnerability* within the Oak Ridges Moraine are identified on Map E. Additional information may become available through detailed evaluation or further study.
- 4.5.9 The following uses are prohibited in areas of high *aquifer vulnerability*:
- a) generation and storage of *hazardous waste* or liquid industrial waste;
 - b) *waste disposal sites* and facilities, organic soil conditioning *sites*, and snow storage and disposal facilities;
 - c) underground and above-ground storage tanks that are not equipped with an approved secondary containment device; and
 - d) storage of a contaminant listed in Schedule 3 (Severely Toxic Contaminants) to Regulation 347 of the Revised Regulations of Ontario, 1990.
- In planning for the local Transportation and Roads network, the Municipality will consider restrictions on haulage routes for transportation of chemicals and volatile materials in areas of high *aquifer vulnerability* should they be established.
- 4.5.10 Wells providing municipal water services are not presently located on the Oak Ridges Moraine within the Municipality of Clarington. The establishment of new wells for municipal water services will require the identification of *wellhead protection areas* around the new well. Should a municipal well become established within the Oak Ridges Moraine, a *wellhead protection area* as detailed within the Oak Ridges Moraine Conservation Plan and the Region of Durham Official Plan shall be incorporated into this Plan by amendment.

WOODLANDS

- 4.5.11 Commercial logging shall only be permitted in accordance with *good forestry practices* and the applicable Tree Preservation By-laws or on lands that are under a *forest management* plan approved by the Ministry of Natural Resources or the Conservation Authority.
- 4.5.12 Except in designated settlement areas and lands designated Environmental Protection Area, the clearing of woodlots for agriculture may be permitted provided:
- a) the land is Class 1 to 3 soils as defined by the Canada Land Inventory of Soil Capability for Agriculture;
 - b) the land is part of a farming operation;
 - c) agricultural yield or productivity would be increased; and
 - d) the removal of trees is carried out in accordance with applicable Tree Preservation By-laws.
- 4.5.13 Notwithstanding Section 4.5.12 the clearing of woodlots on the Oak Ridges Moraine is not permitted within *natural heritage features*, hydrologically sensitive features or the related minimum vegetation protection zone as identified in Table 4-1 unless the land was being used for *agricultural uses* prior to and on November 15, 2001.

MINERAL AGGREGATE RESOURCES

- 4.5.14 Council will exercise its available powers to balance the wise use and protection of the Municipality's mineral *aggregate* resources with its responsibility to protect the *ecological integrity* of the *natural heritage system*, rural landscapes and the quality of life of its residents. Council shall pursue the following policies in order to achieve this balance:
- a) ensure that *aggregate* extraction occurs in an orderly and efficient manner with a minimum of environmental, social and financial impacts. In this regard, Council will be guided by applicable provincial standards;
 - b) prevent the establishment of land uses which could hinder future *aggregate* extraction in and adjacent to areas with an unconstrained potential for *aggregate* extraction;
 - c) plan and zone for mineral *aggregate* extraction and its associated activities as an interim land use;
 - d) preclude *aggregate* extraction in areas with *significant natural heritage features* identified in Section 4.5.15 or social-cultural constraints identified in Section 4.5.16;

- e) undertake appropriate studies of *aggregate* extraction activities, rehabilitation and implementation within the Municipality's natural *environment*; and
- f) seek to ensure the rehabilitation of pits and quarries occurs in a comprehensive manner which is sensitive to surrounding land uses and landscapes and reflects the underlying land use designation on Map A.

4.5.15 The establishment of a new *Aggregate* Extraction Area or the expansion of an existing *Aggregate* Extraction Area shall not be permitted in the following portions of the *natural heritage system*:

- *wetlands*
- ANSIs, except for the Bowmanville Quarry
- *significant woodlands*, other than early successional *woodlands* and young *plantations*
- *significant valleylands*
- the Ganaraska Forest and the Long Sault Forest
- cold and warm water permanent streams, intermittent streams, *fish habitat* and seepage areas and springs
- *significant portions of the habitat of rare threatened and endangered species*
- rare vegetation communities
- *significant wildlife habitat*
- sandbarrens and *tallgrass prairies*
- Natural Core Areas as identified on Map A

4.5.16 The establishment of a new *Aggregate* Extraction Area or the expansion of an existing *Aggregate* Extraction Area shall also not be permitted in:

- Urban Areas as identified on Map A
- Hamlets as identified on Map A
- Country Residential Subdivisions as identified on Map A
- *Rural Residential Clusters*
- *Rural Residential Concentrations*
- trailer parks, commercial and tourism uses existing on October 16, 1996

