

**DRAFT**  
**Land Use Compatibility Guideline**

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Ontario Ministry of the Environment, Conservation and Parks

## DISCLAIMER

This document should be read in its entirety. The guidance in this Guideline should be read in conjunction with direction in the [Provincial Policy Statement, 2020](#) and provincial plans (e.g. [Greenbelt Plan](#), [A Place to Grow: Growth Plan for the Greater Golden Horseshoe](#), [Growth Plan for Northern Ontario](#)), as well as the *Environmental Protection Act* and related regulations and policies or guidance relating to specific types of proposals covered by this document. This includes the technical documents related to noise, dust and odour that are referenced. Information, technical criteria and approaches outlined in this Guideline are meant to support from the policies of the Provincial Policy Statement, 2020, provincial plans or from the legislative authority of the *Environmental Protection Act*. Users must meet all applicable legislation, regulation and policies.

The information contained herein should not be relied upon as legal advice.

Other land use planning issues that have not been addressed in this Guideline (e.g. issues related to species at risk, agricultural concerns, impacts to water, cultural heritage and archaeology) must be considered through other assessments and processes required under applicable legislation and policies.

Terms in *italics* throughout this document are defined terms and a glossary can be found in **Appendix G**.

Cette publication hautement spécialisée Land Use Compatibility Guideline n'est disponible qu'en anglais conformément au Règlement 671/92, selon lequel il n'est pas obligatoire de la traduire en vertu de la Loi sur les services en français. Pour obtenir des renseignements en français, veuillez communiquer avec le ministère de l'Environnement, de la Protection de la nature et des Parcs au [mecp.landpolicy@ontario.ca](mailto:mecp.landpolicy@ontario.ca).

## PREVIOUS GUIDELINES REPLACED BY THIS DOCUMENT

This document replaces the following guidelines:

- [D-1 Land Use and Compatibility](#)
  - [D-1-1 Land Use Compatibility: Procedure for Implementation](#)
  - [D-1-2 Land Use Compatibility: Specific Applications](#)
  - [D-1-3 Land Use Compatibility: Definitions](#)
- [D-2 Compatibility Between Sewage Treatment and Sensitive Land Use](#)
- [D-4 Land Use on or Near Landfills and Dumps](#)
  - [D-4-1 Assessing Methane Hazards from Landfill Sites](#)
  - [D-4-3 Registration or Certificates and Provisional Certificates](#)

- [D-6 Compatibility Between Industrial Facilities](#)
  - [D-6-1 Industrial Categorization Criteria](#)
  - [D-6-3 Separation Distances](#)

The D-Series documents that are not being replaced are:

- [D-3 Environmental Considerations for Gas or Oil Pipelines and Facilities](#)
- [D-5 Planning for Sewage and Water Services and its subsections](#)

The following documents were previously replaced by the document titled [2009-04 Environmental Warnings and Restrictions](#):

- [D-4-2 Environmental Warnings/Restrictions](#)
- [D-6-4 MCCR Bulletin No. 91003 \(Environmental Warnings/Restrictions on Property\)](#)

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## *Part A: Overview and Policy Context*

# 1. INTRODUCTION AND CONTEXT

## 1.1 Overview

This Land Use Compatibility Guideline (Guideline) has been developed to assist land use *planning authorities* and *proponents* of development in planning for land use compatibility which protects the long-term viability of *major facilities* while avoiding, or if avoidance is not possible, minimizing and mitigating *adverse effects* to the surrounding community.

The primary purpose of the Guideline is to support the implementation of the Provincial Policy Statement, 2020 (PPS) issued under **Section 3** of the *Planning Act*, including policies 1.2.6.1, 1.2.6.2, 1.3.2.2 and 1.3.2.3 related to land use compatibility. It also supports land use compatibility-related policies in provincial plans, including those in A Place to Grow: A Growth Plan for the Greater Golden Horseshoe (A Place to Grow).

The Guideline acts in concert with provincial noise, dust and odour guidelines, standards and procedures, and refers to these technical guidelines for further direction on undertaking *compatibility studies*, assessments and modelling. The Guideline provides context on how land use compatibility is achieved through Ontario's land use planning process and the *Environmental Protection Act* (EPA) and regulations. It should also be used to inform *Environmental Assessment* (EA) processes carried out under the *Environmental Assessment Act* (EAA) and for compliance considerations.

The Guideline is to be applied to achieve and maintain land use compatibility between *major facilities* and *sensitive land uses* when a planning approval under the *Planning Act* is needed in the following circumstances:

- a new or expanding *sensitive land use* is proposed near an existing or planned *major facility*; or
- a new or expanding *major facility* is proposed near an existing or planned *sensitive land use*.

The Guideline will also be applied when municipalities are incorporating land use compatibility policies and principles into various land use planning tools under the *Planning Act* and other legislation.

## The objectives of land use compatibility planning are to:

- protect *employment areas* designated for future *major facilities* from incompatible uses and encroachment by *sensitive land uses*;
- protect existing or planned *major facilities* from potential impacts from new *sensitive land uses*; and
- prevent *adverse effects* to existing or planned *sensitive land uses* from new and/or expanding *major facilities*.

**Part A** of the Guideline outlines the general approach and guiding hierarchy, key concepts, use of the guideline, roles and responsibilities and policy context for the Guideline.

**Part B** details the approach for assessing land use compatibility to inform land use planning decisions regarding land use compatibility matters. This Part includes *areas of influence* (AOIs) and *minimum separation distances* (MSDs) for specific types of facilities and various classes of facilities. It also provides a description of the expected contents of a *compatibility study*, including guidance and links supporting technical assessments of noise, dust, odour and other emissions, and of a *demonstration of need*. Mitigation measures that can be used to mitigate land use compatibility issues and impacts are also described.

**Part C** provides direction on incorporating land use compatibility policies and tools into various tools under the *Planning Act* and other legislation. Additional considerations for transitional land uses and infill and *intensification* scenarios are also provided.

The **Appendices** provide additional detail on relevant policies, completing assessments supporting *compatibility studies*, specific sectors, and planning for land use compatibility for landfills and dumps. They also include a glossary, abbreviations, case studies and helpful references.

## 1.2 General Approach to Planning for Land Use Compatibility

Land use compatibility is achieved when *major facilities* and *sensitive land uses* can co-exist and thrive for the long-term within a community through planning that recognizes the locational needs of both. These different land uses need to be planned and managed properly to avoid conflicting with or adversely impacting each other. Planning communities effectively to ensure compatibility amongst land uses enables industry and businesses to continue to operate and grow, while enabling the surrounding community to continue about their daily life and activities without experiencing *adverse effects* from emissions and other impacts from *major facilities*.



Given the nature of *major facilities*, they are often a source of noise, dust, odour and other emissions which may have potential impacts on surrounding land uses. *Sensitive land uses* can also have impacts on existing *major facilities* if they are located too close to a *major facility*, resulting in complaints from residents, potential risks to public health and safety, need for additional mitigation, impacts to *major facility* operations and additional costs for the *major facility*.

Consideration of these potential impacts early in the land use planning process, before new land uses are approved, provides opportunities to prevent conflicts. This Guideline contains direction for planning authorities to address land use compatibility through official plan policies and procedures, planning tools and proponent-driven planning applications.

To enable planning land uses that avoid incompatible land uses, this Guideline provides AOI distances associated with various types of *major facilities*. A *sensitive land use* within that AOI could experience impacts. *Planning authorities* should use these AOIs to inform land use designations, zoning by-laws and other planning tools to avoid incompatible uses. These AOIs should also be used to inform policies to trigger land use *compatibility studies* if a development proposal would result in a *sensitive land use* being located within an AOI. That *compatibility study* then becomes the basis for assessing potential *adverse effects* and determining a more specific *separation distance* that would prevent *adverse effects*, potentially together with identified mitigation measures. This Guideline also provides MSDs, within which *sensitive land uses* should not be located, and supports the requirement for a *demonstration of need* to be completed in relation to a proposed *sensitive land use* if mitigation measures are the only possible way to prevent adverse impacts or if the proposed *sensitive land use* is within the MSD of a *major facility*.

### **1.3 Guiding Hierarchy for Land Use Compatibility Planning**

Separation of incompatible land uses is the preferred approach to avoiding land use compatibility issues. In many situations, including in relation to proposals for greenfield development and proposals outside of *settlement areas*, it is expected that separation can be achieved. Doing this would be consistent with achieving policy 1.1.5.6 of the PPS, which indicates that opportunities should be retained to locate new or expanding land uses that require separation from other uses. When avoidance (i.e. separation) alone is not possible, minimizing and mitigating potential impacts may provide a basis for a proposal. If minimization and mitigation of impacts is not viable, the proposed incompatible land use should not be enabled, and related planning or development applications should not be approved. *Planning authorities, proponents* (e.g. developers of *sensitive land uses* and *major facility* owners) and the surrounding community should work together to achieve land use compatibility.

In order to support implementation of the PPS, a guiding hierarchy for land use compatibility is provided as a decision-making framework for *planning authorities* where avoidance of incompatible land uses through adequate separation should be achieved, or if avoidance is not possible, minimizing and mitigating *adverse effects*. See **Figure 1** below.



**Figure 1 – Guiding hierarchy for land use compatibility**

## 1.4 Key Concepts

The following key concepts are briefly described to provide context for planning for land use compatibility. Further details on the application of these concepts are described in subsequent sections.

**Major Facilities:** “Facilities which may require separation from *sensitive land uses*, including but not limited to: airports, manufacturing uses, transportation infrastructure and corridors, rail facilities, marine facilities, sewage treatment facilities, *waste management systems*, oil and gas pipelines, industries, energy generation facilities and transmission systems, and resource extraction activities” (PPS).

The above definition does not include a comprehensive list of *major facilities*. Facilities other than those provided as examples with similar potential to affect *sensitive land uses* must be treated in the same manner under the PPS and this Guideline. See **Section 1.5.2** for additional discussion on application of the Guideline to *major facilities*.

**Sensitive Land Uses:** “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 environment. Examples may include, but are not limited to residences, day care centres, and educational and health facilities” (PPS).

The above definition does not include a comprehensive list of all types of *sensitive land uses*. *Planning authorities* are expected to identify other similar uses as sensitive under the PPS and this Guideline. While uses such as residential are clearly *sensitive land uses* in all contexts, *sensitive land uses* could also include various commercial, retail, institutional, and office uses. Some additional examples of *sensitive land uses* may include hotels, community centres and places of worship. Under this Guideline residences includes long-term care homes, shelters for emergency housing and detention centres.

**Adverse Effects:** “means one or more of:

- a) impairment of the quality of the natural environment for any use that can be made of it;
- b) injury or damage to property or plant or animal life;
- c) harm or material discomfort to any person;
- d) an adverse effect on the health of any person;
- e) impairment of the safety of any person;
- f) rendering any property or plant or animal life unfit for human use;

- g) loss of enjoyment of normal use of property; and
- h) interference with normal conduct of business” (EPA, ss.1(1))

Note that minor nuisance effects may not meet the definition of *adverse effect*.

**Area of Influence (AOI) (Section 2.1.1):** an area surrounding the property boundary of an existing or planned *major facility* where *adverse effects* on surrounding *sensitive land uses* have a moderate likelihood of occurring (see **Figure 2**). Within AOIs, *compatibility studies* are required for *proponents* of proposed *major facilities* or proposed *sensitive land uses* as part of the supporting documentation for a planning application.

**Minimum Separation Distance (MSD) (Section 2.1.3):** a recommended minimum distance from a *major facility* within which *adverse effects* to a *sensitive land use* are highly likely to occur. *Planning authorities* should not allow *sensitive land uses* within the MSD (see **Figure 2**). Where a *sensitive land use* is proposed within the MSD, a *demonstration of need* is required.

**Compatibility Study (Section 2.6):** a study that assesses potential *adverse effects* and recommends *separation distances* between land uses and mitigation measures, if needed, to prevent impacts to surrounding *sensitive land uses*.

**Avoidance:** for the purposes of this Guideline, “avoidance” is achieved if a *sensitive land use* and a *major facility* are sufficiently separated to prevent any *adverse effects* on the *sensitive land use*, without the need of mitigation measures. Locating *sensitive land uses* outside of the AOI of a *major facility* would achieve this outcome, as would locating beyond the *separation distance* assessed through a *compatibility study* as necessary to avoid an *adverse effect* without mitigation.

**Demonstration of Need (Section 2.8):** an assessment that determines whether there is an identified need for the proposed use in the proposed location, and evaluates alternative locations for the proposed use if avoidance is not possible. A *demonstration of need* is only required to be carried out by *proponents* of *sensitive land uses* in certain circumstances as outlined in **Section 2.8** of this Guideline.

**Minimize and Mitigate:** under this Guideline, minimizing potential *adverse effects* on sensitive land uses and potential impacts to *major facilities* is achieved by maximizing the *separation distance* between land uses that are incompatible, and mitigation refers to the additional measures necessary to prevent an *adverse effect* or impact.

## 1.5 Use of the Guideline

### 1.5.1 Audience

This Guideline is intended for *planning authorities* under the *Planning Act*, including municipalities, planning boards, and the Province in circumstances where it is the planning authority. It should also be considered by the Local Planning Appeal Tribunal when determining appeals of decisions made by a planning authority under the *Planning Act*. *Proponents* of proposed development (e.g. developers of *sensitive land uses*, *major facility* owners/operators) are another key audience to understand the expectations of the planning authority. This Guideline is also intended for planning consultants and consultants preparing *compatibility studies*.

*Proponents* for new *sensitive land uses* and/or new *major facilities* should consult the Guideline prior to applying for approvals under the *Planning Act* and environmental permissions, to better coordinate requirements for all processes.

The Guideline may also be used by stakeholders and the public for educational purposes and increased awareness of considerations in land use planning decisions regarding land use compatibility in their communities.

### 1.5.2 Applicability to Major Facilities

The Guideline supports implementation of the PPS to address impacts to and from a range of major facilities. This includes but is not limited to major facilities listed as examples in the definition of *major facility* and listed in **Table 1**, such as manufacturing facilities, sewage treatment plants, composting facilities and anaerobic landfills.

This Guideline is intended to apply to land use planning proposals related to any *major facility* unless otherwise specified or more specific provincial direction exists in relation to a specific *major facility* type. In respect of some *major facilities* for which other Guidelines or direction are provided, this Guideline may apply to encroachment of *sensitive land uses* on these facilities. This Guideline also does not address specific land uses that are not *major facilities* as defined by the PPS, but which may also have compatibility requirements. For example, this guideline does not apply to agricultural operations to which the Ontario Ministry of Agriculture, Food and Rural Affairs' (OMAFRA's) Minimum Separation Distance guidelines apply. See **Appendix K** for information and guidance related to some specific types of *major facilities* and other land uses. Guidance on landfills is located in **Appendix E**.

With respect to federally-regulated facilities, such as airports, rail facilities, marine facilities, and oil and gas pipelines, this Guideline does not apply to locating these *major facilities*. Similarly, this Guideline does not apply to development on federal crown lands that are not subject to the *Planning Act*. However, *planning authorities* are required to apply this Guideline in relation to *sensitive land uses* proposed near these facilities that are subject to the *Planning Act*.

### **1.5.3 Application Under the Planning Act**

The Guideline is to be applied to achieve and maintain land use compatibility between *major facilities* and *sensitive land uses* when an approval under the *Planning Act* is needed in relation to:

- a new or expanding *sensitive land use* is proposed near an existing or planned *major facility*; or
- a new or expanding *major facility* is proposed near an existing or planned *sensitive land use*.

“Planned” *major facilities* or *sensitive land uses* means that the land use is already designated in the local official plan (OP) and zoned in the local zoning by-law.

*Planning Act* approvals this Guideline would apply to include:

- OP and OP amendments (OPAs);
- Secondary plans;
- Community planning permit systems;
- Zoning by-laws and zoning by-law amendments;
- Plans of subdivision or condominium;
- Consents;
- Minor variances; and
- Site plan control and other planning approvals.

The Guideline also applies in situations where the use of the land is not changing, but the nature and/or intensity of the land use is, and an application under the *Planning Act* is required. For example, a six-storey residential building being replaced by a twenty-storey residential building within the same parcel can trigger this Guideline, if an approval under the *Planning Act* is required. It also applies in situations where there is a new use proposed for an existing building and an application under the *Planning Act* is required. For example, a new residential use may be proposed for a building that is currently used for commercial purposes, which would lead to a situation of potential incompatibility if the building is located within an industrial and commercial *employment area*.

Unless referenced under other applicable legislation, this Guideline does not apply when there are existing incompatible land uses (e.g. existing *sensitive land uses* too close to existing *major facilities*) and no *Planning Act* approval is being triggered.

#### **1.5.4 Application Under Other Legislation**

*Planning authorities* and *proponents* need to be aware of and consider environmental legislation, regulations, programs and permissions, and other relevant provincial legislation, when making decisions in relation to land use compatibility. *Proponents* for *major facilities* that require other permissions (such as an *Environmental Compliance Approval* (ECA)) should consider undertaking land use planning approvals and environmental permissions, and the studies that inform them, in a coordinated fashion to the extent possible. The Guideline may also be used to inform some *Environmental Assessments* (EA). For example, this Guideline can be considered in the EA process for waste management projects that may be subject to the EAA. Information and *compatibility study* requirements developed through planning approvals and EAs may inform requirements for ECAs.

This Guideline does not provide guidance on applying for an ECA, a Renewable Energy Approval, or registering on the Environmental Activity and Sector (EASR). Please refer to **Appendix J** for other documents that provide guidance and direction on these matters.

#### **1.5.5 Territory without Municipal Organization**

Despite generally having lower population and development density, land use compatibility issues exist in Northern Ontario, including in territories without municipal organization. In these areas, the Province or other planning authority should request that studies be completed to ensure that compatibility issues are adequately addressed prior to planning approvals being granted.

*Planning authorities* in Northern Ontario in territories without municipal organization are the following:

- Planning boards, which coordinate overall future growth and land use planning activities. They can prepare OPs and can pass zoning by-laws in areas without municipal organization within their jurisdiction.
- The Minister of Municipal Affairs and Housing defines planning areas of planning boards and may also initiate zoning controls in some territories without municipal organization. The Minister has the authority to approve development applications (plans of subdivision and consent applications) except in those areas where approval is given to other approval authorities, such as planning boards.

- The Ministry of Natural Resources and Forestry (MNRF), which manages Crown land on behalf of the public.

## 1.6 Roles and Responsibilities

### 1.6.1 Planning Authorities

“*Planning authorities*” refers to entities or bodies with land use planning approval authority under the *Planning Act*, including the council of a municipality, a planning board and the Ministry of Municipal Affairs and Housing (MMAH).

Subsections 3(5) and 3(6) of the *Planning Act* provide that planning decisions and comments, submissions or advice affecting a planning matter by a council of a municipality, a local board, a planning board, a minister of the Crown and a ministry, board, commission or agency of the government shall be consistent with the PPS and shall conform or not conflict with any provincial plans in effect at that time. As such, under the *Planning Act* and the PPS, *planning authorities* are responsible for ensuring that *major facilities* and *sensitive land uses* are planned and developed to avoid, or if avoidance is not possible, minimize and mitigate *adverse effects*. They are also responsible for protecting the long-term viability of existing or planned industrial, manufacturing or other employment uses. *Planning authorities* must not approve development proposals where there are irreconcilable incompatibilities (i.e. *adverse effects* with no feasible required mitigation measures). Land use planning decisions that result in incompatibility may create ongoing issues for all parties, including municipalities, to address noise and odour complaints and other impacts.

*Planning authorities* should encourage pre-consultation with *proponents* to identify potential land use compatibility constraints (e.g. closed landfill, existing *major facilities* and/or *sensitive land uses*). *Planning authorities* will need to be satisfied that the classification of a *major facility* or AOI used are appropriate. *Planning authorities* are responsible for reviewing *Planning Act* applications (including required *compatibility studies*) for potential adverse impacts to existing facilities and/or existing *sensitive land uses*, and only approving planning applications that have demonstrated that such impacts do not exist or that impacts have been addressed and any necessary mitigation will be implemented. Municipalities that do not have in-house expertise to assist with this task are encouraged to hire third party experts for review of land use *compatibility studies*. Where feasible, *planning authorities* should encourage or accept electronic submissions of land use *compatibility studies* that may be required in this Guideline with planning applications.

*Planning authorities* also undertake planning exercises which must address land use compatibility, such as comprehensive reviews of OPs, development of secondary plans and reviews of zoning by-laws. To address land use compatibility, OP policies and land use designations, requirements for supporting documentation for development



applications, and zoning by-laws must be up to date and in accordance with the Guideline. See **Table 4** for more details and instruction on how planning documents can incorporate the Guideline.

### **1.6.2 Proponents of Major Facilities and Sensitive Land Uses**

This section applies to *proponents* of new or expanding *major facilities* that would capture existing or planned *sensitive land uses* within their AOI, and new or expanding *sensitive land uses* that would be captured within the AOI of an existing *major facility*.

*Proponents* are responsible for ensuring that they have the proper land use planning approvals in place prior to development, and that their applications for planning and development demonstrate that the proposed new land uses will avoid, or if avoidance is not possible, minimize and mitigate any potential *adverse effects*.

Pre-consultation with *planning authorities* is highly encouraged when planning for a new development, to identify potential constraints with respect to potential impacts to *major facilities* and *sensitive land uses*, explore alternative locations if necessary, and ensure all necessary studies are completed to inform planning decisions. *Proponents* can request pre-consultation and municipalities are required to agree to pre-consultation upon request under the *Planning Act*.

Engagement between parties will allow for awareness of concerns, potential access to facility-specific information to complete *compatibility studies*, discussion on recommendations for mitigation, identification of any barriers to mitigation and, if necessary, discussion on agreements for any potential mitigation to address *adverse effects* and/or potential impacts to the *major facility*. Where a new *sensitive land use* is proposed, engaging existing *major facilities* early is highly recommended to better understand their operations and the mitigation measures that may already be in place. If *major facility* operators are the *proponent* of a new or expanded facility, early engagement of nearby *sensitive land uses* is highly recommended. More information on engagement and consultation is in **Appendix C**.

*Proponents* are responsible for retaining qualified individuals to undertake appropriate studies, locating and designing their proposal to avoid, minimize and mitigate *adverse effects* and/or potential impacts to *major facilities*, and for installing and monitoring any required mitigation measures, as well as ensuring any necessary permissions (including ECAs, EAs and EASR registrations as applicable) under the EPA, the EAA or the *Ontario Water Resources Act* (OWRA), or other relevant legislation, are in place (see **Appendix B** for more on qualified individuals). *Proponents of major facilities* are encouraged to undertake studies supporting land use planning approvals and environmental permissions in a coordinated manner, where possible.

### **1.6.3 Existing Sensitive Land Uses and Major Facility Owners/Operators**

Owners of existing *sensitive land uses* are encouraged to engage with *proponents* and *planning authorities* when *major facilities* are proposed, and the *sensitive land use* is captured within their AOI.

Conversely, existing *major facility* owners and operators are encouraged to respond to and engage with *proponents* and *planning authorities* when *sensitive land uses* are proposed within the AOIs of the *major facility*.

*Major facilities* are encouraged to share information that may lead to the completion of land use *compatibility studies* and other reports that may be needed, provided appropriate privacy considerations are met. Ensuring *compatibility studies* are based on the best and current information will help to ensure potential compatibility issues are avoided in the future.

### **1.6.4 Ministry of the Environment, Conservation and Parks (the Ministry)**

The Ministry is responsible for providing land use planning and technical guidance on land use compatibility matters related to certain types of *major facilities*, and other matters that fall within its mandate and programs.

As a partner ministry, the Ministry also supports MMAH in the review of provincial planning policies and *Planning Act* applications where MMAH is the approval authority. The Ministry will conduct technical reviews where MMAH is the planning authority. In limited cases where MMAH is not the planning authority, municipalities may engage with the Ministry directly through the Municipal Plan Review process if they require specific technical input relating to *compatibility studies*. The Ministry does not have a role in reviewing and approving technical studies supporting planning applications under the municipal review process; its role is limited to providing specific technical information or guidance under its mandate and legislation.

The Ministry is not a decision-maker on *Planning Act* applications. As part of its broader mandate to protect Ontario's air, land and water, the Ministry issues permissions required by its key legislation including the EPA, the EAA, OWRA and their regulations for some activities at *major facilities*. Environmental permissions, which include ECAs, EAs and EASRs, do not replace the need for land use planning approvals to address compatibility.

## 1.7 Planning Legislation and Policy Context

The following sections provide context and background on the main provincial legislation and policies related to land use compatibility. A more comprehensive listing of relevant policies is found in **Appendix A**.

### 1.7.1 Planning Act

This Guideline supports implementation of key provincial land use planning policies. This includes relevant policies of the PPS, which is issued under the authority of the *Planning Act*.

This Guideline also supports fulfillment of provincial interests under section 2 the *Planning Act* that *planning authorities* shall “have regard to”. These include building strong healthy communities, the protection of public health and safety, and the appropriate location of growth and development.

Subsections 3(5) and 3(6) of the *Planning Act* require that decisions and comments, submissions or advice affecting a planning matter as made by *planning authorities*, and decisions made by the Local Planning Appeal Tribunal when making a determination on appeal “shall be consistent with” the PPS policies and “shall conform with” or “shall not conflict with” provincial plans.

### 1.7.2 The Provincial Policy Statement (PPS)

The PPS sets out the Province’s long-term vision for building strong, healthy communities through land use planning decisions which support the long-term prosperity, environmental health and social well-being of Ontario.

Relevant policies are referenced below, but it should be noted that the policies of the PPS represent minimum standards. Within the framework of the provincial policy-led planning system, *planning authorities* may go beyond these minimum standards to address matters of importance to a specific community, unless doing so would conflict with any policy of the PPS.

PPS policies 1.2.6.1 and 1.2.6.2 provide direction to *planning authorities* to ensure that *major facilities* and *sensitive land uses* are appropriately planned and developed to avoid, or if avoidance is not possible, minimize and mitigate *adverse effects* (e.g. from odour, noise and other *contaminants*) and ensure the long-term viability of *major facilities*. As such, planning proposals need to demonstrate how land use compatibility has been assessed and addressed.

*Planning authorities* also need to ensure that long-term viability and functions of *employment areas* are protected from encroachment within and surrounding these areas, as per PPS policies 1.3.2.2 and 1.3.2.3. *Employment area* conversion is also an important issue, as per PPS policies 1.3.2.4 and 1.3.2.5.

### **1.7.3 Place to Grow: Growth Plan for the Greater Golden Horseshoe (A Place to Grow)**

A Place to Grow is issued under the authority of section 4 of the *Places to Grow Act, 2005*. A Place to Grow is the Ontario government's initiative to plan for growth and development in the Greater Golden Horseshoe. The area subject to A Place to Grow is set out in O. Reg. 416/05: Growth Plan Areas, made under the *Places to Grow Act, 2005*. Key policies relevant to the Guideline include 2.2.5.6 to 2.2.5.10.

A Place to Grow policies 2.2.5.6 and 2.2.5.7 provide direction to municipalities to designate *employment areas* and protect them for employment use over the long-term by doing such things as prohibiting residential uses, prohibiting or limiting other sensitive land uses, and providing an appropriate interface between *employment areas* and adjacent non-*employment areas* to maintain land use compatibility. To support this, policy 2.2.5.9 and 2.2.5.10 address employment land conversion.

A Place to Grow policy 2.2.5.8 stipulates that the development of *sensitive land uses*, major retail uses or major office uses will, in accordance with provincial guidelines, avoid, or where avoidance is not possible, minimize and mitigate adverse impacts on industrial, manufacturing or other uses that are particularly vulnerable to encroachment.

