QUALIFIED PERSONS
COMMUNITY OF ONTARIO

Best Practices for Excess Soil Reuse Sites in Ontario

Qualified Persons Community of Ontario

October 15, 2024 – Draft Version 2

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1.0 Purpose and Application of this Best Practices Document

1.1 Limitations and Disclaimer

This document was developed by the members of the Qualified Person Community of Ontario (QPCO) as a resource to assist members and others involved in the management of Excess Soil Reuse Sites. The Ministry of the Environment, Conservation and Parks (MECP) or the province of Ontario does not endorse any content, recommendation or opinion found in this document.

QPCO is intended to support Qualified Persons (QPs) working in the Brownfields sector [as defined in Ontario Regulation (O. Reg,) 153/04] and the Excess Soils sector (as defined in Ontario Regulation 406/19) in Ontario. Although participation may be accepted and included in our programs and documents, the current focus of QPCO is not intended for QPs from the hydrogeology and hydrology sector (as defined in O. Reg. 387/04). Additionally, this group is not intended for QPs from the mining sector (as defined or recognized in National Instrument 43-101).

QPCO makes no guarantees, representations or warranties regarding the information provided.

1.2 Qualified Person Community of Ontario

The Ontario Environment Industry Association (ONEIA) board, responding to the concerns of its member companies and other organizations/stakeholder groups in the Brownfields and Excess Soils area, has struck a Working Group to bring together those defined as QPs in Ontario to discuss the challenges they face, to create a basic online directory, explore training opportunities, and identify advocacy and engagement opportunities with regulators, stakeholders and the public. While the Working Group is operating with support from ONEIA, members of the group are not required to be members of ONEIA or ONEIA member companies. The working name for this group is the Qualified Persons Community of Ontario (QPCO) and supports the Brownfields and Excess Soil sectors.

In developing and preparing this best practice guide, QPCO has assembled a number of stakeholders from across Ontario to provide input into the content and determining what best practices should be considered for implementation. The stakeholders are listed in Section 13 Acknowledgments.

1.3 Background and Purpose

The MECP issued Ontario Regulation 406/19 Onsite and Excess Soil Management in 2019 with subsequent amendments. The regulation was supported by the accompanying Rules for Soil Management and Excess Soil Quality Standards (most recently amended in 2024) and Rationale Document for Development of Excess Soil Quality Standards (November 19, 2019).

Prior to O. Reg. 406/19 the MECP issued Management of Excess Soil – A Guide for Best Management Practices (January 2014, and subsequently amended).

QPCO has prepared this Best Practices for Excess Soil Reuse Sites in Ontario to complement the noted regulation and supporting documents and provide greater detail for the practical application of reuse of excess soil.

1.4 Application

These best management practices are intended to complement regulatory requirements; they are not themselves legal requirements or approvals and must not be taken to be, and they are subject to and do not replace legislation or legally binding documents of other kinds such as provincial, regional, and municipal by-laws and approvals, which may be amended from time to time.

The best management practices are intended to provide general concepts which may be used to address the general receiving site management of excess soil for beneficial reuse purposes.

Those who receive or store excess soil must be familiar with and remain responsible for complying with all applicable legislation and other regulatory requirements.

The best practices in this document provide guidance on the management and suggested procedures and practices at sites that can receive excess soil for beneficial reuse (a "Reuse Site").

2.0 Acronyms and Definitions

This document focuses on the **Reuse Site**, which is a site at which excess soil is used for a beneficial purpose and does not include a waste disposal Site. (see 3.1 Regulatory Requirements below).

Definitions used throughout this document have the same meaning as those described in O. Reg. 406/19 On-Site and Excess Soil Management regulation made under the EPA (The Regulation). For ease of reference the definitions/acronyms frequently used throughout this document are provided below.

APU – Assessment of Past Uses

BRAT – Beneficial Reuse Assessment Tool

ECA – Environmental Compliance Approval

COPC – Contaminant of Potential Concern

Excess Soil – has the same meaning as the Regulation, soil or soil with rock, excavated and will become excess to a Project and relocated to another site or property.

ESQS – Excess Soil Quality Standards as provided in Rules for Soil Management and Excess Soil Quality Standards, MECP, as amended from time to time.

FMP – Fill Management Plan

Project Area – means in respect of a project, a single property or adjoining properties on which the excavation is carried out.

RA – Risk Assessment

SAP – Sampling and Analysis Plan

SCR – Soil Characterization Report

SMS – Soil Management Site

ESDAR – Excess Soil Destination Assessment Report

Soil Rules – Rules for Soil Management and Excess Soil Quality Standards, MECP, as amended from time to time.

QP – A Qualified Person is a licenced professional engineer or licenced professional geoscientist for the purpose of completing or supervising requirements under the Excess Soil Regulation, as defined in the Record of Site Condition Regulation (O. Reg. 153/04).

QP-PL – The Project Leader's Qualified Person

QP-C – The Contactor's Qualified Person

QP-R – The Reuse Site's Qualified Person

3.0 Reuse Site Planning

3.1 Regulatory Requirements for Beneficial Reuse of Soil

Reuse Sites are sites that require soil for a beneficial purpose; waste disposal sites are not reuse sites. Excess soil is not a waste under Ontario Regulation, if it is beneficially reused at a Reuse Site. To meet this exemption, the following criteria must be met:

- Soil is directly transported to the Reuse Site, from the project area or an interim site where it was stored or processed (e.g., a Class 2 soil management site);
- The owner or operator of the Reuse Site consents in writing to the deposit of excess soil at their site;
- The soil meets the appropriate quality standards that apply to the Reuse Site, and should be of appropriate quantity that's needed for the beneficial purpose; and
- The excess soil must be dry when received at the reuse site, unless a site-specific instrument authorizes the receipt of liquid soil.

These criteria are intended to prevent illegal dumping of soil. If these criteria are not met, the soil may be designated a waste and a waste-related approval from MECP may be required, or soil may be ordered to be removed from the site.

Reuse Sites may operate under a site-specific instrument (such as a permit under a by-law) in which case the instruments can specify the allowed quality and quantity of excess soil that can be imported to the site. An instrument may adopt the quality standards under the regulation, or it may set property-specific standards. Instruments could also authorize liquid soil to be deposited at a site or specify alternate storage rules that depart from the requirements of the regulation and the Soil Rules.

In addition to municipal permits, other types of instruments and public bodies that may provide rules or oversight include:

- A license or permit under the *Aggregate Resources Act;*
- A permission under the *Planning Act;*
- A certificate of property use (CPU) under the *Environmental Protection Act;*
- A permit under a Conservation Authority; and
- Any other site-specific instrument under provincial or federal law that may regulate the quantity or quality of soil being received at a site.

If a site-specific instrument has not been issued for a site, then the Regulation provides rules related to the management of excess soil, including excess soil quality and quantity requirements that will allow the site to be recognized as a Reuse Site. These include:

- Meeting the excess soil quality standards under the regulation, or any site-specific standards that were developed by a QP through the BRAT;
- Only accepting the amount of excess soil that is needed to complete the undertaking;
- Identifying a beneficial purpose for the use of excess soil (e.g., backfilling, grading, rehabilitation of a pit, etc.);
- Ensuring the primary use of the site is not the deposit of excess soil; and
- Finally placing the soil no later than 2 years after it was deposited on site (could be extended to 5 years if allowed by the ministry; but note that this time limit does not apply to infrastructure projects).

