

COMMERCIAL FILL OPERATIONS – OPTIONS FOR POLICY AND REGULATION

FINAL STUDY



PREPARED FOR:

Town of Caledon
6311 Old Church Road
Caledon, ON
L7C 1J6

PREPARED BY:

Canadian Urban Institute
30 St. Patrick Street, 5 Floor
Toronto ON M5T 3A3

416-365-0816
info@canurb.org

DATE:

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EXECUTIVE SUMMARY

The Canadian Urban Institute was retained to conduct this study to assist the Town of Caledon in developing policies and regulations to manage commercial fill operations. The study included research and interviews to assess the issues, emerging trends, policies and regulations related to the management of excess soil and commercial fill operations and an open house to receive community input on the regulation of commercial fill operations in Caledon. The study informed a description of best practices for the management of commercial fill operations and recommendations for policy development.

Commercial Fill Operations

A recent RCCAO report estimated almost 26 million m³ of excess soil was generated in Ontario 2015¹ - a significant volume of material that is being transported and must be accommodated on receiving sites throughout Ontario. *Commercial fill operations* are one option for the management of this soil. These are often defined by municipalities as sites which accept more than 10,000 m³ of material or involve remuneration. Due to their size and scale they must be managed effectively to prevent negative impacts to the environment and community.

Caledon

Both because of its proximity to the Greater Toronto Area and because Caledon is home to several closed aggregate sites, it could receive requests to accommodate large volumes of soil. Caledon's current fill and site alteration by-law and Official Plan do not specifically address commercial fill operations. The Town commissioned this study to help it develop recommendations to update its policy and regulatory framework.

Community Consultation

Input from the Caledon community on commercial fill operations suggests:

- Protecting soil and groundwater quality are areas of greatest concern to residents;
- Commercial fill operations, if accepted in the Town, must be managed through appropriate controls to prevent adverse impacts on the environment or community;
- Effective enforcement and fees should be implemented;
- Closed aggregate sites are frequently identified as areas of lower concern for accepting commercial fill; and
- Exempting fill for agricultural operations from regulations, within limits, is important for Caledon's established agricultural industry.

Key Recommendations

1. **Update Caledon's Fill and Site Alteration By-Law.** A rigorous by-law is the best tool for the regulation and administration of commercial fill operations. Update the Town of Caledon's *by-law* to *prohibit or regulate the placing or dumping of fill* to specifically address and regulate commercial fill operations, to align with the MOECC Best Management Practices for Excess Soil, to establish requirements to protect the community and soil and groundwater quality and to set fees appropriate to cover the Town's cost in administering soil importation.
2. **Promote Due Diligence Related to Water and Soil Quality.** Implement measures to support due diligence related to water and soil quality, such as by requiring fill management plans, peer review by a Qualified Person for all commercial fill operations and hydrogeological baseline studies and plans for ongoing monitoring.
3. **Create a Site Alteration Agreement.** Create a template site alteration agreement to be used for commercial fill operations.
4. **Update the Official Plan.** Expand Section 6.2.16 – Site Alteration and Tree By-Laws Section of Caledon's Official Plan to include a description of the Town's objectives for site alterations and commercial fill operations and to provide the auspices for the fill and site alteration by-law. Add a section on soil reuse, to conform with new Ontario land use plans.
5. **Enable Enforcement.** Help ensure the enforceability of regulations for commercial fill operations by including appropriate clauses in the fill and site alteration by-law, by considering the use of performance bonds and by coordinating with other municipalities and Conservation Authorities to share enforcement resources.
6. **Coordinate with Conservation Authorities.** Coordinate with the Conservation Authorities of Toronto and Region, Credit Valley, Lake Simcoe Region, and Nottawasaga Valley to align approaches to managing excess soil with the Town's policies and objectives and discuss potential for joint-circulation on large scale site alteration applications.
7. **Align Town Operations.** Integrate Town policies and regulations that address the management of excess soil and commercial fill sites with broader environmental policies. Track sites that may be generating or requiring large quantities of soil to help facilitate soil reuse. Finally, consider identifying sites that may be suitable for excess soil receipt or storage.

¹ RCCAO (2017). Quantification of Excess Construction Soils in Ontario. Retrieved from: <http://rccao.com/news/files/RCCAO-Quantification-of-Excess-Soils-04-25-2017.pdf>

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1. INTRODUCTION

The Town of Caledon commissioned this study of existing policy, best practices and to receive community input on how to optimize its regulatory framework to address commercial fill operations.

1.1 Reason for this Study

Excavations for land development projects, including building foundations, transportation infrastructure and sewer and watermain works are generating significant quantities of soil in Southern Ontario. When this soil cannot be reused on site, it becomes *excess soil* and may be accommodated on other sites, known as *receiving sites*.

Commercial fill operations are one type of receiving site that have been established in some municipalities to receive large volumes of soil. In municipal fill and site alteration by-laws, commercial fill operations are usually defined as sites where soil is being purchased and/or when the volume of soil received at the site exceeds a certain threshold. Many municipalities use a threshold of 10,000 m³.

The Ontario Ministry of the Environment and Climate Change (MOECC) encourages the beneficial reuse of excess soil “in a manner promoting sustainability and the protection of the environment”². Proper regulation is required to ensure that commercial fill operations and soil receiving sites, in general, do not create adverse effects for the natural environment or surrounding community.

Both because of its proximity to the Greater Toronto Area and because Caledon is home to several closed aggregate sites, it could receive requests to accommodate commercial fill operations. There are currently no by-law provisions, Official Plan policies or zoning regulations related specifically to commercial fill operations in the Town of Caledon. To give the Town time to carry out a study on the regulation of commercial fill operations, it enacted an Interim Control By-law for a period of one year commencing on June 28, 2016 to prohibit commercial fill operations

What is Excess Soil?

The consultation draft of the new Ontario Regulation for On-Site and Excess Soil Management to be made under the Environmental Protection Act defines Excess Soil and Soil as follows:

“excess soil” means soil that has been excavated as part of a project and removed from the project area for the project; and

“soil” means unconsolidated naturally occurring mineral particles and other naturally occurring materials resulting from the natural breakdown of rock or organic matter by physical, chemical or biological processes that are smaller than 2 millimetres in size or that pass the US #10 sieve.

(and similar uses) on all lands zoned “Extractive Industrial”, certain lands within the Niagara Escarpment Plan, and certain areas licensed under the Aggregate Resources Act to permit aggregate extraction. The Interim Control By-law was subsequently extended for an additional period of one year, expiring June, 2018.

The Town of Caledon retained the Canadian Urban Institute to conduct a study and provide recommendations for policy development about how the Town can optimize its regulatory framework to address commercial fill operations.

² Ontario Ministry of the Environment and Climate Change (2015). Management of Excess Soil – A Guide for Best Management Practices.

Retrieved from: <https://www.ontario.ca/page/management-excess-soil-guide-best-management-practices>

1.2 Method

To provide the Town with information to support the development of its policies and regulations, the Canadian Urban Institute reviewed existing fill and site alteration by-laws and Official Plans in Ontario and other jurisdictions and conducted interviews with municipalities and other stakeholders involved with commercial fill operations and large scale site alterations to understand the relevant issues, emerging trends, policies and regulations³.

An open house was held on March 22, 2017 to receive community input on the issues, concerns and future directions regarding policies and regulations to address commercial fill operations. Attendees at the open house were asked to identify the types of regulations they would like to see in updates to the land use policy; and areas of high, medium and low concern for the potential establishment of commercial fill operations. This input received is summarized at a high level in the body of this report and in detail in Appendix I to the report.

³ The policy and regulation related to the management of excess soil in Ontario is quickly evolving. This report reflects policy and regulation that is in effect at the time of publication.

2. POLICY CONTEXT

While there has been significant development in the Provincial guidance and policy around the management of excess soil in recent years, there is very little specific policy direction about commercial fill operations. The main instrument for regulation of these operations has been under the auspices of the Municipal Act through individual municipal fill and site alteration by-laws.

2.1 Overview

The policy context for the management of excess soil in Ontario is evolving, and particularly so in the last few years as the Province and individual municipalities respond to address the significant amount of excess soil generated and transported across Ontario. There is, however, very little specific policy or regulation related to the management of large scale fill sites or commercial fill operations.

Commercial fill operations are addressed in the MOECC's guidance documents and the Proposed Excess Soil Regulatory Package at a high level only. Most Provincial plans and policies do not specifically address soil deposition, soil storage or commercial fill operations. Further, commercial fill operations have not typically been addressed by municipalities and regions in Official Plans or Regional Plans. However, the issue is gaining more attention lately with references to excess soil being included in recent updates to Ontario land use plans and being incorporated into more recent Ontario municipal Official Plan amendments.

While specific guidance and policy on commercial fill operations does not currently exist, guidance by the MOECC on receiving sites, and the restrictions around site alterations in the provincial land use plans, can be applied by municipalities when developing regulations for large scale site alterations and commercial fill operations.

In recent years, many municipalities around the Greater Toronto Area have used their authority under the auspices of the Municipal Act to create detailed fill and site alteration by-laws, site alteration agreements and associated guidance documents to aid in the approval, regulation, oversight and enforcement of these operations.

A more detailed analysis of the policy and regulatory framework related to the management of commercial fill operations, as large-scale soil receiving sites or site alterations, is provided in the following sections of this document.

The discussion is organized into four categories:

- Provincial Guidance and Proposed Regulation
- Municipal Act and Fill and Site Alteration By-Laws
- Planning Act, Provincial Policy Statement and Provincial Plans
- Other Provincial Acts

Key findings about the implication of each guidance, policy or regulatory document on how a municipality might best manage commercial fill operations are provided at the end of each subsection.

2.2 Ontario Provincial Guidance and Draft Regulation

The Ministry of the Environment and Climate Change has taken the lead in the development of Provincial guidance related to the management of excess soil in Ontario. A description of the guidance and policy documents developed by the MOECC as well as the Excess Soil Management Regulatory Proposal related to the management of excess soil on soil receiving sites are discussed in this section.

Management of Excess Soil – A Guide for Best Management Practices (BMP) – 2014

Management of Excess Soil – A Guide for Best Management Practices (BMP) was developed by the MOECC to provide guidance on how to handle excess soil from where it is excavated, during transportation and through to the receiving site, where it can be reused for beneficial purpose. The BMP encourages the “beneficial reuse of soil in a manner promoting sustainability and the protection of the environment”. It also encourages municipalities to “consider all tools available to assist in sustainable excess soil management at the local level” and to consider the concepts set out in the best management practices when establishing by-laws or policies for the management of excess soil.

It lists commercial fill sites as a potential management option for the reuse of excess soil, but does not provide specific guidance on their management or operation; however, the information provided on the topics below will be relevant in the regulation and management of all fill operations.