## **1.8 Environmental Legislation and Permissions**

The following sections provide background on other provincial legislation and permissions related to land use compatibility. More information on environmental permissions can be found on the Ministry's website at <https://www.ontario.ca/page/environmental-permissions>

### **1.8.1 Environmental Protection Act (EPA)**

A key part of the legislative basis for the Guideline is subsection 14(1) of the EPA, which provides:

*Subject to subsection (2) but despite any other provision of this Act or the regulations, a person shall not discharge a contaminant or cause or permit the discharge of a contaminant into the natural environment, if the discharge causes or may cause an adverse effect.*

### **1.8.2 Environmental Assessment (EA)**

Ontario's EA program promotes good environmental planning by determining the benefits and potential effects of projects, as well as evaluating alternatives, before projects are implemented. Projects that involve new or expanding *major facilities* may be subject to the EAA. The Minister may also designate a project as subject to the EAA.

EA studies may involve evaluating alternative locations for siting a proposed *major facility* and must consider the proposed project's potential impacts to the environment, including impacts to the natural, social, economic, built, and cultural environments. This must include consideration of impacts to surrounding land uses. Appropriate measures must be proposed and implemented to address any impacts, such as noise and odour. Accordingly, the compatibility between a proposed *major facility* and its surrounding land use is often directly assessed and considered during an EA planning process.

EA documents may be a resource for information related to land use compatibility when considering *sensitive land use* development near *major facilities* or vice versa.

### **1.8.3 Environmental Compliance Approvals (ECAs)**

ECAs are environmental permissions that are required by the EPA and the OWRA for certain activities which release *contaminants* into the air (including noise, vibration, odour and dust), land or water, such as industrial activities, waste management activities, sewage works, water works, and stormwater management systems.

Existing ECAs may be able to be used as a source of information for conducting land use *compatibility studies* in a range of situations. The ECA and supporting studies include information about the assessment of noise, dust and odour emissions from a *major facility*, conditions on the timing of operations, setbacks or infrastructure and technology systems for mitigating emissions. However, there may be limitations on the ability to obtain reports used to inform an ECA. *Major facilities* are encouraged to provide reports and information when it will be used for such purposes as developing land use *compatibility studies* for proposed development.

Terms and conditions set out in an ECA are included to help ensure the proper operation and maintenance of equipment and processes to minimize the impact to the environment and to prevent an *adverse effect* resulting from the operations. Depending on the type of facility, the ECA may include specific requirements to control dust, odour, noise, vibration, and other *contaminants* that can be released via air, water or land, to the environment.

It should be noted that while ECAs can address various matters that relate to land use compatibility, such as the use of noise-attenuating technology, there are a range of issues related to the layout and operation of the site that are addressed through land use planning and not ECAs.

It should be further noted that it cannot be assumed by a planning authority that a *major facility* with an ECA will implement additional mitigation measures to facilitate a *sensitive land use* proposed to be established nearby.

#### **1.8.4 Environmental Activity and Sector Registry (EASR)**

An EASR is an online self-registration process for subject facilities instead of seeking a ministry approval through an application and review process.

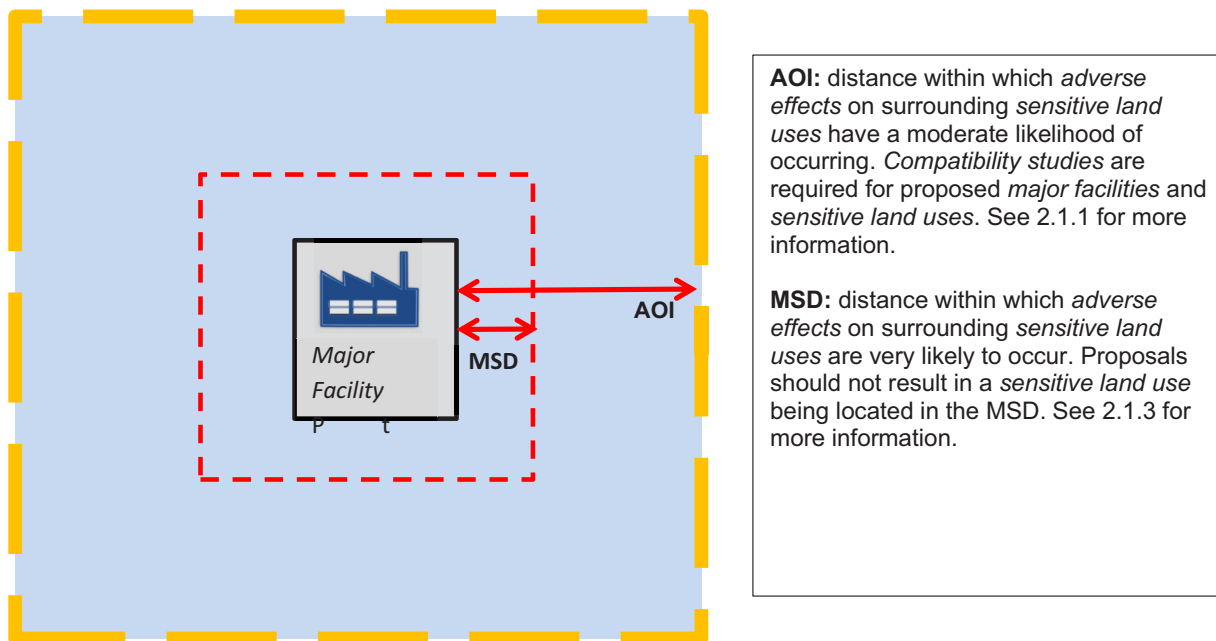
If a facility is required to register under the Air Emissions EASR, the *proponent* of that facility is required to have reports prepared that assess air, noise, *fugitive dust* and odour emissions prior to registration. *Major facilities* are encouraged to provide reports and information when it will be used for such purposes as developing land use *compatibility studies* for proposed development. Additionally, some summary information (i.e. Summary Table from Emissions Summary and Dispersion Modelling Report and the Acoustic Summary Table from the Noise Report) is available from the Ministry website through the [Access Environment](#) portal tools function.

## *Part B: Assessing Land Use Compatibility*

## 2. TOOLS TO ASSESS LAND USE COMPATIBILITY

### 2.1 Area of Influence (AOI) and Minimum Separation Distance (MSD)

AOIs and MSDs specific to certain sectors or types of *major facilities* have been provided in this Guideline (**Table 1**). AOIs and MSDs have also been assigned to *major facility* class based on their anticipated local impact (**Table 2**). Where available, the facility-specific AOI/MSD in **Table 1** shall be used. Where there is no facility-specific AOI/MSD in **Table 1**, or if *planning authorities* are determining an AOI for an area which may include a variety of facilities, **Table 2** and **Table 3** can be used to determine the appropriate Class-related AOI. See **Figure 2** below for a visual representation of these areas, and **Section 2.1.1**, **Section 2.1.2**, and **Section 2.1.3**.



**Figure 2 – Area of influence and minimum separation distance.**

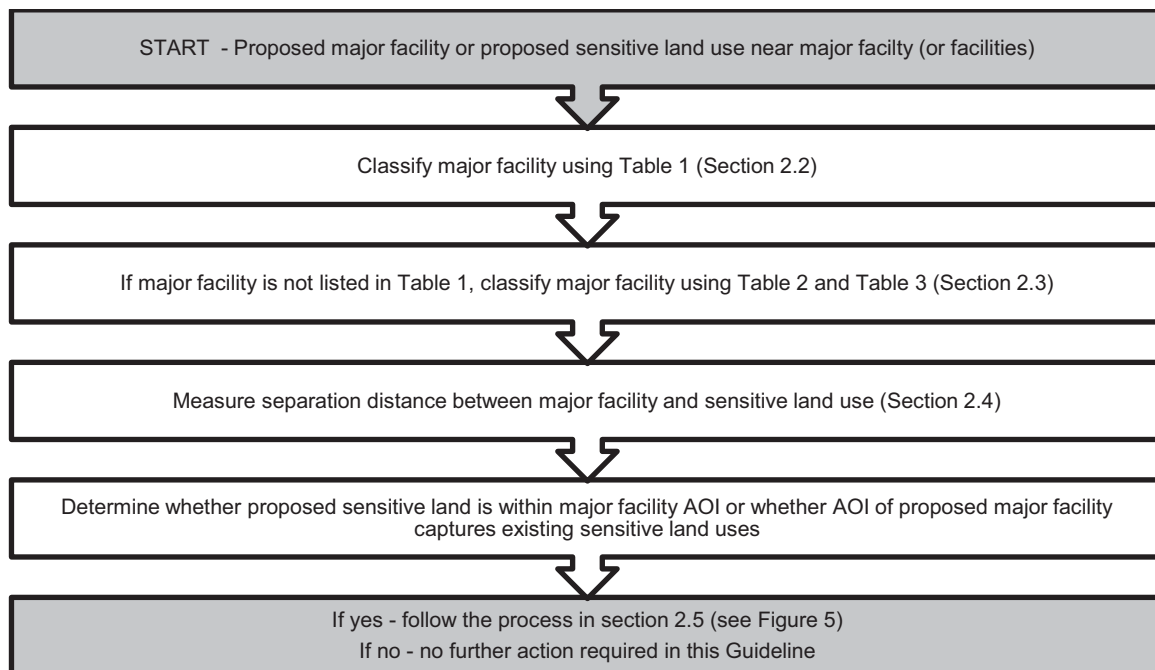
AOIs and MSDs provided in this Guideline are based on analysis of the Ministry's complaint data (specific to noise, dust and odour) from a ten-year period, its experience dealing with issues associated with land use compatibility and considering other ministry guidelines and regulations. While the AOIs and MSDs were mainly based on *adverse effects* related to noise, dust and odour, the *major facilities* listed in **Table 1** and **Table 2** may have other *adverse effects*, such as groundwater and surface water contamination or methane leakage.



### 2.1.1 Area of Influence (AOI)

An AOI is defined in this Guideline as an area surrounding the property boundary of an existing or planned major facility where adverse effects on *surrounding sensitive land uses* have a moderate likelihood of occurring. If a land use proposal would place a new or expanding *sensitive land use* within a *major facility's* AOI or a new or expanding *major facility* would capture *sensitive land uses* within its AOI, a *compatibility study* will be required (see **Figure 3**). *Compatibility studies* assess potential impacts associated with a planning proposal, determine a recommended *separation distance* for the proposed use, and if required, identify necessary mitigation measures to prevent impacts and demonstrate the need for a *sensitive land use* in a specific location (see **Section 2.6**).

If a land use proposal would place a proposed *sensitive land use* outside of a *major facility's* AOI, or when a new *major facility* is proposed in a location that does not capture existing or planned *sensitive land uses* within a *major facility's* AOI, this Guideline does not require *compatibility studies*.



**Figure 3 – Steps to determine if land use compatibility study is required.**

AOIs are intended to be used as the study area as well as the default *separation distance* from a *major facility* unless *compatibility studies* recommend a different *separation distance*. The *separation distance* used should be sufficient to permit the functioning of the two potentially incompatible land uses without an *adverse effect* to the *sensitive land use* or potential impacts to *major facilities*. Separation of incompatible

land uses under this Guideline does not result in ‘freezing’ or denying usage of the intervening land. Other compatible, transitional uses may be able to be developed in the intervening land.

### **2.1.2 Planning Authority-Determined Alternate AOIs**

The AOI distances noted in **Table 1** and **Table 2** of this Guideline must be used as the AOI in most situations. In relation to specific areas or sites, *planning authorities* may determine an alternate AOI, which may be smaller or larger than the AOI outlined in this Guideline, if supporting studies are completed to justify this alternate AOI. An alternate AOI may be smaller, for example in locations with a planning objective of increasing *intensification* as well as avoiding conflicts. An alternate AOI may also be larger if the planning authority has determined that *adverse effects* may occur outside of the Guideline’s AOI, for example in consideration of other area or facility specific emissions. In either case, the planning authority may choose to implement policies that restrict uses and/or require *compatibility studies* based on their studies.

The development of an alternate AOI is a voluntary activity undertaken by the planning authority that is intended to support its broader land use planning framework. As such, studies to justify an alternate AOI should be developed by the planning authority (supported by consultants as necessary), and should take place during a broader planning process (such as review of Official Plans, Secondary Plans and/or zoning by-laws) so that the alternate AOI can inform the overall community structure of a particular area surrounding a *major facility* or *employment area*, and inform policies setting the study requirements for future development applications in the area.

Alternate AOIs should only be developed for a specific *major facility* or specific *employment area*, and not for a sector of *major facilities*. For example, work completed to justify an alternate AOI at steel mill A, does not mean that all steel mills can have the same alternate AOI; the *planning authority* would undertake separate studies for each steel mill (in each location) to develop an alternate AOI appropriate for that specific steel mill.

*Planning authorities* may only consider using an alternate AOI if it can be justified through the results of a technical and scientific process similar to that of a *compatibility study*. The study should include qualitative and quantitative assessments of the magnitude, significance, frequency and extent of the expected impacts to the *major facility* or to *sensitive land uses*. The assessments would need to demonstrate that impacts are expected within a smaller area than the AOI specified in this Guideline. **The alternate AOI must never be smaller than the MSD in the Guideline (see Section 2.1.3).**

### **2.1.3 Minimum Separation Distances (MSDs)**

MSDs are defined in this Guideline as recommended minimum *separation distances*. They are smaller than the AOI and are the distance within which *adverse effects* and compatibility issues are highly likely to occur. Proposals should not result in *sensitive land uses* being located in MSDs, as *adverse effects* are highly likely to occur. Such proposals should only be considered where there is a *demonstrated need* for the proposed use in that location and no other location is feasible, and mitigation to prevent *adverse effects* is possible and will be implemented. Avoiding *sensitive land uses* being located in the MSD should be feasible in areas of new development such as areas of settlement expansion and new built-up areas, and in *employment areas* intended for industrial or manufacturing uses in the long-term. If a new or expanding *sensitive land use* is proposed within a *major facility's* MSD or a new or expanding *major facility* would result in *sensitive land uses* within its MSD, *compatibility studies* and mitigation measures to address potential *adverse effects* on *sensitive land uses* and potential impacts to *major facilities* will be required. A *demonstration of need* will also be required if the proposed land use is a *sensitive land use* within the MSD of an existing or planned *major facility*.

## **2.2 How to Classify a Major Facility with an Assigned AOI and MSD**

Certain types of *major facilities* have been assigned specific AOIs and MSDs. The *proponent* and planning authority should first determine whether a given *major facility* type has been assigned an AOI and MSD in **Table 1**. Where available, the facility-specific AOIs and MSDs in **Table 1** should be used instead of class-related AOIs and MSDs in **Table 2**.

Due to the differing exact characteristics of emissions of different activities, some types of *major facilities* have a larger MSD relative to their AOI compared to some other *major facility* types.

Where other types of *major facilities* are being considered (i.e. facilities that are not listed in this table), the approach outlined in **Section 2.3** to determine an appropriate class-related AOI and MSD should be used and **Table 2** and **Table 3** should be referenced.

**Table 1 – Area of influence and minimum separation distance for select major facilities.**

Select Major Facility	Description of Major Facility	AOI & Class	Minimum Separation Distance
Aggregate Operations	Aggregate extraction, Resource extraction, Other mineral quarries	1,000m Class 3*	500m*
Asphalt Manufacturing	Asphalt mixture and block manufacturing, Asphalt shingle and coating manufacturing	1,000m Class 3	300m
Cannabis production and processing facilities	Indoor cannabis production facilities that are located in a <i>settlement area</i> on lands that are zoned for industrial uses; and all cannabis processing facilities	2,000m Class 5	500m
Cement Manufacturing	Cement manufacturing and distribution	2,000m Class 5	500m
Chemical Product Manufacturing	Inorganic chemical manufacturing, Household cleaning and miscellaneous product manufacturing	2,000m Class 5	500m
Composting Facilities	Composting facilities	1,500m Class 4	500m
Concrete (Ready-mix)	Ready-mix and concrete product manufacturing facilities	250m Class 1	100m
Industrial Anaerobic Digesters	Anaerobic digesters that are not agricultural uses	1000 m Class 3	500m
Food Manufacturing	General industrial manufacturing of food products	500m Class 1	200m
Industrial Food Mills (non-agricultural)	Wet corn or flour mill	750m Class 2	300m
Landfills and Dumps (see <b>Section 7.2</b> of <b>Appendix E</b> )	Operating and non-operating sites	case-by-case Class 5	500m

Select Major Facility	Description of Major Facility	AOI & Class	Minimum Separation Distance
Meat and Meat Product Processes	Slaughterhouses and rendering facilities, Meat by-product processing, Production of foods using fats or oils, Cooking oil production	1,500m Class 4	500m
Metal and Glass Parts Manufacturing	Manufacturing steel parts, Foundries, Metal stamping, Manufacturing glass or fiber glass auto parts	600m Class 2	300m
Oil Refinery	Refinery for oil and oil products	2,000m Class 5	500m
Painting/Coating	Application of paint, solvent, lacquer or other coating/ Includes paint spray booths, electroplating, tanneries	400m Class 1	100m
Paper Manufacturing	Paper, newsprint and paperboard mills	1,000m Class 3	400m
Plastics Manufacturing	Manufacturing plastic or rubber products	500m Class 1	100m
Recycling Facilities – General	The sorting, processing, storage and transfer of recycled material (except auto parts)	900m Class 3	200m
Recycling Facilities – End-of-Life Vehicles	The sorting, processing, storage and transfer of motor vehicles	2,000m Class 5	300m
Scrap Yards	Scrap metal recyclers, auto recyclers, auto wreckers	1,500m Class 4	300m
Steel Mills	Iron and steel manufacturing	2,000m Class 5	500m
Waste Transfer Stations	The sorting, processing and transfer of waste	400m Class 1	100m
Sewage Lagoons	Sewage treatment lagoons	500m Class 1	200m

Select Major Facility	Description of Major Facility	AOI & Class	Minimum Separation Distance
Municipal and private communal wastewater facilities (small)	Facilities with a rated capacity less than 25,000 cubic metres per day	300m Class 1	100m
Municipal and private communal wastewater facilities (large)	Facilities with a rated capacity more than 25,000 cubic metres per day	1,250m Class 4	500m

\* AOI and MSD only applies to new or expanding *sensitive land use* proposals near *major facility* aggregate operations.

**2.3 How to Classify a Major Facility with No Facility-Specific AOI and MSD**

This section provides an overview of how to determine the AOI and MSD based on a class of facilities, where the specific *major facility* type is not listed in **Table 1**.

**1. Identify the type of the major facility**

**Table 2** of this Guideline provides a description and examples of *major facility* classes to serve as a guide for determining an AOI and MSD. There are 5 classes of *major facilities*.

The first step in the process of classifying is to identify the type of *major facility* and seek information to better understand its operation and potential *adverse effects*. If a *major facility* is being proposed, the facility type should be known. If a *sensitive land use* is being proposed or planned, particularly relative to a planned *employment area*, the planning authority should be consulted to advise on specific types of uses permitted under local zoning-by-laws and future development plans. Where *major facility* development plans are unknown or where the planning authority is determining an AOI for an area which contains multiple *major facilities*, the AOI for the largest scale *major facility* that could be permitted by the existing planning framework should be assumed (“worst case” scenario), unless, in collaboration with the planning authority, it is determined that certain uses are impractical in a specific area.

**2. Consider the scale and characteristics the operations**

Identify the *adverse effects* commonly associated with the type of existing or proposed *major facility* (see **Table 3**) and its operations, including:

- impacts related to the timing of operations (e.g. day-time, shift or 24-hour operations);
- fugitive emissions and vehicular emissions related to the operation;

- traffic related to the operation;
- noise, vibration and *fugitive dust* from indoor and outdoor operations (e.g. wood cutting, outdoor welding, moving stored materials);
- *adverse effects* that may result from ancillary operations (e.g. delivery of raw materials via rail cars or marine facilities, facility lighting);
- odours from indoor and outdoor operations (e.g. organic waste handling, outdoor storage for composting facilities, wastewater treatment lagoons);
- any history of complaints in the area about adverse effects.

Where available, use approval information in the existing ECA or EASR for the *major facility* (e.g. existing ECAs and EASRs) as a source of information, as they may include conditions on the timing of operations, setbacks or systems for mitigating impacts for facilities in the area. ECAs and EASR information can be accessed at the Ministry’s [Access Environment](#) site and may be useful.

Note, the level of *adverse effects* anticipated should only be assessed from day-to-day operations, not from emergency situations or spills.

### 3. Select the appropriate class

Based on available information and professional expertise, a facility class and associated AOI and MSD is then selected for a *major facility*.

The planning authority will need to be satisfied that the classification is appropriate. *Proponents* are encouraged to consult with the planning authority before proceeding further to verify that the information they are gathering will be satisfactory to them.

**Table 2 – Area of influence and minimum separation distance for classes of major facilities.**

Class	Description of Major Facility	AOI	Examples of Major Facility (see <b>Table 1</b> for more examples)	Minimum Separation Distance
Class 1	Operations with known smaller <i>adverse effects</i> .	500m	Food Manufacturing Sewage Lagoons Various EASR activities	200m
Class 2	Operations with moderate <i>adverse effects</i> . May include some outdoor operations.	750m	Manufacturing Metal and Glass Parts	300m

Class	Description of Major Facility	AOI	Examples of Major Facility (see <b>Table 1</b> for more examples)	Minimum Separation Distance
Class 3	Operations with moderate to significant <i>adverse effects</i> that may be difficult to mitigate. May include larger outdoor operations.	1,000m	Aggregate Operations (in relation to <i>sensitive land use</i> proposals)	500m
Class 4	Operations with significant <i>adverse effects</i> that may be difficult to mitigate. May include larger outdoor operations.	1,500m	Meat and meat product processes (slaughterhouses and rendering facilities)	500m
Class 5	Operations with the most significant <i>adverse effects</i> , that may be difficult to mitigate. May include larger outdoor operations.	2,000m	Chemical product manufacturing	500m

Most criteria should fall into one given category in order to classify a facility into that class. *Planning authorities* may wish to use **Table 3** to create their own set of criteria that is specific to their circumstances.

**Table 3 – Characteristics for classifying major facilities.**

CLASS 1 → CLASS 2 → CLASS 3 → CLASS 4 → CLASS 5			
IMPACTS			
<b>Noise</b>	Sound is not audible off property	Sound occasionally audible off property	Sound frequently audible off property
<b>Vibration</b>	No ground borne vibration on plant property	Possible ground-borne vibration, but cannot be perceived off property	Ground-borne vibration can frequently be perceived off property
<b>Dust (Point Source)</b>	Infrequent and not intense	Frequent and occasionally intense	Persistent and/or intense



	CLASS 1 → CLASS 2 → CLASS 3 → CLASS 4 → CLASS 5		
<b>Dust (Fugitive Emissions)</b>	Low probability of fugitive emissions	Moderate probability of fugitive emissions	High probability of fugitive emissions
<b>Odour</b>	Infrequent and not offensive	Frequent and occasionally offensive	Persistent and/or usually offensive
<b>SCALE OF OPERATION</b>			
<b>Scale of Production</b>	Small scale plant	Medium level of production allowed	Large production levels
<b>Outside Storage</b>	Minimal storage	Outside storage permitted	Outside storage of raw and finished products
<b>Process</b>	Self-contained plant or building	Outdoor storage of low to moderate amounts of wastes or materials	Outdoor storage of large amounts of wastes or materials
<b>Process Outputs</b>	Produces/stores a packaged product	Periodic outputs of minor annoyance	Frequent outputs of major annoyances
<b>Hours of Operation</b>	Daytime operations only	Shift operations permitted at times	Daily or 24 hour shift operations permitted
<b>On-site Movement</b>	Infrequent movement of products and/or heavy trucks	Frequent movement of products and/or heavy trucks with the majority of movements during daytime hours	Continuous movement of products by heavy trucks and rail cars including at night

## 2.4 How to Measure Separation Distances, AOIs and MSDs

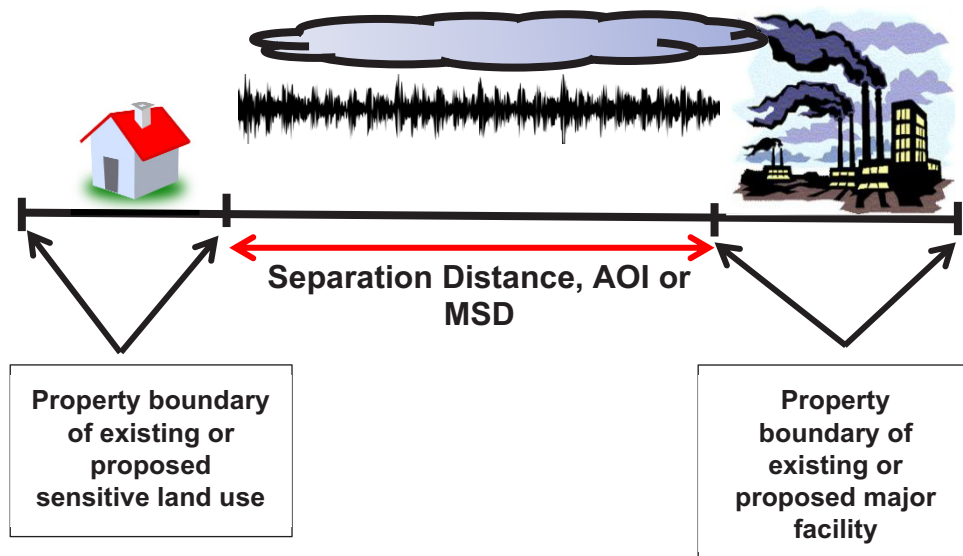
A *separation distance*, AOI or MSD is typically measured as the actual distance between the property line of a *sensitive land use* and the property line of a *major facility*.

To determine whether the proposal would result in an existing or planned *sensitive land use* within the AOI or MSD for a particular facility, the *proponent* should do the following:

- measure the current *separation distance* between the property boundary of a proposed *sensitive land use* or *major facility* to the property boundary of the existing *sensitive land use* or *major facility*; and
- determine whether the *separation distance* falls within the AOI or MSD.

Measuring the *separation distance*, AOI and MSD from the *major facility's* property boundary, instead of from the *major facility* building or source of emission, is recommended, as it will account for any future expansions that may be contemplated or new *major facilities* that may be developed within the property boundary.

However, the planning authority may allow measurement of the *separation distance*, AOI and MSD from the *major facility's* building or equipment that is the actual source of *adverse effects* as opposed to the property line. This approach could be used, for example, if the *major facility* has a *buffer area* on the property which was included in order to shield impacts of the *major facility* from adjacent uses. However, this method does not take into account any future expansions or future outdoor works such as vehicular traffic, or onsite storage and maintenance. It should only be used if the planning authority and *major facility* is agreeable and if future expansions of the *major facility* are not expected.



**Figure 4 – Measuring area of influence and minimum separation distance.**

## 2.5 What to do if Development is Proposed within an AOI or MSD

When a new or expanding *sensitive land use* is proposed within a *major facility's* AOI or MSD, or when a proposed or expanding *major facility's* AOI or MSD captures existing or planned *sensitive land uses*, the steps below apply and are the responsibility of the proponent of the planning application. See **Figure 4** and **Figure 5**.

- 1) Carry out *compatibility studies* (see **Section 2.6**).
- 2) Determine through the *compatibility studies* whether *adverse effects* to *sensitive land uses* from an existing or planned *major facility* or impacts to *major facilities* are expected. The determination must include consideration of relevant ministry standards or technical guidelines and assessments. Then:
  - a) If a *compatibility study* shows that no *adverse effects* to *sensitive land uses* or impacts to *major facilities* is expected at the proposed *separation distance* (or a revised *separation distance* based on the study), without mitigation, then no further action is required (unless the proposal is for a new *sensitive land use* located within the MSD, see c) below).
  - b) If a *compatibility study* shows that *adverse effects* to *sensitive land uses* or impacts to *major facilities* are expected at a proposed *separation distance*, mitigation measures must be identified (see **Section 3**). Implementation of identified mitigation measures must be required as part of the planning approval process, and they must be maintained over time.
  - c) If a proposed new *sensitive land use* is located within the AOI of a *major facility* and mitigation measures are identified or if a proposed new *sensitive land use* is located in the MSD of a *major facility*, a *demonstration of need* is required (see **Section 2.8**).