The ESQS are provided in tables under Part II of the Soil Rules document. These standards were developed to assist in assessing suitable quality for reuse depending on site use and characteristics. Selecting the appropriate ESQS table depends on:

- The overall volume of excess soil to be placed for the undertaking;
- The property use at the Reuse Site (e.g., agricultural, residential, etc.);
- If the groundwater in the area will be used for potable purposes;
- If the reuse site has bedrock within 2 metres of surface or has shallow groundwater (within 3 metres of surface);
- The depth at which the soil will be placed below the surface of the ground;
  If the soil will be placed near a waterbody; and

- Placement of soil in settings with preferential pathways (e.g. fractured rock).

The Soil Rules document also lays out additional rules around certain types of Reuse Sites (e.g., environmentally sensitive areas or sites used for growing crops and pasturing) and other circumstances (e.g., use of salt-impacted soil, naturally elevated background concentrations). These rules must be followed and used when determining the applicable site condition standards for a Reuse Site, and whether soil is appropriate for a specific Reuse Site.

Larger reuse sites that accept 10,000 m^3 or greater of excess soil have additional requirements:

- Filing a notice on the online Excess Soil Registry (Registry):
  - The owner or operator of the reuse site must file a notice on the Registry, which is developed and implemented by the Resource Productivity and Recovery Authority (RPRA):
  - The Registry notice provides information about the Reuse Site and the undertaking, including contact information and key information on the site's operation: and
  - The notice must be updated to remain current.,
- Implementing procedures to track each load of incoming excess soil;
  - The owner or operator of larger Reuse Sites also need to put in place procedures to account for every load of excess soil being deposited at the Reuse Site and to ensure that the storage of excess soil does not cause adverse effects;
  - This includes identification of the source sites for imported soil, collection of relevant reports related to the soil, inspection procedures; and
  - These procedures may be incorporated into a Fill Management Plan, which larger Reuse Sites could consider preparing to integrate regulatory requirements, as well as any best practices for soil management.

Consultation with local municipalities, the applicable conservation authority, and any other relevant public body or agency will help to identify what local requirements may apply to a Reuse Site including matters such as timing of operations, haul routes, natural heritage protection, natural hazards that may require management, landform conservation, stormwater management, sediment and erosion control and other operational requirements that may be set out in municipal by-laws, site-specific instruments, or policies. If the impacts from the Reuse Site operations cannot be mitigated or managed, continuing with the Reuse Site might not be possible.

3.2 What is a Reuse Site

A Reuse Site is a site at which excess soil is used for a beneficial purpose.

Landfill sites and Class 1 soil management sites (SMS) are not Reuse Sites; they are considered waste disposal sites[1]. Disposal of excess soil at a landfill is not considered a beneficial use under the regulation and excess soil deposited at a Class 1 SMS is not intended to be permanent. Landfills and

[1] Bringing excess soil to a reuse site | Excess soil fact sheets | ontario.ca

Class 1 SMS typically operate under an Environmental Compliance Approval (ECA). Reuse Sites typically do not require an ECA.

Examples of different types of Reuse Sites and associated beneficial uses are provided below:

Type of Reuse Site	Beneficial Use
Aggregate Pits and Quarries	• Site Rehabilitation
Subdivision Development	• Raising grade or filling depressions across a parcel of land to achieve design grade; • Creating berms on roadways, stormwater management ponds and other purposes such as visual screening or providing a sound barrier; • Landscaping; • Restoration of excavations to final grade.
Municipal Projects	• Road rehabilitation; • Park construction including grading and berm construction; and • Business/industrial park construction – raise grade.
Infrastructure Projects	• Creating berms; • Creating approach/egress ramps; • Restoring excavations to final grade; and • Linear infrastructure project sharing.

3.3 Roles

Stakeholders in the management of excess soil at Reuse Sites include: the Reuse Site Owner/Operator, Qualified Person(s)[2], Source Site Contractor(s)/Project Leaders, and Haulers. The roles of these stakeholders are discussed below.

3.3.1 Reuse Site Owner/Operator

The Reuse Site Owner/Operator employ a team of contributors who will be responsible for the management of excess soil being imported to the Reuse Site. The size and responsibilities of the team will vary depending on the nature and complexity of the project for which the excess soil is required. The Owner's team may include some of the following people:

- owner's representative;
- professional planner;
- architects and landscape architects;
- site manager or construction general contractor;
- earth-moving/excavation contractors and equipment operators;
- geotechnical engineer;
- environmental consultant (Qualified Person); and
- other specialist consultants, such as traffic, water management, noise and ecology.

At the early stages of the project, the Reuse Site Owner/Operator should assign responsibility for the following:

- Determining the volume of excess soil required;
- Preparing and overseeing the fill management plan;
- Identifying and mitigating against any impacts that may be caused by the Reuse Site;
- Preparing a notice to be filed on the Excess Soil Registry, if needed;
- Determining the ESQS applicable to the reuse site;
- Identifying sources of excess soil to be imported to the reuse site;
- Approving excess soil source sites;
- Providing written authorization that the excess soil may be deposited at the reuse site;
- Documenting receipt of excess soil on site;
- Verifying the quality of imported excess soil as it arrives at the reuse site;
- Inspecting excess soil as it arrives at the site;
- Rejecting excess soil that is unacceptable; and
- Record keeping and document retention, according to regulatory requirements.

There may be other project specific tasks that require assignment. These will be based on Site conditions and project complexity.

[2] https://www.oneia.ca/resources/Documents/Excess%20Soils%20Documents/MECP%20Webinars/7%20-%20QP%20and%20Excess%20Soil%20Planning%20-%20MECP%20Excess%20Soil%20Webinars%20Nov%2024%202021.pdf

3.3.2 The Reuse Site Qualified Person

Reuse Sites are not required by the Excess Soil Regulation to involve a QP, unless a BRAT model or a Risk Assessment is used to develop site-specific standards. However, the owner/operator of a reuse site should retain the services of a QP to help ensure requirements are met and best practices are followed before and during the import of excess soil to the Reuse Site.

A Reuse Site QP can assess the current soil and groundwater conditions and confirm the appropriate quality and quantity of excess soil to be received, giving thought to existing and future use of the property. They can also:

- Develop procedures for receiving excess soil;
- Develop a fill management plan to guide the import and placement of excess soil; and
- Review proposed source site documents (APU, SAP, SCR, ESDAR) to confirm if soil quality is acceptable for placement at the Reuse Site.

3.3.3 The Source Site

Only soil that meets the ESQS applicable to the Reuse Site can be imported within the Regulation. The Reuse Site owner/operator should insist on considering only Source Sites with appropriately detailed documentation of their soil quality.