Public Consultation: The BMP recommends pre-consultation with local municipalities, applicable Conservation Authorities, and any local First Nations and Metis Communities, as well as public consultation and the incorporation of comments. Public consultation is particularly important for commercial fill operations, which can have significant public impacts, and can be required, through a fill and site alteration by-law, as a condition of receiving a site alteration permit.

Receiving Site Management: Although not specific to commercial fill operations, the guidance provided in the BMP on receiving sites is relevant to the management and regulation of these operations. More specifically, the BMP includes descriptions of suggested components of a Fill Management Plan, which outlines the overall condition and operation of the receiving site, and a Traffic and Transportation Management Plan, which addresses the transportation of soil from the source site through to the receiving site. Requirements to produce these plans are typically included in fill and site alteration by-laws.

Soil Quality: The most significant risk of ineffective soil management is causing an adverse effect or degradation of the receiving site, with potential secondary impacts on the neighbouring environment and public health. The BMP encourages excess soil reuse so long as there have been proper analyses, conducted by a qualified person (QP), of both the source and receiving sites to demonstrate appropriate reuse with no potential to cause an adverse effect. Soil quality at the receiving site is typically regulated through fill and site alteration by-laws. Soil quality at the source site is proposed to be regulated through a proposed regulation as part of the Excess Soil Management Regulatory Proposal⁴.

Municipal Soil Management Plans: The BMP also recommends that municipalities work with Conservation Authorities to track projects that may generate excess soil and identify sites that may require excess soil. It suggests the creation of a long-term management plan to help anticipate soil generation and demand and help support soil reuse within the municipality.⁵

Implications for Commercial Fill Operations

- Update municipal fill and site alteration by-laws using the guidance in the MOECC BMPs on receiving sites, including requiring public consultations, Fill Management Plans and Traffic and Transportation Management Plans and including requirements for soil testing at both source and receiving sites by a Qualified Person.
- Coordinate with conservation authorities.
- Align town operations to incorporate long term planning for excess soil.

⁴ Ministry of the Environment and Climate Change (2018). Excess Soil Management Regulatory Proposal. Retrieved from: <https://ero.ontario.ca/notice/013-2774>

⁵ Ontario Ministry of the Environment and Climate Change (2014). Management of Excess Soil – A Guide for Best Management Practices. Retrieved from: <https://www.ontario.ca/page/management-excess-soil-guide-best-management-practices>

Excess Soil Management Policy Framework – 2016

The *Excess Soil Management Policy Framework* was developed to by the Ministry of the Environment and Climate Change to guide policy development in support life cycle management of excess soil.

It acknowledges that existing policy tools do not provide adequate oversight over the life cycle of excess soil, that current oversight focuses on receiving sites and that municipalities and conservation authorities are the main permitting bodies for these receiving sites through fill and site alteration by-laws and conservation authority regulations. The Framework describes:

Key roles of a municipality in the management of excess soil: “oversight, review, assessment and permitting of receiving sites, integrating provincial guidance into municipal fill and site alteration by-laws, and coordinating with conservation authority permissions”

It also encourages municipalities to “integrate sustainable excess soil management as appropriate into [planning and development decisions and infrastructure decision and contract”.

The Framework includes commercial fill operations in the definition of receiving sites, but similar to the BMP, does not provide specific guidance on their management or operation. The action plans in the Framework are directed at various government ministries, but actions with potential

applicability to the Town in regulating commercial fill operations may include:

Action 8: Indicates Ministry of Municipal Affairs (MMA) will coordinate development of a by-law tool and promote the municipal role in effective management of excess soil at receiving sites, including larger (commercial) sites. Further to this action, CUI was retained by MMA to develop the Excess Soil By-Law Tool (www.excesssoils.com). This tool provides sample by-law language for use in developing municipal fill and site alteration by-laws. Key components are summarized in the Best Practices section of this report.

Action 9: Indicates MMA and Ministry of Natural Resources and Forestry (MNRF) will explore ways to improve compliance and enforcement with Municipal Act and Conservation Authorities Act Regulations. Proposed changes are included in the proposed Excess Soil Regulatory Package.

Action 10: Indicates MNRF will consider requiring record keeping for fill being brought to licensed and permitted aggregate sites through the Aggregate Resources Act. While these permitted sites are under MNRF jurisdiction, these record keeping requirements will provide better information to municipalities on the condition of fill once rehabilitation is complete. This amendment was subsequently made to the Aggregate Resources Act. See discussion of that Act in the Other Acts section for further information.

Action 15: Indicates MMA, MOECC and partner ministries will encourage municipalities to develop soil reuse strategies as part of planning for growth and development through provincial plan amendments. See further discussion under the Provincial Policy section of this report.

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Implications for Commercial Fill Operations

- Update municipal fill and site alteration by-laws using the guidance in the MOECC BMPs. Example language from the Excess Soil By-Law tool and other recently updated municipal by-laws can be used to support development.
- Access MNRF records for rehabilitated aggregate sites, where available, to better understand their condition.
- Align town operations to incorporate excess soil reuse strategies.

⁶ Ontario Ministry of the Environment and Climate Change (2016). Excess Soil Management Policy Framework. Retrieved from:

http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-6065%20final.pdf

Proposed Excess Soil Regulatory Proposal – 2018

A Proposed Excess Soil Management Regulatory Proposal was posted on the Ontario Registry for Ontario on April 16, 2018, with comments accepted until June 15, 2018. The stated intent of the proposal is to “clarify responsibility for managing excess soil and conditions for reuse of excess soil”.

The proposed amendments focus mostly on source sites and do not specifically reference commercial fill operations; however, the improvements to source site regulations will be beneficial to the operators and regulators of receiving sites as there should be more consistency in the management and documentation of source sites.

The proposal is still in draft at the time of publication of this report so is not discussed in detail. However, if adopted, the following components of the proposal could be relevant to municipalities when administering and regulating commercial fill operations.

Excess Soil Reuse Standards: The draft regulatory proposal includes tables of excess soil reuse standards, developed according to land use, ground water potability, overburden thickness, distance to nearest water body and soil placement volume. The tables can be used by those administering fill and site alteration by-laws in developing appropriate soil reuse standards for receiving sites.

Excess Soil Management Plans: The proposal includes the requirement for the preparation of excess soil management plans (ESMPs) on sites where more than 2000 m³ of material is being removed, with some exceptions.

It also requires that a notice be filed in the Registry that the plan has been completed before soil is removed from the site. It outlines required contents for these plans, including an assessment of past uses, a sampling and analysis plan, excess soil characterization, requirements for excess soil tracking systems, a destination assessment and identification, and declarations required by the project leader and qualified person⁷.

Municipalities regulating receiving sites, including commercial fill operations, should require the provision of the excess soil management plans, as part of site due

diligence and oversight. The standardization of reporting requirements contemplated in the Regulatory Proposal should help allow for better oversight and administration of fill operations.

Implications for Commercial Fill Operations

- When updating municipal site alteration and fill by-laws consider incorporating the proposed soil reuse standards.
- If the Regulatory proposal is approved, municipal fill and site-alteration by-laws should be updated to specify requirements for the provision of Excess Soil Management Plans.

⁷ Ontario Environmental Registry (2018). Excess soil management regulatory proposal <https://ero.ontario.ca/notice/013-2774>

2.3 Municipal Act and Fill and Site Alteration By-laws

The Municipal Act

The Ontario Municipal Act gives municipalities the authority to regulate certain fill activities and to seek remedy if a by-law is contravened. Under the auspices of the Municipal Act, municipalities may develop municipal fill and site alteration by-laws to manage soil receiving sites, including commercial fill operations. The Act also sets out certain exemptions and exceptions to a municipality's authority. For example, municipal by-laws do not currently apply on lands licensed under the Aggregate Resources Act, so a municipal fill and site alteration by-law will not apply to a pit or quarry with an active license. There are also exemptions for the removal of topsoil as part of normal agricultural practice.

Municipal fill and site alteration by-laws did not previously apply on Conservation Authority lands; however, this exemption in the Municipal Act was repealed in 2017.

Select sections of the Municipal Act are provided and summarized below.

- Section 142 of the Municipal Act, 2001 gives municipalities the authority to regulate certain fill activities, including the ability to:
 - “(a) prohibit or regulate the placing or dumping of fill;
 - (b) prohibit or regulate the removal of topsoil;
 - (c) prohibit or regulate the alteration of the grade of the land;
 - (d) require that a permit be obtained for the placing or dumping of fill, the removal of topsoil or the alteration of the grade of the land; and
 - (e) impose conditions to a permit, including requiring the preparation of plans acceptable to the municipality relating to grading, filling or dumping, the removal of topsoil and the rehabilitation of the site.”⁸
- Section 142 (5) includes a number of exemptions for activities such as those on sites licensed by the Aggregate Resources Act, or as a condition of a development permit.

- Section 142 (6) and (7) provide provides exception and exclusions for the removal of topsoil as an incidental part of a normal agricultural practice.
- Section 440 states that “if any by-law of a municipality or by-law of a local board of a municipality under this or any other Act is contravened, in addition to any other remedy and to any penalty imposed by the by-law, the contravention may be restrained by application at the instance of a taxpayer or the municipality or local board.”⁹

Fill and Site Alteration By-Laws

Using the authority under the Municipal Act, municipalities are developing and updating municipal fill and site alteration by-laws to regulate the importation of excess soil and the operation of commercial fill operations.

Many municipalities around Toronto have updated their by-laws in recent years to include definitions, specific application processes and submittal requirements, provisions, fees and permitting conditions for large scale site alterations and commercial fill operations. Many also require that operators of large scale site alterations enter detailed site alteration agreements, which are registered on title.

Figure 1 displays municipal fill and site alteration by-laws for municipalities in Southern Ontario, showing that this is a quickly evolving area with a significant number of municipalities having updated their by-laws since 2014.

Implications for Commercial Fill Operations

- Under the auspices of the Municipal Act, enact a municipal fill and site alteration by-law to prohibit or regulate the placing or dumping of fill; to prohibit or regulate the alteration of the grade of land and to impose permit conditions.