The *planning authority* is responsible for reviewing the documents (e.g. *compatibility studies*) prepared by the *proponent* and must be in agreement with the conclusions of the documents, before *Planning Act* approval is provided. When *adverse effects* from *major facilities* cannot be minimized and mitigated such that no *adverse effects* are expected, the *planning authority* must not permit the new development.

## 2.6 Compatibility Studies

*Compatibility studies* assess potential *adverse effects* to *sensitive land uses* and impacts to *major facilities* and recommend *separation distances* and mitigation measures to prevent *adverse effects* or impacts to surrounding land uses.

*Compatibility studies* are required when:

- a new or expanding *sensitive land use* is proposed within a *major facility's* AOI (including MSD); or
- a new or expanding *major facility* is proposed to locate where there are existing or planned *sensitive land uses* within the AOI (including MSD) of the proposed *major facility*.

*Compatibility studies* should be prepared for the *proponent* by qualified individuals with experience in preparing technical assessments. The *planning authority* is responsible for reviewing the *compatibility studies* submitted by the *proponent*, and must be in agreement with the conclusions of the documents, prior to moving forward through the planning approvals process. If in-house expertise is not available, the *planning authority* should consider having a peer review of studies at the expense of the *proponent*.

Technical guidance on preparing *compatibility studies* addressing noise, dust and odour is provided in **Appendix B**. Although this Guideline focuses on noise, dust and odour, the *planning authority* can and should require the *proponent* to avoid, minimize and mitigate any other relevant *adverse effects* that may exist (e.g. other air *contaminants*, toxins, traffic). The *planning authority* can also, at their discretion, undertake or require broader studies outside of a site-specific study, such as regional or cumulative impact modeling. This could be appropriate if there are multiple existing *major facilities* or multiple proposals for potentially incompatible development in a regional area, and the planning authority may want to assess impacts on an area-wide scale.

**Section 2.7** provides a list of the documentation that is required to be included as part of *compatibility studies*. Some of the information required for completing *compatibility studies* may not be accessible to the *proponent* due to its proprietary nature or if a *major facility* or *sensitive land use* is not able or willing to share the information. In such cases, the *compatibility study* should note the deficiencies in information, and make conservative estimates for the *separation distance* and mitigation measures to minimize and mitigate potential *adverse effects to sensitive land uses* or impacts to *major facilities*. The *planning authority* should use its discretion to ensure that the information provided is sufficient to justify the conclusions of the *compatibility study* and if not, require revision to address any noted deficiencies or if unsatisfactory, be rejected.

*Proponents* should also carry out pre-consultation with the planning authority to discuss the application and *compatibility study* requirements, including potential impacts to be considered and potential information sources. *Proponents* must also share information and contact *major facilities* or *sensitive land uses* (depending on the proposal) based on the AOI to inform the *compatibility study*. Information sharing, engagement and consultation is discussed in **Appendix C**.

## 2.7 General Documentation in Compatibility Studies

In addition to the required technical components of *compatibility studies* (**Appendix B**), the following general documentation should be provided as part of required *compatibility studies*. The information may be integrated as part of technical *compatibility studies* done specifically for noise, dust, odour or other *contaminants* or kept as a stand-alone “general documentation” piece. For *proponents* of *major facilities*, the study area would be the AOI. For *proponents* of *sensitive land uses*, the study area should be large enough to include all the *major facilities* that capture the proposed sensitive land use in their AOIs.

- i. A general site description of the study area, including the nature of any land uses within the area (e.g. numbers of units, size, type).
- ii. Detailed mapping and descriptions showing the following:
  - For proposed *sensitive land uses*:
    - the nature of the proposed sensitive land use;
    - all existing and planned *major facilities* in the study area; and
    - the *separation distance* between the proposed sensitive land use and existing and planned *major facilities*, including whether the proposed sensitive land use is captured within any AOIs and MSDs.
  - For proposed *major facilities*:
    - the nature of the proposed *major facility*;
    - all existing and planned *sensitive land uses* in the study area; and
    - the *separation distance* between the proposed *major facility* and existing and planned *sensitive land uses*, including whether any *sensitive land uses* are captured within the MSD.
- iii. Relevant excerpts from the OP and/or zoning by-law for properties in the study area, including vacant property designations or zoning, to indicate the full range of permitted uses and enable a complete assessment of potential impacts.
- iv. Classification of the *major facilities* within the study area according to the procedure described in **Section 2.2** and **Section 2.3**.
- v. Description of the engagement completed with residents or *major facility* owners within the study area, including who was contacted, how they were contacted, what opportunities were provided to provide input into the proposal and how the input was incorporated into the *compatibility study*.
- vi. The assessment(s) of the *adverse effects* being generated by each *major facility* and for proposed *sensitive land uses*, potential impacts to *major facilities*, including:

- how the potential *adverse effects* may impact *sensitive land uses* within its AOI informed by required technical assessments (**Appendix B** provides specific guidance to assess noise, dust and odour impacts); and
  - possible operational impacts (e.g. ability to expand) on existing or planned *major facilities*, where applicable.
- vii. For each *major facility* within the study area, provide information that informed the assessment(s) of *adverse effects*, such as:
- the duration, timing and types of operational activities, shipping, receiving and other transport activities, and outputs/*contaminants* associated with *major facilities*;
  - the hours of operation/normal use periods for *sensitive land uses*
  - design details and number, type and location of windows and doors in sensitive land use buildings;
  - wind patterns (predominant winds, wind roses), topography and natural and man-made barriers/*buffers* (e.g. elevation, vegetation, walls, berms, ground and surface water) in the study area;
  - any existing complaint history (where available) associated with the operation of the *major facility* (or *major facilities*) which would impact *sensitive land uses*, and any actions undertaken to address the concerns.
- viii. Description of proposed mitigation measures to address potential adverse effects or impacts, if required (see **Section 3**), when they will be implemented, and ongoing maintenance requirements. This should include a description of the extent to which a proposed development and associated mitigation may require future permissions or other authorizations from the Ministry or other ministries, such as an ECA or an EASR.
- ix. Conclusions, including the following:
- Whether the proposed *sensitive land use* is expected to experience *adverse effects* from the nearby *major facilities*, the proposed *major facility* is expected to have *adverse effects* on the nearby *sensitive land uses*, or the proposed *sensitive land use* is expected to have impacts on nearby *major facilities*.
  - A recommendation of whether the proposed development should move forward based on the analysis completed in general documentation and technical studies.
  - A proposed *separation distance* from the proposed use to the *major facilities* or *sensitive land uses* within the study area, whichever is applicable, and within which *adverse effects* or impacts would not be expected. This should be provided both without mitigation measures and, if any are necessary, with proposed mitigation measures implemented.

## 2.8 Demonstration of Need

A *demonstration of need* is an assessment that determines whether there is an identified need for the proposed use in the proposed location and evaluates alternative locations for the proposed use if avoidance is not possible. This assessment is only required for *proponents of sensitive land uses*.

A *demonstration of need* is required to be carried out by a *proponent* of a *sensitive land use* when:

- a *new sensitive land use* is proposed within a *major facility's* AOI and mitigation measures would be needed to ensure no *adverse effects* or potential impacts; or
- a *new sensitive land use* is proposed within a *major facility's* MSD (regardless of whether mitigation measures are assessed to be needed or not).

The information required to be reported in a *demonstration of need* must accompany the *compatibility study* and can be included as part of existing municipal planning documents such as planning justification reports.

The *planning authority* must review the *demonstration of need* provided by the *proponent* and must be satisfied that the report is complete and with the analyses and conclusions presented. In respect of the *demonstration of need*, and in addition to the other compatibility tests associated with approving a proposal, the *planning authority* must only permit the proposal if they are satisfied that there is an identified need and sound planning rationale for the proposed use in that location, and that alternative locations or areas for the proposed use have been evaluated and there are no reasonable alternative locations or areas.

The *demonstration of need* should include the following:

1. Demonstrate that there is a need for the proposed use in that particular location. This includes answering the following questions:
  - a. Do policies and objectives in the planning authority's applicable planning documents (such as OPs) and relevant provincial policies and plans (e.g. PPS, A Place to Grow) support locating the use in the proposed location? For example, consider policies/objectives related to complete communities, housing diversification, and community amenities.
  - b. Are there demographic considerations, such as expected land supply, housing strategy, and forecasted growth or growth targets in population or employment, that would support the use in the proposed location?
  - c. How will the proposed use, in its proposed location, support the community or other existing uses in the area? For example, does it provide necessities for daily living, including an appropriate mix of jobs,

local stores, and services, a full range of housing and transportation options and public service facilities?

- d. Are there community amenities and infrastructure (i.e. transportation, servicing) available to support the use?
  - e. Is the proposed use to be located within a designated strategic growth area which by nature should include multiple types of uses, such as an MTSA (within the Greater Golden Horseshoe growth plan area) or nodes and corridors generally?
2. Identify other locations in the municipality that have been designated and zoned specifically for this use and explain why they have not been chosen for the proposed use.
  3. Provide a list of at least two alternative locations that have been considered outside of the *major facility's* AOI and for each, discuss whether they would be appropriate for this use as compared to the preferred location. This discussion should address the same questions presented in #1a-e.
  4. Identify other potential uses for this particular site that would not be considered incompatible and explain why they have not been chosen for the proposed location.
  5. The conclusion of the demonstration of the need should discuss why the proposed use in the proposed location is the best option, having considered the answers to the questions presented in #1a-e.

Note: unless the proposal relates to an expansion of an existing use, current ownership of property is not a factor that should be considered within the *demonstration of need*.



## 2.9 Decision Tree for Land Use Compatibility

The following figure is a visual representation of the process outlined in **Section 2.5**.

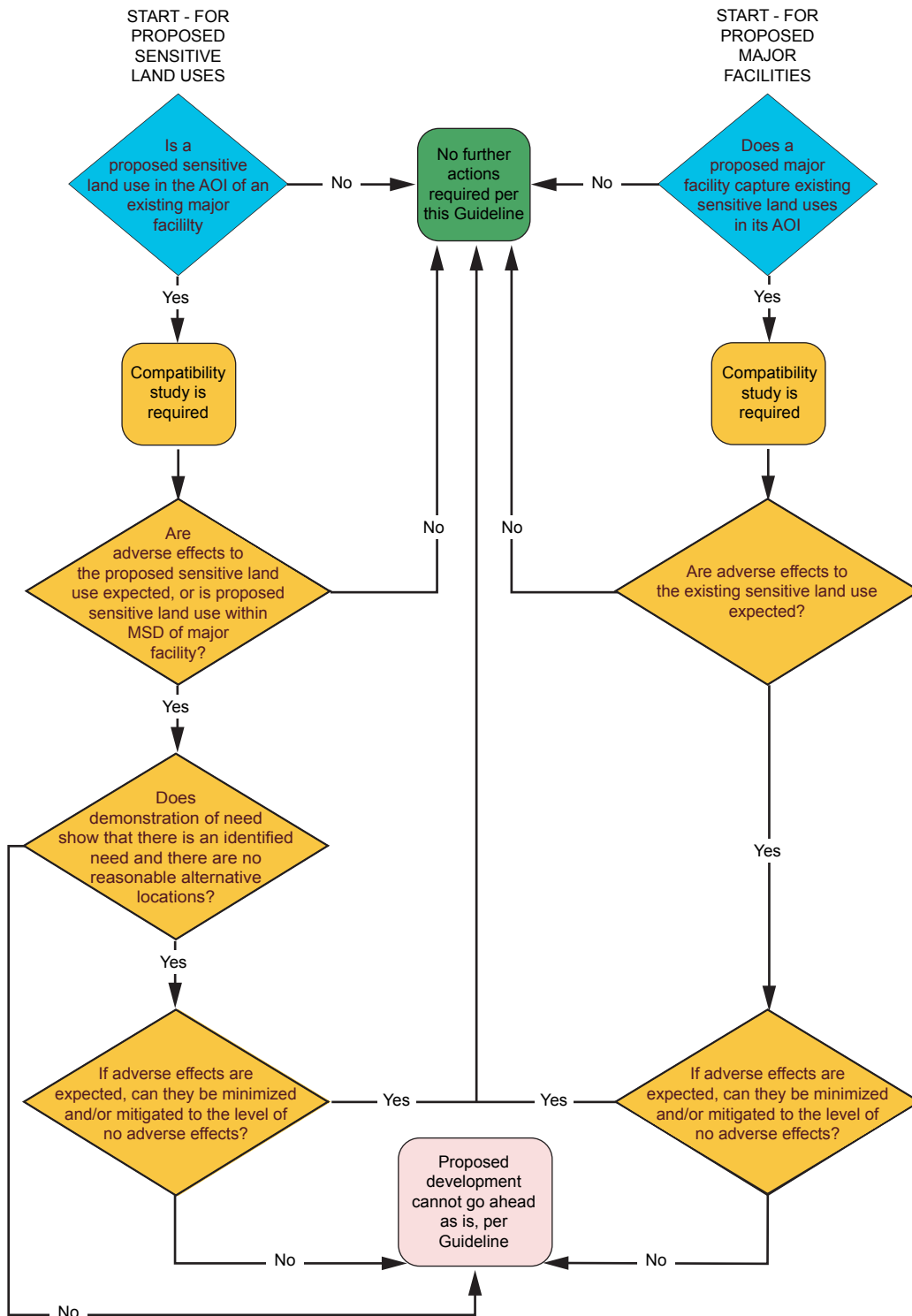


Figure 5 – Decision tree for land use compatibility.

### 3. MITIGATION

Avoidance, through separation of land uses, is the preferred approach to prevent land use compatibility issues and must be used wherever possible to avoid land use compatibility impacts. In many situations, including most greenfield development and outside *settlement area* situations, it is expected that separation can be achieved. As per policy 1.2.6.1 of the PPS, where avoidance is not possible, and potential impacts are minimized as much as possible through separation, mitigation measures for *adverse effects* will be needed in order for a proposed development to go forward. Mitigation measures are methods that can be used to prevent *adverse effects* arising from a *major facility* after separation has been maximized.

The type of mitigation required will depend on the type and severity of potential *adverse effect(s)* as well as operating requirements of the facility. This section provides information on the types of mitigation that could be used to address compatibility issues between land uses.

Mitigation measures will likely require discussions and negotiations between the *proponent of a sensitive land use* and the *major facility*. *Planning authorities* can facilitate discussions between the *proponents* of development (*sensitive land uses* or *major facilities*) and existing property owners/operators. The discussions should focus on:

- Can the *sensitive land use* be introduced subject to mitigation?
- What type(s) of mitigation should be put in place?
- Who has responsibility for ongoing inspection and upkeep of mitigation measures as needed?
- Who will pay for the mitigation measures?
- How will implementation of mitigation measures form part of planning approvals or other legal agreement?

It is the *proponent's* responsibility to demonstrate the effectiveness of any proposed mitigation measure to the satisfaction of the planning authority. *Planning authorities* should also ensure that any mitigation measures put in place are in compliance with provincial requirements.

An assessment of the different types of recommended mitigation measures (if needed) to minimize and mitigate *adverse effects* to *sensitive land uses* from *major facilities* must form part of a *compatibility study*. Where appropriate, *proponents* should begin discussing possible mitigation measures with affected landowners, *planning authorities* and relevant provincial staff early in the planning process. Part of this assessment could include a scan of mitigation measures being used at similar *major facilities* and which have been determined to be effective.

The below sections provide discussion on mitigation, and examples of it, but technical documents including [NPC-300](#), Environmental Noise Guideline–Stationary and Transportation Sources–Approval and Planning, and the draft Odour Guideline provide additional considerations and examples.

### 3.1 At-Source Mitigation

Mitigation at-source is mitigation that is used at a *major facility* to decrease *adverse effects* from its operations. Mitigation at-source is typically more effective than mitigation at-receptor.

Examples of at-source mitigation can include:

- installation and maintenance of emission mitigation equipment such as:
  - filters on exhausts to reduce air emissions;
  - air scrubbers to reduce air emissions; and
  - silencers to reduce noise;
- process or chemical changes for manufacturing facilities;
- enclosures for outdoor operations to reduce off-site noise, dust and odour;
- orientation of new buildings to reduce noise and mitigate bright lighting;
- physical placement of outdoor operations away from *sensitive land uses* to reduce *adverse effects*;
- installation of vibration pads to reduce vibration from stamping presses and forging hammers; and
- installation and maintenance of emission mitigation equipment such as filters on exhausts to reduce air emissions.

### 3.2 Operational Mitigation

Operational mitigation is a type of at-source mitigation which includes changes made to a *major facility's* existing operations to reduce adverse effects.

Examples of operational mitigation can include:

- wheel washing stations to reduce *fugitive dust*;
- limiting noisy operations to day-time hours;
- use of alternate truck routes;
- outdoor storage of waste materials in closed containers; and
- broad band reverse warning alarm systems for trucks reversing.

### 3.3 At-Receptor Mitigation

At-receptor mitigation refers to mitigation that would minimize and mitigate *adverse effects* at the receptor and is located at the *sensitive land use* (e.g. an acoustic barrier on residential lands, triple-glazed windows, etc.). This type of mitigation is dependent on long-term maintenance by individual owners or operators of a *sensitive land use*. Where at-receptor mitigation is proposed, long-term maintenance should be ensured.

It should be recognized that these individuals may not have been part of planning decisions and may not be aware of the importance of this mitigation to minimize *adverse effects*. For this reason, where at-receptor mitigation is used, it is recommended that *warning clauses* or notices on title be registered to inform future buyers of the potential for *adverse effects* and the need to maintain the mitigation (for more information on *warning clauses*, see **Section 4.3.2** of this Guideline).

At-receptor mitigation may be implemented on the property of the receptor or directly on a building.

Examples of at-receptor mitigation include:

- building orientation to direct exposed areas away from source;
- laying out the site such as that receptor is furthest away from source;
- at-property berm/acoustic barrier;
- enclosed areas that act as noise *buffer*;
- acoustic barriers on building;
- fixed/inoperable windows;
- restriction to rooftop gardens/terraces;
- protection of indoor air quality through centralized heating/air conditioning systems with air intake appropriately located away from odour sources;
- individual heating/air conditioning systems associated with each residential unit equipped with carbon filters; and
- locating air intakes well above grade.

At-receptor mitigation is not recognized by the Ministry to mitigate odour and dust impacts. However, at-receptor mitigation is recognized by the Ministry as mitigation for noise only in the ECA application review process if the area is designated as “Class 4” under [NPC-300](#).

### 3.4 Buffers

*Buffers* are a mitigation measure which involves a barrier used to prevent or minimize the *adverse effects* of incompatible land uses. Note that *buffers* which may be satisfactory for the control of noise may not be adequate for dust, odours, or gaseous air *contaminants*. A berm or wall may have little or no effect on these, and distance is often the only effective *buffer*.

It should be noted also that narrow strips of plantings, trees or shrubs, and privacy fences may have little or no actual effect with regard to the reduction of noise or air pollution. These *buffers* may provide limited benefit, however, through screening the source from view and lessening the perceived impact.

Examples of *buffers* include:

- fences and walls;
- berms;
- vegetation/landscaping/treed areas;
- parking lots; and
- a land use that is different from the two conflicting ones but compatible with each of them.

### 3.5 Phasing

In some cases, phasing or sequencing of development may be able to mitigate *adverse effects* between users. If a *major facility* will be changing to operations with fewer and/or less impactful effects or relocating, development may be approved sequentially. If possible, development approvals could be timed so that *sensitive land uses* closest to a *major facility* are not developed until after the operation has changed or moved.

### 3.6 Effectiveness and Limitations of Mitigation Measures

Mitigation measures are specific to the current *major facility* and *sensitive land use*, and are to be based on the facility's scale and design, and the duration, frequency and the type of *discharges/impacts*.

To be effective, the mitigation measure should be appropriately designed, constructed and maintained, bearing in mind the overall intended purpose. The measure should permit the normal functioning of the two incompatible land uses without conflict.

### 3.7 Requirements for Mitigation

When mitigation is required to meet the land use compatibility requirements of the PPS and A Place to Grow, legal requirements to have mitigation implemented, and then maintained as necessary, should be in place. The legal requirements must apply to the person responsible for implementation and any costs (if applicable), and if necessary, ensure maintenance for any required mitigation measures in the long-term. Typically, legal requirements would be addressed through agreements and conditions applied directly on a given land use planning approval.

For a range of planning approvals, conditions with respect to mitigation can be applied as pre-approval conditions. Further, in many cases, a legal agreement can be used to apply conditions that would be fulfilled following approval, including maintenance of mitigation measures. A range of legal agreements are possible under the *Planning Act*, including agreements entered into as part of a condition on the approval of plans of subdivision, plans of condominium, consents/severances, site plan control, and the issuance of a permit under the Community Permit Planning System (CPPS). *Planning authorities* are responsible for ensuring available approvals and agreements can ensure implementation and maintenance of mitigation measures. See **Table 4** for more general discussion on the use of planning approvals in land use compatibility.

It is possible that not all of the mitigation measures that will ultimately be needed will be confirmed or implemented at the planning approval stage. In these situations, when the planning authority is reviewing the proposed development, if any necessary mitigation measures are not confirmed on the basis of a planning approval, the planning authority should still be satisfied that the mitigation is feasible and will be addressed through a later approval (e.g. ECA if applicable). Note that the use of a subsequent ECA as a mechanism for mitigation would only apply in relation to a proposal for a *major facility* and to require at-source mitigation implemented by a *major facility* subject to an ECA. A new or amended ECA cannot be assumed in relation to a planning approval for a new *sensitive land use*.

Where mitigation measures are proposed to be implemented by a party other than the *proponent* of a proposal to enable that proposal to proceed, implementation of those measures should be complete as a condition of approval, and if necessary, agreements should be in place to ensure operation measures are implemented and to ensure all measures are maintained. It is a best practice to consider three party agreements (*major facility*, *sensitive land use*, and planning authority) where appropriate.

In some cases, agreements must be able to bind subsequent landowners (be registered on title) to ensure ongoing implementation of measures. Agreements may also be used to achieve the placing of warning clauses on title where, for example, ongoing nuisance effects may be expected at a property (see Warning Causes in **Section 4.3.2**).

Agreement(s) must be legally enforceable, signed by key parties, and should:

- Outline the short-term and long-term responsibilities of each party (e.g. developer, *major facility*, planning authority etc.), including but not limited to financial and operational responsibilities.
- Only assign responsibilities for fulfilling conditions to parties that are signatories to the agreement.
- Outline responsibilities for obtaining planning approvals and ECAs (and other environmental permissions) that may be needed.
- Outline who is responsible for undertaking the studies and associated costs for the approval applications, studies (including hiring qualified individuals), mitigation measures, monitoring, etc.
- Provide for registration on title, as necessary, to bind subsequent property owners, and to provide for *warning clause* to be placed on title as necessary.
- Outline responsibilities and expectations for consultations between parties and with the public.
- Safeguard any confidential information from the facility that may be required.
- Provide confirmation in writing that any required mitigation measures are implemented and maintained, and a description of how mitigation measures will be implemented and maintained.
- Be adaptable to future change, such as in situations where business operations at a *major facility* change and there is a need for new mitigation measures.

### 3.8 Compliance

*Planning authorities* and the Ministry have roles in ensuring compliance with conditions of planning approvals and environmental permissions, respectively. The EPA gives the Ministry the authority to respond to concerns about impacts from land use compatibility issues (i.e. potential *adverse effects*) as appropriate. A risk-based approach\* is used by the Ministry to address known and potential violations of the law and risks to the environment or human health. Per its compliance framework, the Ministry may refer incidents related to compatibility issues that stem from planning decisions to a more appropriate level of government or agency (e.g. municipality).

It is important to note that after a *major facility* has obtained its necessary planning approvals to be located in an area that may be close to a *sensitive land use* (e.g. a residential development), or vice versa where a *sensitive land use* was approved close to an existing facility, the tools available to the Ministry to deal with *discharges* of *contaminants* from that facility, as well as technical solutions may be limited. For example, when responding to a complaint from residents situated close to such a facility, the Ministry may only require the facility to take compliance actions to reduce

the *discharge* of a *contaminant* where it is reasonably believed action is required to bring the facility into compliance with the EPA. If the Ministry determines that a *major facility* is in compliance with all ministry requirements and standards under the EPA and the *major facility* is using available technology to mitigate potential impacts, additional compliance actions may not be possible or required. This may result in a situation where the *sensitive land use* has to co-exist with minor impacts from the *major facility* over the long-term and subsequent complaints about *adverse effects* (e.g. noise, dust and odour) may be directed to the municipality.

In relation to existing *major facilities* that may be receiving complaints, a key responsibility of *major facilities* is effective responses to complaints. For all *major facilities*, when there are complaints, the *major facility* should respond in a way to help prevent potential need to revise an environmental permission (if applicable) or be subject to compliance from either the Ministry or municipality.

\* For more information on the Ministry's approach to compliance and enforcement see [Compliance Policy: Applying Abatement and Enforcement Tools](#).



*Part C: Incorporating Land Use  
Compatibility into Planning Tools*

## 4. IMPLEMENTATION AND PLANNING TOOLS

*Planning authorities* must implement the policies related to land use compatibility and *employment areas* of the PPS and similar policies in A Place to Grow (see **Appendix A**). This section provides information on how to incorporate land use compatibility policies and approaches into various existing tools and approvals under the *Planning Act* and other legislation, including through OP policies and designations, secondary plans, zoning by-laws and other planning approvals. *Planning authorities* will need to integrate land use compatibility, protection of *employment areas* (which are recognized as having value for employment), and development and *intensification* in implementing these policies.

### 4.1 Planning Tools

**Table 4** describes how key tools under the *Planning Act* can be used to enable land use compatibility. The purpose of **Table 4** is not to provide foundational information on how land use planning approvals work. For guidance on this, see the [Citizen's Guides to Land Use Planning](#) and other materials developed by MMAH.

To the fullest extent possible, land use compatibility issues should be reconciled at the OP and zoning stage. It is expected, generally, that there is opportunity to avoid incompatible uses when planning for future industrial *employment areas* and surrounding non-employment uses. While conditions related to land use compatibility and mitigation can be integrated as part of the approval process for site-specific planning tools (such as plans of subdivision), decisions on these types of applications are usually one of the last steps of the planning process, before a building permit may be given. Accordingly, zoning which is done earlier in the land use planning process, should be used as much as possible to ensure potential *adverse effects* are avoided and minimized.