The source site Owner/Operator should be able to provide the required documentation to confirm that the excess soil from their Project Area meets the requirements of the Reuse Site. Soil quality documentation, presented in an SCR, or equivalent, must be prepared by the source site QP and must consider representative soil analyses to confirm the soil quality from the area that will be excavated, is acceptable for the intended Reuse Site.

3.3.4 Haulers

Haulers have a role in ensuring that soil from an approved Source Site is transported to the intended Reuse Site and placed in accordance with site rules. The driver of the transport vehicle must maintain or have access to a record of the load during transport and must ensure that completed haul records are distributed to the Source Site and the Reuse Site. The Regulation provides direction on timelines for document retention.

3.4 Applicable ESQS

The applicable excess soil quality for a reuse site may be any of the following:

- A generic excess soil quality standard – determined based on Reuse Site conditions, intended future use and the ESQS provided in the Soil Rules Document;
- A site-specific standard – derived using the BRAT or through a Ministry approved Risk Assessment; or
- A specified standard through a Reuse Site instrument.

A reuse site owner or operator also has the discretion to set more stringent standards than the regulation requires. This may be considered for specific conditions at the Reuse Site where there may not be natural protections against groundwater impacts. In these cases, it may be recommended by specialists that more stringent acceptance standards be set. As part of consenting to receive excess soil from a project area, the reuse site owner or operator should confirm the quality and any other relevant soil characteristics (such as geotechnical, organic content, etc.) of the soil that is agreed for receipt.

Under the regulation, the quality and quantity of excess soil that may be received and finally placed at the reuse site for a specific beneficial purpose is determined by a site-specific instrument containing rules related to soil management, or by the rules in the regulation.

If a site-specific instrument is absent or is silent on a matter of quantity, quality or management rules, the Reuse Site must at a minimum follow the applicable standards and rules in the Rules for Soil Management and Excess Soil Quality Standards or have a QP develop site-specific standards through the BRAT or a Risk Assessment. The use of the BRAT or a Risk Assessment may add constraints to the final property uses and may also require permits or approvals from regulatory agencies.

Through consideration of features of the Reuse Site, such as a drinking water wells or nearby surface water and the intended final use of the Reuse Site, the QP will select the appropriate excess soil quality standards to apply. If excess soil of inappropriate quality or quantity is deposited for final placement at a Reuse Site, the soil is considered waste and will be governed under Part V of the *Environmental Protection Act*. This provides the ministry with the tool and authority to require any person who has caused, permitted or arranged for the unlawful deposit of the waste to remove it and properly dispose of it.

3.5 Consultation and Engagement

The MECP recommends community engagement for larger reuse sites, sites handling riskier excess soil, and sites where the activities will be occurring over a longer time.[3] Local bylaws may also require consultation and engagement.

The reuse site owner/operator should identify indigenous communities, landowners, community groups and authorities having jurisdiction, who may have an interest in the works. It is recommended that potential concerns be assessed early and to identify what engagement or permitting might be helpful or required in gaining acceptance of the Reuse Site. If consultation is determined to be beneficial to the project, it is recommended that a communication plan be developed. Where applicable, consultation can be done in conjunction with communication activities for other approvals that the Reuse Site may need, such as zoning changes.

[3] https://www.ontario.ca/document/excess-soil-fact-sheets/bringing-excess-soil-reuse-site

Reuse sites near surface water bodies must determine whether local Conservation Authority restrictions/permits apply. In addition, the MECP District Office should be consulted regarding environmentally sensitive and/or protected sites. Conservation Ontario provides a listing of Conservation Authorities by Region which includes an interactive map[4]. Individual Conservation Authorities provide publicly accessible maps of areas which they regulate based on setbacks from natural hazards and areas of environmental significance. When a Reuse Site includes a regulated area, consultation with the Conservation Authority before any designs are started is recommended. The Conservation Authority may specify soil quality standards, restrict or limit soil placement, and/or specify monitoring and reporting requirements to maintain compliance. Generally, these requirements would be identified through a permit approval process. Reuse Sites should account for Conservation Authority permit fees and approval timelines.

It is recommended that a communication plan for the Reuse Site be prepared and implemented by an experienced professional. The plan should present the Reuse Site conditions, the fill management plan and any conditions deemed to be of interest to the interested stakeholders. The communication plan should be direct and inclusive.

Some elements which may be included in the communication plan are as follows:

- The method of communication (i.e., is a newsletter sufficient or is a public information session warranted?);
- The stakeholders and community groups to be consulted;
- Methods for providing comments and how comments will be collected and managed;
- The timeframe for addressing comments; and
- The process for resolving comments of concern and ensuring that they are taken into consideration, documented, and are used to inform the final design and operation of the reuse site.

4.0 Fill Management Plan

A Fill Management Plan should be prepared to guide fill acceptance and placement at the Reuse Site. It may be required to obtain municipal approvals for the Reuse Site. The following sections describe key considerations for development of the plan.

4.1 Site Design and Layout

Traffic flow into, within, and out of the Reuse Site will be critical in the design. The layout should be established to ensure adequate space for necessary site amenities and access to areas of active filling so that filling is completed in accordance with the needs of the final condition. Considerations in the sequence of filling may include end use of the Reuse Site, safety, access, and environmental protection.

[4] https://conservationontario.ca/conservation-authorities/find-a-conservation-authority (accessed March 17, 2024).

Site design features may include gates for controlled entry and exit, boundary fencing, office with gatehouse or scale for receiving, inspecting, and directing trucks, staff facilities, internal access roads, storage for site equipment, and mud mats, wheel wash, or other means to remove mud from truck tires before exiting. These onsite features and signage should support overall security and the tracking system and documenting the location of final placement within the Reuse Site.

If site filling will take place over several seasons, design should consider surface water management and minimizing of low-lying areas that may hinder ongoing soil placement in wet conditions. The placement of excess soil may need to be supported by natural vegetation or stabilized with geotextiles to control settlement, run-off or sloughing, and increase slope stability. Finally, consideration may be required to allow for geotechnical controls such as compaction and for effective placement of soil against or around site boundaries or retaining walls.

4.2 Filling Details

4.2.1 Final Conditions

The intended use of the Reuse Site will determine how the excess soil is placed. There may be areas with different soil quality standards due to distance to waterbodies, potable groundwater wells or other environmental features. This may also include different qualities for varying depths (i.e., the layer cake approach). There may also be geotechnical requirements for interim and future uses. For example, excess soil beneath a planned building would require engineered placement whereas, there may be flexibility in planned landscaped areas.

The surface cover may include hard surfaces (i.e., asphalt or concrete pavement, stone tiles or pavers) or topsoil to support vegetative growth. Soil to support plant growth may be needed below a surface topsoil layer where trees and shrubs with deeper roots will be planted. Certain soil types that are less susceptible to external factors such as erosion, may be more suitable for final grading in landscaped areas.

Professionals should be retained to evaluate the specific needs of the site and to prescribe any site monitoring, testing, or inspection that may be needed as soil is placed and final conditions are achieved. This may include geotechnical engineers, landscape designers, hydrologists, and ecologists, to name a few.