⁸ Ontario Municipal Act (2001). Retrieved from: <https://www.ontario.ca/laws/statute/01m25>

⁹Ontario Municipal Act (2001). Retrieved from: <https://www.ontario.ca/laws/statute/01m25>

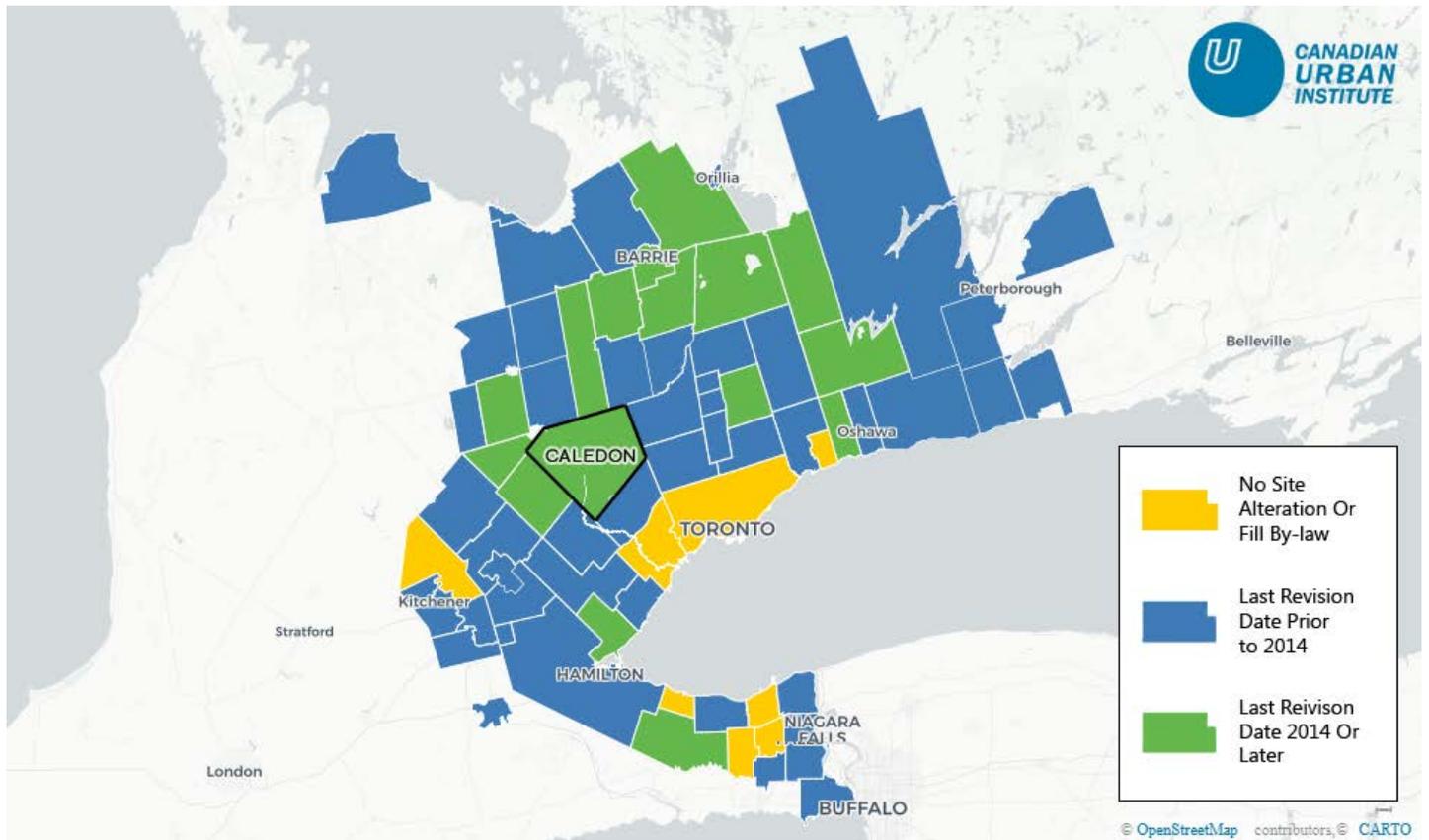


Figure 1: Status of Site Alteration and Fill By-Laws in Southern Ontario municipalities, 2017

2.4 The Planning Act – Provincial Policy Statement and Land Use Plans

management of excess soil (as described further in the section on Provincial Land Use Plans below).

Ontario Provincial Policy Statement

The *Provincial Policy Statement* (PPS) encourages the redevelopment of brownfield sites and intensification of urban areas, settlement areas and rural areas. The PPS prohibits site alterations in areas such as significant wetlands, significant woodlands, significant wildlife habitat, significant areas of natural scientific interest, on or near sensitive surface water features and sensitive ground water features.¹⁰

The MOECC Best Management Practices encourages municipalities to evaluate lands within their jurisdiction that are not suitable for receiving soils in accordance with the Provincial Policy Statement and Provincial Plans and to address these in management systems such as fill and site alteration by-laws.

Official and Regional Plans

The *Planning Act* states that Official Plans should contain, broadly: goals, objectives and policies; and a description of measures and procedures proposed to attain the objectives of the plan.¹¹ Municipalities have typically used Official Plans to guide the management of excess soil in two ways:

- 1) **Providing the auspices for the fill and site alteration by-law.** Municipalities typically provide the auspices for a fill and site alteration by-law in the Official Plan by indicating that a by-law has been or will be enacted and often briefly restate the objectives and intent of the by-law.
- 2) **Incorporating references to best practices for management of excess soil, in accordance with Provincial Land Use Plans.** Several Ontario municipalities have now developed Official Plan amendments to respond to the 2017 Provincial direction in the Growth Plan for the Greater Golden Horseshoe, the Greenbelt Plan and the Oak Ridges Moraine Plan to incorporate best practices for the

Few specific references to commercial fill operations were found in a review of Ontario Official and Regional Plans; however, references to commercial fill operations are found in some recent City Council minutes and draft OP amendments as municipalities are moving to better integrate the management of excess soil throughout their planning documents. For example, The Town of Clarington's recent Official Plan update includes the following provision, "Commercial fill operations are only permitted by amendment to this Plan and will require a permit under the Municipality's Site Alteration By-law and/or from the appropriate Conservation Authority where applicable."¹²

Zoning By-Laws

The Planning Act gives municipalities the authority to enact zoning by-laws "for prohibiting the use of land, for or except for such purposes as may be set out in the by-law within the municipality..."¹³

Municipalities have not typically used zoning by-laws to regulate the importation of fill or commercial fill operations. As soil importation is often required for another use of land, such as development or agriculture, prohibiting the importation of soil with a zoning by-law could potentially be complicated and onerous to enforce.

East Gwillimbury's has listed Commercial Fill Operations as a permitted use in "for the purpose of site restoration" in the Aggregate Extraction/Resource (AER) Zone and The Oak Ridges Moraine Industrial Extractive (ORMIE) Zone in its Zoning By-Law¹⁴. This approach may help attract large scale fill operations to designated areas within a municipality and so should only be employed if the municipality is intending to attract excess soil.

¹⁰ Ontario Ministry of Municipal Affairs and Housing (2014), Provincial Policy Statement. Retrieved from:

<http://www.mah.gov.on.ca/AssetFactory.aspx?did=10463>

¹¹ Province of Ontario (1990). Planning Act. Retrieved from <https://www.ontario.ca/laws/statute/90p13#BK30>

¹² Town of Clarington (2017). Official Plan. Retrieved from: <https://www.clarington.net/en/do-business/resources/Official-Plan/Clarington-Official-Plan.pdf>

¹³ Province of Ontario (1990). Planning Act. Retrieved from <https://www.ontario.ca/laws/statute/90p13#BK30>

¹⁴ Town of East Gwillimbury (2018). Zoning By-Law. Retrieved from: <http://www.eastgwillimbury.ca/Assets/3+2015+Services/1.1+Planning/ZBL+2018-043.pdf>

Provincial Land Use Plans

Recent updates to Ontario land use plans address the management of excess soil. The new Growth Plan for the Greater Golden Horseshoe, Oak Ridges Moraine Conservation Plan and Greenbelt Plan came into effect on July 1, 2017 and all include similar language related to the movement of soil at a high level. For example, the Growth Plan for the Greater Golden Horseshoe includes following language:

- 4.2.9.2 Municipalities should develop excess soil reuse strategies as part of planning for growth and development.
- 4.2.9.3 Municipal planning policies and relevant development proposals will incorporate best practices for the management of excess soil generated and fill received during development or site alteration, including infrastructure development, to ensure that:
- any excess soil is reused on-site or locally to the maximum extent possible and, where feasible, excess soil reuse planning is undertaken concurrently with development planning and design;
 - appropriate sites for excess soil storage and processing are permitted close to areas where proposed development is concentrated or areas of potential soil reuse; and
 - fill quality received and fill placement at a site will not cause an adverse effect with regard to the current or proposed use of the property or the natural environment and is compatible with adjacent land uses.

This language encourages municipalities to ensure both their planning processes and policies consider excess soil reuse. The most significant implication related to the regulation of soil importation and commercial fill operations would be to ensure policies and proposals related to fill placement will not cause an adverse effect. This should be a driving principle in all excess soil policy and regulation.

Municipalities have until 2022 to ensure conformance with the 2017 provincial plans.

The Provincial land use Plans also address a broad range of development and site alteration issues. Areas of potential applicability to large scale site alterations and commercial fill operations are summarized below.

- The Greenbelt Plan* states that site alterations must demonstrate that there are no negative impacts on natural heritage or key hydrologic features, connectivity is maintained and the disturbed area of a site does not exceed 25 percent¹⁵.
- The Growth Plan for the Greater Golden Horseshoe* “envisages increasing intensification of the existing built-up area, with a focus on urban growth centres, intensification corridors, major transit station areas, brownfield sites and greyfields”.¹⁶
- The Lake Simcoe Protection Plan* indicates that site alteration in the Lake Simcoe watershed shall be undertaken in a manner that incorporates measures to retain vegetation and to minimize erosion and runoff.¹⁷
- The Niagara Escarpment Plan* (NEP) states that “permitted uses may be allowed provided that: a) The long term capacity of the site can support the use without a substantial negative impact on Escarpment environmental features such as contours, water quality, water quantity, natural vegetation, soil, wildlife, population, visual attractiveness and cultural heritage features; and b) The cumulative impact of development will not have serious detrimental effects on the Escarpment environment (e.g. water quality, vegetation, soil, wildlife, and landscape).”¹⁸

In the recent Brampton Brick vs. Niagara Escarpment Commission case it was found that a proposed commercial fill operation did not align with the permitted uses in Section 1.9 of the NEP and therefore Brampton Brick’s proposal was not permitted.¹⁹

¹⁵ Ontario Ministry of Municipal Affairs and Housing (2017), Oak Ridges Moraine Conservation Plan. Retrieved from: <http://www.mah.gov.on.ca/Page13788.aspx>
¹⁶ Ontario Ministry of Municipal Affairs and Housing (2017), Growth Plan for the Greater Golden Horseshoe. Retrieved from: http://placestogrow.ca/index.php?option=com_content&task=view&id=430&Itemid=14

¹⁷ Ontario Ministry of the Environment and Climate Change (2009) Lake Simcoe Protection Plan. Retrieved from: <https://www.ontario.ca/page/lake-simcoe-protection-plan>
¹⁸ Ontario Ministry of Natural Resources and Forestry (2017). The Niagara Escarpment Plan. Retrieved from: <https://www.escarpment.org/home>
¹⁹ Niagara Escarpment Hearing Office (2015). Brampton Brick Limited v. Niagara Escarpment Commission. Retrieved from: http://www.escarpment.org/_files/file.php?fileid=fileeeycJAfMeWc&filename=file_C1_2015.04.15_Notice_of_Decision_for_Brampton_Brick.pdf

- The *Oak Ridges Moraine Conservation Plan* prohibits site alteration in the Oak Ridges Moraine Area except as permitted by the Plan. It defines site alteration as “activities such as filling, grading and excavation that would change the landform and natural vegetative characteristics of land.” It identifies areas of sensitivity such as High Aquifer Vulnerability, Natural Linkage and Natural Core Areas.²⁰

Implications for Commercial Fill Operations

- When updating municipal fill and site alteration by-laws, require that where sites are within the jurisdiction of the Oak Ridges Moraine Conservation Plan, Greenbelt Plan, Niagara Escarpment Plan, Growth Plan for the Greater Golden Horseshoe or Lake Simcoe Protection Plan that proponents provide all necessary documentation to demonstrate compliance the Plans.
- Consider prohibiting commercial fill operations in areas of environmental and natural heritage significance, as described in the land use plans.