**Table 4 – Addressing land use compatibility in key planning tools**

<p><b>Planning Tool, Purpose and Information</b></p>	<p><b>Addressing Compatibility</b></p>
<p><b><u>Official Plan (OP)</u></b></p> <p>The OP is the most important tool for implementation of the PPS, achieving comprehensive, integrated and long-term planning, and for expressing the community’s land use vision for growth and development.</p> <p>The OP should be the first mechanism used to implement compatibility policies.</p>	<ul style="list-style-type: none"> <li>• To meet PPS and provincial plan policies, OPs need to include clear policies that address land use compatibility and should provide direction using the guiding hierarchy (<b>Figure 1</b>).</li> </ul> <p><i>General Policies</i></p> <ul style="list-style-type: none"> <li>◦ Addressing and making explicit reference to policies of the PPS and A Place to Grow related to land use compatibility and the conversion of land in <i>employment areas</i> as appropriate (see <b>Appendix A</b>).</li> <li>◦ Including clear definitions of <i>sensitive land uses</i>, <i>major facilities</i>, and <i>adverse effects</i> and other key terms (e.g. AOIs and MSDs), which are consistent with this Guideline and provincial policies.</li> <li>◦ Incorporating the AOIs and MSDs provided in this Guideline as appropriate, and policies related to both AOIs and MSDs (Note: if an OP identifies an AOI, it can be the AOI recommended by the Ministry, or an alternate AOI for a specific location that is determined through studies during the OP review or amendment process).</li> <li>◦ Making explicit reference to provincial guidelines, standards and procedures for land use compatibility, including this Guideline and successor documents.</li> </ul> <p><i>Policies to avoid/separate incompatible land uses</i></p> <ul style="list-style-type: none"> <li>◦ Identifying the need to protect <i>major facilities</i> and avoid land use compatibility issues between them and <i>sensitive land uses</i>.</li> <li>◦ Providing clear and distinct land use designations in appropriate locations which separate incompatible land uses (e.g. place <i>sensitive land uses</i> outside AOIs).</li> </ul>

Planning Tool, Purpose and Information	Addressing Compatibility
<p><b>Official Plan (OP)</b> (continued)</p>	<ul style="list-style-type: none"> <li>◦ Prohibiting <i>sensitive land uses</i> adjacent to existing <i>major facilities</i> if <i>adverse effects</i> from these <i>major facilities</i> cannot be mitigated.</li> <li>◦ Designate adjacent land uses that will serve as a transition area between <i>major facilities</i> and <i>sensitive land uses</i> and that are compatible with both uses.</li> <li>◦ Strongly discouraging proposals for incompatible land uses within an MSD.</li> </ul> <p><i>Policies to assess impacts</i></p> <ul style="list-style-type: none"> <li>◦ Establishing requirements for pre-consultation with the planning authority (may also include pre-consultation with relevant owners of <i>major facilities/sensitive land uses</i>).</li> <li>◦ Including <i>compatibility studies</i> as part of complete application requirements when development is proposed within an AOI.</li> <li>◦ Specifically requiring a <i>demonstration of need</i> as part of a proposal for a <i>sensitive land use</i> when: 1) development is proposed in the AOI and mitigation measures would be needed; and 2) when development is proposed in the MSD</li> <li>◦ Evaluating, through a comprehensive review under the PPS or <i>municipal comprehensive review</i> under ATPG, where applicable, applications to convert <i>employment areas</i> to other uses.</li> </ul> <p><i>Policies that mitigate impacts</i></p> <ul style="list-style-type: none"> <li>◦ Stipulating clearly when mitigation may be required per the results of a <i>compatibility study</i>.</li> <li>◦ Providing examples of mitigation measures as outlined in <b>Section 3</b> of this Guideline.</li> <li>◦ Providing direction to ensure that mitigation is implemented, maintained and monitored.</li> </ul>

<b>Planning Tool, Purpose and Information</b>	<b>Addressing Compatibility</b>
<p><b><u>Official Plan (OP)</u></b> (continued)</p>	<ul style="list-style-type: none"> <li>• In two-tier municipalities (upper-tier and lower-tier) both levels need to have policies supporting early consideration of land use compatibility.</li> <li>• OPs should identify or designate areas with existing or planned <i>major facilities</i> and identify associated AOIs (or alternate AOIs) and MSDs for these facilities to identify where impact assessment studies will be triggered. Can be shown on a land use schedule, possibly as an overlay.</li> <li>• OP reviews should examine current and future industrial and residential land use designations, needs and compatibility issues</li> </ul>
<p><b><u>Official Plan Amendments (OPAs) and Secondary Plans</u></b></p> <p>OPAs are used for policy changes, site-specific changes to land use designations and any site-specific policies that will apply.</p> <p>Secondary Plans address a smaller geography, in greater detail than municipality-wide OPs.</p>	<ul style="list-style-type: none"> <li>• The guidance provided for OPs also generally applies to any OPA or Secondary Plan that will have the effect of introducing <i>sensitive land uses</i> in close proximity or adjacent to industrially-designated areas or <i>employment areas</i> where there are existing or planned <i>major facilities</i>.</li> <li>• <i>Sensitive land use</i> that may limit the type of permitted uses in industrial/<i>employment areas</i> should not be considered.</li> <li>• Provide specific references to assessing land use compatibility in accordance with this Guideline in OPAs and Secondary Plans.</li> <li>• Consider timing of redevelopment (including potential for phasing) for cases where <i>major facilities</i> are located in areas for redevelopment, including brownfields redevelopment.</li> </ul> <p>For secondary plans, locate uses with greater potential for compatibility issues with existing or planned uses at the edges of a proposed development area, if possible.</p>

Planning Tool, Purpose and Information	Addressing Compatibility
<p><b><u>Zoning By-Laws and Zoning By-Law Amendments</u></b></p> <p>Identify permitted uses, setback requirements, etc., that achieve intended outcomes of OP designations and policies. Regulate the types of <i>major facilities</i> and <i>sensitive land uses</i>, as well as standards such as setbacks from property lines. Must conform to the OP/ Secondary Plan designation for that property.</p> <p>Note – This Guideline can apply to minor variance decisions made by committees of adjustment under the <i>Planning Act</i>.</p>	<ul style="list-style-type: none"> <li>• Keep zoning by-laws up-to-date to avoid conflicts with OP policy direction.</li> <li>• Impose property-specific zoning to require on-site <i>buffers</i> (or other mitigation measures) identified by a <i>compatibility study</i> (e.g. through zoning by-law setback requirements, but the provision of very deep lots would likely be necessary).</li> <li>• Where an AOI has been identified based on existing industrial land uses restrict, through zoning and any other available means, the types of future industrial uses that can occur, so that they are compatible with the AOI used.</li> <li>• Including on-site <i>buffers</i> in the measurement of the <i>separation distance</i> is generally discouraged due to potential future expansions of the existing development.</li> <li>• Use zoning by-law amendments as an opportunity to confirm land use compatibility with proposed, existing and planned land uses in the area.</li> <li>• Zoning by-law amendment application that would introduce a potentially incompatible use must require a <i>compatibility study</i> as part of the complete application.</li> <li>• Note that traditional zoning cannot be applied with conditions, and so other mechanisms to ensure compatibility may be required.</li> </ul>

<b>Planning Tool, Purpose and Information</b>	<b>Addressing Compatibility</b>
<p><b><u>Holding By-laws and Interim Use By-laws</u></b>            (Section 36 and 38 of the <i>Planning Act</i> respectively)</p> <p>Enables a municipality to place a hold on development until certain conditions are met or can restrict the nature of land use until certain conditions are met.</p> <p>The OP must include policy to allow the use of holding by-laws or interim control by-laws.</p>	<ul style="list-style-type: none"> <li>• Use Holding By-Laws to place a hold on development until <i>compatibility studies</i> and mitigation (as may be needed) are completed.</li> <li>• Use Interim Use By-Laws to put a temporary hold on development while <i>compatibility studies</i> are completed, mitigation measures are confirmed and agreements in place to ensure implementation.</li> </ul>
<p><b><u>Site Plan Control</u></b>            (Section 41 of the <i>Planning Act</i>)</p> <p>Gives planning authorities the ability to control various aspects of how a particular property is developed and to regulate various features on a specific site.</p> <p>To use site plan control, the OP must include policies defining the site plan control area, which can be all or part of a municipality, and then a site plan control by-law must be developed under the <i>Planning Act</i>.</p> <p>Most often used for non-residential properties or for single residential properties containing more than a handful of units.</p>	<ul style="list-style-type: none"> <li>• Site plan control offers the ability to control certain external building, site and boulevard design matters, and requires drawings to be completed that includes the location, design and shape (massing) of buildings, the layout of parking and service areas, public access areas, landscaping, paving materials and street furniture – these aspects should consider compatibility.</li> <li>• Use conditions of approval to require mitigation measures (e.g. noise attenuation walls, enhanced fencing for <i>amenity areas</i>, berms, enhanced landscaping and triple-glazed windows). These can include conditions to protect adjoining lands.</li> <li>• Use conditions of approval to require agreements to ensure that the conditions described above are implemented, and which may be registered on title.</li> </ul>

Planning Tool, Purpose and Information	Addressing Compatibility
<p><b><u>Plans of Subdivision/ Condominium</u></b></p> <p>Plans of subdivision are used to divide a defined area of land into lots or blocks. Condominium plans are similar in that they are a way of dividing property.</p> <p>Approval of plans of subdivision under the <i>Planning Act</i> (and plans of condominium under the <i>Condominium Act</i>) have two steps of approval: draft plan approval, which gives the proposal approval in principle subject to a number of specific conditions being fulfilled (e.g. berm creation to attenuate noise); and final approval. When all conditions of the draft approval have been met, final approval is given, and the plan of subdivision may be registered. The developer may then go ahead with the sale of lots in the subdivision.</p> <p>Of specific relevance to land use compatibility, plans of condominium can also be used to apply conditions.</p>	<ul style="list-style-type: none"> <li>• Consider forms of residential development in which noise, dust and odour impacts can be better controlled at the <i>sensitive land use</i> (e.g. condominium buildings where balconies are oriented away from sources of impacts).</li> <li>• Require the completion of a <i>compatibility study</i> (when needed in accordance with this Guideline) as part of complete application.</li> <li>• Use conditions of approval to require mitigation measures, if needed.</li> <li>• Use agreements to implement and maintain required mitigation measures beyond plan approval.</li> <li>• Plans of subdivision can be used to lay out land uses in a way to avoid incompatibility and provide <i>buffers</i> between <i>sensitive land uses</i> and any existing or permitted <i>major facilities</i> (i.e. locating non-<i>sensitive land uses</i> within AOIs, while locating <i>sensitive land uses</i> beyond AOIs).</li> <li>• Draft approvals can require <i>warning clauses</i> to be registered on title to advise that proximity to certain facilities may impair full enjoyment and use.</li> <li>• The formal registration of either plan (with Ontario’s land registration system) can contain additional binding requirements on subsequent owners of any parcel or on the condominium corporation by registration of them on the title of the land. Certain conditions may be specified as needing to be satisfied before a building permit for a particular building is issued.</li> </ul>



Planning Tool, Purpose and Information	Addressing Compatibility
<p><b><u>Plans of Subdivision/ Condominium</u></b> (continued)</p>	<ul style="list-style-type: none"> <li>• In cases where an applicant applies for site plan approval of a development which will later be subject to a plan of condominium and in which compatibility issues may exist which were not addressed at the zoning by-law stage, the planning authority may require the developer to also apply for plan of condominium approval at the same time since the plan of condominium process provides greater opportunity for attaching binding requirements related to compatibility.</li> <li>• In unorganized territories, the subdivision/ condominium process may be the first point that land use compatibility is assessed, and so <i>compatibility studies</i> may need to be completed before draft approval is given.</li> </ul>
<p><b><u>Consents/Severances</u></b> (Section 53 of <i>Planning Act</i>) Authorized separation of a piece of land to form a new lot or a new parcel of land.</p>	<ul style="list-style-type: none"> <li>• Use conditions of approval to require mitigation that can be registered on title.</li> <li>• Before granting a consent, ensure any condition requirements are met within the application stage; hence any required studies (like <i>compatibility studies</i>) would be submitted up-front instead of when the application is received for formal approval and provisional consent has already been given.</li> <li>• In territories without municipal organization, the consent process may be the first point at which land use compatibility is addressed, therefore it is important that these applications be assessed for noise, dust, odour and other issues that may lead to <i>adverse effects</i> through <i>compatibility studies</i>, before possibly moving forward, if needed.</li> </ul>

<b>Planning Tool, Purpose and Information</b>	<b>Addressing Compatibility</b>
<p><b><u>Community Planning Permit System (CPPS)</u></b></p> <p>The CPPS is a discretionary land use planning tool that municipalities can apply to their entire municipality or to certain neighbourhoods or areas. Municipalities can also tailor the CPPS to meet their local needs as long as they meet legislative and regulatory requirements.</p> <p>It is a streamlined process: the CPPS combines zoning, site plan and minor variance processes into one application and approval process with shorter approval timelines.</p> <p>To use the CPPS, a municipality must adopt an OPA for the CPPS area, pass a community planning permit by-law (developed at same time or after the OPA), and issue community planning permits once the system is in place.</p>	<ul style="list-style-type: none"> <li>• The community planning permit by-law contains a list of permitted uses and development standards, but could also contain other elements not found in a traditional zoning by-law such as: land uses that are allowed subject to certain criteria, classes of development, or uses of land exempt from requiring a permit.</li> <li>• Where the application would result in the introduction of a potentially incompatible land use, require <i>compatibility studies</i> as part of complete application requirements for a community planning permit.</li> <li>• Use conditions of approval to require mitigation measures and/or monitoring to ensure mitigation measures are maintained over time (conditions can be placed on development, both pre-approval and post-approval).</li> <li>• Use discretionary uses that are permitted subject to specified criteria being met. For example, an industrial use could be permitted if: <ul style="list-style-type: none"> <li>◦ Criteria are met including that the <i>Planning Act</i> application meets land use compatibility guidelines; accordingly, to meet this Guideline, a <i>compatibility study</i> would be needed.</li> <li>◦ Conditions are met prior to issuing a permit: for example, the proposal addresses recommendations of the <i>compatibility study</i> (e.g. adequate buffering/landscaping to mitigate noise)</li> <li>◦ Conditions attached to a permit: For example, ongoing presence of landscaping used for noise mitigation or monitoring and upkeep of onsite mitigation measures to meet performance standards.</li> </ul> </li> </ul>

## 4.2 Overarching Mechanisms and Considerations

### 4.2.1 Complete Planning Application Requirements

In addition to the minimum planning application requirements set out under regulations under the *Planning Act*, municipalities and planning boards can establish their own list of additional information or material required for land use planning applications, including OPAs, zoning by-law amendments and subdivision, condominium and consent applications. When a municipality/planning board requires additional information as part of a complete application, this must be identified in OP policies.

*Planning authorities* must identify *compatibility studies* (and a *demonstration of need*, where applicable, required in relation to a proposed *sensitive land use*, see section 2.8) to be submitted as part of a complete land use application for the development of new *sensitive land uses* or new/expanding *major facilities* within an AOI. Within the MSD, studies are even more important, and mitigation would be expected in many cases.

*Proponents* should review this Guideline and consult with *planning authorities* and other relevant agencies when considering a *Planning Act* approval involving new *sensitive land uses* or new *major facilities*. Part of this early consultation should include a discussion of what may be required to evaluate the compatibility of the proposal with existing and planned uses in the AOI. Mapping, for example, that includes existing and former land uses with potential compatibility issues (e.g. active and closed landfill sites) would be a key tool to avoid locating *major facilities* or *sensitive land uses* where compatibility may be an issue.

*Planning authorities* typically provide and often publish online pre-application checklists for *proponents* to ensure that their application has considered legislative and regulatory requirements. This would be an appropriate place to list *compatibility studies*.

### 4.2.2 Transitional Land Uses

Transitional land uses are land uses that are compatible with *major facilities* and *sensitive land uses* and can be located between the potentially incompatible uses and *buffer* any impacts between them.

Planning for transitional land uses is required by PPS policy 1.3.2.3, which indicates that *employment areas* planned for industrial or manufacturing uses should include an appropriate transition to adjacent non-*employment areas*.

Accordingly, transitional land uses should be planned for where needed as part of developing or amending an OP, secondary plan or zoning by-law. The designation

and zoning of appropriate transitional land uses should be considered irrespective of whether an on-site *buffer* area is used as part of the *separation distance*.

To the fullest extent possible, existing or proposed heavier industrial uses should be buffered from existing or proposed *sensitive land uses* by lighter industrial uses, rights of way, and other land uses that may not be sensitive in that context (e.g. warehousing, various commercial uses that relate to types of industries or the neighbouring lands, and roads). Buffering should allow for *sensitive land uses* to be located outside of the AOI to the fullest extent possible. If there is intention to use commercial or office uses as a transitional land use, a qualified individual should be hired to determine if such uses can be considered a transitional land use.

#### **4.2.3 Considerations for Infill and Intensification Scenarios**

It is recognized that locating *sensitive land uses* outside AOIs and MSDs may be more complicated to achieve in areas undergoing infill and *intensification*, including areas planned for mixed-use development, such as MTSA as defined in A Place to Grow. In these scenarios, compatibility still needs to be addressed and it is important that the key direction and recommendations of this Guideline are followed (e.g. use of mitigation as needed), including the following:

- Ensuring that OP policies and zoning by-laws are up-to date, clearly factor compatibility into designations and permitted uses, and require compatibility to be addressed.
- An area-based approach to planning, including the use tools such as secondary plans, is encouraged to resolve potential compatibility issues through broader planning processes, instead of individual planning applications.
- The zoning is use-specific (i.e. only the existing or proposed industrial or *sensitive land use* is permitted), or planning considerations are based on the “worst case scenario” based on permitted uses in the industrial zoning by-law.
- Within *employment areas*, keep *major facilities* separated from other employment uses, and any *sensitive land uses* should only be permitted mixed with low-impact employment uses and where compatibility can be achieved. Note that per PPS policy 1.3.2.3, within employment areas planned for industrial or manufacturing uses, planning authorities shall prohibit residential use and prohibit or limit new *sensitive land uses* that are not ancillary to the primary employment uses. Any sensitive land uses in these areas continue to be subject to compatibility policies requiring *adverse effects* to be avoided or minimized and mitigated, and impacts on *major facilities* to be avoided.

- Holding by-laws and interim control by-laws are used, if needed. These can be relevant in areas of *intensification* and infill because they can hold development until *compatibility studies* are completed and/or mitigation (as needed) is undertaken.
- When industry is being phased out as part of a large-scale plan (e.g. a secondary plan to transition from historical industrial areas to other uses), redevelopment and/or *infilling* should be staged to coincide with the closure of those industries which create a significant impact on the proposed *sensitive land use(s)*.
- Planning is done for transitional land uses per PPS policy 1.3.2.3. Lighter industrial uses would ideally be in proximity to heavy industrial uses, instead of *sensitive land uses*.
- The cumulative effects of development are considered. For example, considering the potential implications of approving an additional industrial use near existing *sensitive land uses* may have a cumulative impact on the existing *sensitive land uses*.
- Long-term monitoring and maintenance/replacement requirements for required mitigation measures should be in place. In infill and mixed-use areas, land use compatibility may only be possible through coordinated, implemented and maintained mitigation. Compatibility will be lost if mitigation is not maintained.
- Use of municipal by-laws (e.g. noise by-laws) as an effective means of addressing unplanned nuisance impacts.

Information sharing and engagement are particularly important in infill and *intensification* areas. See **Appendix C** for more about information sharing and consultation.

A Place to Grow provides some flexibility in considering *employment area* conversion when located in a MTSA. Policy 2.2.5.10 indicates that notwithstanding policy 2.2.5.9, which requires proposed *employment area* conversion to be assessed as part of *municipal comprehensive review*, areas may be converted to non-employment uses, even if they are in a provincially significant employment zone, if part of the *employment area* is located within a MTSA as delineated in accordance with subsection 2.2.4 of A Place to Grow. Note that only those portions of an *employment area* within an MTSA would be subject to this flexibility.

In spite of this increased flexibility, other *employment area* conversion policies of A Place to Grow, including policy 2.2.5.9d (which then triggers 2.2.5.8, which relates to land use compatibility) still apply. Accordingly, policy tests to ensure land use compatibility still need to be met.

### **4.3 Additional Mechanisms to Support Compatibility**

The following mechanisms are not implemented under the *Planning Act* but can also be used to foster land use compatibility.

#### **4.3.1 Municipal By-laws**

By-laws under the *Municipal Act* are an important part of a municipality's toolkit to respond to land use compatibility issues. Section 129 provides authority to municipalities to develop by-laws in response to noise, vibration, odour, dust and outdoor illumination. Municipalities are encouraged to develop and update by-laws as necessary. The onus is on the municipality to enforce by-laws that would prevent and respond to land use compatibility issues.

In various by-laws, restrictions such as noise limits may be lower in industrial areas and other areas designated for employment. For these reasons, in communities where *major facilities* and *sensitive land uses* may have land use conflicts, including in areas undergoing infill and *intensification*, by-laws should be used in addition to the other mechanisms noted above.

While municipalities bear primary responsibility for their by-laws, [NPC-300](#) provides guidance that may help with creation of noise by-laws.

In relation to odour, MECP's draft Guideline to Address Odour Mixtures in Ontario may be helpful.

Regarding dust, municipalities are encouraged to consider the elements of the Ministry's [Technical Bulletin: Management Approaches For Industrial Fugitive Dust Sources](#) when developing relevant by-laws.

#### **4.3.2 Warning Clauses**

*Warning clauses* should be used where there are effects expected post-mitigation that may cause nuisance to receptors within the AOI. When new development is expected to generate compatibility issues with existing *major facilities*, in addition to addressing this through the other means described in this document (e.g. *compatibility studies*, separation and mitigation if necessary), the Ministry recommends that a warning of anticipated nuisance effects be included in any offers of purchase and sale. The planning authority would need to require this as a condition of approval of a plan of subdivision or a condominium declaration; and once the parcels of land are sold individually, conditions should be included in agreements of purchase and sale and possibly lease/rental agreements.

Direction on the use of *warning clauses* should be included in agreements (such as subdivision agreements) that are registered on title to the lands in question; it is appropriate to do this as part of the subdivision and condominium approval processes. After that, title searches done by lawyers should reveal *warning clauses*. This will notify potential future purchasers of property of the presence of a *major facility* in the area and the possibility of *adverse effects* as a result. Additional information on registering *warning clauses* on title can be found in the document: [2009-04 Environmental Warnings and Restrictions](#).

[NPC-300](#) gives additional guidance regarding *warning clauses* for noise and should be followed for the development of these clauses for noise. For example, when a Class 4 designation is used, [NPC-300](#) gives additional guidance and wording. See [NPC-300](#), section C8, for further discussion on *warning clauses* and sample language. For example, *Warning Clause* Type E is applicable to a *sensitive land use* when it is located within the AOI of a *major facility*. *Warning Clause* Type F is applicable to a proposed *sensitive land use* when it is located in a Class 4 Area.

*Warning clauses* are useful but should not be used in replacement of other mechanisms described above, as they have drawbacks. The Ministry would also not consider *warning clauses* to be a mitigation measure, since they do not minimize or mitigate impacts, but communicate the possibility of impacts. There have been situations where *warning clauses* are disregarded or not properly communicated to property owners (the first property owner and successive property owners) over time. Additionally, *warning clauses* generally are used only for the first purchaser of a property after a development is built but should be included in every agreement of purchase and sale on a property where concerns persist over time. *Compatibility studies* should describe the use of proposed *warning clauses* if they may be needed.

For stationary sources of noise, [NPC-300](#) indicates that it is not acceptable to use *warning clauses* in place of physical noise control measures to identify an excess over the Ministry's sound level limits; *warning clauses* may still be used and have value, but it is not to be used as justification for exceeding standards.

### **4.3.3 Inventories**

The Ministry recommends that municipalities and planning boards maintain inventories of the location of all existing, committed and former *major facilities* within their respective jurisdictions. This information should be provided on some form of scaled map (e.g. OP schedules), and accessible to inform studies, decisions and engagement. The inventory should be used to support the review of planning applications.

To support constraint mapping and land use planning generally, *planning authorities* and *proponents* are encouraged to look at existing ministry resources, including [Access Environment](#) and the [Source Protection Information Atlas](#). Using these map-based tools, *planning authorities* and *proponents* can search for information on various permissions, including registrations on the EASR, Renewable Energy Approvals and ECAs issued by the Ministry from December 1999 onward or identify if properties are within drinking water source protection vulnerable areas that may have other restrictions. This would be useful to *planning authorities* in developing OPs, zoning by-laws and more site-specific mechanisms. As well, information on sites where a record of site condition has been filed can be found through Ontario's [Environmental Site Registry](#).



# *APPENDICES*

## APPENDIX A – APPLICABLE PROVINCIAL POLICY

### Provincial Policy Statement, 2020 – 1.1.5 Rural Lands in Municipalities

1.1.5.6 Opportunities should be retained to locate new or expanding land uses that require separation from other uses.

### Provincial Policy Statement, 2020 – 1.2.6 Land use compatibility

1.2.6.1 *Major facilities* and *sensitive land uses* shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential *adverse effects* from odour, noise and other *contaminants*, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of *major facilities* in accordance with provincial guidelines, standards and procedures.

1.2.6.2 Where avoidance is not possible in accordance with policy 1.2.6.1, *planning authorities* shall protect the long-term viability of existing or planned industrial, manufacturing or other uses that are vulnerable to encroachment by ensuring that the planning and development of proposed adjacent *sensitive land uses* are only permitted if the following are demonstrated in accordance with provincial guidelines, standards and procedures:

- a) there is an identified need for the proposed use;
- b) alternative locations for the proposed use have been evaluated and there are no reasonable alternative locations;
- c) *adverse effects* to the proposed *sensitive land use* are minimized and mitigated; and
- d) potential impacts to industrial, manufacturing or other uses are minimized and mitigated.

### Provincial Policy Statement, 2020 – 1.3.2 Employment Areas

1.3.2.2 At the time of the official plan review or update, *planning authorities* should assess *employment areas* identified in local official plans to ensure that this designation is appropriate to the planned function of the *employment area*.

*Employment areas* planned for industrial and manufacturing uses shall provide for separation or mitigation from *sensitive land uses* to maintain the long-term operational and economic viability of the planned uses and function of these areas.

1.3.2.3 Within *employment areas* planned for industrial or manufacturing uses, *planning authorities* shall prohibit residential uses and prohibit or limit other *sensitive land uses* that are not ancillary to the primary employment uses in order to maintain land use compatibility.

*Employment areas* planned for industrial or manufacturing uses should include an appropriate transition to adjacent non-*employment areas*.

1.3.2.4 *Planning authorities* may permit conversion of lands within *employment areas* to non-employment uses through a comprehensive review, only where it has been demonstrated that the land is not required for employment purposes over the long term and that there is a need for the conversion.

1.3.2.5 Notwithstanding policy 1.3.2.4, and until the official plan review or update in policy 1.3.2.4 is undertaken and completed, lands within existing *employment areas* may be converted to a designation that permits non-employment uses provided the area has not been identified as provincially significant through a provincial plan exercise or as regionally significant by a regional economic development corporation working together with affected upper and single-tier municipalities and subject to the following:

- a) there is an identified need for the conversion and the land is not required for employment purposes over the long term;
- b) the proposed uses would not adversely affect the overall viability of the *employment area*; and
- c) existing or planned infrastructure and public service facilities are available to accommodate the proposed uses.

## **A Place to Grow: Growth Plan for the Greater Golden Horseshoe – 2.2.5 Employment under Policies for Where and How to Grow**

2.2.5.6 Upper- and single-tier municipalities, in consultation with lower-tier municipalities, will designate all *employment areas* in official plans and protect them for appropriate employment uses over the long-term. For greater certainty, *employment area* designations may be incorporated into upper- and single-tier official plans by amendment at any time in advance of the next *municipal comprehensive review*.

2.2.5.7. Municipalities will plan for all *employment areas* within *settlement areas* by:

- a) prohibiting residential uses and prohibiting or limiting other *sensitive land uses* that are not ancillary to the primary employment use;

- b) prohibiting major retail uses or establishing a size or scale threshold for any major retail uses that are permitted and prohibiting any major retail uses that would exceed that threshold; and
- c) providing an appropriate interface between *employment areas* and adjacent non-*employment areas* to maintain land use compatibility.

2.2.5.8. The development of *sensitive land uses*, major retail uses or major office uses will, in accordance with provincial guidelines, avoid, or where avoidance is not possible, minimize and mitigate adverse impacts on industrial, manufacturing or other uses that are particularly vulnerable to encroachment.