4.2.2 Existing, Interim and Final Grades

Depending on the size and complexity of the Reuse Site fill placement, topographic plans for existing, interim (prior to topsoil placement) and final grades may need to be designed in advance of excess soil placement and confirmed through surveying, as fill placement progresses. Onsite personnel should have access to fill placement details as the filling progresses.

Cut and fill volumes for different areas of the site will need to be determined and balanced with fill import. Where possible, re-use of on-site soil or soil initially accepted as fill should be prioritized, to avoid importing fill that will later be considered as excess.

Areas for internal access roads may need interim grading and stabilization for truck traffic. Suitable material, including aggregate, recycled concrete, or asphalt grindings may be needed for these interim grades. Drainage properties of the materials should be considered in areas of the site subjected to most internal traffic. If these materials are excess to the final fill requirements, they will also need to be tracked, monitored and removed once not needed at the site.

4.2.3 Topsoil

Topsoil that is present before fill placement begins should be placed in piles or berms during operations and made available for re-use in the final cover, if and where possible. If additional topsoil is needed, it may be obtained from accepted Source Site Project Areas, or a site permitted under the Aggregate Resources Act. Topsoil imported to the Reuse Site with a permit issued under the Aggregate Resources Act is exempt from the Regulation. Further, Schedule 2 of the Regulation provides exemptions related to topsoil originating from a Project Area. These exemptions should be evaluated during the planning stages to ensure appropriate characterization and documentation is prepared for the topsoil required to complete final grades. If not exempt, documentation of topsoil placed at the Reuse Site may be subject to the same requirements as fill placed onsite.

Section D 1 (3) Salt Impacted Excess Soil of the Soil Rules document provides guidance on the appropriate placement depths and locations of salt impacted soil. Depending on the end use of the Reuse Site, it may be acceptable to place salt impacted soil as topsoil, at final grades. The Soil Rules must be followed for these cases. It is recommended that salt impacted excess soil be tracked separately from other soils considered as final cover.

4.2.4 Fill Sequence and Timing

The intended use and final grade of the Reuse Site will direct how, where and when excess soil is placed. Care in the staging of fill placement will be needed to maintain interim access points and minimize any need for multiple handling. Other considerations for the timing of excess soil placement may include ecological factors such as nesting season or protection of species at risk affected by placement activities. Seasonal conditions and significant rain events may also affect the ability to achieve compaction specifications and settlement controls.

4.3 Supporting Plans

4.3.1 Dust, Erosion and Sediment Control

Sediment and erosion controls should be developed by a qualified professional with consideration to the Reuse Site layout, nearby surface water bodies, and/or requirements otherwise specified in permits (e.g. Conservation Authority). Control of erosion, sediment migration and other activities that can generate dust would be included in the plan.

There are several publicly available references for sediment and erosion control practices and specifications including OPSS 805 and the Erosion and Sediment Control Guide for Urban Construction (TRCA, 2019).

Where project requirements allow, soil placement should be phased and each phase completed with a temporary or final cover (e.g., groundcover, hard surfacing, etc.) to limit erosion and movement of sediment.

Wind can redistribute stockpiled soil, and precipitation can mobilize sediment or cause potential contaminants to solubilize and leach into the Reuse Site soil and/or groundwater. Material that is temporarily stockpiled for the purpose of completing confirmatory/audit sampling should be placed on a hard surface (where possible) or an impermeable barrier (e.g. a tarp) and covered with a tarp or similar, to prevent transportation of contaminants arising from wind and precipitation. Consideration should also be made regarding implementation of sediment and erosion control barriers to limit the migration of runoff from the stockpile (e.g. silt fencing) to sensitive receivers (e.g., haybales around or geotextile over catch basins).

Details of an erosion and sediment control plan may include:

- Wetting of soil with water to mitigate dust generation;
- Reduce speeds of Site vehicles;
- Tire washing stations;
- Mud mats at site egress points;
- Restricting work during high wind conditions;
- Covering material to prevent fugitive dust formation;
- Promptly cleaning paved streets/roads where soil has been tracked outside the Reuse Site;
- Silt fencing along property boundaries or adjacent to sensitive site features; and
- Temporary and final site grading to direct surface water flow.

Control measures implemented at the Reuse Site may require monitoring over the interim operations and after final grading.

4.3.2 Stormwater Management

Stormwater should be managed to control ponding in areas of proposed excess soil placement and to prevent offsite run-off. The grading plan should provide for drainage of stormwater during interim phasing as well as at the completion of the filling.

The grading plan must facilitate drainage to appropriate areas of the site and temporary stormwater management ponds or swales may be required. The management plan should include contingency measures for extreme rain events or spring runoff events.

4.3.3 Environmental Controls

In addition to erosion, sediment, and stormwater, there may be a need for a plan for additional environmental controls, including noise, air quality, groundwater and surface water quality, and ecological features. Special provisions may be required to address environmentally sensitive areas of the Reuse Site or if the potential for invasive species to originate from a Source Site requires

management. Where a Reuse Site is filling around existing trees, a qualified professional should be retained to develop fill placement procedures for this purpose. Operation of heavy machinery over tree roots may physically damage the roots or compact the soil and impair the infiltration of nutrients and water to the roots. The need for these or additional plans would depend on the specific characteristics of the Reuse Site.

Consideration should be given to retaining a qualified professional to determine whether species at risk are present at the property and whether application of more restrictive generic site condition standards is required (e.g. Table 1). The definition of an environmentally sensitive area is provided in Section A of the Soil Rules, and rules associated with the Environmentally Sensitive sites are more fully described in Section D of the Soil Rules.

4.3.4 Traffic Management

A Traffic Management Plan may be a component of the Fill Management Plan, if the Reuse Site will generate a significant increase in truck traffic on the surrounding road network. Traffic considerations should include the location of entrances, truck queuing and maneuvering, staff and visitor parking. The need for off-site parking or uses should be minimized and only considered if permitted by local rules. Hauling should be on locally approved routes, including consideration of seasonal restrictions. Approved routes should be communicated with any source sites as part of the approval. Internal access roadways and traffic flow should be included for larger Reuse Sites.

Municipal by-laws may also dictate when soil can be hauled to a Site. Excess soil placement may be restricted during half-load season.

5.0 Site Operations

5.1.1 Source Site Application and Documentation

Soil acceptance requirements should be readily available for review by potential source sites and may be presented in an acceptance criteria document. This is especially important for large reuse sites that will need to communicate with multiple potential source sites.

Documentation of soil quality at the Source Site should be provided for review through an SCR or similar report. Supporting documents such as the APU and SAP should be provided when they are prepared as part of O. Reg. 406/19 requirements. Reports generated by sites that are exempt from filing a Project Area Notice on the Excess Soil Registry (and thus exempt from APU, SAP, SCR and ESDAR reporting requirements) should include the following information as a minimum:

- Address of the source site;
- Past and present property uses and any potentially contaminating activities at the source site;
- Soil description;
- Volume of excess soil proposed for transfer;

- Analytical results for soil sampling with rationale for the sampling frequency provided;
- Presence of salt related parameters [i.e., electrical conductivity, sodium adsorption ratio (EC &SAR)];
- Identification of any exemptions or rationale for not requiring a notice to be filed for the source site;
- Certificates of Analysis from a CALA (Canadian Association for Laboratory Accreditation) or equivalent certified laboratory for all samples analyzed, including Chain of Custody forms;
- A site plan illustrating project area boundaries, sample locations and areas of excavation;
- Conclusion from the report author that the soil quality meets specific applicable standards for types of Reuse Sites.