²⁰ Ontario Ministry of Municipal Affairs and Housing (2017), Greenbelt Plan. Retrieved from: <http://www.mah.gov.on.ca/Page13783.aspx>

2.5 Other Provincial Acts

The Farming and Food Production Act

The *Farming and Food Production Act, 1998* (FFPPA) describes the objective of balancing the needs of the agricultural community with Provincial health safety and environmental concerns. Although the Act states that “[n]o municipal by-law applies to restrict a normal farm practice carried on as part of an agricultural operation²¹” and there is an exception for a defined normal agricultural practice under Section 142 (7) of the *Municipal Act, 2001*, activities deemed to be normal farm practice may still be subject to terms and conditions of a municipal fill and site alteration and by-law provided they do not restrict normal farm practice.

The Normal Farm Practices Protection Board was established by the *Farming and Food Production Protection Act* to resolve disputes regarding agricultural operations and to determine what constitutes a normal farm practice. Disputes regarding the placement of excess soil on agricultural lands can be brought before the Board for resolution.

An example is found in the case of *Douglas Cox vs. Township of Mono*. In 2014, the Town of Mono updated its *Site Alteration By-law*. Cox had previously been receiving soil on a site he owned and earning \$20 per load from Soilcan Incorporated. He applied for a by-law exemption under Section 6 of the *Farming and Food Production Protection Act* to use fill for normal farming practice, specifically filling in a ravine for sheep farming. However, the Board found the ravine area could sustain sheep without modification and that fill would cause loss in productivity and increase erosion and so concluded that the proposal was not a normal farm practice for the purposes of the non-application of the *Fill By-Law*.²²

Implications for Commercial Fill Operations

- Consider including exclusions in the municipal fill and site alteration by-law related to agricultural lands to permit the removal and replacement of topsoil. The limit for replacement of topsoil tends to be between 20 and 30 centimeters and between 500 and 1000 cubic metres in most municipal by-laws.

Conservation Authorities Act

Section 28 of the *Conservation Authorities Act Regulations* pertains to development, interference with wetlands and alterations to shorelines and watercourses.²³

Action 9 of the *MOECC Excess Soil Management Policy Framework* indicates that the Province will explore ways to improve compliance and enforcement of *Municipal Act* and *Conservation Authorities Act* requirements.²⁴ This action resulted in changes to the *Municipal Act*, so that municipal site alteration and fill by-laws now apply on conservation authority regulated lands. It is still a best practice for municipalities to coordinate with Conservation Authorities to align with the regulation of receiving sites and commercial fill operations.

Implications for Commercial Fill Operations

- Consult with local conservation authorities in the development and administration of municipal fill and site alteration by-laws.
- Jointly circulate conservation authorities on applications for the development of commercial fill operations.

²¹ Province of Ontario (1998), *Farming and Food Production Act*. Retrieved from: <https://www.ontario.ca/laws/statute/98f01>

²² Normal Farm Practices Board (2014). *Douglas Cox vs. The Corporation of the Township of Mono*. <https://mono.civicweb.net/document/33022>

²³ Province of Ontario (1990), *Conservation Authorities Act*. Retrieved from: <https://www.ontario.ca/laws/statute/90c27>

²⁴ Ontario Ministry of the Environment and Climate Change (2016). *Excess Soil Management Policy Framework*. Retrieved from: http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-6065%20final.pdf

Aggregate Resources Act

The *Ontario Aggregate Resources Act* requires that operators of pits or quarries perform progressive or final rehabilitation on the land from which aggregate is excavated. Land is considered to be rehabilitated if the use or condition of the land is restored to its former use or condition, or is changed to another use or condition that is or will be compatible with the use of adjacent land.²⁵

Supplementary guidance to the legislation addresses the importation of inert fill for the purpose of rehabilitation. Section 142 of the *Municipal Act* states that municipal fill and site alteration by-laws do not apply to “the placing or dumping of fill, removal of topsoil or alteration of the grade of land undertaken on land described in a licence for a pit or quarry or a permit for a wayside pit or wayside quarry issued under the *Aggregate Resources Act*”²⁶ so municipalities cannot actively regulate the placement of fill at a licensed pit or quarry until the license conditions are met.

The MOECC has indicated in Action 10 of the Excess Soil Management Policy Framework that MNRF is considering requiring record keeping for fill being brought to licensed and permitted aggregate sites through a review of the *Aggregate Resources Act*.²⁷ This requirement for record keeping will provide better information to municipalities after the expiration of aggregate licenses.

An example of a closed aggregate site, which is now being used as a commercial fill operation is the United Soils Management (USM) site in the Town of Whitchurch-Stouffville. USM is restoring the Whitchurch-Stouffville Lee Sand & Gravel Pit to farmland through a large-scale fill operation and has so far received public and government support. USM has been following Whitchurch-Stouffville’s recently updated Fill By-law and, in some cases, has gone above the requirements. A fill management plan was designed and implemented in accordance with the by-law, and has since incorporated an amendment for hydro-excavation.

While aggregate sites can be used for large scale fill operations, the sites are regulated by the Ministry of Natural Resources and Forestry (MNRF), licensed under the *Aggregate Resources Act* (ARA). Municipal by-laws will apply to these sites only once the ARA license has been closed.

Implications for Commercial Fill Operations

- Once the *Aggregate Resources Act* (ARA) license or permit conditions are met for a pit/quarry, the site can be treated as a receiving site where by-laws will apply. For these types of aggregate sites, the MOECC document *Management of Excess Soil – A Guide for Best Management Practices (BMP)* specifically recommends that large scale fill operations provide and implement a fill management plan.

Environmental Protection Act

Ontario Regulation 153/04 made under The *Environmental Protection Act*²⁸, requires a Record of Site Condition (RSC) when the property is changed from a less sensitive to more sensitive use. The regulation sets out standards for the quality of soil being brought to an RSC property. In cases where the need for a Record of Site Condition is not required by provincial regulations, municipalities may, at their discretion, request that a Record of Site Condition be filed as part of the requirements for a site alteration permit for a soil receiving site or commercial fill operation.

The “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the *Environmental Protection Act*” referenced in O.Reg. 153/04 for “Agricultural or Other Property Use” standards have become commonly used in municipal fill and site alteration by-laws for managing receiving sites and commercial fill operations. These standards are often used for the purposes of addressing soil quality. Another, more flexible approach, uses Table 1 standards but allows for approved exceedances while still prohibiting specific waste material.

²⁵ Province of Ontario (1990), *Aggregate Resources Act*. Retrieved from: <https://www.ontario.ca/laws/statute/90a08>

²⁶ Ontario *Municipal Act* (2001). Retrieved from: <https://www.ontario.ca/laws/statute/01m25>

²⁷ Ministry of the Environment and Climate Change (2016). *Excess Soil Management Policy Framework*. Retrieved from:

http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-6065%20final.pdf

²⁸ Province of Ontario (2004). Ontario Regulation 153/04 under the *Environmental Protection Act*.

<https://www.ontario.ca/laws/regulation/R04153#BK19>

The Act also provides the MOECC with the authority to address the discharge of a contaminant into the natural environment that is causing or may cause an "adverse effect".²⁹

Implications for Commercial Fill Operations

- Site-alteration and fill by-laws often include a General Prohibition based on specified soil standards to help regulate the quality of fill being imported. Table 1 of the "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act" referenced in O.Reg. 153/04 for "Agricultural or Other Property Use" standards have been commonly used. Other approaches for regulating soil quality include using Table 1 with approved exceedances; or a risk based approach

Note: the Excess Soil Management Regulatory Proposal, if enacted, will introduce new soil quality standards. These will ideally also be incorporated into site alteration and fill by-laws, together with the Table 1 standards, which will still apply in certain circumstances.

²⁹ Province of Ontario (1990), Environmental Protection Act.
Retrieved from:
<https://www.ontario.ca/laws/statute/90e19>

3. BEST PRACTICES

Commercial fill operations are significant undertakings that involve the transportation and placement of large volumes of soil. They must be properly managed and administered to prevent issues for neighbouring communities and the environment. Municipalities need to have both the policy and regulatory structure, as well as the right team in place to help permit and oversee these operations.

The most critical areas to manage include protection of the environment – soil, groundwater, surface water quality, protection of natural features, mitigation of noise and dust, mitigation and repair of road damage, charging appropriate fees and establishing cost recovery mechanisms, responding to complaints, administration, inspection and oversight of operations.

Through the policy review, and a review of relevant literature as well as through discussions with municipalities and input received at the open house, the following actions were identified as best practices to manage commercial fill operations:

1. **Create robust municipal fill and site alteration by-laws**
2. **Promote water and soil quality due diligence**
3. **Use site alteration agreements**
4. **Update Official Plans**
5. **Use a variety of means to enable enforcement**
6. **Coordinate with Conservation Authorities**
7. **Align Town operations**

Since the Province's role, as it relates specifically to excess soil management, is currently mostly one of guidance, the responsibility for regulation, administration and oversight falls largely to municipalities. The best tool for

municipalities is their authority under the Municipal Act to enact and maintain rigorous site alteration and fill by-laws to manage the movement of excess soil and commercial fill operations.