2.2.5.9. The conversion of lands within *employment areas* to non-employment uses may be permitted only through a *municipal comprehensive review* where it is demonstrated that:

- a) there is a need for the conversion;
- b) the lands are not required over the horizon of this Plan for the employment purposes for which they are designated;
- c) the municipality will maintain sufficient employment lands to accommodate forecasted employment growth to the horizon of this Plan;
- d) the proposed uses would not adversely affect the overall viability of the *employment area* or the achievement of the minimum *intensification* and density targets in this Plan, as well as the other policies of this Plan; and
- e) there are existing or planned infrastructure and public service facilities to accommodate the proposed uses.

2.2.5.10. Notwithstanding policy 2.2.5.9, until the next *municipal comprehensive review*, lands within existing *employment areas* may be converted to a designation that permits non-employment uses, provided the conversion would:

- a) satisfy the requirements of policy 2.2.5.9 a), d) and e);
- b) maintain a significant number of jobs on those lands through the establishment of development criteria; and
- c) not include any part of an *employment area* identified as a provincially significant employment zone unless the part of the *employment area* is located within a *major transit station area* as delineated in accordance with the policies in subsection 2.2.4.

## APPENDIX B – COMPATIBILITY STUDIES ADDRESSING NOISE, DUST AND ODOUR

The following sections provide an overview of *compatibility studies* for noise, dust and odour emissions from *major facilities* and are based on the Ministry's technical guidance documents. Meeting the standards and requirements outlined in these sections may help mitigate and minimize *adverse effects* from *major facilities* to nearby *sensitive land uses*.

If documents referenced in these sections are not available online, they can be obtained by contacting the appropriate ministry District Office. To find contact information for your closest District Office, see: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>.

### B.1 Noise (including vibration)

While sound (noise is unwanted sound) and vibration are two separate *contaminants* under the EPA, vibration is addressed alongside noise in this Guideline. For the purposes of this Guideline, the Ministry-developed AOs this Guideline should address both noise and vibration impacts (if developed, alternate AOs should do the same); *separation distances* for noise are larger than vibration so covering noise impacts will cover vibration impacts.

#### Vibration

Setbacks specifically for vibration are addressed through other municipal, provincial and federal guidelines and regulations by organizations including GO Transit, the Canadian National Railway, the Canadian Pacific Railway, the Toronto Transit Commission and the Ministry of Natural Resources and Forestry (in respect of aggregates sites). The requirements of those documents in respect of vibration will prevail if they conflict with this Guideline.

These documents related to vibration include but are not limited to the following:

- The Federation of Canadian Municipalities and the Railway Association of Canada's [Guidelines for New Development in Proximity to Railway Operations](#) which provides mitigation measures associated with development near railway operations, particularly those associated with residential development;
- Ontario Ministry of Environment and Energy / GO Transit Draft Protocol for Noise and Vibration Assessment;
- Ministry of the Environment and Climate Change/Toronto Transit Commission Protocols for Noise and Vibration Assessment;

- Ontario Publication NPC-119 – Blasting; and
- Ontario Provincial Standard Specification 120 – General Specification for the Use of Explosives.

The above is not an inclusive list of all relevant documents related to vibration. Any applicable provincial documents not in this list will need to be considered and followed as well. To find links for these documents, or information on how to retrieve them, see **Appendix J** and **Appendix K**.

### **Compatibility Study for Proponents of Sensitive Land Uses**

Under the [Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning](#) (NPC-300), *proponents* of noise *sensitive land use* proposals may be required by *planning authorities* to undertake feasibility studies and/or detailed noise impact studies. For the purposes of this Guideline, the feasibility study and/or detailed noise impact study would act as the *compatibility study* for noise. These studies must be able to answer the criteria outlined in **Section 2.7** and in this Appendix to the satisfaction of the planning authority.

### **Compatibility Study for Proponents of Major Facilities**

For *proponents* of *major facilities*, the *compatibility study* for *major facilities'* noise impacts should follow the process outlined in the Ministry's noise screening and guidelines outlined below.

Depending on the facility's North American Industrial Classification Standards (NAICS)<sup>1</sup> codes, a range of levels of screening requirements and studies can apply.

There are three types of studies that may be used to screen and assess the impact of noise from a facility:

1. **Primary Noise Screening Method (PNSM)** does not require detailed calculations and uses conservative assumptions for potential noise sources at the facility to calculate distances within which additional studies are required. See the Ministry's [Primary Noise Screening Method Guide](#) for more details. Steps involved in this are:
  - Identify NAICS code associated with facility and confirm that the PNSM applies.
  - Calculate the *separation distance* between a facility's noise source and the closest point of noise reception at the *sensitive land use*.

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1 The NAICS codes were developed for use by Federal Statistical Agencies for the collection, analysis and publication of statistical data related to the US Economy.

- Determine if beyond the noise screening's *separation distance*, it is not anticipated that a *major facility's* noise emissions will exceed noise limits set under the Ministry's noise guidelines (see section on noise limits).
  - When the facility does not screen out using the PNSM, the Secondary Noise Screening Method or the Acoustic Assessment Report need to be used.
2. **Secondary Noise Screening Method** is for facilities that are ineligible for the primary noise screening process. It uses calculations and site-specific conditions to predict sound levels at closest points of reception, exceedances of provincial noise limits, and the effectiveness of any proposed mitigation to meet noise limits set under the Ministry's noise guidelines.

Studies need to analyze the following: location of the noise sources relative to the *point of reception*; effect of acoustic barriers that break the line-of-sight; tonality; intermittency of operation; and background noise from major highways/roadways. See the Ministry's [Secondary Noise Screening Guide](#) for more details.

When the facility does not screen out using the Secondary Noise Screening Method, an Acoustic Assessment Report needs to be used.

3. **Acoustic Assessment Report (AAR)** is based on detailed noise review of noise sources at the facility and their impacts on neighbouring points of reception. Facilities that require an AAR are those that are not eligible to use the Primary or Secondary Noise Screenings. The ministry has several guidance documents on how to prepare an AAR. These include NPC-103, NPC-104, [NPC-233](#), [NPC-300](#), [AAR Check-List](#), AAR ACME and the [Basic Comprehensive Certificates of Approval \(Air\) User Guide](#).

## Noise Limits

For either *proponents of sensitive land uses* and *major facilities*, in order to meet the test of no *adverse effects*, provincial noise limits for various noise sources must be met. These are set by the Ministry under various guidelines, including:

- [NPC-300](#) – this Guideline covers sound level limits applied by the Ministry in ECAs, Renewable Energy Approvals (bioenergy and solar), EAs and the investigation of noise-related incidents; advice for decisions under the *Planning Act*; sound level limits that may be used for municipal noise control by-laws; and sound level limits which may be applied for aggregate resource extraction licensing and permitting. It does not provide sound level limits for blasting operations, landfills or new or expanded transit corridors, which are addressed in other publications.

- Impulse Vibration in Residential Buildings (NPC-207): Vibration impacts from facilities producing impulse vibration (e.g., metal stamping or forging facilities) should be assessed following the methods and noise limits set in this Guideline.
- Procedures (NCP-103) and Blasting (NCP-119): the noise and vibration impacts produced by blasting in quarries and mines should be assessed following the methods and noise limits set in these documents.
- [Air emissions user guide for environmental activity and sector registry](#) (EASR Publication): Refer to the noise chapter in the EASR Publication, which is given in the hyperlink.

### **A note on Class 4 Designations**

For new *sensitive land uses*, *planning authorities* have the option to designate future areas as Class 4 areas as per [NPC-300](#). Designating an area as Class 4 would allow *proponents* to construct new *sensitive land uses* in that area in proximity to existing, lawfully established and approved stationary sources of noise, to a greater extent than would otherwise be possible.

Class 4 areas are defined as an area or specific site that would otherwise be defined as Class 1 or 2 and which is intended for development with new noise *sensitive land use(s)* that are not yet built; is in proximity to existing, lawfully established stationary source(s); and has formal confirmation from the land use planning authority with the Class 4 area classification which is determined during the land use planning process.

The Class 4 designation is intended for areas where a mix of incompatible uses may be unavoidable or very difficult to avoid, such as areas that are built-out or designated as MTSAs in A Place to Grow. It is not meant to be used where separation of incompatible land uses is possible. It should be used in scenarios where potential encroachment impacts could not be otherwise avoided or mitigated through separation or other mitigation measures. In addition, one or more Class 4 designations should not serve as a precedent for future developments in the same area. Each designation should be considered and treated as a stand-alone case.

This approach provides additional flexibility and should be used to address encroachment impacts to enable at-receptor mitigation (at the *sensitive land use* site), in addition to traditional at-source mitigation (at the *major facility* site) to address noise emissions without adversely impacting the ongoing operability of the existing facility.



Within Class 4 designated areas, potential noise impacts from *major facilities* which are vulnerable to encroachment are addressed through:

- Increased permitted noise limits according to [NPC-300](#) for stationary and transportation sources, recognizing increased background noise from nearby noise emitters.
- Allowances for the consideration of at-receptor mitigation measures in a facility's ECA review process. The area must be designated Class 4 and recognized in local planning documents, in order for at-receptor mitigation to be recognized.
- The increased sound level limits for Class 4 areas assume that windows can be kept closed with the use of a ventilation system (e.g. central air conditioning).

The following considerations apply to new *sensitive land uses* proposed in Class 4 areas:

- An appropriate noise impact assessment should be conducted for the land use planning authority as early as possible in the land use planning process that verifies that the applicable sound level limits will be met.
- Noise control measures may be required to ensure the stationary source complies with the applicable sound level limits at the new noise *sensitive land use*.
- Noise control measures may include receptor-based noise control measures and/or source-based noise control measures.
- Source-based noise control measures may require a ministry permission.
- Receptor-based noise control measures may require agreements for noise mitigation, such as agreements under a planning permission.
- Prospective purchasers should be informed that their property is located in a Class 4 area through appropriate means and informed of the agreements for noise mitigation. Registration on title of the agreements for noise mitigation should be required as directed by related permissions (e.g. planning or ministry permissions) , as well as registration on title of an appropriate *warning clause* to notify purchasers that the applicable Class 4 area sound level limits for this property are protective of indoor areas and are based on the assumption of closed windows.
- Any final agreements for noise mitigation as described in [NPC-300](#) and all other relevant documentation are to be submitted to the Ministry by the stationary source owner(s) when applying for a ministry permission. These agreements will be assessed during the review of the application for ministry permissions. Additionally, the stationary source owner(s) are to include a copy of the formal confirmation of the Class 4 area classification from the land use planning authority in the application for a ministry permission.

Specific information about Class 4 Areas definition, applicable limits, at-receptor noise control measures and when to apply the Class 4 Area designation are provided in Parts A, B and C of NPC-300.

## **B.2 Dust and other Air Emissions**

The operations of some sectors lend themselves to dust and other air emissions from fugitive sources such as on-site roadways, storage piles and on-site traffic (e.g. bulldozers, grading, and parking lots). *Adverse effects* from these emissions can be assessed through methods explained below.

To assess *fugitive dust* emissions from facilities, the *compatibility study* for dust should determine and explain how the *major facility* has met the requirements of Ontario Regulation 419/05: Air Pollution – Local Air Quality, made under the EPA ([O. Reg. 419/05](#)) through any of the three compliance approaches that are included in the regulation. O. Reg. 419/05 is Ontario’s local air quality regulation, which works within the province’s air management framework by regulating air *contaminants* released into communities by various sources, including local industrial and commercial facilities.

An approved ECA, which may be available on the [Access Environment](#) website, would indicate that the *major facility* is meeting ministry standards for dust at the property line. However, there might still be nuisance dust effects beyond the property line. Due to the potential for these effects, *planning authorities* should not allow *sensitive land uses* within the facility’s MSD unless completely unavoidable.

The *compatibility study* should also determine and discuss whether a detailed Fugitive Dust Control Plan or Best Management Practices Plan (BMPP) is available for the *major facility*. Typically, requirements for a Fugitive Dust Control Plan or BMPP are included as conditions in the facility’s ECA. For more information on these plans, see the [Technical Bulletin: Management Approaches For Industrial Fugitive Dust Sources](#) that sets out information on the possible sources and management of suspended particulate matter from fugitive dust sources.

### **Recommendations for Facilities with Potentially Hazardous Fugitive Dust Emissions**

Certain types of facilities may emit potentially hazardous *fugitive dust*. These facility types are listed in Table 7-2 of the [Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling Report](#), below.

<b>Sectors where metal content within fugitive particulate must be considered</b>	
<b>NAICS Code</b>	<b>NAICS Code Description</b>
2122	Metal Ore Mining
331	Primary Metal Manufacturing
332810	Coating, Engraving, Heat Treating and Allied Activities
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing

As part of the dust *compatibility study*, *proponents* should determine whether the *major facility* meets one or more of the NAICS codes listed in Table 7-2 of the [Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling Report](#). If so, it is recommended that the proposed use be built outside the AOI of these *major facilities*, to avoid potential *adverse effects* from metal content in *fugitive dust*.

If it is not possible to locate the proposed use outside the AOI, the *proponent* must obtain a copy of the approved ECA(s) for the *major facility* to demonstrate to the satisfaction of the planning authority that no *adverse effects* related to significant dust emissions are expected from the facility.

### **Recommendations for Facilities Registered for Technical Standards, Site-Specific Standards or Sector Specific Regulations**

Certain facilities cannot meet required air standards set out in [O. Reg 419/05](#), so they meet technical standards or site-specific standards instead. There are also some facilities that fall under sector-specific regulations, such as [O. Reg. 530/18: Air Pollution–Discharge of Sulphur Dioxide from Petroleum Facilities, made under the EPA \(O. Reg. 530/18\)](#). As part of the *compatibility study*, *proponents* should determine whether the *major facility* is subject to technical standards, site-specific standards or sector-specific standards.

The following resources can be used to determine whether the *major facility* falls in the categories of technical standards, site-specific standards or sector specific regulations:

- Technical Standards: <https://www.ontario.ca/page/technical-standards-registry-air-pollution>.
- Site-specific standards: Facilities with site-specific standards can be found by searching the Environmental Registry of Ontario.
- Sector-specific regulations such as [O. Reg. 530/18](#) can be checked to find the NAICS codes for which sectors are covered under the regulation.

It is recommended that any proposed uses be built outside the AOI of these facilities to avoid *adverse effects* related to significant air quality emissions.

If it is not possible to locate the use outside the AOI, the *proponent* must demonstrate to the satisfaction of the planning authority that no *adverse effects* related to significant air emissions are expected from the facility. The *compatibility study* should also consider whether there are cumulative effects from multiple *major facilities* on the proposed land use. The ministry publishes maps which show the cumulative effects of air quality from multiple air pollution sources. These maps can be found at the following website: <https://www.ontario.ca/page/pre-submission-requirements-industry-air-approvals>. If the proposed land use falls within Action Levels 2 or 3 of these maps, the study should acknowledge these cumulative effects and discuss whether *adverse effects* are expected and what measures would be taken to mitigate these effects.

### **B.3 Odour**

Odour is a subjective experience and individual responses to odour are highly variable and are dependent on many factors. Generally, the impact of an odour results from a combination of factors collectively known as FIDOL (frequency (F), intensity (I), duration (D), offensiveness (O), and location (L)).

#### **Draft Guideline to Address Odour Mixtures**

The *compatibility study* for a *major facility's* odour impacts should follow the process outlined in the ministry's draft guideline entitled, 'Guideline to Address Odour Mixtures in Ontario' (draft Odour Guideline). While the following highlights some key elements, the draft Odour Guideline should be reviewed for a full understanding. Use of the draft Odour Guideline will help determine the likelihood of causing an *adverse effect*.

As part of the draft Odour Guideline, the ministry has identified several odorous activities and processes and grouped them into 3 tiers based on the potential to cause odour. These tiers are used for ECA applications and in the EASR to determine the level of requirements for *major facilities* to address any potential odour impacts.

Based on the *compatibility study*, one or more of the following may be required at the facility before a new proposal or development can proceed:

1. **Facility Screened Out / No Additional Assessment Required** – Based on the *compatibility study* the *major facility* can be screened out (i.e. no additional assessment would be required); otherwise, one or more of 2-4 could be required.
2. **BMPP for Odour** – Less odorous activities may require a BMPP to address potential odours;

3. **An Odour Technology Benchmarking Report** – More odorous activities may be required to develop an Odour Technology Benchmarking Report to determine the potential odour impacts and mitigation options if required.
4. **Odour Mitigation/Minimization Plan** – based on the results of the Odour Technology Benchmarking Report, the plan would identify the odour control strategy (ies) selected to minimize and mitigate potential odours, describe any technical requirements, and clarify the responsibility for the costs, implementation and maintenance of the required odour control strategies.

It should be noted that the *proponent* (proposed *sensitive land use* or proposed *major facility*) is responsible for any required work associated with this approach. *Major facilities* should provide information and participate in completing *compatibility studies*. However, if the *major facility* does not cooperate, the *proponent* should consult with the planning authority and still complete required *compatibility study* and determine if any mitigation is required to the best of their ability. If the planning authority cannot convince the *major facility* to participate, approaches to resolution outlined in the draft Odour Guideline should be considered.

#### **B.4 Sources of Information**

Consultation should be undertaken with existing *major facilities* to obtain information that would better inform the *compatibility study* and other assessments as described in this Guideline. *Major facilities* may have the information needed on site layout, design and existing noise, dust and odour control measures. It is expected that this consultation can usually occur concurrently with other information sharing and engagement activities related to *compatibility studies*.

The *major facility* may have conducted an EA, have ECAs or be registered to the EASR.

Documentation and studies supporting EAs, ECAs and EASRs should be used, if available, to gather relevant information on the *major facility* to inform the *compatibility studies* for noise, dust and odour as needed. This documentation may also help decide what mitigation measures should be used, and matters related to the ongoing operation of sites after *compatibility studies* are done and mitigation measures (if needed) are in place. While respecting information that may be proprietary, facilities are encouraged to be involved in the development of documentation and studies, and to share information. This would lead to timelier and more effective reconciliation of land use compatibility issues.

Note that the information from any ministry permission/approval may not be up to date. When developing supporting information, *proponents* should determine whether new information is available and if there is a need to update assessments or studies received from *major facilities*.

Also, note that any assessment developed for ECAs and EASRs may not consider fugitive emissions (e.g. traffic, on-site storage and loading). For odour and noise, previous issuance of ECAs or registration in the EASR will consider impacts to the closest existing or planned sensitive receptor at the time of the permission/approval or registration. As such, new *sensitive land uses* which result from rezoning will not have been considered and will need to be assessed as part of applying for an ECA or registering on the EASR.

## **B.5 Qualified Individuals**

Municipal OPs should require that any study carried out to support planning decisions related to land use compatibility (including *compatibility studies*) be prepared by qualified individuals with experience in preparing technical assessments. Qualified individuals should have the education, experience, training or certification that will qualify them to: conduct the necessary analysis on *adverse effects*; provide expert opinions; and make recommendations on the subject matter related to avoiding or mitigating the *adverse effects*.

For example:

- Noise impact studies should be prepared by qualified individuals with experience in environmental acoustics.
- Vibration studies should be undertaken by qualified individuals with experience in vibration.
- Dust studies should be undertaken by qualified individuals with experience in assessing sources of particulate matter, including fugitive emissions and dust mitigation measures.
- Odour *compatibility studies* should be undertaken by qualified individuals with experience in odour assessment and mitigation.

In most cases these reports should be prepared by a licensed engineering practitioner that is a holder of a licence, limited licence, or provisional licence under the *Professional Engineers Act*.

## APPENDIX C – CONSULTATION AND ENGAGEMENT FOR LAND USE COMPATIBILITY

Consultation may be required as part of a number of the processes and approvals described in this document. For example, if an OPA is undertaken, the *Planning Act* stipulates the minimum public consultation that is needed (or municipalities can also establish alternative notice and consultation provisions). When a *sensitive land use* is proposed, consultation should involve the planning authority, *proponent* (i.e. developer of new *sensitive land use*) and surrounding *major facilities* with an AOI that the proposed *sensitive land use* would be located in. If mitigation is required at the facility site, agreements or other legal mechanisms will be needed. *Planning authorities* can act as the facilitator between parties and place agreements as part of their conditional approval of suitable planning applications.

### Early Engagement for Proposed Land Use Decisions

Pre-consultation has been recommended in this document (see **Section 2.6**). *Planning authorities* should include pre-consultation policies in their OPs and are required to participate in pre-consultation if asked.

For example, in order to ensure that noise, dust odour and other potential sources of adverse impacts to the facilities have been appropriately assessed and addressed, *planning authorities* should ensure that *proponents* of new *sensitive land uses* have pre-consulted with *major facilities* within the AOI(s) of those *major facilities*. It is important that all *major facilities* are consulted as facility information may be required to determine the extent of potential impacts at the new *sensitive land use* and minimization and mitigation measures.

### Engagement to Support Compatibility Studies

A complete *compatibility study* includes information collected from potentially affected existing land uses and from existing emitting operations. *Proponents* of *major facilities* should engage all residents and other occupants within the AOI, including other *major facilities*, *sensitive land uses* and First Nations and Métis communities. *Proponents* of *sensitive land uses* should engage the owners of *major facilities* whose AOI the proposed *sensitive land use* falls into. This should include informing residents and occupants of the proposal and *compatibility study*, providing them an opportunity to provide input into the proposal and *compatibility study*, and incorporating information and input related to land use compatibility into the *compatibility study* and its conclusions. These efforts are intended to inform the *compatibility study*. Multiple forms of notification or contact may be necessary to ensure potentially affected parties are aware of the proposal and provide the information and input they are willing to provide.

Overall, early contact between the proposed land use (whether a *major facility* or *sensitive land use*) and surrounding land uses is imperative to building understanding and avoiding future impacts and complaints. It will inform the following:

- common understanding of the proposal, including potential uses, activities and operations;
- common understanding of current uses, activities and operations associated with existing uses and planned expansions;
- current and planned emissions and mitigation measures associated with existing and already planned uses;
- potential types and scale of impacts the *major facility* may have on the *sensitive land use* or potential operational impacts or complaints on the *major facility*;
- appropriate separation distances and mitigation measures to mitigate impacts on the *major facility* or *sensitive land use*; and
- if necessary and appropriate, potential agreements between parties regarding implementation, monitoring and maintenance of any required mitigation measures.

### **Best Practices in Relationship Building**

Maintaining good relations between *major facilities* and neighbouring land uses is very important. There is a higher likelihood that communities would respond well to proposed nearby development when they are given the opportunity to become familiar with the proposed development or *major facility* operation and when they are given clear and accurate information.

Methods for *major facilities* to communicate with members of the public include:

- open houses;
- presentations to schools and local groups;
- newsletters;
- websites;
- advisory councils/groups;
- social media;
- signage in appropriate locations (such as highly visible or frequented areas where landowners are likely to see it);
- dedicated points of contact such as a specific staff member or email; and,
- one-on-one meetings with landowners where appropriate.



## Indigenous Engagement

Proactive engagement with Indigenous communities that may be affected by or interested in a planning or development proposal is recommended, early in the planning or development process, if compatibility is a concern. This engagement should help to inform compatibility studies. This guidance applies to *planning authorities* as well as *proponents*, as engagement should be considered as early as the OP stage. This guidance does not alter engagement and/or consultation that may be required through the *Planning Act*, provincial plans (e.g. A Place to Grow), EAA, or other legislation and regulations, and regardless of those requirements, *proponents* should always consider the need for engagement to inform compatibility studies.

## APPENDIX D – SECTOR-SPECIFIC CONSIDERATIONS INCLUDED IN THE GUIDELINE

This section provides additional considerations for specific sectors which are within the scope of this Guideline, which have had history of ongoing and frequent complaints. The following sections provide information and an overview of programs that may provide insight into *adverse effects* from these key sectors.

Note that this section provides considerations for *adverse effects* specifically related to noise, dust and odour emissions. *Planning authorities* will also need to consider other potential *adverse effects*, such as the potential for groundwater and surface water contamination, which are not discussed specifically in this section.

In addition to the guidance provided below on these sectors, guidance related to land uses near landfills and dumps is provided in **Appendix E**.

### Composting and Industrial Anaerobic Digestion Facilities

Composting and industrial anaerobic digestion facilities use aerobic and anaerobic biological processes, respectively, to break down and stabilize recycled organic matter. In an urban setting these facilities are usually operated to manage organic waste like household organic materials, food processing by-products, and in the case of compost facilities, leaf and yard waste. These facilities have a potential for significant odour impacts on surrounding *sensitive land uses*. In addition, other potential impacts from animals and insects, dust, litter, lighting and noise may be experienced. Generally, these risks are managed through environmental approvals; however, setbacks can further help reduce impacts.

This document provides AOIs and MSDs for composting and industrial anaerobic digestion facilities (see **Table 1**).

For the purposes of this Guideline, composting and industrial anaerobic digestion facilities are understood to not be located on a farm or operated as an agricultural use or agricultural-related use. Farm-based anaerobic digestion or composting often involves the management of agricultural feedstocks like manure, animal by-products, livestock mortalities, or other agricultural materials in addition to mixing off-farm feedstocks like food waste. Farm-based anaerobic digestion facilities are generally sited according to the OMAFRA's *Minimum Distance Separation* (MDS) Guidelines, or setbacks required in other environmental permissions.

Composting facility layout has an impact on the facility's relative impacts. Facilities with outdoor management of organic materials, whether it be feedstock reception, active compost piles, screening, and/or curing piles, may be expected to have significantly more impact than a facility where some or all of these features are indoors. Indoor

activities are often subject to air capture and treatment requirements as part of their approval. For more information on considerations for siting composting facilities, please see the Ministry's [Guideline for the Production of Compost in Ontario](#) and the [Ontario Compost Quality Standards](#).

For industrial anaerobic digestion facilities not located on a farm or operated as an agricultural use or agriculture-related use, the facility's environmental permission/approval (whether an ECA, or a Renewable Energy Approval under [O.Reg. 359/09](#)) often specifies detailed controls for potential causes of adverse impacts. Generally, for these facilities, the feedstock reception areas, materials handling, and effluent storage are located within enclosed structures with odour control. Management of fugitive emissions is key to reducing potential impacts. Other possible sources of impacts may include the biogas flare, cogeneration equipment that generates electricity, and truck traffic.

### **Municipal and Private Communal Wastewater Treatment Plants**

This document provides AOIs and MSDs for three categories of municipal and private communal wastewater treatment plants (see Table 1).

1. Wastewater treatment facilities with a rated capacity less than 25,000 cubic metres per day (small), which are considered to be class 1 facilities;
2. Wastewater treatment facilities with a rated capacity more than 25,000 cubic metres per day, which are considered to be class 4 facilities; and
3. Sewage treatment lagoons.

For clarity, these AOIs and MSDs would not apply to municipal and private communal wastewater treatment plants that are fully underground/subsurface, e.g. subsurface treatment systems such as septic tanks and fields.

The following should be considered for municipal and private domestic wastewater treatment facilities:

- When taking into consideration **Section 2.4** of this Guideline and determining whether the property line or the facility/equipment should be used to determine *separation distance*, the following elements may support a conclusion that the shorter option may be used:
  - Parts of the plant are enclosed (headworks, solids handling/thickening, dewatering systems)
  - Parts of the plant are covered (e.g. primary clarifiers, aerobic digesters, process tanks)
  - Odour mitigation technologies are in place.

- Where practical, *sensitive land uses* should not be placed adjacent to treatment facilities.
- When new facilities (or enlargements to existing facilities) are proposed, an adequate *buffer* area should be acquired as part of the project. There should also be consideration of whether there are policies in local source protection plans that may restrict or prohibit the development in an area identified as a vulnerable area for the purpose of protecting existing and future sources of drinking water.

This Guideline is not appropriate for dealing with the effects of major treatment plant upsets due to overloading or equipment breakdown.

## Aggregates

It is important to plan land uses surrounding aggregate resources in a way that both prevents adverse impacts to *sensitive land uses* and ensures the long-term protection of aggregate resources. *Planning authorities* must consider the potential for *adverse effects* from aggregate operations (including existing, planned and potential future operations), such as traffic to and from the facilities, and noise and dust from blasting, crushing or other operations, for proposals that require a planning approval.