4.5.17 Potential *Aggregate* Resource Areas are identified on Map G. These areas comprise potential mineral *aggregate* reserves as identified by the Province which are not constrained by either *significant natural heritage features* identified in Section 4.5.15 or by significant social-cultural constraints identified in Section 4.5.16. Lands identified as Potential *Aggregate* Resource Areas shall generally be used for land uses that would not preclude or hinder existing and future mineral *aggregate* operations. It is recognized that Map G may be amended from time to

time to reflect updated geological and constraint information. Any change to Map G shall require an amendment to this Plan.

4.5.18 Notwithstanding Sections 4.4.3, 4.5.15 and 15.3.11c) of this Plan, an application for amendment to this Plan for a proposed *Aggregate* Extraction Area or expansion to an existing *Aggregate* Extraction Area with respect to land in a natural heritage feature shall not be approved unless the applicant demonstrates that:

- a) the natural heritage feature is occupied by young *plantations* or early successional *habitat*;
- b) in accordance with Section 4.4.39 of this Plan, the long-term *ecological integrity* of the Oak Ridges Moraine will be maintained, or where possible improved or restored;
- c) the extraction of mineral *aggregates* from the area within the natural heritage feature will be completed, and the area will be rehabilitated, as early as possible in the life of the operation;
- d) the area from which mineral *aggregates* are extracted will be rehabilitated by establishing or restoring *natural self-sustaining vegetation* of equal or greater *ecological value*; and
- e) all other requirements and policies of this Official Plan are complied with.

4.5.19 The information presented on Map G is not a land use designation and does not entitle a landowner to use lands identified as a Potential *Aggregate* Resource Area for extraction purposes, nor does it express the Municipality's intention to adopt an amendment to this Plan to permit *aggregate* extraction otherwise than in compliance with the other provisions of this Plan.

4.5.20 Within the Potential *Aggregate* Resource Areas identified on Map G, the creation of a new *lot*, a change in land use or the construction of buildings or structures requiring approval under the *Planning Act* shall not be permitted unless either:

- *aggregate* resource use is not feasible; or
- the proposed land use or *development* would serve a greater long term public interest than *aggregate* extraction

In every case, issues of public health, public safety and environmental impact must be satisfactorily addressed, taking into account applicable provincial standards.

4.5.21 Council, in consultation with the Region of Durham, the Province and the *aggregate* industry, may prepare area-wide rehabilitation plans for the Oak Ridges Moraine. Such plans may address the following objectives:

- a) the rehabilitation of pits and quarries shall be encouraged to provide for the creation of appropriate landforms and continuous forest cover where reasonably practicable, shall be sensitive to scenic views and vistas and surrounding land uses, and shall be consistent with the underlying land use designation on Map A;
- b) the integration of approved rehabilitation plans for existing licensed *aggregate* extraction operations;
- c) the rehabilitation of abandoned pits;
- d) the protection and enhancement of the *ecological integrity* of the *natural heritage system*, including the maintenance, enhancement or establishment of natural corridors; and
- e) the identification of any lands which could be incorporated into a Conservation Area or improve the alignment of the Oak Ridges Moraine Trail and/or be dedicated to a public authority.

In conducting these studies, Council may seek the financial assistance of the *aggregate* industry.

- 4.5.22 Area-wide rehabilitation plans will be reviewed periodically by the Municipality, in consultation with the Region, Conservation Authorities, the Province, and *aggregate* producers to monitor progress in achieving the objectives of the area-wide rehabilitation plans and to determine if amendments to the plans are required.
- 4.5.23 Council may encourage the grouping of *Aggregate* Extraction Areas where appropriate in order to achieve a reduction in the number of haul routes, minimize the impact on the *natural heritage system*, the surrounding lands, and where appropriate, to implement an area-wide rehabilitation plan.
- 4.5.24 Subject to compliance with the *Municipal Act*, Council may consider the incorporation of any road allowance connecting adjacent pits into an *Aggregate* Extraction Area provided that an area-wide rehabilitation plan has been prepared and approved by Council.
- 4.5.25 The Municipality shall encourage the Ontario Aggregate Resources Corporation to rehabilitate all abandoned pits and quarries as defined in the *Aggregate Resources Act, R.S.O. 1990 c.A. 8*, as amended.
- 4.5.26 The Municipality, in consultation with the *aggregate* producers, shall monitor *aggregate* extraction activity in the Municipality to determine, among other things:
- a) the status of licensed pits and quarries;
 - b) the progress of rehabilitation; and
 - c) any other matters as deemed necessary.
- An annual monitoring report shall be prepared and submitted to Council.