The use of rigorous site alteration by-laws to respond to commercial fill operations is identified by CUI and industry experts as the key best practice discussed in this document. For example, in *Site Alteration By-Laws and the Dirty Business of "Clean Fill"*, Charles Loopstra states that,

“all municipalities that may [be] the target of commercial fill operations, whether applied for or not, should have detailed Site Alteration By-laws which give the municipality strong regulatory oversight and control over approved fill operators”³⁰.

Additional best practices are also discussed in the following sections.

³⁰ Loopstra, 2014. *Site Alteration By-Laws and the Dirty Business of "Clean Fill"*. Retrieved from:
http://www.loopstranixon.com/files/Site_Alteration_By-Laws.pdf

3.1 Create Robust Municipal Fill and Site Alteration By-laws

The establishment of a robust municipal fill and site alteration by-law is a best practice for the management of large scale site alterations and commercial fill operations. Updated by-laws should align with the MOECC’s *Best Management Practices for Excess Soil*.

Best practices to help address issues related to commercial fill operations are presented in the table developed by CUI

below. The summary highlights key items for consideration in the regulation of commercial fill operations through municipal fill and site alteration by-laws; however, legal and technical advice should be obtained in the drafting of an updated by-law. Best practices may appear in more than one by-law section which improves the robustness and enforceability of the practice.

By-Law Section	Best Practice for the Regulation of Commercial Fill Operations
Definitions	Define key terms including: <ul style="list-style-type: none"> • Adverse Effect • Agricultural Operation • Areas of Natural Significance • Commercial Fill Operation • Contaminant • Environmentally Sensitive Areas • Excess Soil • Fill management plan • Large Scale Site Alteration • Provincial Plans • Qualified Person • Site Alteration • Soil • Topsoil • Waste
Prohibitions and Regulations	Describe prohibitions to help control the impacts of traffic including: <ul style="list-style-type: none"> • Outside of specified hours of operation and specified weather conditions that have higher risk of mud and dust complications Include prohibitions based on soil quality management , if the following is not demonstrated: <ul style="list-style-type: none"> • Qualified Person conducts proper soil analysis at both the source and receiving site and concludes there is no potential to cause an adverse effect • Soil testing reports are provided • Fill will not introduce a new contaminant • Specified soil quality standards are met (e.g. Table 1 standards or Table 1 with approved exceedances, but prohibiting specific waste material or MOECC reuse standards in the Excess Soil Management Regulatory Proposal) • Fill does not contain any putrescible organic material that could be designated as a waste Include prohibitions on waste materials including: <ul style="list-style-type: none"> • Importation of any material that could be classified as a waste (specifically define waste material) • Any activities associated with a waste disposal site as defined under Part V of the Environmental Protection Act Consider prohibition in the following areas of environmental, natural and community significance : <ul style="list-style-type: none"> • Environmentally Sensitive Areas (e.g. Caledon Environmental Policy Areas/Environmental Zones 1 or 2) • Wellhead Protection Areas

	<ul style="list-style-type: none"> • High Aquifer Vulnerability Areas as designated in Source Water Protection Plans, the Oak Ridges Moraine Conservation Plan, or the Official Plan • Specific Town roads that are unsuitable for the transportation of fill
<p>Exemptions</p>	<p>List exemptions to the by-law including:</p> <ul style="list-style-type: none"> • Removal and replacement of topsoil on agricultural lands up to a certain threshold volume • Exemptions and Exceptions and Exclusions listed under Section 142 (5-7) of the Municipal Act, 2001
<p>Compliance with Other Regulations and Statutes</p>	<p>Link the by-law to other applicable law including:</p> <ul style="list-style-type: none"> • The municipal Official Plan • Regional Plan • Provincial Plans • Zoning By-Law • Provincial Policy Statement • Municipal policies and objectives
<p>Requirements for Issuance of a Permit</p>	<p>Include permitting requirements, which are typically similar to those for large scale fill operations and should include:</p> <ul style="list-style-type: none"> • Assessment by a Qualified Person of the receiving site conditions • Description of the commercial fill and source site by a Qualified Person • A letter from the operator that the fill meets the specified standards, quantity and proposed location for fill • A fill management plan as outlined by the MOECC BMP • Environmental soil testing program as outlined by a Qualified Person • Establishment of baseline groundwater conditions by a hydrogeologist • A groundwater monitoring plan • Erosion and sedimentation control measures • A Site Alteration Plan certified by a Qualified Person • Compliance with Ministry of Transportation requirements • Mud tracking and dust control measures • A Traffic and Transportation Plan
<p>Permit Agreement</p>	<p>Require the permit applicant to enter into a permit or site alteration agreement which includes additional permit requirements including:</p> <ul style="list-style-type: none"> • The provision of a fill management plan; • The requirement for groundwater monitoring; • The provision of a grading plan and/or site plan; • Mud and dust control measures; • Erosion and sedimentation control measures; • Approved hours of operation and noise mitigation; • Approved haul routes; • Truck traffic requirements; • A complaint protocol; • Requirements for source site approval; • Public meetings; • Right of entry; • Reporting; • Default provisions; • Liability insurance; • Application to court; and • Record retention and a public liaison committee. <p>Permit agreements should also include provisions for municipalities to recover costs incurred from:</p> <ul style="list-style-type: none"> • Any default or failure for applicant to meet by-law requirements

	<ul style="list-style-type: none"> Hiring technical expertise to assess permit application, including an administrative charge
Inspection, Administration and Enforcement	<p>Include the following inspection, administration and enforcement provisions:</p> <ul style="list-style-type: none"> Stop work order provisions Access to the site and site inspections at the discretion of the municipality Additional inspection fees for non-compliance of permit conditions Any effects of trucks are responsibility of permit applicant, including any necessary remediation <p>Consider the use of performance bonds to ensure the operation is performed in accordance with the site alteration agreement</p>
Penalty	<p>Include the following penalty clauses:</p> <ul style="list-style-type: none"> Penalty amounts for contravention of the by-law Penalty provision for specified issue(s) common to Caledon (e.g. road cleaning and damage)
Fees	<p>Include the following fee requirements:</p> <ul style="list-style-type: none"> Separate supplementary guideline or fee document to outline application fees and allow for future revisions or fees determined based on size, land use or proposed purpose Requirements for security deposits, determined by the Town on a case-by-case basis, for general requirements, potential legal and consulting fees, site restoration and road damage Provisions for unauthorized site alteration work penalty

Table 1: CUI Fill and Site Alteration By-Law Best Practices for the Management of Commercial Fill Operations

Additional resources related to the development of Fill and Site Alteration By-Laws can be found in:

- RCCAO’s Survey of Municipal Soil By-Laws;³¹
- Ontario Soil Regulation Task Force Model Fill By-Law Project;³² and
- Ontario Excess Soil By-Law Tool.³³

³¹ Residential and Civil Construction Alliance of Ontario (2013). Survey of Municipal Soil By-Laws. Retrieved from: http://www.rccao.com/news/files/RCCAO_MARCH2013_REPORT_LOWRES.pdf

³² Ontario Soil Regulation Task Force (2018). Model Fill By-Law Project. Retrieved from: <http://osrtf.ca/osrtf/model-fill-by-law-project/>

³³ Canadian Urban Institute (2016). Ontario Excess Soil By-Law Tool. Retrieved from: <http://www.excesssoils.com/>

3.2 Promote Water and Soil Quality Due Diligence

The protection of water and soil quality is of high importance in the Town of Caledon, so specific due diligence measures should be incorporated. The following best practices are referenced generally in Table 1 in the previous section, but elaborated on here due to their importance.

Fill Management Plan

As described in the previous section, it is recommended that an updated municipal fill and site alteration by-law both define and require the provision of a fill management plan. The MOECC BMP provides detailed guidance on the suggested contents of a fill management plan. It is also recommended that the municipality conduct a peer review, by a Qualified Person, of submitted fill management plans for proposed commercial fill operations to help ensure that the characteristics of the receiving site and suitability of material to be imported have been adequately characterized. For example, confirmation that the following fill management plan requirement has been adequately addressed will be critical to helping prevent adverse effect to the soil and water quality:

“identification of appropriate soil quality and soil types for excess soil to be received at the site as determined by the QP based on site location/sensitivity, anticipated land use, ground water use/sensitivity, pre-existing site conditions or other factors as to ensure that there is no likelihood of adverse effect”³⁴

Baseline and Ongoing Groundwater Monitoring

Further to the previous recommendation, it is recommended that proponents of large scale fill operations be required to provide a baseline groundwater quality study, conducted by a hydrogeologist, and provide a plan for ongoing groundwater quality monitoring. Installation of groundwater monitoring wells and a plan for monitoring and reporting on any changes in groundwater quality will help allow for early detection of impacts to groundwater.

3.3 Create Site Alteration Agreements

A best practice for municipalities is to require the owner or permit applicant of a commercial fill operation to enter into a permit or site alteration agreement with the municipality. The agreement specifies that the owner or permit applicant has agreed to a list of terms deemed necessary by the municipality. The agreements are typically registered to the title of the land on which the site alteration is to be performed, and often must be approved by Council before a permit can be issued.

Development of a template for large scale site alterations/commercial fill operations with sample terms and conditions is a best practice as it allows the municipality to clearly set out its requirements to proponents in advance of applications and provides a template for the negotiation of a final agreement. The template agreement can be developed in parallel with updates to a fill and site alteration by-law to capture the requirements of the by-law.

3.4 Update Official Plans

A best practice for the use of Official Plans to help address large scale site alterations and commercial fill operations is to provide the auspices for the municipal fill and site alteration by-law, including through direct reference to the By-Law, and by re-stating its objectives. It is also a best practice to clearly state the Town’s objectives for the protection of the environment broadly and as it relates to excess soil management and to identify areas of particular environmental sensitivity. Specific to Caledon, the Official Plan could also reflect the Town’s priorities for land reclamation and enhancing agricultural practices. Finally, to conform with the new Provincial land use plans, Official Plans should also include language that states that fill placement not cause an adverse effect.

The table below includes CUI’s summary of recommended best practices for Official Plan policies.