Suggested sampling frequencies for Sites that are not required to file a Project Area Notice on the Excess Soil Registry are provided in the table below. As a minimum, each sample should be analysed for BTEX (benzene, toluene, ethylbenzene, xylenes) and Petroleum Hydrocarbons (PHCs), metals and hydride-forming metals, and inorganics (pH, EC and SAR). Polycyclic Aromatic Hydrocarbons (PAHs) should be considered, if identified as a potential contaminant of concern.

Table 1 – *In situ* Sampling Frequencies for Low-Risk Sites

Soil Volume (m^3)	Number of Samples
0-600	3
601-1000	1 per 400m^3
1001-5000	1 per 500m^3
5001-10000	1 per 1,000m^3
10001-20000	1 per 2,000m^3
20001-40000	1 per 5,000m^3

The number of samples required are cumulative, based on total volume. This is a reduced frequency per volume suggestion compared to sites that have Section 8 reporting requirements; however, is intended to provide the Reuse Site with some assurance on the excess soil quality to be received. Further, the intention is to provide some standardization of expectations for Reuse Sites on frequencies of sampling for specified volumes of excess soil from a source site.

If the QP determines that leachate analyses are required[5] then leachate analyses by modified Synthetic Precipitation Leaching Procedure (mSPLP) are required for reuse. No alterations to the requirements listed in the Soil Rules are recommended for Low-Risk Sites.

Due to the potential for soil from multiple sources sites and variable soil qualities within a stockpile, the requirements for sample frequencies of stockpiled soil are generally recommended to be completed as

[5] Soil Rules Part II, Section A, 1.(7) 2. Leachate analysis is required, if:
i a chemical is identified as a contaminant of potential concern (COPC);
ii. the chemical has a superscript “a” following the excess soil quality standard in the applicable generic excess soil quality standards table; and,
iii. the analysis of the chemical is not being conducted solely for the reason that it is being required by the mandatory sampling and analysis requirements set out in subparagraphs i and ii within paragraph 14 of subsection 2 (3) of section B of Part I of the Soil Rules.

outlined in the Soil Rules and O. Reg. 153/04, as amended; however, QP discretion may be used to justify a lower stockpile sampling frequency.

Source Site documents that are submitted for review by a Reuse Site should be current. For sites that are required to file a Project Area Notice on the Excess Soil Registry, the sampling date is to be less than 18 months prior to the Registry filing. For Source Sites that are not required to file, the latest sampling should be within 24 months unless supported by a defensible and documented rationale from the source site QP as to why a longer period is acceptable. Submitted documents should be reviewed by the Reuse Site QP to confirm that the excess soil is acceptable for the Reuse Site.

Written acceptance to import the soil to the Reuse Site is required to exempt the soil from being designated as waste. The format of the written authorization is not specified in O. Reg. 406/19 but may include a letter or form detailing the conditions of the acceptance such as quality requirements, quantity restrictions, basis of acceptance, and any limitations imposed on the Source Site. This acceptance document is to be signed by the Owner of the Reuse Site, or authorized representative.

OPSS 180 forms may also be used as written acceptance.

Records must be retained for a minimum of seven (7) years; however, it is recommended that records be retained until completion of the reuse project if it will take longer than this.

5.1.2 Transportation Tracking and Documentation

Tickets, bills of lading, and/or digital tracking must be confirmed prior to admittance of the soil into the site. If tracking from the source site is required, confirmation of receipt of the soil through either digital or physical tracking must be completed and signed off by a representative of the Reuse Site. The Reuse Site representative should review the information on the hauling and tracking records prior to signing off. Copies of the hauling and any tracking records must be provided to the Reuse Site by the transporter and Source Site, in accordance with regulatory requirements. Document retention is required for set periods under the Regulation.

5.1.3 Reuse Site Soil Scrutiny and Acceptance

The Reuse Site must have means to inspect soil prior to or during the placement process, such that unacceptable soil can be rejected and removed from final placement. This might be an inspection station at the site gate or an inspection area within the filling areas. Elevated platforms for site personnel or cameras to allow visual assessment of trucks are recommended for sites accepting high volumes of soil.

Onsite screening may include for detectable odour, visible staining, debris, and obvious invasive species. Loads should not contain soil that is liquid unless the site has an instrument permitting acceptance of liquid soil. Loads that are not in compliance with the site acceptance criteria based on visual and/or olfactory observation at the gate are to be rejected. Trucks that are not granted access to the Reuse Site would generally be directed to return to the Source Site. Source Sites with repeated infractions risk having their disposal privileges revoked, resulting in general self-regulation.

Tickets, bills of lading, and/or digital tracking must be confirmed prior to admittance of the soil into the Reuse Site. If tracking from the Source Site is required, confirmation of receipt of the soil through either digital or physical tracking must be completed and signed off on by a site representative. The reuse site representative should review the information on the hauling and tracking records prior to signing off on them. Copies of the hauling and any tracking records are to be provided to the Reuse Site by the Source Site, unless digital transmission has been arranged.

The Reuse Site should develop a coordinate system to track soil placement as filling progresses and trucks bringing soil should be provided direction to the active fill areas.

5.1.4 Audit Sampling

Quality assurance and quality control (QA/QC) sampling should be completed at the Reuse Site to check the quality of soil being imported against source site documentation. Audit sampling should be conducted by or under the direction of a QP, at a rate commensurate with the volume of soil to be imported. A general guideline is 10% of the routine sampling or as directed through a permit. For example, if you were importing 50,000 m^3 of soil and the bulk sampling requirements prior to import were for 122 analytical samples (excluding duplicates), you could expect to analyze approximately 12 samples (approximately 1 sample every 4,000 m^3) for QA/QC purposes. A higher sampling frequency may prudent if any quality issues are identified in the soil imported from specific sites or by specific contractors. Sampling protocols should be designed by a QP.

If QA/QC sampling identifies concerns with soil quality from the Source Site, soil placement and segregation protocols should be referenced to identify where the excess soil from the Source Site in question was placed. Additional sampling to confirm the extent of any unacceptable soil may be completed. If required, compliance through the statistical method may also be considered. Unacceptable soil should be removed from the Reuse Site and either sent back to the Source Site or sent to a licensed landfill or Class 1 Soil Management Site, as appropriate.

5.1.5 Mud and Dust Management

Site operational requirements to control mud tracking and dust should be detailed in a section of the Fill Management Plan. Truck cleaning and mud-tracking controls may be required and may include truck and vehicle washing stations, mud mats, and details for runoff collection.

Dust control measures may include a reduction in driving speed limit on-site, , frequent wetting of stockpiles, implementation of wet cutting methods for any building/infrastructure construction activities, and dust suppression on roadways, among others.