This Guideline is prepared with the intent of assisting *planning authorities* in the implementation of PPS policies 1.2.6.1 and 1.2.6.2. In addition, the PPS recognizes the importance of aggregate resources and PPS policies related to mineral aggregate resources also need to be addressed in a municipal OP and any *Planning Act* application. For example, policies 2.5.2.4 and 2.5.2.5 direct that any proposed development and activities that would preclude or hinder the establishment of a new mineral aggregate operation, the continuation of an existing operation and any future expansions shall only be permitted subject to requirements. These requirements are in addition to what is recommended in this Guideline.

This Guideline provides AOIs and MSDs in **Table 1** applicable to new or expanding *sensitive land use* proposals near existing or planned aggregate operations. The AOI and MSD align with the Ministry's screening and study requirements for ECAs that are required for above-ground aggregate equipment, such as aggregate crushers, ready-mix concrete plants and asphalt plants. However, recognizing that the impacts associated with different aggregate operations may vary, the planning authority may choose to assess whether an alternate AOI for a given aggregate operation is appropriate.

The AOI and MSD in the Guideline are not applicable to land use decisions for new or expanding aggregate operations proposed near *sensitive land uses*. *Planning authorities* are required to address land use compatibility with respect to new or

expanding operations, as required by the PPS. However, when determining whether there may be potential *adverse effects* from an aggregate operation, *planning authorities* should also take into consideration that through the licensing process under the *Aggregate Resources Act*, the Ministry of Natural Resources and Forestry also has requirements to assess potential impacts on existing nearby land uses and whether it is feasible to mitigate potential impacts through that process.

Development that encroaches into an aggregate operation's AOI may have a negative effect on the operability of that site, possibly resulting in the inability to access existing or future aggregate resources on the current site and/or through an expansion. Complaints from nearby *sensitive land uses* can also have an impact on the continued operations of aggregate sites.

When considering new *sensitive land uses* near mineral aggregate areas, planning authorities must consider active aggregate operations, zoning which permits future aggregate operations and, where provincial information is available, deposits of mineral aggregate resources. Provincial information refers to aggregate resource information that can be found on the Ministry of Energy, Northern Development and Mines websites ([GeologyOntario](#) or [OGSEarth](#)) for the Aggregate Resources of Ontario (currently ARO-2019, but typically updated yearly, ARO-2020 planned for early 2021). The Aggregates Resources of Ontario was compiled from published reports and maps contained in Ontario Geological Survey Aggregate Resources Inventory Papers (ARIPs). These reports are also available to download from the [GeologyOntario](#) or [OGSEarth](#) websites.

## **Cannabis Production and Processing Facilities**

For the purposes of this Guideline, cannabis production is the term used to refer to the entire cultivation process (i.e., growing plants, harvesting, drying and storing), whereas cannabis processing refers, for example, to the subsequent manufacturing of edible cannabis, cannabis extracts and cannabis topicals. Sorting and packaging may fall into either category depending on the scale, extent and type of the packaging.

The Guideline applies to indoor cannabis production facilities in areas zoned for industrial uses within *settlement areas*, and all cannabis processing facilities as these facilities are considered industrial uses. For information on cannabis production facilities in prime agricultural areas and on rural lands see **Appendix K**.

Personal use production of cannabis (both recreational and medical use) is not covered under this Guideline.

This section will provide an overview of the federal, provincial and municipal role in regulating cannabis, as well as specific guidelines that can be applied to cannabis processing facilities.

Various levels of government play different roles in regulating and/or planning aspects of cannabis production and processing facilities, and these are described below.

## **Federal Role**

In 2018, the Federal Government of Canada legalized the production and sales of cannabis and cannabis-related products under the [Cannabis Act](#).

The Federal Government regulates cannabis production and processing and facility licensing, including odour management requirements. The *Cannabis Act* and [Cannabis Regulations](#) (SOR/2018-144) are administered by Health Canada. Production is authorized via licenses, registration certificates (e.g. designated growers), and through exemptions.

Licensed cannabis facilities are subject to Part V Good Production Practices in the federal Cannabis Regulations (note: for clarity, the Cannabis Regulations (SOR/2018-144) refers to one federal regulation at the link given above, not multiple regulations). Under Part V, indoor parts of the facility are subject to a regulatory requirement to be equipped with a system that filters air to prevent the escape of odours (Section 85 of Part V).

Certain types of facilities are not subject to odour control provisions in the federal Cannabis Regulations. Examples include:

- Licensed facilities that are cultivating cannabis outdoors; and
- Registered designates who need a registration certificate from Health Canada and are producing cannabis with a medical document authorizing the use of cannabis for medical purposes (even when they are cultivating indoors).

It is important to note that rules for controlling odour are addressed under the *Cannabis Act* and regulations. Nothing in this Guideline is meant to replace or detract from the authorities or requirements under the *Cannabis Act* and regulations.

## **Provincial Role**

Cannabis production facilities may be subject to provincial environmental legislation such as the EPA, OWRA, *Nutrient Management Act* and *Pesticides Act*. Land use decisions around the location of these facilities are required to be consistent with provincial policies and conform or not conflict with provincial plans. An exact determination of the extent of provincial regulatory application is dependent on the circumstances associated with each cannabis production facility.

Cannabis processors (e.g. oil extraction and refining, manufacturing of edibles, topical and extracts) could be subject to the environmental permission requirements for air emissions and/or waste management activities (e.g. waste storage and transport) under the EPA, if the activities are not agricultural.

Some other involvement with the Ministry that may occur for cannabis production facilities includes the potential requirement for water-taking permits, permissions/ approvals related to stormwater works, records of site condition, regulation of pesticides use and storage and the regulation of waste storage and transport. The ministry could also potentially be involved with the regulation of air emissions not directly associated with the growing, processing or storage of cannabis.

## **Municipal Role**

Municipalities and *planning authorities* have a role in maintaining land use compatibility and ensuring consistency with provincial policies and conformity with provincial plans through land use planning decisions regarding proposed cannabis processing facilities and adjacent *sensitive land uses*. As part of Health Canada's licensing process, cannabis producers and processors must comply with provincial and municipal laws, which provides an opportunity for local input through municipal by-laws (e.g. odour by-laws), zoning, and permitting processes.

Municipalities have a range of tools available under the *Planning Act* to influence the location of cannabis production and processing facilities, such as official plan policies and land use designations, zoning by-laws, and site plan control. Through their zoning by-laws, municipalities may choose to adopt siting requirements for the production of cannabis, such as provisions for lot coverage, range and scale of accessory uses, or requiring setbacks to improve land use compatibility and reduce potential noise and odour impacts.

Interim control by-laws can also be used to provide time to study potential impacts of land use planning matters and inform local decision-making. Municipalities may also choose to adopt a site plan control by-law under the *Planning Act* to address specific design elements that may improve compatibility such as mass or location of buildings, traffic access, parking layout, lighting, landscaping, drainage, etc.

Municipalities also have powers under the *Municipal Act* to regulate a wide range of matters, including health, safety, and nuisance (subject to certain limits). Municipalities may also choose to develop odour control by-laws to regulate odour from cannabis production facilities.

## **Applying the Guideline to Indoor Cannabis Production Facilities in Areas Zoned for Industrial Uses in *Settlement Areas*, and Cannabis Processing Facilities**

This Guideline is applicable to proposed new or expanding *sensitive land uses* near a cannabis processing facility and new or expanding indoor cannabis production facilities in areas zoned for industrial uses in *settlement areas*. When establishing policies to trigger *compatibility studies*, the largest AOI in **Table 2** should be used. Alternatively, a planning authority may complete a study to determine an alternate AOI for a specific facility. This would enable factors such as the scale of operations, known mitigation, types of surrounding *sensitive land uses*, etc., to be factored into the AOI before it is set in policy. To assist with identifying these facilities, contact [Health Canada](mailto:hc.compliance-cannabis-conformite.sc@canada.ca) at [hc.compliance-cannabis-conformite.sc@canada.ca](mailto:hc.compliance-cannabis-conformite.sc@canada.ca).



## APPENDIX E – LAND USE ON OR NEAR LANDFILLS AND DUMPS

### 1. Application

This section of the Guideline builds on other sections and provides additional guidance and direction specific to planning applications for lands in proximity to landfills and dumps or for applications that would permit new landfills and dumps. It reflects the restrictions and controls on land use that the ministry wishes to see implemented in the vicinity of landfills and dumps in order to protect the health, safety and welfare of residents and others near such facilities. It replaces the 1994 document [D-4: Land Use on or Near Landfills and Dumps](#).

The need to consider this section extends to all proposals for land use on, or near, operating and non-operating landfills (as defined in [Regulation 347: General – Waste Management, made under the EPA](#)), and dumps which contain municipal solid waste, liquid waste, hazardous waste, industrial solid waste and/or sewage sludges. It does not apply to lands certified as organic soil conditioning sites in Regulation 347. This section applies to all landfills and dumps regardless of ownership.

When a land use, irrespective of its sensitivity, is proposed within the AOI of a landfill (formerly known as the influence area in D-4), this section must be considered. This is due to the risks that landfill gas and to a lesser extent, leachate, pose where there are or will be buildings or other enclosed structures on the proposed (or existing) land use. As well there are risks from groundwater that impact buildings via the soil vapour to indoor air pathway that are important.

This section also applies when looking for locations to establish a landfill in Ontario, as this is the proposal of a new *major facility*, though it is acknowledged that a range of tasks described may be covered through an EA process.

What is described in this section is separate from requirements related to Section 46 of the EPA, which provides that *waste disposal sites* (including non-operating landfills) cannot be used for any other use for 25 years after the end of the disposal without the approval of the Minister of the Environment, Conservation and Parks. Similarly, if a new proposed development is planned to be built on land underlain by a leachate contaminated groundwater plume a record of site condition completed based on Ontario Regulation 153/04:Records of Site Condition – Part XV.1 of the Act, made under the EPA (O. Reg. 153/04) may be needed.

While this Guideline generally focuses on noise, dust and odour, planning decisions related to landfills and dumps will need to consider other potential *adverse effects* associated with landfills and dumps, prominently including landfill gas and potential groundwater and surface water impacts, as described below.

## 2. Municipal Input into New Large Landfill Siting

In addition to the guidelines in this appendix, it should be noted that Ontario has given municipalities more say in landfill approvals by requiring municipal support be obtained. Requiring municipal support helps ensure that the municipalities most directly impacted by the siting of new large landfills would have a say on a matter as important as a new landfill undertaking. The province recognizes the importance of autonomy in local decision making and believes that new large landfills should be located in communities that are supportive of the project.

The *Environmental Assessment Act* requires proponents of new, large landfills (i.e. those that require an individual/comprehensive EA) to obtain support from host municipalities and adjacent municipalities where there is land with authorized residential uses within 3.5 kilometres of the proposed new landfill site.

This requirement does not apply to landfill expansions. Applicants for landfill expansion proposals continue to have to meet all current approvals process requirements, including extensive consultation requirements with municipalities and other stakeholders.

## 3. Impacts Associated with Operating Sites

Impacts from landfilled waste can be widespread depending on the size of the landfill, the type of waste buried and the geology of the area. Lands which are used to dispose of waste can have significant *adverse effects* on nearby land uses (e.g. landfill gas migration and groundwater risks, including vapour intrusion from contaminated groundwater), even long after the deposit of waste has stopped. It is both the waste and the associated *landfilling* operations that can generate significant adverse impacts on neighbouring lands.

The potential *adverse effects* from active waste disposal can be persistent and long-lasting. Factors to be considered by the planning authority, *proponent* and qualified individuals as appropriate when land use is proposed near an operating site include but are not limited to:

- landfill-generated gases;
- groundwater and surface water and soil contamination by leachate, including vapour intrusion from leachate contaminated groundwater;
- surface water runoff;
- litter;
- *contaminant discharges* from associated vehicular traffic;
- visual impact;
- noise, dust, odour or other air emissions;

- fires; and,
- attraction of animals and insects (*vectors and vermin*).

Regarding landfill gases, the production and migration of methane gas is also a key concern due to the risk of explosion hazards. There is also the risk of asphyxiation when methane displaces oxygen. Particular attention is needed to address this issue; see **Appendix F** for more guidance on this matter.

These factors should also be considered for a proposed landfill, but consideration of such factors would typically be covered off through an EA process which these sites are required to go through.

#### 4. Impacts Associated with Non-Operating Sites

Factors to be considered by the planning authority, *proponent* and qualified individuals as appropriate when land use is proposed on or near a non-operating site (i.e. within the AOI) include:

- landfill-generated gases;
- groundwater and surface water contamination by leachate, including vapour intrusion from leachate contaminated groundwater;
- surface water runoff;
- ground settlement;
- visual impact;
- soil contamination;
- hazardous waste; and,
- odour.

#### 5. Information Resources on Landfills

In addition to considering the sources of information described in **Appendix B** of this Guideline, for landfills and dumps it is recommended that *planning authorities* map and include all past and present landfills and dumps for consultation with *proponents*. Inventories of landfills and dumps adjacent to the planning authority's jurisdiction should also be developed, as part of the inventory of facilities recommended in **Section 4.3.3** of this Guideline.

Some possible sources of information on existing or closed landfills include:

- EAs: Waste management projects may have requirements under Ontario's EAA. Any EA process that may be required includes an assessment of the anticipated *adverse effects* of waste management activities on surrounding land uses.
- Ministry District Office records on operating or former landfills.
- Municipal records on operating and closed landfills (may not be kept in all municipalities).

Some possible sources of information for operating landfills include:

- ECAs and associated technical assessments: Conditions set forth in ECAs and impact assessments provide information on associated off-site *adverse effects* anticipated from landfills.
- Annual reports prepared based on ECA requirements (which contain monitoring).
- Ministry published *waste disposal site* inventories.

## 6. Additional Discussion on Key Environmental Considerations

### 6.1 Landfill Generated Gas

Methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>) make up the majority of the landfill gas, with lesser amounts of nitrogen, oxygen, ammonia, hydrogen sulfide and various other gases. The quantity and components of gas generated by a landfill depends on the types and age of the waste buried, the quantity and types of organic compounds in the waste, moisture content and temperature of the waste, particle size and compaction, climate and buffering capacity.

In this Guideline we focus on methane due to its combustibility and toxicity. Methane is an odourless, explosive and particularly strong greenhouse gas that contributes to climate change. It can build up in the ground and nearby buildings and become an explosion hazard. Regulatory agencies, *proponents* and *planning authorities* should always consider the possible presence of methane at or adjacent to lands that have been used for *landfilling* or dumps. Even landfills that are not operational continue to produce methane gas, hence it must be considered for both operating and non-operating landfills as described in sections 3 and 4 of the Appendix above. The extent of landfill gas subsurface migration depends on a number of factors such as landfill cover type, natural pathways (e.g. fractured rock), human-made pathways (e.g. drains, trenches etc.), and moisture conditions (wet vs. dry soil). **Appendix F** provides guidance in this area and is a replacement to the document [D-4-1 Assessing Methane Hazards from Landfill Sites](#).

## 6.2 Leachate and Groundwater / Surface Water

Leachate is a liquid that permeates the landfill and ‘leaches’ into the subsurface. It is a result of precipitation falling on the landfill, and runoff entering the landfill, or water from the decomposition of waste, which then passes through the waste before “leaching” out. It varies widely in composition and will depend on landfill characteristics such as the age of the landfill, and the depth and the type of waste deposited. The downwards migration of leachate, through waste into underlying soil can eventually reach the groundwater and, through the *discharge* of leachate-impacted groundwater, a surface water body.

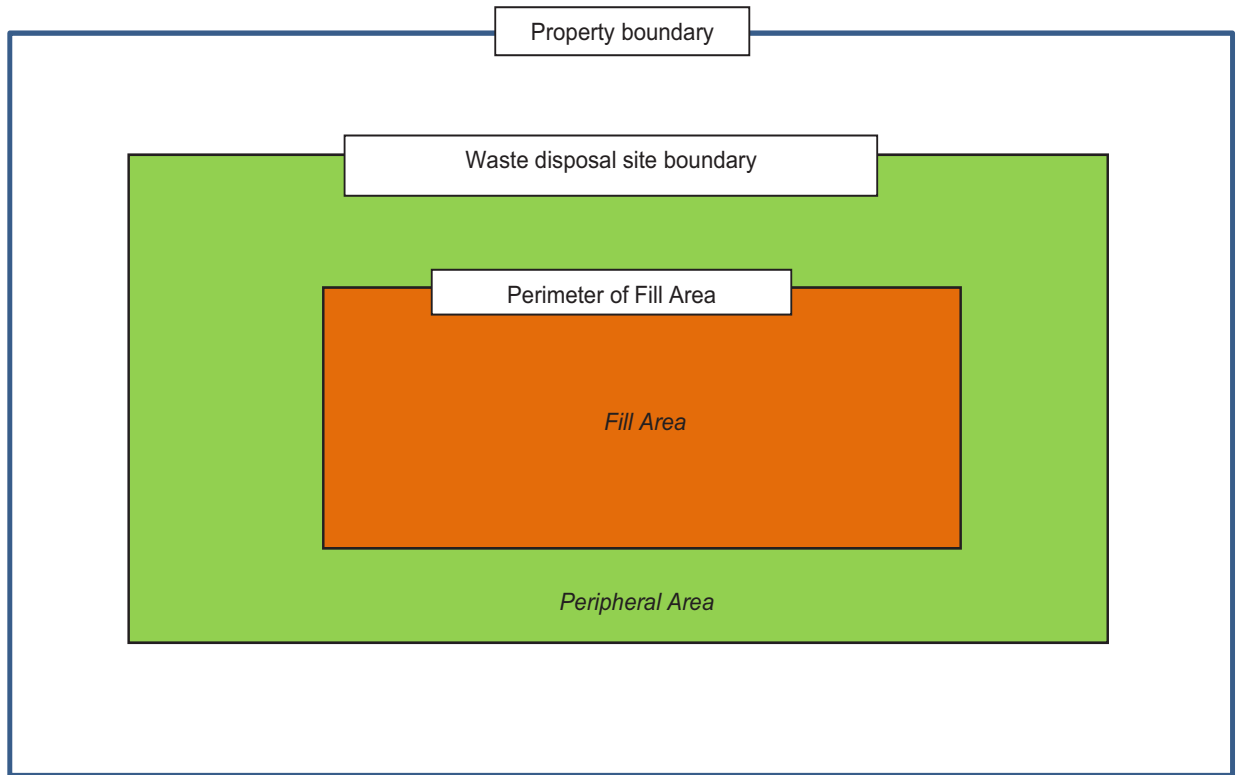
## 7. Land Use Considerations

### 7.1 How to Measure Separation Distance

**Section 2.4** of this Guideline indicates that *separation distances* should typically be measured from property boundary of the *major facility* (the landfill or dump in this case) to the property boundary of the *sensitive land use* (the proposed land use in this case, regardless of sensitivity). For landfills, instead of the property line, the waste disposal facility boundary may be used; this is because landfills are sometimes found within a property area boundary.

However, not using the property line does not take into account any future potential expansions to the landfill. It should only be done if future expansions of the landfill are not expected, and when the *buffer* area has been recognized in the zoning by-law or site plans. In these situations, the planning authority is encouraged to assess the appropriateness of this approach, taking into consideration the potential for future expansions, as using this approach may limit or prohibit future expansions of the landfill (due to incompatible land uses being too close). Finally, the *fill area* itself should not be used for the purposes of measuring *separation distances*.

See **Figure 6** for a conceptual diagram of these boundaries. Peripheral Area is the area controlled by the site owner/operator between the boundary of the waste disposal site and the fill area; together, the peripheral area and the fill area make up the *waste disposal site*; the peripheral area will contain the buffer areas required to be on-site.



**Figure 6 – Conceptual diagram of landfill/dump.**

Note: the *buffer* area would be between the property boundary and the perimeter of the *fill area* and/or *waste disposal site* boundary limits.

## 7.2 Determining the Case-by-Case AOI

When there are *sensitive land uses* proposed near an existing landfill or dump, the AOI will need to be determined on a case-by-case basis. Most of the requirements outlined in **Section 8.1** of this Appendix may not apply to new proposed landfills that are subject to the EA process.

The resources described in **Section 5** of this Appendix may help in a case-by-case determination of what the AOI for a particular open or closed landfill is, or if necessary, what the AOI for a proposed landfill will be. Information availability will vary on circumstances. For example, ECAs were never obtained for many historic landfills and dumps and proposed new landfills do not hold ECAs at the land use planning stage. Qualified individuals such as Licenced Professional Engineers should be hired to determine what the AOI is. Factors described in **Sections 3** and **4** of this Appendix should be considered; other factors to be considered include but are not limited to:

- age and status of the landfill (i.e. proposed, open, closed);
- regional and local hydrogeology, topography and geomorphology;
- presence of surface water features (e.g., river, lake, pond, wetland, etc.);
- landfill capacity and annual rate of waste disposal; and,
- types of waste.

For proposed landfills, the AOI will need to be estimated based on a facility that does not yet exist. The *compatibility study* elements identified in **Section 2.6** of this Guideline should be considered, but in many cases the EA process will account for the creation of an AOI, even if such terminology is not used in the EA process.

### 7.3 The 500 metre Minimum Separation Distance

The ministry has determined that the MSD for landfills and dumps is 500 metres. When the AOI is developed on a case-by-case basis, it must never be smaller than the MSD.

While 500 metres is the MSD, the *separation distance* required should be larger in certain situations. For example, there may be exceptional hydrogeological settings such as areas of fractured rock where leachate contaminated groundwater or gas could migrate beyond 500 metres.

It should also be noted that developing a new *sensitive land use* within the MSD of a landfill or dump will require a *demonstration of need* as described in **Section 2.8**.

### 7.4 Sensitive Land Uses Adjacent to Operating Landfills

*Planning authorities* should not allow *sensitive land uses* within the MSD. If it is unavoidable, *planning authorities* must not consider *Planning Act* applications for *sensitive land uses* on an adjoining property, and on *land used for waste disposal purposes* where there are completed or partially completed *fill areas*. It should be noted that it is not possible to file a Record of Site Condition under O. Reg. 153/04 if waste is present on the property.

### 7.5 Examples of Sensitive Land Uses for Operating Landfills

The PPS provides a definition of *sensitive land uses*, which gives examples of *sensitive land uses* and is not comprehensive. For the purposes of landfills currently in operation, this definition of *sensitive land uses* may include but is not limited to any existing or committed land use which includes the following:

- a permanent structure used in animal husbandry; or
- agricultural land used for pasturing livestock or growing crops; or

- a permanent structure where a person is present on a full-time basis; but not including, generally, uses such as food or motor vehicle service facilities adjacent to a highway, utility operations, scrap yards, heavy industrial uses, gravel pits, quarries, mining or forestry activities (note: some of these examples would be considered *major facilities*). These uses tend to be outdoors; or
- cemeteries.

## 7.6 Sequential Development

In considering long-range planning, the ministry recommends that *proponents* delay or phase certain types of land use to coincide with closure of sections of a landfill, or the operation itself, as *adverse effects* are reduced or eliminated. This approach shall only be permitted in cases where no risks to health or safety are present.

## 8. Assessment

The potential impacts described above in **Sections 3, 4** and **6** of this Appendix should be addressed through *compatibility studies* when they are needed as described in **Section 2.6** of this Guideline and other referenced technical documents. Hydrogeological assessment and engineering matters (e.g. noise) can be integrated in those studies or addressed in stand-alone reports.

When considering the *adverse effects* that may be created at each *landfilling* site, it should be noted that the overall extent, number, degree and frequency of *contaminant discharges* and visual problems can vary with each *landfilling* site. Consideration must be given to the nature of proposed land use(s). Accordingly, *compatibility studies* for landfills can vary significantly from one landfill to another.

Note that the AOI would need to be determined before these studies are done.

### 8.1 Hydrogeological/Engineering Studies

Once *compatibility studies* are triggered in the AOI of an open or closed landfill, where the hydrogeological and geological setting of the *proponent's* property and the inter-relationship with gas and/or leachate from the *fill area* are unknown, and/or if the proposed use is a new *sensitive land use* that is going to be reliant on groundwater for drinking water (if applicable), the *proponent* must ensure a qualified individual is retained to determine the subsurface conditions and leachate migration and, where necessary, propose remedial measures and controls (e.g. annual monitoring and sampling). Landfill gas assessment must be included.



For proposed landfills, there is an EA process that covers these requirements; Ontario Regulation 101/07: Waste Management Projects under the EAA (O. Reg. 101/07) defines which waste projects are subject to the EAA process. Requirements for hydrogeological and surface water assessment under Ontario Regulation 232/98 – *Landfilling Sites* ([O. Reg. 232/98](#)) are also provided for new or expanding *landfilling* sites where the total waste disposal volume of the site is greater than 40,000 m<sup>3</sup>. Hydrogeological and surface water assessment is required as set out in this regulation and the associated guideline titled [Landfill standards: A guideline on the regulatory and approval requirements for new or expanding landfilling sites](#). Requirements under [Regulation 347](#) apply to proposed landfills that fall outside of these regulations. Identifying sites for new landfills (or other types of waste management facilities) will also need to consider whether there are policies in local source protection plans that may restrict or prohibit the development in an area identified as a vulnerable area for the purpose of protecting existing and future sources of drinking water.

## 8.2 Noise Assessment

When assessing noise impacts from a *landfilling* site as part of *compatibility studies*, reference should be made to the document titled Noise Guidelines for Landfill Sites (October 1998). This document also describes mitigation measures that may be considered specifically for landfills. To retrieve a copy of this document if one is needed, please contact the ministry's Environmental Permissions Branch. For contact information, see: <http://www.infogo.gov.on.ca/infogo/home.html#orgProfile/183618/en>.

## 8.3 Controls and Monitoring for Adverse Effects

Where appropriate based on the results of *compatibility studies*, *planning authorities* must require, as a condition of approval, that a *proponent* include mitigation measures to deal with potential *adverse effects*. This is consistent with **Section 3.7** of this Guideline. Where mitigation measures are proposed, the planning authority should also require monitoring of mitigation measures and *contaminant* migration where necessary.

Also, where the planning authority requires monitoring and inspections on private property, the planning authority should require that a contract be executed between the *proponent* and the planning authority, in the form of, or as part of, an agreement that may be registered on title.

## APPENDIX F – ASSESSING METHANE HAZARDS FROM LANDFILL SITES

The following is a replacement to the document D-4-1 Assessing Methane Hazards from Landfill Sites.

### Introduction

This Appendix provides technical guidance to *proponents* and *planning authorities* on how to test for the presence and potential harm from methane in the subsurface originating from landfilled waste. The document does not address problems associated with gases other than methane or with asphyxiation when oxygen is displaced by gasses produced from buried waste. The requirements of this Appendix are intended to form a general basis for planning authority endorsement or advice.

### General comments on technical assessments

Methane will cause an explosion in an enclosed space, where it can be ignited, when accumulated to concentrations that range from the lower explosive limit (LEL) of 5% to the upper explosive limit (UEL) of 15% CH<sub>4</sub> by volume of air. For this to occur, the landfill gas that enters the enclosed space must have:

- a methane concentration between the LEL and UEL, and,
- both a high enough entry rate, and a high enough accumulation time, such that the methane concentration will still be above the LEL and below the UEL, after dilution by ventilation of the enclosed space.

Based on these points, a complete assessment of hazard should include consideration of the volume of gas containing methane at a concentration nearing the LEL that is moving into the enclosed space per unit time, and ventilation of the enclosed space. However, assessing hazardous conditions using the flux method does not provide reliable results and the required degree of certainty. In practice, safe conditions can only be assured by maintaining the methane concentration below the LEL. This is discussed further in **Appendix E**.