³⁴ Ontario Ministry of the Environment and Climate Change (2015). Management of Excess Soil – A Guide for Best Management Practices. Retrieved from:

<https://www.ontario.ca/page/management-excess-soil-guide-best-management-practices>

Best Practice for Official Plan Updates to Address Commercial Fill Operations	
Definitions	<p>Define key terms including:</p> <ul style="list-style-type: none"> • Site Alteration • Commercial Fill Operation
Goals and Objectives	<p>Describe the municipality's approach and objectives related to site alteration and fill activities including:</p> <ul style="list-style-type: none"> • Supporting the reuse of excess soil on site or locally, to the maximum extent possible • Encouraging excess soil reuse planning to be undertaken concurrently with development planning and design • Ensuring that placement of fill will not cause an adverse effect with regard to the current or proposed use of a property, the natural environment or cultural heritage resources and is compatible with adjacent land uses • Adopting appropriate policies to control and regulate fill and site alteration
Policies	<p>List applicable and relevant municipal policies and by-laws:</p> <ul style="list-style-type: none"> • Reference the municipal municipal fill and site alteration by-law • Describe the objectives of the By-Law
Restrictions	<p>Consider stating restrictions, or requirements such as a ground water/hydrogeological study on proposed fill operations and any additional restrictions in environmentally sensitive areas such as:</p> <ul style="list-style-type: none"> • Environmentally Sensitive Areas (e.g. Caledon Environmental Policy Areas/Environmental Zones 1 or 2) • Wellhead Protection Areas • High Aquifer Vulnerability Areas as designated in Source Water Protection Plans, the Oak Ridges Moraine Conservation Plan, or the Official Plan
Conformance with Land Use Plans	<p>Incorporate language to bring the Town into conformance with recent updates related to Excess Soil in the Oak Ridges Moraine Conservation Plan, 2017³⁵; The Growth Plan for the Greater Golden Horseshoe, 2017³⁶; and the Greenbelt Plan, 2017.³⁷ . These revisions encourage municipalities to incorporate best practices for the management of excess soil to ensure that:</p> <ul style="list-style-type: none"> • Any excess soil is reused on site or locally to the maximum extent possible, and where feasible, excess soil reuse planning is undertaken concurrently with development planning and design; • Appropriate sites for excess soil storage and processing are permitted close to areas where proposed development is concentrated or areas of potential soil reuse; • Where feasible, excess soil reuse planning is undertaken concurrently with development planning and design; and • Fill quality received and fill placement at a site will not cause an adverse effect with regard to the current or proposed use of the property or the natural environment and is compatible with adjacent land uses.

Table 2: CUI Official Plan Best Practices Guide for the Management of Commercial Fill Operations

³⁵ Ontario Ministry of Municipal Affairs and Housing (2017), Oak Ridges Moraine Conservation Plan. Retrieved from: <http://www.mah.gov.on.ca/Page13788.aspx>

³⁶ Ontario Ministry of Municipal Affairs and Housing (2017), Growth Plan for the Greater Golden Horseshoe. Retrieved from: http://placestogrow.ca/index.php?option=com_content&task=view&id=430&Itemid=14

³⁷ Ontario Ministry of Municipal Affairs and Housing (2017), Greenbelt Plan. Retrieved from: <http://www.mah.gov.on.ca/Page13783.aspx>

3.5 Enable Enforcement

A best practice to help enable enforcement of commercial fill operations is for municipal fill and site alteration by-laws to contain provisions to enable municipal inspection and enforcement. It is also strongly recommended that Town staff have the resources and expertise to enforce the municipal fill and site alteration by-law.

Municipal fill and site alteration by-laws should include requirements for providing municipal officials, or their designates, with access to the site and access to key records and reports, and for issuing stop work orders.

Even with a robust municipal fill and site alteration by-law in place, some municipalities still face issues of enforcement. Best practices for oversight and administration of fill sites include: assigning technical staff to administer fill sites, providing training to that staff, enforcing penalties and fines, conducting systematic oversight, including unannounced site inspections and conducting sampling and detailed review of reports.

Enforcement in smaller municipalities can also be limited by resources, such as budget, staff and by-law knowledge. A best practice for municipalities is to explore opportunities to share enforcement responsibilities with each other and/or with local conservation authorities. These joint undertakings can be organized through Memorandums of Understanding (MOU) or protocols or informally.

Further, the use of performance bonds, which are common on construction projects and waste management projects, could also be applied to large scale commercial fill operations to ensure the proponent performs its obligations in accordance with the site alteration agreement.

Finally, a municipality may pursue a mandatory order to remove illegal fill and impose full remediation, by seeking an injunction through the Superior Court of Justice as outlined in section 440 of the Municipal Act, 2001

3.6 Coordinate with Conservation Authorities

It is a best practice to coordinate with Conservation Authorities to discuss the possibility of providing a coordinated application review for large scale site alterations and/or commercial fill operations. A paper to the Conservation Ontario Council from a group of 15 Conservation Authorities recommended coordinating approaches with municipalities on:

- Joint pre-consultation with applicants;
- Circulation of application information;
- Formal circulation of information and request for comments; and
- Discussion about where a municipality may be able to apply other by-laws which are not affected by Section 142(8) of the Act.³⁸

3.7 Align Town Operations

A final best practice is to integrate planning for commercial fill operations across town departments, policies and regulations. For example, the municipal fill and site alteration by-law should reference all relevant environmental plans and policies to provide clear direction on the Town's objectives for the protection of the environment. Similarly, municipal environmental plans should reference objectives related to excess soil management and commercial fill operations.

Further, the MOECC Policy Management Framework - Action 6 – encourages municipalities to identify areas for off-site excess soil storage and soil processing sites³⁹. It should be noted though, that by identifying locations that are suitable for commercial fill operations, more of these operations could be attracted to the Town.

Finally, the BMP encourages municipalities to work with other partners, such as Conservation Authorities to track excess soil generation and sites that may require soil and to develop long term management plans to help facilitate soil reuse.

³⁸ Conservation Ontario Council (2012), Large-Scale Fill Discussion Paper. Retrieved from: <http://lakeridgecitizens.ca/lccw/wp-content/uploads/2013/06/conservation-ontario-report1.pdf>

³⁹ Ontario Ministry of the Environment and Climate Change (2016). Excess Soil Management Policy Framework. Retrieved from: http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-6065%20final.pdf

4. COMMUNITY INPUT

4.1 Overview

The Town of Caledon and the Canadian Urban Institute hosted a public open house to inform the community and collect input on the Town's land use study and potential initiatives to regulate commercial fill operations. The intent of engaging the public in the early stages of policy research and development was to help identify the community's primary concerns.

The approximately 20 attendees participated using interactive display boards and completed individual surveys to answer questions, and provide comments on issues related to commercial fill operations within Caledon. Comments were provided on:

- a. The most pertinent issues the Town should consider;
- b. Types of regulations the Town should prioritize;
- c. Areas within the Town of high, medium and low concern for placing of soil; and
- d. Any additional comments.

Key findings are summarized below, with the detailed results from the interactive boards and written surveys presented in Appendix I.

4.2 Findings

The following are key findings based on the comments and feedback submitted through the interactive display boards and surveys, as well as conversations between open house participants:

- Protecting soil and groundwater quality are areas of greatest concern;
- Commercial fill operations, if accepted in the Town, must be managed through appropriate controls place to prevent adverse impacts on the environment or community;
- Effective enforcement and fees should be implemented;
- Closed aggregate sites are frequently identified for areas of lower concern for accepting commercial fill; and
- Exempting fill for agricultural operations from regulations, within limits, is important for Caledon's established agricultural industry.

5. CONCLUSIONS AND RECOMMENDATIONS

The following recommendations for policy development are proposed based on the results of the policy review, research, interviews and open house conducted as part of this study:

- 1. Update Caledon's Fill and Site Alteration By-Law.** Update the Town of Caledon's *by-law to prohibit or regulate the placing or dumping of fill* to specifically address and regulate commercial fill operations, to align with the MOECC Best Management Practices for Excess Soil, to establish requirements to protect the community and soil and groundwater quality in the Town of Caledon, to set fees appropriate to cover the Town's cost in administering soil importation and to link to the Town's already established environmental policies and objectives.
- 2. Promote Due Diligence Related to Water and Soil Quality.** Implement measures to support due diligence related to water and soil quality, such as by requiring fill management plans, ensuring peer review by a Qualified Person for all commercial fill operations and by requiring hydrogeological baseline studies and plans for ongoing monitoring.
- 3. Create a Site Alteration Agreement.** Create a template site alteration agreement to be used for commercial fill operations.
- 4. Update the Official Plan.** Expand Section 6.2.16 – Site Alteration and Tree By-Laws Section of Caledon's Official Plan to include a description of the Town's objectives for site alterations and commercial fill operations and to provide the auspices for the fill and site alteration by-law. Add a section on soil reuse to conform with new Ontario land use plans.
- 5. Enable Enforcement.** Help ensure the enforceability of regulations for commercial fill operations by including appropriate clauses in the municipal fill and site alteration by-law, by ensuring Town staff is equipped to carry out enforcement, by considering the use of performance bonds and by coordinating with other municipalities and Conservation Authorities to share enforcement resources.
- 6. Coordinate with Conservation Authorities.** Coordinate with Toronto and Region Conservation Authority, Credit Valley Conservation Authority, Lake Simcoe Region Conservation Authority and Nottawasaga Valley Conservation Authority to align approaches to managing excess soil and discuss potential for joint-circulation on large scale site alteration applications.
- 7. Align Town Operations.** Integrate Town policies and regulations that address the management of excess soil and commercial fill sites with broader environmental policies. Track sites that may be generating or requiring large quantities of soil to help facilitate soil reuse. Finally, consider identifying sites that may be suitable for excess soil receipt or storage.

6. GLOSSARY

Commercial Fill Operation. “A commercial site where soil is purchased to be reused at the site for a beneficial purpose”.⁴⁰ Municipalities may also define commercial fill operations in their municipal fill and site alteration by-laws as those sites where the volume of soil received exceeds a certain threshold or where the placing or dumping of fill is for a commercial purpose.

Excess soil. “Soil that has been excavated as part of a project and removed from the project area for the project”⁴¹.

Qualified Person. “A licensed professional as stated in the EPA Section 168.1 and further described at length in Part II of O. Reg. 153/04.”

Receiving Site. “Sites that accept and receive excess soil and constitute the excess soil’s final resting place. The term also includes larger commercial fill operations as well as other sites like agricultural operations or aggregate operations”.⁴²

Soil. “Unconsolidated naturally occurring mineral particles and other naturally occurring material resulting from the natural breakdown of rock or organic matter by physical, chemical or biological processes that are smaller than 2 millimetres in size or that pass the US #10 sieve.”⁴³

Source Site. Sites that generate excess soil. They are often construction or development sites or projects where excess soil is excavated and must be managed”.⁴⁴

⁴⁰ Ontario Ministry of the Environment and Climate Change (2014). Management of Excess Soil – A Guide for Best Management Practices. Retrieved from: <https://www.ontario.ca/page/management-excess-soil-guide-best-management-practices>

⁴¹ Ontario Environmental Registry (2018). Excess soil management regulatory proposal <https://ero.ontario.ca/notice/013-2774>

⁴² Ontario Ministry of the Environment and Climate Change (2016). Excess Soil Management Policy Framework. Retrieved from:

http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-6065%20final.pdf

⁴³ Province of Ontario (1990), Environmental Protection Act. Retrieved from: <https://www.ontario.ca/laws/statute/90e19>

⁴⁴ Ontario Ministry of the Environment and Climate Change (2016). Excess Soil Management Policy Framework. Retrieved from: http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-6065%20final.pdf

APPENDICES



APPENDIX I: PUBLIC CONSULTATION

This appendix provides a detailed summary of the public consultation meeting held on March 22, 2017 in the Town of Caledon.

a) Ranking Issues

On the first interactive display board presented at the meeting, participants were asked to select the top three most important issues regarding commercial fill operations. Nine critical issues, identified based on the previously conducted literature review, were presented for consideration. Figure 5 displays the completed board.