5.1.6 Hours of Operation

Legible signage should be posted at the gate(s) stating the hours of operation in compliance with local bylaws. The operating hours may be set to ensure activities fit within noise bylaws.

When bylaws are not in place, implement operational hours with sensitivity to local receptors (e.g. noise). Additional measures such as equipment mufflers, limiting tailgate slamming might also be

required in noise sensitive areas. Signage may also include other relevant information, such as key contact information.

6.0 Monitoring

Monitoring of site operations may be necessary to ensure that the soil received is acceptable for its intended use and to ensure that soil is placed in a manner that limits adverse impact. The specific needs of any monitoring program will vary depending on factors such as the intended reuse, site setting and soil source(s). Based on monitoring programs, operating procedures should be developed and implemented to evaluate and document concerns/complaints and whether mitigation measures are required.

6.1.1 Environmental Soil Quality

The environmental quality of soil accepted at the site is defined at the planning stage with consideration to the site setting and intended use of the site. In some circumstances a reuse site may accept soil of different standards, such as salt impacted soil placed in accordance with the Soil Rules, to ensure separation from groundwater or surface water receptors.

As a component of a fill management plan (or similar site operations plan) procedures should be developed to monitor soil accepted at the reuse site with consideration to the following:

- Defining who will be responsible for monitoring soil received at the reuse site and associated training;
- Whether soil will be directly placed at an identified active fill area within the reuse area, or temporarily placed within a receiving area (i.e. double handled);
- Guidance on visual and olfactory indications of soil that may be considered unacceptable for reuse (e.g. debris, chemical odour, ash, staining, discoloration). As a best practice reuse sites should consider processes for ensuring that the soil matches the description provided in supporting documentation (e.g. soil colour, type, relative moisture content) as this may indicate a change of conditions; and,
- Whether semi-quantitative tools will be applied as part of the screening process (e.g. use of a combustible gas indicator and/or photoionization detector).

6.1.2 Other Soil Characteristics

O. Reg. 406/19 and the Soil Rules outline environmental quality for beneficial reuse; however, reuse sites must also consider geotechnical requirements of the intended reuse to ensure that the geotechnical properties of placed soil do not limit the intended future development of the site. Improper placement of soil may lead to increased development cost and/or removal of some or all the placed material.

A conceptual site plan outlining the approximate location and type of structures, supporting infrastructure and features (e.g. berms) may be key to ensure that imported soil is fit for purpose, and that assumptions made and/or limitations imposed by soil placement are documented. An appropriately qualified professional (e.g. geotechnical engineer) should be consulted to outline geotechnical specifications for soil reuse, where required. These specifications may include consideration of the soil composition (e.g. grain size distribution with reference to common OPSS specifications, presence/absence of organic material, temperature and moisture considerations), guidance regarding placement and compaction, and/or implementation of ground improvement techniques.

Geotechnical and environmental professionals should collaborate to ensure the site objectives are met.

6.1.3 Groundwater Quality

The generic excess soil quality standards and associated leachate method and criteria were developed to limit adverse impact to groundwater and any need for groundwater monitoring and assessment. The generic model does not account for direct placement of soil into groundwater; for this reason, the Aggregate Resource Act requires that soil beneficially reused at a licensed aggregate site and placed in groundwater or at a depth anticipated to be saturated by groundwater in the future, meet the O. Reg. 406/19 Table 1 standards.

In circumstances where soil will be beneficially reused at a site not licensed by the Aggregate Resource Act, a qualified professional should consider the potential for adverse effects of soil placement on groundwater quality. Placing soil that does not meet the Table 1 standards, should only be considered with supplemental investigations and documentation, to development and implement risk management measures, as needed. This may include:

- Additional, specialized leachate methods and/or modelling;
- Hydrogeological studies;
- Baseline sampling of groundwater, and ongoing monitoring and sampling of groundwater during soil placement;
- Development and implementation of a trigger mechanism; and
- Enhanced training and monitoring procedures.

Qualified professionals should also consider the proximity of the placed soil to the current or future water table and if application of more stringent ESQS are appropriate. Further discussion of soil placed in proximity to the water table and associated considerations is provided in the Ontario Society for Professional Engineers (OSPE) document entitled “Best Management Practices for Aggregate Pit and Quarry Rehabilitation in Ontario,” dated March 2021.

The Soil Rules outline exemptions for the reuse of salt impacted soil (e.g. exceeding generic reference standards for parameters associated with seasonal de-icing activities). The exemption cannot be applied in settings where the soil will be within 100 m of current or future potable supply wells. Clear

communication and documentation with the reuse site is recommended to ensure that soil placement does not limit future development of the reuse site or adjacent properties.

The Soil Rules exemption for salt impacted soil does not allow for consideration of hydrogeologic factors. Therefore, in settings where reuse of salt impacted soil may be impractical due to the presence of current/potential future potable wells, consideration may be given to a risk-based evaluation. A risk-based evaluation may include consideration of the site setting (e.g. soil will be used beneath a parking lot or roadway) and the hydrogeological features of the reuse site and surroundings that may include consideration of the following:

- Survey of existing groundwater users;
- Groundwater quality as it relates to surface water receivers;
- Direction of groundwater flow;
- The depth of groundwater resources used for potable purposes and/or the presence/absence of geological features that may limit migration of parameters associated with seasonal de-icing (e.g. aquitards); and,
- The existing (pre-soil placement) quality of groundwater, for example shallow groundwater that is naturally salty due to the geologic setting, and therefore not used for potable purposes.

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In settings where there is an increased risk of groundwater impact a Reuse Site may consider installing one or more monitoring wells prior to receipt of excess soil to establish baseline conditions (e.g. groundwater elevation, physical and chemical characteristics) and then periodically monitor for adverse effects (e.g. increased turbidity, discoloration, chemical parameters).

6.1.4 Surface Water Quality

The MECP has developed small volume (≤ 350 m^3) and volume independent generic site condition standards for placement of soil within 30 m of a surface water body in potable and non-potable settings (Tables 8/8.1 and 9/9.1). These standards were developed to limit adverse impact to surface water arising from the chemical and physical transport of listed parameters. The MECP defines a water body as *"a permanent stream, river or similar watercourse or a pond or lake, but does not include a pond constructed on the property for the purpose of controlling surface water drainage"*.[6]

The Soil Rules summarize conditions when salt-impacted soils are deemed to meet the generic site condition standards; however, the exemption may not be applied to soil finally placed within 30 metres of water body.

[6] O. Reg. 153/04: Records of Site Condition – Part XV.1 of the Act, under the Environmental Protection Act.

Depending on the nature of work, permit/bylaw requirements, and the Reuse Site setting, consideration should be given to the development of a surface water monitoring program for the duration the soil receiving and placement activities. This may include visual observation and documentation of nearby surface water bodies for evidence of adverse impact (e.g. increased turbidity) on a recurring interval.

6.1.5 Erosion and Sediment Control

Appropriate erosion and sediment control measures should be established during soil management activities to mitigate potential adverse impacts. A monitoring and maintenance plan should be implemented for the duration of the excess soil receiving and placement activities which may include visual inspection and documentation of the sediment and erosion control measures on a recurring interval. Dust monitors may be considered, if sensitive receptors are nearby. The intent is to identify and rectify deficiencies in a timely manner and maintain documentation (e.g. notes, photos) to address external stakeholder concerns if they arise.