- 4.5.27 Wayside pits or quarries used for the purpose of supplying *aggregate* materials to any government project may be permitted in accordance with the *Aggregate Resources Act* on a temporary basis in any land use designation except for those lands within an Urban Area, Rural Settlement Area, Natural Core Area or Environmental Protection Area on Map A, or on portions of the *Natural Heritage System* as identified in Section 4.5.15, except in accordance with Section 4.5.18. Notwithstanding the above, wayside pits may be permitted within an Urban Area or a Rural Settlement Area subject to a Zoning By-law amendment for a temporary use.
- 4.5.28 *Portable asphalt plants* used for the purpose of supplying materials to any government project may be permitted on a temporary basis in any land use designation except for those lands within an Urban Area, Rural Settlement Area or those lands designated Environmental Protection Area, Natural Core Area or Natural Linkage Area on Map A, or on portions of the *Natural heritage system* as identified in Section 4.5.15 provided that:
- a) there is no adverse impact on groundwater and the *natural heritage system*;
 - b) there is no adverse noise, odour or dust impacts on nearby sensitive lands use activities; and
 - c) appropriate screening is provided.
- 4.5.29 For the purposes of Section 4.5.27 and 4.5.28, the construction of Highway 407 and the north-south connecting expressway, whether by the provincial government or on behalf of the provincial government, shall be deemed to be a government project.

4.6. HAZARDOUS CONDITIONS

- 4.6.1 Hazard Lands, the Regulatory Shoreline Area, and *Waste Disposal Assessment Areas*, as identified on Map F, and *Contaminated Sites*, are lands which possess characteristics which could pose a threat to public health and safety or property. Additional information regarding hazardous conditions may become available through the detailed evaluation of *development* applications or further study. Map F may be revised to reflect such additional information without the need for an amendment to this Plan.

HAZARD LANDS

- 4.6.2 Hazard lands are those lands which exhibit one or more hazards such as poor drainage, organic soils, flood susceptibility, erosion, steep slopes, or any other physical condition on which *development* could cause loss of life, personal injury, property damage, or could lead to the deterioration or degradation of the natural *environment*.

- 4.6.3 All lands within the *flood plain* of a stream as defined by the *Regulatory Flood* are considered hazard lands. Applications to reduce the *Regulatory Flood* for any stream shall be accompanied by detailed studies conducted by the proponent on the entire *watershed* of the affected stream. Prior to the commencement of any study, the proponent shall consult the Conservation Authority.
- 4.6.4 No new buildings or structures shall be permitted on lands identified as hazard lands, save and except for those buildings or structures required for flood and/or erosion control which are approved by the Conservation Authority.
- 4.6.5 The expansion or alteration of any existing building or structure located within an identified hazard land may be permitted provided that:
- a) the building or structure is not located within the *floodway* portion of the floodplain;
 - b) new or existing hazards or environmental impacts are not created or aggravated;
 - c) the Municipality and the Conservation Authority have approved a floodproofing and/or erosion control plan;
 - d) the *development* does not pose a threat to public health and safety, or property;
 - e) vehicles and people must have a way of safely entering and exiting the area during times of flooding;
 - f) a private sewage disposal system has been provided to the satisfaction of the Region; and
 - g) the Municipality has adopted a *site-specific* amendment to the Zoning By-law.

REGULATORY SHORELINE AREA

- 4.6.6 The Regulatory Shoreline Area is that area along the Lake Ontario Waterfront which is subject to dynamic beaches, flooding or erosion. The extent and exact location of the Regulatory Shoreline Area shall be identified in the implementing Zoning By-law in accordance with the detailed Lake Ontario Flood and Erosion Risk Mapping of the relevant Conservation Authority.
- 4.6.7 The construction of new buildings or structures of any type within the Regulatory Shoreline Area shall not be permitted. Notwithstanding, existing residences within the Regulatory Shoreline Area shall be permitted to have one garage and a one-time expansion, up to a maximum of 20% of the ground floor living area or 30 square metres, provided that:
- a) the structure is not located in the floodplain of a stream;

- b) the structure is not located on a dynamic beach or within a damage centre as identified by the Conservation Authority;
- c) new or existing hazards or adverse environmental impacts are not created or aggravated;
- d) the Municipality and Conservation Authority have approved a floodproofing and/or erosion control plan; and
- e) vehicles and people have a way of safely entering and exiting the area.