The results were tallied and are summarized in the Figure 2. This graph clearly demonstrates the majority of participants chose Soil Quality Protection and Water Quality as the first and second ranked issues, respectively.

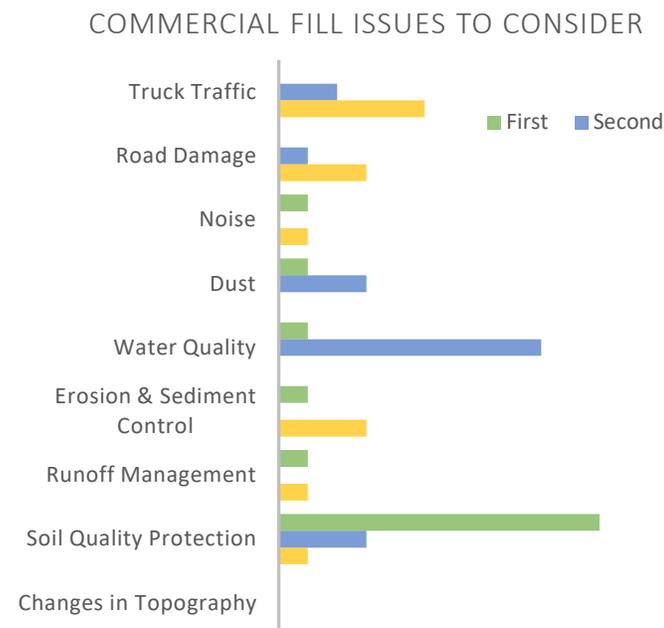


Figure 2: Frequency of commercial fill issues receiving first, second or third ranking by workshop participants

Based on the in-person consultation, the concern about protecting soil and water quality is largely due to Caledon's drinking water being primarily sourced from groundwater, including the use of many private water wells. Some

participants expressed concern about cross-contamination of their own properties if poor quality soil is placed in an adjacent area. Other participants referenced a fill operation at the Tottenham Airfield in New Tecumseth, approximately 20 km from Caledon, that reported at least one significant exceedance of polychlorinated biphenyls (PCBs), a persistent organic pollutant⁴⁵. This incident has likely made Caledon residents increasingly aware of the risks of improper soil management and, moreover, the importance of effective soil quality monitoring.

Truck traffic had the highest frequency of ranking the third most important issue. The public consultation suggests Caledon residents are exposed to truck traffic from existing aggregate extraction operations and are aware of potential issues including road damage, dust and noise.

Changes in Topography received no first, second or third rankings likely because there is the least potential for this issue to directly impact residents. Indirect impacts could include changes to runoff and/or erosion and sediment, two issues that were ranked by participants as important to consider when managing commercial fill operations. The majority of the written surveys submitted echoed the concern for protecting soil and water quality. Multiple responses agreed that soil needs to be properly tracked and tested to ensure the quality meets requirements when it is placed in Caledon.

b) Priority Regulations

On the second interactive board, participants were asked to select the top five most important regulations that Caledon should consider when implementing a commercial fill policy. Based on the literature review and interviews with other municipalities, best practices for commercial fill policy, including exemptions, fees and key regulations were identified. Seven requirements and five exemptions were listed. As participants engaged in the display board exercises, representatives from the Town and CUI provided additional information on each. Figure 6 displays how participants ranked each.

The results for the frequency of first, second and third rankings are presented in Figure 3 below. Requiring commercial fill operators to complete a fill management

⁴⁵ Pritchard, B. (2017). Task force asks council to step up enforcement at Tottenham airfield. Simcoe.com. Retrieved from:

<http://www.simcoe.com/news-story/7201479-task-force-asks-council-to-step-up-enforcement-at-tottenham-airfield/>

plan and exempting normal farm practice are the two regulation issues with the highest frequency of first rankings. The requirements of a fill management plan, as outlined in the MOECC *Management of Excess Soil – A Guide to Best Management Practices*, address a broad range of issues including: soil quality; water quality protection; traffic and transportation; dust and noise; record keeping; site security; and invasive species⁴⁶, which most participants identified as the reason for ranking it most important.

As indicated in the display boards, written surveys and in-person consultation, allowing fill for normal farm practice is important for Caledon residents. With a largely rural population and significant agricultural land use, it was expected that this would be a critical topic for the community.

Based on board and survey responses, requiring a groundwater monitoring plan and implementing effective fees were ranked the next most important issues. As discussed previously, protecting Caledon groundwater resources is understandably important to residents and the environment. Many participants were also concerned about the costs of site remediation if contamination or infrastructure damage occurs and ensuring it is the operator and not the Town who is liable to pay for this.

PRIORITY REGULATIONS TO CONSIDER

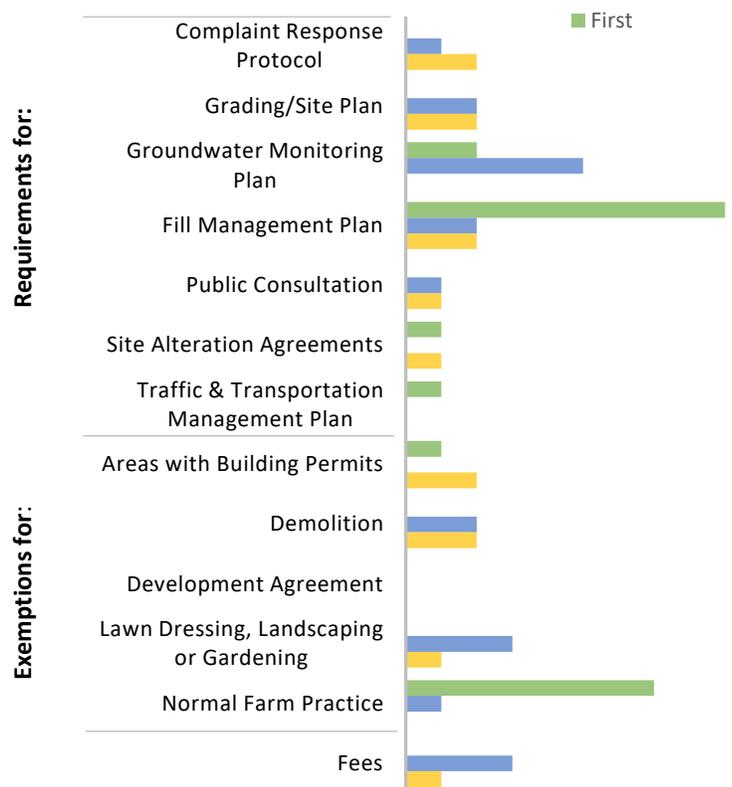


Figure 3: Frequency of regulations receiving first, second or third ranking by workshop participants

c) Areas of High, Medium & Low Concern

Through the use of maps and written response, participants were asked to identify areas within Caledon where allowing commercial fill operations would be of concern. The maps, presented on display boards, outlined land use designations, aquifer vulnerability areas, landform conservation areas, wellhead protection areas, the Caledon High Potential Mineral Aggregate Resource Area (CHPMARA) Prioritization Plan, and the Greenbelt. Using this information, the public was asked to place red, yellow or green dots where they felt commercial fill would be of high, moderate or low concern, respectively. The results are consolidated in Figure 4 below.

⁴⁶ Ontario Ministry of the Environment and Climate Change (2014). *Management of Excess Soil – A Guide for Best Management Practices*. Retrieved from:

<https://www.ontario.ca/page/management-excess-soil-guide-best-management-practices>

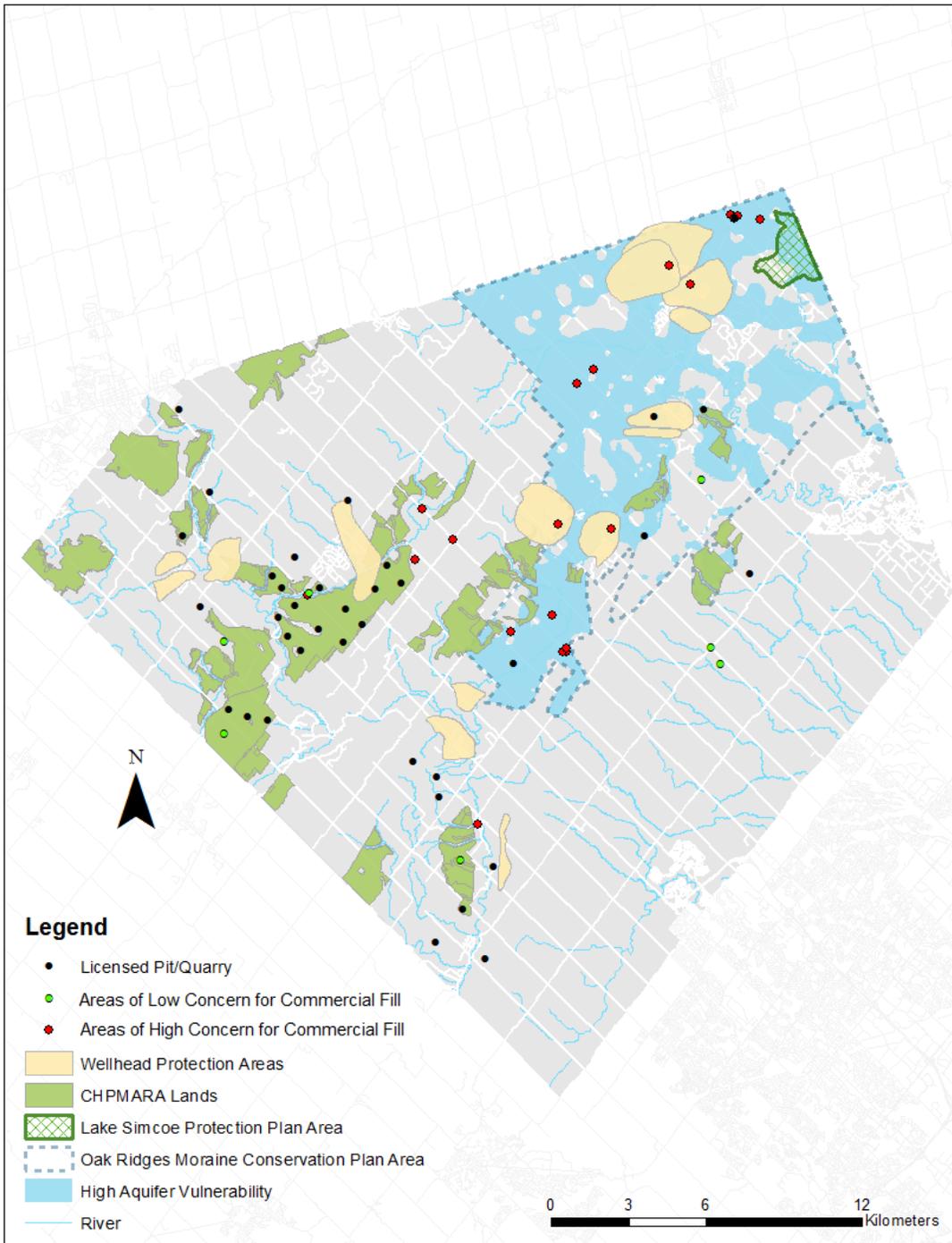


Figure 4: Town of Caledon map showing areas of high and low concern for the implementation of commercial fill operations, as identified by residents at the March 22, 2017 open house