6.1.6 Air, Noise and Vibration

Excess soil receiving and placement activities may cause adverse impacts to neighbouring properties due to noise, air (e.g. odour, dust), and vibration impacts.

The Reuse Site should develop and implement a monitoring program to evaluate for air, noise and vibration impacts, as may be applicable. This may include recurring visual and recorded observation within the Reuse Site and at the periphery, and documentation of the observations.

6.1.6.1 Air Impacts

It is anticipated that in most circumstances excess soil will meet generic site condition standards and will not require specialized monitoring of air quality. Limited exceptions may apply if the Reuse Site has property specific standards derived through a risk assessment and a qualified person has specified site-specific monitoring and control measures to limit adverse air impacts.

Control measures shall be applied in the event the monitoring identifies a change to ambient conditions because of filling activities which may include generation of dust and tracking of soil onto public roadways. Control measures shall limit exposure of Reuse Site workers and the public to fugitive dust.

6.1.6.2 Noise Impacts

The Reuse Site owner will be required to comply with local bylaws, including noise. Operations should limit adverse impacts to potential receptors. In circumstances where operational controls are anticipated to be insufficient for the purpose of addressing noise concerns, the Reuse Site should consider retaining a qualified professional to monitor noise and recommend mitigation measures if required.

6.1.6.3 Vibration Impacts

At most Reuse Sites vibration impacts from truck traffic and equipment used in ground improvements are anticipated to be negligible and addressed through operational controls. However, if vibrations are significant, they can affect sensitive buried infrastructure, such as pipelines and municipal watermains.

The Reuse Site must consider the potential for their operations to affect buried infrastructure passing beneath or near to the Reuse Site and retain qualified professionals to undertake vibration monitoring and implement a trigger mechanism if vibrations exceed specified thresholds.

6.1.7 Quantity

The Reuse Site should develop and implement procedures to track and regularly document the volume of material received. Reuse Sites are accepting soil for a specified purpose, therefore, the volume of soil required will be known and soil received should be tracked against the total required. The intent is to ensure that the Reuse Site does not accept more soil than is required for the specified beneficial use.

The Reuse Site may consider site control measures (e.g. markers identifying target grade elevations) and periodic grade surveys to monitor progress. These results should be compared to tracking logs to evaluate the accuracy of the use of typical load volume as a measurement. Some municipalities may require periodic surveying and reporting as a condition of a fill permit.

6.1.8 Ecological Protection

Reuse sites should make themselves aware of local bylaws and regulations of agencies having jurisdiction that may apply to the placement of fill. This may include protection of endangered species or species at risk, existing trees or environmentally sensitive areas. As noted previously, filling around water bodies may be regulated by conservation authorities. Municipal bylaws and provincial registries may also identify environmentally sensitive and/or protected areas.

Monitoring of work around areas requiring ecological protection may be a requirement of permits obtained by the Reuse Site.

7.0 Health & Safety

Health and safety regulations must be followed at the Reuse Site, including construction PPE, committee formation, meetings, etc. This document assumes that the Reuse Site Owner/Operator will ensure that emergency procedures and protocols are developed and implemented to ensure the health and safety of their personnel and to comply with regulations that may apply to their specific operations (e.g. Occupational Health and Safety Act).

8.0 Contingency Plan and Risk Mitigation

8.1 Overview and Regulatory Requirements

Regulatory requirements include the need for a contingency plan if it is not possible to deliver a load of soil to the intended receiving site. Although this is directed to the Source Site, it is prudent that the receiving site be prepared to identify risks and manage contingencies driven by regulation and the due diligence aspects of any Best Management Practice.

8.2 Risk Management

A risk is an uncertain event or condition that, if it occurs, has a negative effect on operations. Risks may be financial, operational, safety or environmental. Risk is inherent and Reuse Sites should regularly assess risks and develop plans to address them. The level of assessment required will depend on the potential risks and their effects.

A Risk Management Matrix, listing likely risks with high and low impact, as well as mitigation strategies can help to avoid risks. The Risk Management Matrix should be reviewed, at least annually, to avoid having the analysis become stale and not reflective of potential risks. Should this level of management be considered necessary, specialists can be retained to assess risks, develop corrective actions and implement risk management strategies.

Risk management is based on continuous risk assessment and the concept of “continuous improvement” to minimize risks.

8.2.1 Contingency Planning

Contingency planning is derived from risk management. Contingency plans are designed to address “what if” conditions identified in the risk assessment. For Reuse Sites contingency planning should focus on environmental protection from spills and accidental releases as well as conditions that impact the operation such as weather and traffic.

The following are some of the most common contingencies related to risks that are expected at Reuse Sites:

Weather and Traffic - In the event unexpected site conditions arise including inclement weather conditions and/or traffic issues, the following procedures may be required:

- Alternate trucking routes in the event of road construction;
- Alternate stormwater and sediment control measures during inclement weather;
- Alternate dust suppression during winter months when suitable water access is restricted; or,
- Alternate disposal options in the event hazardous or contaminated soil is identified.

Spills and Accidental Releases - A ‘spill’ as defined in the Environmental Protection Act (R.S.O, 1990) Chapter E.19, Part X, Section 91 when in reference to a pollutant, means a discharge into the natural environment, from or out of a structure, vehicle or other container and that is abnormal in quality or

quantity in light of all the circumstances of the discharge. Possible operational spills that may occur at a receiving site include:

- Hydraulic oil leak from earth moving equipment;
- Fuel leak from transport trucks or from the refueling of onsite equipment;
- Observation of contamination in soil; and,
- Other accidental release of pollutants related to operational activities.

A spill prevention plan can involve operational protocols such as:

- Frequent inspections of equipment and preventative maintenance;
- Drip pans and containment for stationary equipment;
- Spill kits and spill response materials; and,
- Spill prevention worker training for fuel handling.

Proper procedures should be in place to implement the contingency plan in the event unknown conditions are encountered.

9.0 Insurance, Financial Assurance/Security

9.1 Overview

As with any construction project there is a recognized liability associated with failure to deliver and sometimes regulatory agencies require liability protection through financial assurance mechanisms provided by the owner. These can include insurance, security deposit, or other agreements that tie in assets such as land.

Financial assurance should include consideration for post closure care, the potential for placement of soil of unacceptable quality or excess quantity, and the potential for long term impacts.

The mechanisms to address liabilities must survive the demise of the parties involved.

9.2 Insurance

Environmental Liability Insurance can be a requirement of a regulatory agency, municipality, or landowner, any of which may have concerns with incident specific liabilities such as spills or the impact of the importation of contaminated soil that causes a spill like impact.

9.3 Security Deposits

A security deposit (in the form of a Letter of Credit or cash) to cover the costs incurred by a regulatory agency, municipality or landowner to address any issues of noncompliance with a permit or agreement. The security deposit could be used to retain professional services and/or contractors to conduct excess soil management related work when the Owner/Operator is unwilling or unable to carry out the requirements of a permit or agreement.