4.6.8 Once a dwelling located in the Regulatory Shoreline Area is destroyed or demolished by whatever reason, and reconstruction is not commenced within 24 months, the existing residential use is deemed to cease.

WASTE DISPOSAL ASSESSMENT AREAS

4.6.9 *Waste Disposal Assessment Areas* shall include all lands that may be influenced by a *site* on which *waste* has been deposited, or by a *site* on which *waste* will be deposited under a Provisional Certificate of Approval issued under the *Environmental Protection Act*. The area of influence shall be defined as 500 metres from the lands containing *wastes* unless otherwise determined by the Province. *Development* within these areas shall be regulated in order to protect public health and safety and to ensure land use compatibility.

4.6.10 The general location of known Waste Disposal Assessment Areas is indicated on Map F, based on information provided by the Province. The location of the symbol is approximate and may be modified, without amending this Plan, as further information is provided by the Province or others.

4.6.11 New *development* will not be permitted within a *Waste Disposal Assessment Area* unless the following requirements are met:

- a) written approval received from the Province that the provisions of the relevant legislation are satisfied;
- b) studies of gas, leachate, hydrogeology and structural stability, soil and ground water contamination, presence of *hazardous wastes* and safety are completed which show that *development* is compatible and can safely take place; and
- c) measures are taken to the satisfaction of the Province in consultation with the Municipality to control any problems identified through the above study.

4.6.12 Notwithstanding the land use designations on Map A, *development* will not be allowed to proceed on lands identified as containing *wastes* until the requirements of the Province are met.

CONTAMINATED SITES

- 4.6.13 Contaminated *sites* refers to lands, buildings or structures that, for reasons of public health and safety or environmental quality, may present potential health or environmental hazards as a result of past activities conducted on them, but do not include hazard lands. Sources of contamination can include disposal of *waste* materials, raw material storage, residues left in containers, maintenance activities and spills.
- 4.6.14 Lands previously used for auto wreckers, automobile repairs, service stations, fuel storage, or for the disposal of construction *waste* or debris are considered as potentially contaminated *sites*. In addition, other *sites* may be identified by the Municipality of Clarington, in consultation with the Province, through the review of *development* applications.
- 4.6.15 Where lands have been identified as potentially contaminated, *development* shall not be permitted until the following has been submitted and found to be satisfactory to the Municipality in consultation with the Province:
- a) documentation of present and past uses of the *site* and surrounding lands to provide initial information on the type of contaminants which may be present on the *site* and their possible location;
 - b) analysis of soils, and ground and surface waters where required, based on all present and previous uses of the *site*, to document the presence, types and concentration of contaminants;
 - c) a remedial action plan in accordance with provincial guidelines if the *site* analysis identifies the presence of contaminants in concentrations above acceptable concentrations as established by the Province; and
 - d) the provision of necessary financial security by the proponent, if required, to ensure the decommissioning of the *site*.

4.7 WASTE DISPOSAL SITES

- 4.7.1 A *waste disposal site* refers to the lands which act as the permanent storage *site* for *waste*, and shall include any building or structure used for the treatment or processing of the *waste* prior to its permanent storage on the same *site*.
- 4.7.2 New *waste disposal sites* and/or the expansion or increase in capacity of *waste disposal sites* are not permitted within any land use designation without an amendment to this Plan. An application to designate lands for a new *waste disposal site* and/or expand or increase the capacity of a *waste disposal site* shall be accompanied by reports which address the requirements of Section 4.4.35 a) to g) of the Plan, the impact on surrounding residents including traffic, noise and dust, and the financial implications for the Municipality. These studies shall be subject to peer review under Section 4.7.3.

- 4.7.3 Where the proponent of an application to establish, expand or increase the capacity of a *waste disposal site* has submitted studies to the Province, the Region or the Municipality, Council shall select and retain qualified consultants to undertake a peer review of such studies to ensure that the requirements of Section 4.7.2 are satisfactorily addressed. The expense of the peer review shall be borne by the proponent. Where appropriate, the undertaking of the peer review shall be co-ordinated with the Region.
- 4.7.4 The Municipality supports a *waste management strategy* that emphasizes the 3Rs of reuse, reduce, and recycle. *Waste processing facilities* and *waste transfer stations* may be permitted in the General Industrial designation in accordance with Section 11.7.5.