Fewer workshop attendees participated in this activity, however, the results show a fairly strong consensus amongst those that identified areas of high concern in wellhead protection areas and areas of high aquifer vulnerability. This was reiterated in multiple written responses. Other input from the surveys included prohibiting commercial fill in the Oak Ridges Moraine. No yellow dots were used, indicating participants were definitive in their choices. The majority of green dots were

placed in areas of aggregate pits and quarries. Two written responses agreed that if the fill is “clean” and no worse than the existing material, excess soil should be allowed to be placed at any site. This further signifies the community’s concern with proper soil monitoring to ensure quality.

d) Additional Comments

Finally, open house participants were asked to provide any additional comments that they felt were not covered in the interactive display boards. Many comments reinforced the importance of protecting soil quality to mitigate health and environmental risks while exempting the use of topsoil for

agricultural purposes. One response indicated the MOECC should be regulating commercial fill operations at a provincial level and recommends the Town to lobby the Ministry. Other responses recommended regulation include requirements for operations to be peer-reviewed by a soil expert, likely referring to a Qualified Person and for separation distances to any sensitive land use.

INTERACTIVE DISPLAY BOARD 1: ISSUES TO CONSIDER

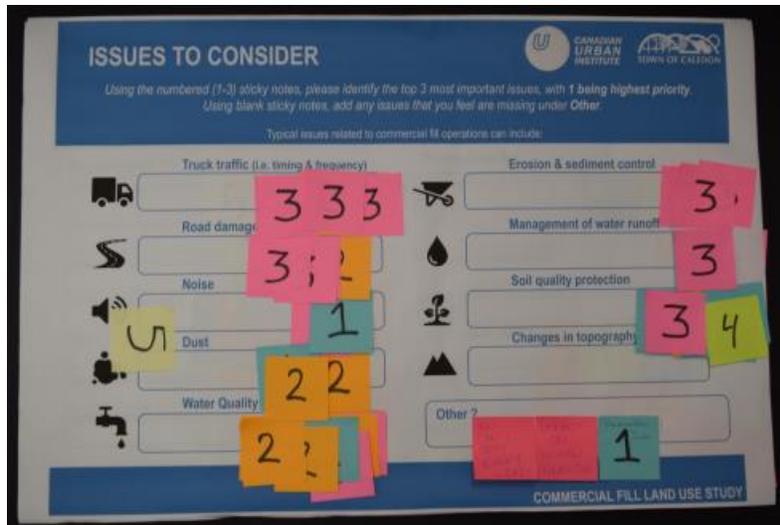


Figure 5: The display board where Caledon residents identified their top three issues to consider for commercial fill operations

	First	Second	Third	Total
Truck Traffic	0	2	5	7
Road Damage	0	1	3	4
Noise	1	0	1	2
Dust	1	3	0	4
Water Quality	1	9	0	10
Erosion & Sediment Control	1	0	3	4
Runoff Management	1	0	1	2
Soil Quality Protection	11	3	1	15
Changes in Topography	0	0	0	0

Table 3: Frequency of being voted first, second and third most important issue relating to commercial fill operations in Caledon.

INTERACTIVE DISPLAY BOARD 2: MUNICIPAL REGULATIONS

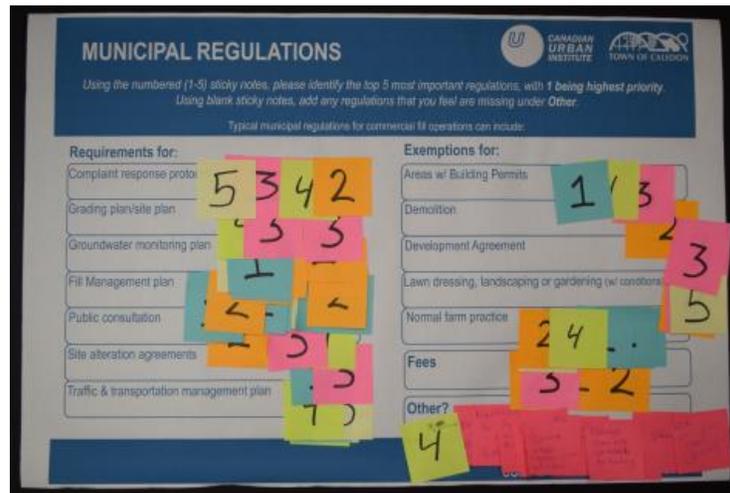


Figure 6: The display board where Caledon residents identified their priority regulations for commercial fill operations

	First	Second	Third	Fourth	Fifth	Total
Complaint Response Protocol	0	1	2	1	1	5
Grading/Site Plan	0	2	2	1	0	5
Groundwater Monitoring Plan	2	5	0	1	1	9
Fill Management Plan	9	2	2	0	1	14
Public Consultation	0	1	1	2	0	4
Site Alteration Agreements	1	0	1	0	0	2
Traffic & Transportation Management Plan	1	0	0	2	2	5
Areas with Building Permits	1	0	2	1	0	4
Demolition	0	2	2	0	0	4
Development Agreement	0	0	0	1	1	2
Lawn Dressing, Landscaping or Gardening	0	3	1	1	1	6
Normal Farm Practice	7	1	0	1	1	10
Fees	0	3	1	0	0	4

Table 4: Frequency of being voted first, second, third, fourth and fifth most regulation issue relating to commercial fill operations in Caledon.

WRITTEN SURVEY RESPONSES

Seven participants submitted answers to the optional written survey. Their feedback is summarized below as Respondent 1, 2, 3, 4, 5, 6 and 7 under each highlighted question.

1. What types of **issues** should the Town consider when regulating commercial fill operations?

Respondent 1:

This is an incompatible land use. People are already getting sick. Diesel fuel from trucks WHO carcinogen. Particulates (PM 10 & 2.5) cause respiratory, cardiovascular, disease, premature & stillborn births.

Respondent 2:

Agricultural use versus excavators wishing to get rid of soil.

Respondent 3:

Not limiting soil quality to just the MOECC Table 1 standards. The standards should be considered site by site, based on recommendations by a Qualified Person.

Respondent 4:

- Set back from adjacent property owners
- Compensation to the adjacent property owners by those who stand to gain the most
- Completeness of soil and groundwater quality investigations on source sites
- Volume of material to be imported
- System for tracking importation of soil and confirming soil quality over course of soil importation activities

Respondent 5:

- That every municipality who has accepted fill has had issues
- That town staff are not versed in fill operations

Respondent 6:

- Water
- Contaminated fill – specifically of concern coming from GTA development operations

Respondent 7

Development of effective soil/fill quality monitoring or else no commercial fill operations in proximity to aquifers and sensitive land uses (such as residences with private wells)

2. What **regulations** for commercial fill operations should the Town prioritize?

Respondent 1:

No fill. Taxpayers will be liable when contamination occurs. The operator will declare bankruptcy & the clean-up costs will far exceed any revenue the Town may generate.

Respondent 2:

Soil analysis should be done.

Respondent 3:

Consistent reporting requirements to assess soil quality at the source site, prepared by a Qualified Person. Include requirements to define contaminants of concern, and require spot testing of placed soil. Liability for the contractor placing the soil, requiring if the soil quality doesn't meet standards.

Respondent 4:

- Regulations/ by-laws should address issues noted above
- Source sites need to somehow be held responsible for quality for soil – most need to borrow money from banks so that could be a driver
- Treat “clean” soil like contaminated soil in terms of tracking process
- Large fill projects should include trailing liability to source sites

Respondent 5:

No fill at all. Work with OSTRF they have a model bylaw and policies free of charge.

Respondent 6:

Soil inspection before, during and after excavation.

Respondent 7

Adherence to the precautionary principle: if ultimate effects are unknown then it should not be done.

3. Are there **areas** in the Town where allowing for commercial fill operations would be of concern?

(Please indicate if these areas are a high, medium or low concern)

Respondent 1:

No fill in Oak Ridges Moraine.

Respondent 2:

If the soil has been certified good it should not matter.

Respondent 4:

Provided commercial fill is clean, it should be no worse than the existing material, therefore, put in stringent requirements for source characterizing, tracking and monitoring at receiving site, then almost any areas (except environmentally sensitive areas) would be a candidate.

Respondent 5:

Nowhere because of concerns of contaminants such as PCBs as has been found in New Tecumseh at Volks Airfield (www.facebook.com/talandfill)

Respondent 6:

All areas.

Respondent 7

High concern is proximity to potable water sources, aquifers, sensitive land uses

4. Any other comments for the Town?

Respondent 1:

Health of residents should be prioritized over the potential profits of commercial fill operations.

Respondent 2:

Do not confuse the recycling of top soil for agricultural purposes with commercial fill farmland quality soil is being stripped for subdivisions to should be used to improve farms in Caledon – consult the industry.

Respondent 4:

Unfortunately, the MOECC really should be the ones regulating this, so continue to lobby them as much as possible. Educating landowners on the environmental risk can be helpful but until more illegal fill sites are forced to incur costs to reverse damage cause by their activities, real awareness won't occur

Respondent 5:

You must engage the OSRTF they are free resource highly educated. The town council & staff are not qualified or staffed to manage this

Respondent 6:

I worked in the industry for 35 years and have seen a lot of sweeping under the carpet for the almighty buck. I understand it needs to go somewhere but with all the technology today there is surely a better way to recycle this soil and reuse it elsewhere.

Respondent 7

Please protect us from operators who are motivated by highly profitable acceptance of fill and other untestable materials.