It is a relatively straightforward matter to install monitoring and alarm devices for methane in, beneath, and immediately adjacent to structures, and in any associated utility conduits and trenches. Furthermore, there is a high level of confidence that such devices will, if properly maintained, provide adequate warning. Therefore, these devices should be used where there is any doubt about whether or not methane could exceed 20% of the LEL at any time. Where gas control facilities are required to protect a structure, monitoring and alarm devices will be required, or recommended to ensure that the control facilities do maintain the methane concentrations below 20% of the LEL.

Major changes in weather, such as thunderstorms, may cause sudden increases in the concentration of methane at a point of concern and may also cause power interruptions. Therefore, back-up power should be provided to ensure that methane detectors, and ventilation systems will continue to function as necessary.

The assessment of landfill gas hazards is a specialized field and should be done by qualified individuals (e.g. a Professional Engineer). The assessment should include details on the equipment used as well as weather conditions on days when field work was conducted. However, *proponents planning authorities* should be aware of the following:

- It is important to use the proper instrument for measuring methane concentration in the subsurface. Most of the liquid waste and hazardous waste equipment commonly used to detect methane concentrations less than the LEL incorporates catalytic sensors. Such devices do not function properly in an anaerobic atmosphere, as is often present in landfill monitoring wells, without a special attachment.
- When methane concentrations greater than the LEL are expected, instruments using thermal conductivity sensors should be used. Such instruments are less sensitive than the catalytic type below the LEL.
- The concentration of methane and the landfill gas gauge pressure that will be measured in a monitoring well in a landfill may be influenced by changes in barometric pressure. There may be a delay of several hours before the landfill gas pressure and escape rate equilibrate to a changed barometric pressure. This should be considered when assessing monitoring data.

Where studies are available that demonstrate that methane is not present in the landfilled waste at a concentration greater than 20% LEL, it can be assumed that methane from that landfill is not present on Adjacent Property at a higher concentration.

Property near a landfill that might be threatened by landfill gas is called the Adjacent Property, even though other property may separate it from the landfill. Thus, it may not be necessary to assess all the property in the vicinity of a landfill to establish safe conditions for development.

Various activities, such as the construction of utility conduits, ditches and trenches, creating new impervious surfaces such as parking lots, filling in existing perimeter ditches and ponds and groundwater pumping may provide new pathways for methane migration or change the rate at which methane is produced. The impact of such activities on methane production and migration should be considered in advance of these activities taking place.

## **Rationale for the requirements of the Guideline**

The minimum concentration of a particular combustible gas or vapor necessary to support its combustion in air is defined as the Lower Explosive Limit (LEL) for that gas. Below this level, the mixture is too “lean” to burn. For methane, 5% mixture in air is the LEL.

The maximum concentration of a gas or vapor that will burn in air is defined as the Upper Explosive Limit (UEL). Above this level, the mixture is too “rich” to burn. For methane, 15% mixture in air is the UEL. The range between the LEL and UEL is known as the flammable range for that gas or vapor.

To add a margin of safety, this Appendix considers concentrations greater than 20% of the LEL to warn conditions which could be potentially hazardous and gas control systems should be designed to maintain concentrations below this level. And, concentrations greater than 20% LEL may be associated with still higher concentrations, exceeding the LEL.

However, if sufficient anaerobically decomposing organic material is present, the concentration of methane will be more than 10% LEL for many years and measuring methane concentrations within the landfilled waste may not prove to be a useful assessment method. Subsurface landfill gas monitoring at the landfill property line or within on-site or off-site structures (e.g., buried utilities, trenches, foundations, basements, etc.) is a more reliable method for assessment of the potential hazards.

A number of factors may influence the migration and the concentration of methane in the subsurface, and several are dependent on both short term and seasonal weather conditions (e.g. barometric pressure trends, soil moisture and pH, temperature, frozen ground). Therefore, to safely assess the influence of seasonal variations and spatial and temporal distribution of methane, three hydrological cycles of monitoring and sampling with multiple samples across the weather seasons are normally required. The design of sampling and monitoring program should be site-specific and should be prepared and carried out by a qualified individual.

The assessment of the concentration of methane in the subsurface on adjacent property (i.e., property located near a landfill) is more complex than is the assessment of its concentration within the waste and therefore longer periods of monitoring, including multiple samples across the weather seasons, are needed to assess the adjacent property. This is in part due to the fact that in the assessment of adjacent properties must consider the impact of weather conditions on both the production of methane and the migration of methane, as well as the complexity of the migration pathways must be considered.

## Decommissioning and the installation of protective facilities

The ministry would consider that landfill gas control, alarm and monitoring systems could be safely decommissioned under the following circumstances (Note **Section 2.5** of this Appendix):

- For developments that overlie buried waste—Where the initial concentration of methane was greater than 10% LEL, monitoring systems may be decommissioned if methane concentration remains less than 20% LEL for three years, with any active gas control facilities not functioning.
- For developments that do not overlie buried waste—Where the initial concentration of methane was greater than 10% LEL, systems may be decommissioned if methane concentration remains less than 20% LEL for five years, with any active gas control facilities not functioning. Where the initial concentration of methane was less than 10% LEL, one year of monitoring, with any active gas control facilities not functioning, and showing methane concentration less than 10% LEL, would be needed.

Note however, that **Appendix E** of this Guideline requires *compatibility studies*, which must include landfill gas assessment, when *sensitive land uses* are proposed within the AOI of a landfill or dump (which is, in turn, determined on a case-by-case basis). Bear in mind also that a change in land use on the lands identified above may affect migration on adjacent lands.

Passive gas control facilities, that is facilities that do not rely on air blower or gas suction equipment, cannot be “turned off” and require maintenance or periodic inspection for proper operation. Therefore, monitoring facilities cannot be decommissioned at sites that rely on passive gas control facilities for safety, unless it can be shown that maintenance and/or inspection is not necessary.

There may be cases where a *proponent* wishes to proceed with development before all of the monitoring data that would be necessary to assess the site can be collected. Under such circumstances safe conditions can be achieved if protective facilities are installed that would warn of unsafe conditions and activate abatement. Initially, it should be assumed that worst case conditions are present, and the concentration of methane is greater than 20% LEL outside the structures that are to be protected. Facilities must then be designed and installed that will operate to prevent concentrations greater than 20% LEL from occurring outside these structures. When it can be shown that the concentration of methane is less than 20% LEL, the facilities may remain on standby. Monitoring, as outlined in this Guideline, would still be required and the responsibilities must be assumed by an appropriate authority.

## **Alternatives to regulating by concentration**

The ministry uses the concentration of methane as the main criterion for providing protection. This approach has been criticized in that it could occasionally prohibit developments where no danger exists or require gas control facilities where none are needed. There are those who suggest that these restrictions could be avoided if a way could be found to provide protection by using the broader criterion known as flux or by using some other approach. This matter has been examined and it was concluded that there are serious drawbacks associated with each of the alternate approaches that have been proposed. These approaches and their drawbacks are as follows:

**Approach**—Develop a means of measuring flux and allow exemptions where the flux is less than some safe upper limit. For example, where a building code requires minimum air exchange rates for ventilation in dwellings, allow a methane flux that would not create a hazard provided the requirements of the building code have been met.

**Drawback**—Safe conditions cannot be related to the minimum number of air exchanges required for health and comfort in living areas. Even though the habitable space of a dwelling may have enough ventilation to dissipate a potentially hazardous flux of methane and provide safe conditions, there may still be enclosed spaces where explosive gas mixtures could develop. Examples are closets, cupboards, fuse boxes and basement cold rooms. Further, buildings are occasionally closed for a vacation or renovations. At such times, normal ventilation could be sufficiently reduced to allow dangerous concentrations of methane to develop in the interior. Therefore, the dividing line between non-hazardous and hazardous in terms of flux into living areas is not known.

As for monitoring methane flux in the underground, no instrument capable of doing this has yet been developed to a satisfactory stage. Even if it were possible to measure the magnitude of a flux of methane in the underground, it would still be uncertain how much of a hazard that particular flux constituted under various circumstances in various locations.

**Approach**—Seal the outsides of structures to prevent methane entry.

**Drawback**—Even if all methane entry points into a building could be sealed, additional openings might develop later. For example, cracks may develop in the basement wall, or openings may be made for such things as utility conduits.

**Approach**—Allow exemptions for sources of methane that, because of their size or the rate at which they produce methane, will not produce sufficient methane to be hazardous.

**Drawback**—The various types of landfill sites cannot be distinguished by the amount of organic material or methane they contain, with possible exceptions being ash disposal

sites and hazardous *waste disposal sites*. No method is available to determine the minimum amount of buried organic material that could pose a hazard in a landfill site. Even small amounts of buried organic material, such as soil or putrescible wastes, can produce methane at concentrations above the LEL. Such concentrations can occur in otherwise relatively clean soil fill. Therefore, the Ministry is unable to suggest a way to provide exemptions from safety restrictions on the basis of a minimal content of organic material.

Approach—Allow exemptions where the soil type would prevent the movement of sufficient methane to be hazardous.

Drawback—Hazardous amounts of methane will probably not move through saturated soils and unfractured clayey soils. However, near-surface clayey soils are commonly fractured. All soils are subject to possible de-watering by construction. For example, where a high-water table previously blocked methane migration, the construction of a new utility trench could lower the water table, and allow methane migration.

For these reasons, the ministry does not believe that any of these proposed approaches provides reliable protection against explosion hazards from landfill gas. Therefore, the ministry must continue to regulate methane hazards on the basis of concentration even though in some cases this approach may be too restrictive. Where an applicant believes that restrictions based on concentration can be safely relaxed, supportive evidence on a case by case basis will be considered by the ministry. Where there are uncertainties, the ministry will allow them to be resolved through monitoring before development proceeds.

## APPENDIX G – GLOSSARY

**Adverse effect(s):** means one or more of:

- a) impairment of the quality of the natural environment for any use that can be made of it;
- b) injury or damage to property or plant or animal life;
- c) harm or material discomfort to any person;
- d) an *adverse effect* on the health of any person;
- e) impairment of the safety of any person;
- f) rendering any property or plant or animal life unfit for human use;
- g) loss of enjoyment of normal use of property; and
- h) interference with normal conduct of business

(EPA)

**Amenity Area:** an outdoor space or facility that is used for the enjoyment of persons residing in or utilizing any building(s) on the property/premises.

**Area of Influence:** an area surrounding the property boundary of an existing or planned *major facility* where *adverse effects* on surrounding *sensitive land uses* have a moderate likelihood of occurring. An alternate AOI may be determined by the planning authority based on a technical and scientific process similar to a *compatibility study*.

**Buffer:** A method of control used to prevent or minimize the *adverse effects* of incompatible land uses and may be in the form of:

- 1. a land area or intervening space sufficient to provide the necessary distance separation; or
- 2. a natural or human-made feature such as a berm, wall, barrier, planting, topography, trench, fence or other structure or technical control (e.g. solid brick walls, triple-glazed windows to lessen the effect of noise); or
- 3. a land use different from the 2 conflicting ones but compatible with each; or
- 4. any combination of the above, interposed between conflicting land uses.

**Compatibility Study(ies):** a study that assesses potential *adverse effects* and recommends *separation distances* and mitigation measures, if needed, to limit impacts to surrounding land uses.

**Contaminant:** means any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that causes or may cause an *adverse effect* (EPA).



**Demonstration of Need:** a study that determines whether there is an identified need for the proposed use in the proposed location, and if alternative locations for the use have been evaluated and there are no reasonable alternative locations.

**Discharge:** when used as a verb, includes add, deposit, leak or emit and, when used as a noun, includes addition, deposit, emission or leak (EPA).

**Employment Area:** areas designated in an official plan for clusters of business and economic activities including, but not limited to industrial uses, manufacturing, warehousing, offices, and associated retail and ancillary facilities (PPS).

**Environmental Assessment:** a study which assesses the potential environmental effects (positive or negative) of an individual proposal. Key components of an EA include consultation with government agencies and the public; consideration and evaluation of alternatives; and, the management of potential environmental effects. Conducting an EA promotes good environmental planning before decisions are made about proceeding with a proposal.

**Environmental Compliance Approval:** an approval issued under Part II.1 of the EPA.

**Fill Area:** the area of a *waste disposal site* set aside for *landfilling* or dumping.

**Fugitive Dust:** dust or suspended particulate matter that is generated due to mechanical disturbance of granular material (e.g. dirt, soil). Fugitive dust sources may be separated into two broad categories: process sources (e.g. rock crushing) and open dust sources (e.g. material handling/storage).

**Infilling:** development on vacant lots or underdeveloped lots within a built-up area.

**Intensification:** means the development of a property, site or area at a higher density than currently exists through:

- a) redevelopment, including the reuse of brownfield sites;
- b) the development of vacant and/or underutilized lots within previously developed areas;
- c) infill development; and
- d) the expansion or conversion of existing buildings (PPS).

**Land Used for Waste Disposal Purposes:** the land comprising the *fill area*, where *landfilling* or dumping has occurred, and the land which is being used or is to be used for the leachate *buffer area* and/or the gas *buffer area*; the land may be on- or off-site.

**Landfilling:** the disposal of waste by deposit, under controlled conditions on land or on land covered by water and includes compaction of the waste into a cell and covering the waste with cover materials at regular intervals (Regulation 347).

**Major Facilities(y):** facilities which may require separation from *sensitive land uses*, including but not limited to airports, manufacturing uses, transportation infrastructure and corridors, rail facilities, marine facilities, sewage treatment facilities, *waste management systems*, oil and gas pipelines, industries, energy generation facilities and transmission systems, and resource extraction activities (PPS).

**Major Transit Station Area:** the area including and around any existing or planned higher order transit station or stop within a settlement area; or the area including and around a major bus depot in an urban core. Major transit station areas generally are defined as the area within an approximate 500 to 800 metre radius of a transit station, representing about a 10-minute walk (A Place to Grow).

**Minimum Distance Separation:** means formulae and guidelines developed by the Province, as amended from time to time, to separate uses so as to reduce incompatibility concerns about odour from livestock facilities (PPS).

**Minimum Separation Distance:** a recommended minimum distance within which *adverse effects* are highly likely to occur and incompatible development should not normally take place.

**Municipal Comprehensive Review:** means new official plan, or an official plan amendment, initiated by an upper- or single-tier municipality under section 26 of the *Planning Act* that comprehensively applies the policies and schedules of A Place to Grow.

**Planning Authorities:** means the various agencies that make decisions on land use planning. This includes the entity or body with planning approval authority under the *Planning Act* (e.g. The Minister of Municipal Affairs and Housing, the council of a municipality, a local board, and a planning board). Note that decisions of the Local Planning Appeal Tribunal when determining appeals of decisions made by a planning authority under the *Planning Act* must also be consistent with that Act and the PPS.

**Point of Reception:** means any location on a noise *sensitive land use* where noise from a stationary source is received. Noise *sensitive land uses* may have one or more points of reception (NPC-300).

**Proponent:** means any person who makes an application under the *Planning Act*. For the purpose of this Guideline, this includes developers of *sensitive land uses* and developers of *major facilities*. Proponent can also mean a person who makes an application for approvals under other legislation, such as the *Environmental Assessment Act*.

**Sensitive Land Uses:** 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 environment. Examples may

include, but are not limited to: residences, day care centres, and educational and health facilities (PPS).

**Separation Distance:** the distance between a *sensitive land use* and a *major facility*. This distance is usually measured from property line to property line, except as described in **Section 2.4**.

**Settlement Area:** means urban areas and rural settlement areas within municipalities (such as cities, towns, villages and hamlets) that are:

- a) built-up areas where development is concentrated and which have a mix of land uses; and
- b) lands which have been designated in an official plan for development over the long-term planning horizon (A Place to Grow).

**Vectors and Vermin:** disease-carrying organisms, insects, rodents, birds (especially gulls) and other harmful creatures (e.g., bears).

**Warning Clause:** Means a notification of or obligation to notify a potential purchaser or tenant of a potential annoyance due to an existing source of environmental noise. When circumstances warrant, agreements that are registered on title to the lands in question should incorporate provisions for using *warning clauses*. *Warning clauses* would be included in agreements of Offers of Purchase and Sale, lease/rental agreements and condominium declarations (NPC-300, with modifications).

**Waste Disposal Site:** means,

- a) any land upon, into, in or through which, or building or structure in which, waste is deposited, disposed of, handled, stored, transferred, treated or processed, and
- b) any operation carried out or machinery or equipment used in connection with the depositing, disposal, handling, storage, transfer, treatment or processing referred to in clause (a) (EPA).

**Waste Management Systems:** means sites and facilities to accommodate solid waste from one or more municipalities and includes recycling facilities, transfer stations, processing sites and disposal sites (PPS).

## APPENDIX H – LIST OF ABBREVIATIONS

Abbreviation	Definition
AAR	Acoustic Assessment Report
Air Emissions EASR	Ontario Regulation 1/17: Registrations Under Part II.2 of the Act – Activities Requiring Assessment of Air Emissions
AOI	<i>Area of Influence</i>
BMPP	Best Management Practices Plan
CPPS	Community Planning Permit System
EAA	Environmental Assessment Act
EA	Environmental Assessment
EASR	Environmental Activity and Sector Registry
ECA	Environmental Compliance Approval
EPA	Environmental Protection Act
A Place to Grow	A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020
Guideline(s)	Land Use Compatibility Guideline
MDS	Minimum Distance Separation (Ontario Ministry of Agriculture, Food and Rural Affairs')
MMAH	Ministry of Municipal Affairs and Housing
MSD	Minimum Separation Distance
MTSA	Major Transit Station Area
NAICS	North American Industrial Classification Standards
NEF/NEP	Noise Exposure Forecast/Noise Exposure Projection
NFPPB	Normal Farm Practices Protection Board
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
OP	Official Plan
OPA	Official Plan Amendment
OWRA	Ontario Water Resources Act
PNSM	Primary Noise Screening Method
PPS	Provincial Policy Statement, 2020
The Ministry	Ministry of the Environment, Conservation and Parks

## APPENDIX I – CASE STUDIES

### Case Study 1: Importance of early and ongoing collaboration

A municipality received a planning application to develop lands for mixed commercial and residential use adjacent to an existing manufacturing plant. The development consists of multi-level residential buildings with commercial uses on the lower floors. To permit the redevelopment in the area surrounding the plant, the municipality amended the OP and zoning by-law which include lands within 300 metres of the plant. The new development would fall within the AOI of the manufacturing plant.

The plant has operated since the early 1960s and operates 24 hour per day, 7 days per week. Its operations produce noise, *fugitive dust*, and odour emissions. The plant has an ECA and has been inspected several times over the years with no compliance issues identified during the inspections. The plant does not have a history of noise or odour complaints.

The plant owners raised concerns about the redevelopment in the area, and in particular, how its operations may result in noise and odour impacts at the new residential buildings.

To help prepare for the eventual redevelopment in the area, the ministry worked collaboratively with all parties (i.e., municipality, plant owner and developer) to ensure that the area is developed in a manner that allows the plant to continue its operations.

The plant owners conducted source testing to quantify the impacts of odour emissions from the plant. The results were used to assess and manage odours from the plant and the impact on the proposed residential development. A *compatibility study* addressing odour was jointly prepared by the plant owners and the developer.

The plant owners and developers entered into a range of agreements to introduce noise and odour mitigation measures at the plant (at-source) and noise mitigation measures at the residential buildings (at receptor). The legally binding agreements ensured that the noise levels agreed to by all parties would be met and that noise control measures would be maintained for the long-term. The developers paid for a range of mitigation measures, and these were identified in agreements. Mitigation measures included:

- At-source: modification or replacement of noise-generation equipment at the plant, additional odour controls to reduce odour emissions at the facility.
- At-receptor: buildings designed and built with no openings or residential units that face the plant to minimize or eliminate the noise impacts

Over the years, a number of other residential and commercial developments have been built within the AOI and even the MSD of the site. The plant has maintained its practice of early and effective engagement with *sensitive land uses* and the municipality, and use of agreements, including three-party agreements that include the municipality as a signatory. The municipality's critical role in seeking land use compatibility at the site over the years has included but not been limited to: OPAs, secondary plan development, negotiating acceptable mitigation measures, amending the zoning by-law and being a signatory to some of the key agreements.

Note: At receptor noise control measures are only acceptable in ministry permissions if the new development is designated by the municipality as a Class 4 Area (NPC-300).

## Case Study 2: Importance of community relations

A rendering plant has been operating for decades in a former industrial area and it is now surrounded by residential land uses. The closest residential unit is 80 meters from the plant; therefore, within the MSD of the plant. The plant operates 24 hours per day, 7 days per week and previously the ministry received hundreds of complaints about odours from the plant per year. The plant operated under an ECA and is in compliance with all zoning and municipal by-laws. The local public health department determined that the plant's emissions are not toxic and do not pose a health risk to the community.

Over the years the company has made significant investments trying to mitigate the odours. The ministry monitors the odour issues and regularly visits the plant in response to complaints from local residents. The ministry asked the company to submit an odour abatement plan for approval. The company's plan included mitigation measures such as:

- Increasing the height of the stacks on the roof to disperse the emissions;
- Maintaining equipment;
- Completing a ventilation assessment; and
- Changing the method it uses to dispose of wastewater.

The company also installed new odour reduction technology.

Throughout the odour reduction process, which took two years to complete, the company has maintained good community relations by attending public meetings held pursuant to various processes, such as *Planning Act* approvals for the surrounding residential developments when they were proposed. The company also communicated regularly with local politicians, area residents and ministry staff. Even today, the company frequently informs all parties on its progress to install and fine tune the new odour reduction technology, including reporting on any anticipated delays or issues. As such, they still communicate regularly, and mitigation measures are expected to be maintained over time.

By maintaining good community relations, area residents responded well and provided the company with the opportunity to explain their operations and actions taken to reduce odours and address complaints (which have dropped considerably over time). Although considerable expenses were incurred, these would have been greater if the company had not made efforts in maintaining good community relations. The company's community relations program helped de-escalate the situation and allowed the company time to address the complaints. Conflicts between *sensitive land uses* and *major facilities* can often be avoided through open communication and with the use of best management practices.

### Case Study 3: Addressing Compatibility Near a Quarry

A development site is located near a 400-series highway on the periphery of a large municipality and is approximately 75 hectares in size, made up of three distinct parcels. The developer is proposing approximately 18 net hectares to be used for light (low-profile) industrial and employment generating uses and approximately 10 net hectares for retail uses. There is an active bedrock quarry adjacent to the site.

The surrounding land uses include agricultural land abutting site to the north, an active bedrock quarry abutting the western boundary, a residential subdivision under development located to the east (adjacent to site, but across a municipal road) and a major retail center to the south east. The site is currently zoned Development Reserve (DR), is intended as a future location for appropriate zoning to implement the OP designation of Employment and Enterprise Area. The municipality recognizes the lands for future urban development.

Applications for an OPA and zoning by-law amendment were received to facilitate the development of a business park. The applicant was looking to rezone from Development Reserve to a Business Park Industrial Zone (IP). The IP zone would have the effect of accommodating a range of office, light industrial and employment generating uses.

An Aggregate Impact Assessment which took into account vibration from quarry blasting was completed as part of the application process (and at the request of the quarry operator) and recommended the prohibition of all *sensitive land uses* within 513 meters of the adjacent mineral aggregate resource ensuring only compatible non-*sensitive land uses* are located within 513 meters of the aggregate site. It took into account vibration from quarry blasting.

The OP contains policies regarding aggregate resources, ensuring that they are close to markets, protected from incompatible land uses and that they have minimal negative impacts on communities. The applicant submitted an Aggregate Impact Assessment, which sought to identify suitable land uses within 500 meters of the existing quarry and exclude *sensitive land uses* that would otherwise be impacted by vibration from the quarry blasting.

Findings of the assessment were that the *sensitive land uses* typically found within a zoning of IP would be prohibited by a provision until such time that a detailed vibration study could demonstrate that there will be no negative impacts from quarry. The standard uses that would be prohibited by this provision include uses such as day cares, hotels, places of assembly, etc.

The detailed zoning by-law also requires that all *sensitive land uses* be prohibited within 513 meters of the existing bedrock quarry (including a 30-meter blasting setback, which was confirmed with the quarry operator's license), ensuring only compatible non-*sensitive land uses* are located in proximity to the aggregate operation.



A private agreement was established between the applicant and quarry operator as part of the *Planning Act* approval and Aggregate Impact Assessment process. The agreement included holding provisions (i.e. a vibration study would need to be completed to allow any additional land uses in the future), limited land uses on adjacent land, and covenants on title to ensure that no future re-zoning applications in future years would negatively impact the quarry.

#### Case Study 4: Importance of Using AOIs

A manufacturing plant opened in a small rural community in the early 1950s. The once isolated plant became surrounded by *sensitive land uses* including a housing development and daycare. The new neighbors complained to the ministry that they were being negatively impacted in their homes by the fumes and noise coming from the manufacturing plant.

The ministry ordered the owner of the plant to assess noise, dust and odour emissions, develop an abatement plan and implement an enhanced complaint response procedure.

The plant completed the studies, hosted a public meeting to report on its progress and established a public liaison committee.

To address some of the neighbours' concerns, the plant also reduced its hours of operation, reformulated some of its raw materials and relocated some of its operations to another plant in the United States – resulting in a loss of jobs.

The plant subsequently failed an inspection by the ministry as some regulations are based on the proximity of sensitive receptors (e.g. the new homes). As a result, the plant was charged with an offence under the EPA. The company investigated alternate production methods and at-source mitigation technology that would meet the environmental standards. The company decided that neither solution was economically feasible and moved all operations to the United States resulting in the loss of several hundred jobs.

The municipality's decision to allow residential housing around the manufacturing plant did not serve the best interest of the community. Municipalities have to carefully consider how their land use planning decisions will impact their community, both now and in the future. Use of the AOI would have helped in this scenario; *compatibility studies*, had they been done early enough, would have shown the risks and potential impacts of approving this housing development.

## Case Study 5: Impacts from a Former Landfill

This case study focuses on a landfill that was in operation between the 1950s and 1960s where due to lack of records the extent of its *fill area* was unknown. In the following years, the area experienced fast development, with various manufacturing operations and *sensitive land uses* such as residential developments being established adjacent and in close proximity to the closed landfill.

These developments resulted in unsafe housing conditions and evacuation of some of the nearby houses, as well as leachate impacts to the groundwater which resulted in significant impacts to the municipality's water supply resulting in decades of costly remediation.

To prevent these outcomes, approaches as described in **Appendix D** of this Guideline can assist the planning authority. Municipalities should consider factors discussed in **Appendix D** prior to approving a development near a closed or operating landfill.

To prevent *adverse effects* and potential for explosion hazards from landfill gas migration, municipalities should require *proponents* proposing to locate near existing landfills to complete *compatibility studies* and consider factors such as landfill gases, primarily methane, as well as groundwater and surface water contamination by landfill leachate.

## APPENDIX J – REFERENCES AND RESOURCES

The purpose of this Appendix is to summarize key references and resources that may be relevant to land use compatibility or implementing this Guideline. If documents referenced in these sections are not available online, they can be obtained by contacting a ministry District Office. To find contact information for your closest District Office, see: <https://www.ontario.ca/environment-and-energy/ministry-environment-district-locator>.

Reference / Resource	Description
<b>Ministry of Municipal Affairs and Housing– Planning Act</b>	
<a href="#"><u>Planning Act</u></a>	The <i>Planning Act</i> sets out the ground rules for land use planning in Ontario and describe how land uses may be controlled, and who may control them.
<a href="#"><u>Municipal Act</u></a>	The <a href="#"><u>Municipal Act, 2001</u></a> sets out rules for 443 of 444 Ontario municipalities (the <i>City of Toronto Act</i> applies to the City of Toronto) and recognizes them as a responsible and accountable level of government.
<a href="#"><u>Provincial Policy Statement 2020</u></a>	The Provincial Policy Statement provides policy direction on matters of provincial interest related to land use planning and development.
<a href="#"><u>Land Use Planning</u></a>	Ministry of Municipal Affairs and Housing Land Use Planning website
<a href="#"><u>Land Use Planning Resources</u></a>	Webpage contains resources and information relating to various aspects of the Ontario land use planning system and includes guidance documents on implementing the Provincial Policy Statement.
<a href="#"><u>A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020</u></a>	A Place to Grow is the Ontario government’s initiative to plan for growth and development in a way that supports economic prosperity, protects the environment, and helps communities achieve a high quality of life.
<a href="#"><u>Municipal Services Offices</u></a>	These offices help implement policies and programs of the Ministry of Municipal Affairs and Housing.

Reference / Resource	Description
<a href="#">Citizen's Guide to Land Use Planning</a>	This guide provides an overview of the rules and processes municipalities follow for community development and growth in Ontario.

## Ministry of the Environment, Conservation and Parks

### Legislation

<a href="#">Environmental Protection Act</a>	Legislation defining <i>adverse effects</i> (both negligible and <i>adverse effects</i> ) on the environment along with other information that land use planners should take into account.
<a href="#">Environmental Assessment Act</a>	For more information on what types of projects require an <i>Environmental Assessment</i> .
<a href="#">Ontario Water Resources Act</a>	Legislation defining impairment of waters and setting the framework for approvals and permissions related to water resources.
<a href="#">Clean Water Act</a>	Legislation that protects sources of drinking water through source protection plans. Source protection plans identify vulnerable areas and include policies that may prohibit or restrict development where it includes activities that are threats to drinking water within the vulnerable areas.

### Environmental Permissions– General Information

<a href="#">Environmental Permissions</a>	Provides information on the ministry's environmental permissions.
<a href="#">Environmental Compliance Approval</a>	Provides information on how to apply for an <i>Environmental Compliance Approval</i> .
<a href="#">Environmental Activity Sector Registry</a>	Provides information which activities and facilities are eligible for registration on the Environmental Activity Sector Registry.
<a href="#">Ontario Regulation 1/17: Registrations Under Part II.2 of the Act – Activities Requiring Assessment of Air Emissions</a>	Regulation for Activities Requiring Assessment of Air Emissions

Reference / Resource	Description
<a href="#">Ontario Regulation 245/11 – Registrations Under Part II.2 of the Act–General</a>	Regulation for Environmental Activity Sector Registry registration
<a href="#">Operational Practice for Obtaining EPA Section 46 Approval for Use of Lands Previously used for Waste Disposal</a>	Section 46 of the <i>Environmental Protection Act</i> requires the approval of the Minister of Environment, Conservation and Parks for the use of lands previously used for waste disposal at any time within 25 years from the last deposition of waste.
<a href="#">Ontario Renewable Energy Approvals</a>	Provides information about Ontario’s renewable energy approvals.
<a href="#">Ontario Regulation 359/09 Renewable Energy Approvals</a>	Regulation on renewable energy approvals. Note: this Guideline does not apply to renewable energy facilities.

### Environmental Assessment – General Information

<a href="#">Environmental Assessments in Ontario</a>	Describes the <i>Environmental Assessment</i> process and gives links to information on different types of <i>Environmental Assessments</i> . Also allows searching for <i>Environmental Assessment</i> projects by category (i.e., transportation, waste management, transit, etc.).
<a href="#">List of Class Environmental Assessments</a>	Provides information on approved Class <i>Environmental Assessments</i>
<a href="#">Code of Practice: Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario</a>	This Code of Practice outlines the legislative requirements and the Ministry of the Environment, Conservation and Parks’ expectations for the preparation and review of a terms of reference for environmental planning.
<a href="#">Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario</a>	This Code of Practice outlines the legislative requirements and the Ministry of the Environment, Conservation and Parks’ expectations for the preparation and review of an <i>Environmental Assessment</i> .

Reference / Resource	Description
<a href="#">Code of Practice: Preparing, Reviewing and Using Class Environmental Assessments in Ontario</a>	This Code of Practice provides direction on procedural requirements to <i>proponents</i> preparing and/or revising class <i>Environmental Assessments</i> .
<a href="#">Guide to Environmental Assessment Requirements for Electricity Projects</a>	This Guide is designed to assist <i>proponents</i> in determining what <i>Environmental Assessment</i> requirements (if any) apply to a particular electricity project.
<a href="#">Guide to Environmental Assessment Requirements for Waste Management Projects</a>	This Guide is designed to assist <i>proponents</i> in determining what <i>Environmental Assessment</i> requirements (if any) apply to a particular waste management project.
<a href="#">Guide to Environmental Assessment Requirements for Transit Projects</a>	This Guide is designed to assist <i>proponents</i> in determining what <i>Environmental Assessment</i> requirements apply to a particular transit project.

### Ministry District Offices and Compliance – General Information

<a href="#">Compliance Policy: Applying Abatement and Enforcement Tools</a>	This policy sets out the approach Ministry staff will use to determine the severity of an incident. For incidents that are determined to be more severe in nature, this Policy requires staff to consider a mandatory abatement response. For less severe incidents, this Policy permits staff to consider a voluntary abatement response.
<a href="#">District Office locator</a>	Locator for ministry District Offices

### Dust and other Air Emissions

<a href="#">Ontario Regulation 419/05: Air Pollution- Local Air Quality</a>	Regulation governing the air emissions for a facility. The <i>proponent</i> must be in accordance with this regulation when applying for an <i>Environmental Compliance Approval</i> .
<a href="#">Ontario Regulation 530/18: Air Pollution–Discharge of Sulphur Dioxide from Petroleum Facilities</a>	Regulation governing <i>discharge</i> of sulphur dioxide from petroleum facilities.

Reference / Resource	Description
<a href="#"><u>Technical Bulletin: Management Approaches For Industrial Fugitive Dust Sources</u></a>	This technical bulletin is an overview of best management practices for industrial sources of <i>fugitive dust</i> emissions.
<a href="#"><u>Air Emissions Environmental Activity and Sector Registry Regulation Resources</u></a>	Find technical publications, guidelines, tools and resources relating to the Air Emissions Environmental Activity and Sector Registry regulation.
<a href="#"><u>Air emissions user guide for environmental activity and sector registry</u></a>	Describes requirements related to Noise Emissions under O. Reg. 1/17.
<a href="#"><u>Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling Report</u></a>	Provides guidance on the requirements to produce an Emission Summary and Dispersion Modelling (ESDM) report under Ontario Regulation 419/05: Air Pollution–Local Air Quality.
<a href="#"><u>Pre-submission requirements for industry air approvals</u></a>	Maps that can be used of the of the Hamilton/ Burlington and Sarnia/Corunna areas to determine if an industry is required to obtain pre-submission requirements for an <i>Environmental Compliance Approval</i> application.
<a href="#"><u>Technical Standards Registry: Air Pollution</u></a>	Provides details on the facilities that are registered under a technical standard pursuant to subsection 39(3) or 39(4) of O. Reg 419/05.

### Noise and Vibration

NPC-103–Procedures	This Publication comprises the various measurement procedures to be used in connection with other Publications which provide limits or standards for sound or vibration.
NPC-104 – Sound Level Adjustments	Publication related to sound level adjustments.
NPC-119–Blasting	This document provides limits on sound (concussion) and vibration due to blasting operations.



Reference / Resource	Description
NPC-207–Impulse Vibration in Residential Buildings	This document provides a method for assessment of impulse vibration measured inside occupied residential buildings, caused by the operation of stationary sources of vibration including, but not limited to, stamping presses and forging hammers.
<a href="#">Information to be Submitted for Approval of Stationary Sources of Sound (NPC-233)</a>	Guidance on technical information to be submitted for approval to operate sources of sound and vibration and specifies the information to be included in acoustic and vibration audit.
<a href="#">Environmental Noise Guidelines: Stationary and Transportation Sources – Approval and Planning (NPC-300)</a>	<p>The objective of these Guidelines is to address the proper control of sources of noise emissions to the environment.</p> <p>The assessment for most <i>major facility</i>'s noise impacts should follow the process outlined in these Guidelines.</p> <p>Part C provides guidance for land use planning and includes sound level limits for assessment of the noise impact on <i>sensitive land uses</i> and specifies procedures to determine sound levels due to transportation sources and stationary sources.</p>
<a href="#">Primary Noise Screening Method Guide</a> <a href="#">Primary Noise Screening Method Form</a>	The Primary Noise Screening Method may be used to assess noise emissions from a facility to calculate <i>minimum separation distances</i> and to confirm that there is a sufficient <i>separation distance</i> between a facility's noise source and the closest <i>point of reception</i> to ensure that the facility's noise emissions will not exceed the ministry's noise Guidelines.
<a href="#">Secondary Noise Screening Method Guide</a> <a href="#">Secondary Noise Screening Method Form</a>	The Secondary Noise Screening Method may be used to assess noise emissions from a facility using calculations and site-specific conditions to predict sound levels at nearby points of reception to ensure that the facility's noise emissions will not exceed the ministry's noise Guidelines.

Reference / Resource	Description
<a href="#"><u>Environmental Activity and Sector Registry Publication – Chapter 3</u></a>	Sets out the sound level limits for activities eligible for the Air Emissions Environmental Activity and Sector Registry Publication.
<a href="#"><u>Acoustic Assessment Report Check-List</u></a>	Checklist for Acoustic Assessment Report
<a href="#"><u>Guidelines for New Development in Proximity to Railway Operations</u></a>	These guidelines establish a process to reduce land-use incompatibilities for developments in proximity to railway operations.
Ontario Ministry of Environment and Energy / GO Transit Draft Protocol for Noise and Vibration Assessment	This document identifies the framework within which criteria will be used to assess noise and vibration from proposed GO Transit rail projects.
Ministry of the Environment and Climate Change/Toronto Transit Commission Protocols for Noise and Vibration Assessment	Protocols for the assessment of noise and vibration impacts from Toronto Transit Commission subway lines.
Ontario Provincial Standard Specification 120 – General Specification for the Use of Explosives	General specification from the Ministry of Transportation about the use of explosives.

### Odour

<a href="#"><u>Best Management Practices for Industrial Sources of Odour</u></a>	The purpose of this technical bulletin is to provide information on Best Management Practices at facilities that are identified as having potentially odorous activities and processes, and to provide guidance on how to prepare a Best Management Practices Plan for Odour.
<a href="#"><u>Environmental Activity and Sector Registry Publication – Chapter 4</u></a>	Sets out activities and processes with potential odours and setback distances to determine if further odour reports are required for the Air Emissions Environmental Activity and Sector Registry.

## Reference / Resource

## Description

### Source Water Protection

[Source Protection](#)

For information about the importance of protecting the sources of our drinking water. Includes hyperlinks to the approved source protection plans.

[Source Protection Information Atlas](#)

Search for a location to see if it is in a vulnerable area. If your location is in a vulnerable area, look at the source protection plan to find out what activities are prohibited or need to be managed.

### Sector Specific Guidance

#### Waste Disposal Facilities (Landfills)

[Landfill Standards: A Guideline on the Regulatory and Approval Requirements for New or Expanding Landfilling Sites](#)

Guidelines dealing with regulatory/approval requirements for design, operation, closure, and post-close care of new or expanding waste *landfilling* sites.

[Ontario Regulation 232/98 – Landfilling Sites](#)

Regulation dealing with the requirements for capturing landfill gas for large landfills and site limits for methane gas along with other information.

Noise Guidelines for Landfill Sites – October 1998

This Publication establishes sound level limits for landfill site operations and specifies information that needs to be submitted for noise impact assessment and approval.

[Regulation 347: General-Waste Management](#)

Ontario's general waste management regulation.

#### Sewage Works

[Design Guidelines for Sewage Works](#)

Guidance on the *separation distances* needed between sewage works and sensitive receptors to surface water.

## Reference / Resource

## Description

### Composting Facilities

[Guideline for the Production of Compost in Ontario](#)

Guidance on the production of compost in Ontario. More specifically, guidance dealing with the regulation of odour, impact assessments, containment, treatment, etc. when dealing with compost.

[Ontario Compost Quality Standards](#)

Document outlining the regulations that must be adhered to for compost in Ontario. This document speaks to trying to prevent *adverse effects* on the environment via compost and meeting high standards for quality.

### Aggregates

[Aggregate Resources Act](#)

An Act that has the purposes of providing for the management of the aggregate resources of Ontario; controlling and regulating aggregate operations on Crown and private lands; requiring the rehabilitation of land from which aggregate has been excavated; and minimizing the adverse impact on the environment in respect of aggregate operations.

[How to apply for an aggregate licence or permit](#)

Applicants under the Aggregate Resources Act can find application information relating to the criteria for licence, aggregate permit and wayside permit applications. This includes criteria for assessing noise impacts and requirements for dust suppression or collection.

[Aggregate Resources of Ontario](#)

This is the source for provincial information about deposits of mineral aggregate resources. The Aggregates Resources of Ontario was compiled from published reports and maps contained in Aggregate Resources Inventory Papers.

**Reference / Resource**

**Description**

**Cannabis**

[Cannabis Act](#)

The [Cannabis Act](#) creates a legal framework for controlling the production, distribution, sale and possession of cannabis across Canada.

[Cannabis Regulations](#)

Regulations under the [Cannabis Act](#) set out the rules and standards that apply to the production, distribution, sale, importation and exportation of cannabis by federal licence holders.

**Other Resources**

[2009-04 Environmental Warnings and Restrictions](#)

States when environmental warnings and restrictions can be registered.

## APPENDIX K – INFORMATION ON SECTORS NOT INCLUDED IN THIS GUIDELINE

This Guideline does not provide specific land use compatibility direction with regards to locating some *major facilities*, or their approvals, including: airports, transportation infrastructure and corridors (e.g., transit stations), rail facilities, marine facilities, oil and gas pipelines, energy generation facilities and transmission systems and some resource extraction activities. This Guideline, however, applies to encroachment of *sensitive land uses* on some of these facilities. This Guideline also does not address specific land uses which may not be *major facilities*, as defined by the PPS, but which may also have compatibility requirements, such as agricultural uses. Additionally, this Guideline does not apply to activities associated with *major facilities* that do not require land use approval under the *Planning Act*, such as temporary aggregate, asphalt or concrete facilities associated with the construction or rehabilitation of transportation facilities. However, these activities may require other approvals (e.g., ECA) to address potential adverse effects to nearby *sensitive land uses*. This section provides background information and resources related to these sectors, which may be helpful in considering land use compatibility for these uses. The information provided here is not inclusive of all resources and legislation that may exist for these sectors.

### Airports and Aerodromes

Transport Canada uses Noise Exposure Forecast/Noise Exposure Projection contours to provide the actual and forecasted aircraft noise in the vicinity of airports and aerodromes. Where noise forecasting or projections have been developed, the contours for land use planning in the area should be used. Contact the airport authority or aerodrome operator for copies of the noise forecasts or projections.

The best practice is for *planning authorities* to use noise contours to develop “airport operating areas” which are identified in OPs together with appropriate policies. This is a transparent way to share this information and to use more easily identifiable landmarks (e.g. roads, railways, valleys) to identify the noise contours themselves. Given the importance, rarity and economic significance of airports the need to ensure the potential for their future expansion, and the need to allow for 24-hour operation, a best practice is to consider protection to lower noise contour levels. For example, rather than the maximum 30 Noise Exposure Forecast/Noise Exposure Projection (NEF/NEP) used by Transport Canada, some *planning authorities* are restricting *sensitive land uses* down to 28 NEF/NEP.

For more information on the NEF/NEP contours, please see [Transport Canada’s website](#).

For airports and aerodromes that do not have NEF/NEP contours, please refer to Transport Canada’s [Aviation: Land Use in the Vicinity of Aerodromes \(Reference Number TP1247E\)](#).

## Transportation Infrastructure and Corridors, Rail and Marine Facilities

The construction of many major transportation infrastructure and corridors, including highways, transit corridors and arterial roads, has requirements under Ontario's EA process. There are four different EA processes that may apply:

1. [Municipal Engineers Association Municipal Class EA](#) – Provides a process for municipalities to assess the impacts of roads.
2. [Class EA for Provincial Transportation Facilities](#) – Provides a process for the Ministry of Transportation to assess the impacts of provincial transportation facilities including highways.
3. [Guide to EA Requirements for Transit Projects](#) – A document which outlines the process specified in Ontario Regulation 231/08: Transit Projects and Metrolinx Undertakings for the assessment of the impacts of transit projects.
4. [Individual EA](#) – Project-specific process to assess the impacts of road or highway projects larger than those permitted to proceed under the Municipal Engineers Association Municipal Class EA or Ministry of Transportation Class EA.

EA documents can be reviewed for the potential *adverse effects* of transportation infrastructure and corridors when considering *sensitive land use* development in surrounding areas. The EAs may not have been completed recently, and therefore should not be fully relied upon in the preparation of detailed *compatibility studies*. The date of the studies should be considered and to see if new information is available that may impact the projections made at the EA stage, such as changes to traffic volumes, landscaping, lines-of-site, etc.

When locating *sensitive land uses* near existing highways, roads and railways, the Ministry's Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning [NPC-300](#) and other applicable guidelines can assist in determining what the noise impacts of these transportation corridors are.

In addition, anyone planning to construct on or adjacent to a provincial highway may require a permit from the Ministry of Transportation. The Ministry of Transportation issues permits under the [Public Transportation and Highway Improvement Act](#) for entrances, buildings, signs, and encroachment either onto or adjacent to provincial highways to manage access and preserve the function of provincial transportation corridors.

The Ministry of Transportation's [Highway Corridor Management Manual](#) contains policies, guidelines, best practices and specifications for managing building and land use, encroachments, access and signs within the Ministry's controlled area under the [Public Transportation and Highway Improvement Act](#) and applications for permits are submitted through the Highway Corridor Management System.

The Ministry of Transportation's [Freight-Supportive Guidelines](#) can be consulted for advice on planning for transportation facilities and corridors in a way that supports safe and efficient movement of freight while integrating and balancing the compatibility of surrounding land uses and needs of other transportation system users.

When considering new development near railways, the Federation of Canadian Municipalities and the Railway Association of Canada's [Guideline for New Development in Proximity to Railway Operations](#) should be consulted. This Guideline provides information on common issues, mitigation, barriers and review processes for new development and *infilling* near railways.

When considering new development near marine facilities, the [Canada Marine Act](#) and [Canadian Environmental Protection Act](#) should be consulted.

## **Oil and Gas Pipelines**

*Proponents* can consult the guide "[Land use planning for pipelines: A guideline for local authorities, developers, and pipeline operators](#)" for guidance on land use compatibility for oil and gas pipelines.

The ministry's Guideline [D-3 Environmental Considerations for Gas or Oil Pipelines and Facilities](#) also outlines the environmental considerations that the Ministry advises the Ontario Energy Board and/or the National Energy Board to take into account when they give approval to gas or oil pipelines and facilities under their jurisdiction.

## **Energy Generation Facilities and Transmission systems**

The following legislation governs the planning of energy generation facilities and transmission facilities:

- Ministry of Environment, Conservation and Parks: *Green Energy Act*
- O. Reg. 359/09 under the *Electricity Act*
- *Ontario Energy Board Act* (Board approves construction of new transmission/distribution facilities)

ECAs under the EPA govern noise, odour and *contaminant* emissions from these facilities/systems.

The Canadian Nuclear Safety Commission regulates all stages of the life of each nuclear power plant in Canada, from the EA required before plant construction, to the decommissioning of the facility once operations are ended.



## **Resource Extraction related to Petroleum and Salt Production**

Oil, natural gas, and salt are produced in southwestern Ontario using wells licenced by the Ministry of Natural Resources and Forestry under the [Oil, Gas and Salt Resources Act](#).

Records for oil, natural gas, or salt mining wells licences are housed at the Oil, Gas and Salt Resources Library in London, Ontario and are also available online at [www.ogsrlibrary.com](http://www.ogsrlibrary.com). Basic well information, including location, is available free of charge.

In addition to licenced wells, there are many wells predating licencing requirements that have long since ceased to be used and have no identifiable operator. Their location is often unknown as no records were required at the time. Orphan wells such as these that are encountered during development can present a hazard to human or environmental health or safety and may need to be plugged.

For more information, and to obtain a licence to plug an orphan well, please contact the Ministry of Natural Resources and Forestry's Petroleum Operations Section by calling 519-873-4634 or emailing [POSRecords@ontario.ca](mailto:POSRecords@ontario.ca).

## **Resource Extraction related to Mining**

The Ministry of Energy, Northern Development and Mines has issued two guidance papers on municipal planning near mines. The first, *Provincial Policy Statement 2.4 Mineral Resources and Municipal Planning* provides guidance on the protection and access to mineral resources.

The second guidance paper, *Provincial Policy Statement 3.2 Mining-Related Hazards and Municipal Planning* provides guidance on municipal planning near former or current mining operations due to related hazards such as open shafts, deep pits or unstable ground.

To obtain copies of these documents please contact the local Ministry of Energy, Northern Development and Mines office.

## **Agricultural Uses**

Agricultural uses are not considered *major facilities* in the PPS and as such are not specifically referenced under this Guideline. Instead, compatibility for this broad suite of land uses is addressed through various other tools that are developed and implemented by different levels of government depending on the topic. Other policies of the PPS also speak to agricultural uses and compatibility.

Prime agricultural areas are intended to be the places in Ontario where all types of agricultural uses can prosper. To support this, the PPS recognizes a wide variety of agricultural uses and associated normal farm practices should be promoted and protected in accordance with provincial standards. Provincial land use policies permit agricultural uses in prime agricultural areas and rural lands. Municipalities may also choose to permit agricultural uses in additional land use planning designations and zones.

Certain ancillary activities also form part of the agricultural use if they are considered “value-retaining”, such as drying, cleaning and sorting.

In the context of considering compatibility for agricultural uses, a number of guidelines and best practices inform provincial standards, including:

*Minimum Distance Separation (MDS) Document: [Formulae and Guideline for Livestock Facility and Anaerobic Digester Odour Setbacks, 2016](#)*

In prime agricultural areas and rural lands, the policies of the PPS direct that new land uses, including new or expanding livestock facilities, shall comply with the MDS formulae.

MDS is a land use planning tool implemented by municipalities to calculate reciprocal setback distances between livestock facilities, anaerobic digesters and other surrounding land uses. The tool is intended to address odour compatibility for livestock facilities and anaerobic digesters. It does not apply to other agricultural uses, such as mushroom or cannabis operations. Nor was it designed or intended to address other potential disturbances from livestock facilities and anaerobic digesters such as noise, dust, or flies, etc. For more information on MDS, please refer to the [Minimum Distance Separation \(MDS\) Document, 2017](#).

#### *Nutrient Management Act, 2002*

While “Industrial Anaerobic Digestion Facilities” are identified in this Guideline, some anaerobic digestion facilities are located on farms and are considered agricultural uses, not *major facilities*. Some of the considerations for the agricultural nature of an anaerobic digestion facility may include that some of the feedstocks are agricultural source materials; or that the facility is located on an agricultural operation and is integrated into the activities of the agricultural operation.

Some anaerobic digesters, as well as certain greenhouses and livestock facilities, are subject regulations under the *Nutrient Management Act, 2002*. For more information on nutrient management, please refer to [this website on the topic](#) by OMAFRA.

## *Farming and Food Production Protection Act, 1998*

The *Farming and Food Production Protection Act* (FFPPA) establishes a process to ensure that agricultural operations can appropriately engage in normal farm practices. More specifically, the Act enables the Normal Farm Practices Protection Board (NFPPB) to hear matters related to:

1. Practices carried out by an agricultural operation which may result in noise, dust and odour, light, vibration, smoke or flies; and,
2. Municipal by-laws that potentially restrict an agricultural operation from carrying out normal farm practices.

The NFPPB is responsible for determining whether an activity in a particular location constitutes a normal farm practice, or whether a municipal by-law restricts a normal farm practice.

Decisions issued by the NFPPB must be consistent with any directives, guidelines or policy statements issued by the Minister of Agriculture, Food and Rural Affairs in relation to agricultural operations or normal farm practices.

The act defines a normal farm practice as one that:

- 1) “is conducted in a manner consistent with proper and acceptable customs and standards, as established and followed by similar agricultural operations under similar circumstances, or
- 2) makes use of innovative technology in a manner consistent with proper advanced farm management practices.”

Consequently, there is no definitive list of normal farm practices. Relevant information on best management practices related to a specific farm practice may be considered, such as:

- [Understanding and Reducing Noise Nuisance From Stationary Farm Equipment](#)
- [Using Propane-Fired Cannons to Keep Birds Away From Vineyards](#)
- [Wind Machines for Minimizing Cold Injury to Horticultural Crops](#)

Some agricultural uses may involve activities that are normal farm practices but may not be fully understood or accepted by neighbours or visitors (e.g., the use of propane bird bangers and wind machines for growing tender fruit and grapes, or the spreading of manure as part of raising livestock and maintaining soil nutrients). As a first step, when a complaint is received, OMAFRA staff will offer mediation services in an attempt to address the issue. If a resolution is not successful, then the matter may proceed to the NFPPB for a hearing. Where the NFPPB determines an agricultural operation

is following normal farm practices, the *Farming and Food Production Protection Act* permits an agricultural operation to continue the activity despite potential disturbances. The *Farming and Food Production Protection Act* does not provide agricultural operations the authority to violate other applicable legislation (e.g. EPA, *Pesticides Act*, *Health Protection and Promotion Act*, OWRA). This provides the assurance and flexibility necessary for agricultural operations to succeed in prime agricultural areas while balancing the needs of rural Ontario with regard to provincial health, safety and environmental concerns. For additional information on normal farm practices, please refer to [OMAFRA's website on the topic](#).

### *Agricultural Impact Assessment Guidance Document*

Provincial land use plans for the Greater Golden Horseshoe may require an Agricultural Impact Assessment for certain proposed non-agricultural uses in prime agricultural areas (e.g., settlement area boundary expansions, infrastructure and mineral aggregate operations). This guidance document discusses how to undertake an Agricultural Impact Assessment to improve compatibility between agricultural and non-agricultural uses. It focuses on how a proposed use can avoid or, if avoidance is not possible, minimize and mitigate adverse impacts to the agricultural system. Please refer to [OMAFRA's website](#) for more information.

### *Guideline on Permitted Uses in Ontario's Prime Agricultural Areas*

To support the implementation of the PPS, the Province has issued guidance on the various land uses that are permitted in prime agricultural areas. These guidelines contain information on agricultural uses, as well as direction on how to improve compatibility for agriculture-related uses (e.g. commercial grain dryers) and on-farm diversified uses (e.g. a welding or woodworking shop). For more information on permitted uses, please refer to the [Guideline on Permitted Uses in Ontario's Prime Agricultural Areas](#).

### *Cannabis Production Facilities*

For the purposes of this Guideline, cannabis production is the term used to refer to the entire cultivation process (i.e. growing plants, harvesting, drying and storing), whereas cannabis processing refers, for example, to the subsequent manufacturing of edible cannabis, cannabis extracts and cannabis topicals. Sorting and packaging may fall into either category depending on the scale, extent and type of the packaging.

The Guideline applies to indoor cannabis production facilities in areas zoned for industrial uses within *settlement areas*, and all cannabis processing facilities as these facilities are considered industrial uses.

Cannabis production facilities may be considered agricultural uses (e.g. the growing of crops and associated value-retaining uses) and are therefore subject to PPS, 2020 policies 2.3.3.2 and 1.1.5.2 d) respectively, which permits agricultural uses and normal farm practices in accordance with provincial standards in prime agricultural areas and on rural lands. Cannabis production facilities in *settlement areas* and zoned industrial, and cannabis processing facilities are addressed by these guidelines, see more information in **Appendix D**.

The *Farming and Food Production Protection Act* establishes a process to determine whether a specific agricultural activity is considered a normal farm practice when considering disturbances such as noise, odour, and light. For more information, please refer to OMAFRA's website on the [Normal Farm Practices Protection Board](#).