Security deposits may be required to cover items such as post filling monitoring, filing a Record of Site Condition that was conditional on approval, road access deposits, road maintenance deposits and other deposits similar to Site Plan Approval requirements.

The amount and form of a security deposit is based on an assessment of potential liability. The amount can vary, with higher perceived liability at the beginning of a Reuse Site fill program and lower towards the end of a filling project, once regular monitoring has indicated no impacts.

9.4 Asset Commitment for Assurance

Liability can be addressed through the commitment of an asset for assurance. This may be the land involved in the excess soil activity. The commitment of the asset value can be done through a permit and/or agreement process.

Some municipal by-laws allow the costs incurred to address orders and violations on the tax bill for the property involved thereby tying the cost liability to the title of the land asset.

10.0 Regulatory and Approvals Requirements

For Excess Soil Projects that require Registry (per Section 8 of the Regulation), there are a number of "Planning Documents" that are required to be undertaken by the Project Leader and prepared by the Project Area QP (QP-PL). For non-registerable Excess Soil Projects (per Section 8 and Schedule 2 of the Regulation), the preparation of these Planning Documents or similar types of planning documents are considered Best Practice per the MECP "Management of Excess Soil - A Guide for Best Management Practices" Published: April 05, 2016, updated October 26, 2021 (Link). Most of these Planning Documents are the responsibility of the Project Leader and relate to the Project Area (Source Site), however, some of these Planning Documents and associated activities will be collaborative with Project Area Contractor and their assigned QP (QP-C) and the Reuse Site representative Owner, Operator and their assigned QP (QP-R), as summarized below in Table 2.

Table 2: Planning Responsibilities

O.Reg. 406/19 and Soil Rules		Project Area		Construction				Reuse Site	
Regulation Section	Planning Document or Associated Activities	Project Area Owner	Project Leader (PL)	Project Leader QP-PL	Contractor (C)	Contractor QP-C[2, 3]	Owner/Operator of the Vehicle Moving the Soil	Reuse Site (R) Owner/Operator	Reuse Site QP-R[2,4]
3	Written Acceptance by Reuse Site	I	I	I	I	I	NA	A, R	C
8	Project Area Registry	A	R	C	I, C	I, C	NA	I	I

11	Assessment of Past Uses (APU)[1]	C	A	R	I, C	I, C	NA	I	I
12	Sampling and Analysis Plan (SAP) [1]	C	A	R	I, C	I, C	NA	I	I
12	Soil Characterization Report (SCR) [1]	C	A	R	I, C	I, C	NA	I	I
13	Excess Soil Destination Assessment Report (ESDAR) [1]	C	A	R	I, C	I, C	NA	I, C	I, C
15	Updating Planning Documents	C	A	R	I	I	NA	I	I
16	Tracking System	C	R	I	A	I	I, C	A	I
17	Transportation of Soil	I	I	I	A	I	R	C	I
18	Hauling Records	I	I	I	A	I	R	C	I
19	Operation of Reuse Site and Registry	I	I	I	I	I	NA	A, R	C

*Where the **Responsible (R)** party designates the task directly to either this person or group of people and creates the Excess Soil Planning Documents and/or other Excess Soil Project requirements.*

*Where the **Accountable (A)** party delegates and reviews the work involved with the Excess Soil Project including the Planning Documents and/or other Excess Soil Project requirements.*

*Where the **Consulted (C)** party provides input and feedback on the work being done for the Excess Soil Project including the Planning Documents and/or other Excess Soil Project requirements.*

*Where the **Informed (I)** party needs to be made aware of the progress of the Excess Soil Project and/or other Excess Soil Project requirements.*

1. *Planning Documents required by the Regulation for Registry Filing*
2. *QP-C and QP-R role is not a requirement of the Regulation and is optional*
3. *QP-C role can be a requirement of the Project Area construction agreement between the Project Area Owner/Project Leader and Contractor*
4. *QP-R role can be a requirement of the Reuse Site agreement with the Reuse Site Owner/Operator*

As noted, the Reuse Site has varying roles for compliance with Section 19 of the Excess Soil Regulation and associated Soil Rules. The Reuse Site, in general, has several activities associated with the movement and receipt of the Excess Soil from a Project/Project Area, whether or not the Excess Soil Project is required to file a notice on the Registry. Below summarizes the Reuse Site Regulatory requirements and some Best Practices for the Reuse Site, to support filing a notice on the Registry:

1. Register the Reuse Site on the Excess Soil Registry if the Reuse Site is accepting greater than 10,000 m^3 of Excess Soil for final placement at the Reuse Site.
    a. Noting that Registry of the Reuse Site is not required if the Reuse Site is receiving soil only from an “Infrastructure” project as defined in the Regulation.
2. For Reuse Sites that require Registry, prepare a Fill Management Plan for the Reuse Site that covers the requirements outlined in Section 19 of the Regulation. For Reuse Sites that do not require Registry, prepare a Fill Management Plan for the Reuse Site per the MECP

"Management of Excess Soil - A Guide for Best Management Practices" Published: April 05, 2016, updated October 26, 2021 (Link).

At a minimum, the Fill Management Plan should include a description of the following Section 19 Regulatory requirements that will support the Registry filing:

a. Procedures to account for every load of Excess Soil to be deposited at the Reuse Site for final placement.
b. Procedures to ensure that the storage of Excess Soil for final placement at the Reuse Site does not cause an adverse effect.
c. A description of the Reuse Site, including: the location of each property that is located, in whole or in part, within the Reuse Site; and geographic coordinates of the Reuse Site measured using a global positioning system receiver and projected on the Universal Transverse Mercator coordinate system.
    i. For non-linear Reuse Sites, use the geographic coordinates of the centroid of the Project Area.
    ii. For linear Reuse Sites, use the geographic coordinates of the start, centroid and end of the Project Area.
d. A description of the undertaking at the Reuse Site where the Excess Soil is to be finally placed.
e. The name, mailing address, postal code, telephone number and email address of the Operator of the Reuse Site.
f. If the Operator of the Reuse Site is not the Owner of the Reuse Site, the name, mailing address, postal code, telephone number and email address of the Owner.
g. An estimate of the quantity of Excess Soil for final placement that will be deposited at the Reuse Site.
h. The applicable Excess Soil Quality Standards (ESQS) for the Reuse Site.
i. If site-specific ESQS have been developed for the Reuse Site by a QP, which may include the use of the Beneficial Reuse Assessment Tool (BRAT), provide the name and contact information of the QP who developed the site-specific ESQS. If a BRAT is used, the document includes:
    i. a QP declaration attesting to the accuracy of the information and the assumptions provided as inputs for the BRAT.
    ii. the output worksheet generated when using the BRAT.
    iii. Copies of each given to the Ministry in accordance with the Soil Rules
j. If the Reuse Site is operating under an "Instrument", as defined in Section 4 of the Regulation, provide the identification of the instrument issuing body, the date the instrument was issued and to whom the instrument is issued, and the instrument identification number (if applicable)
k. An estimate of when the first and final loads of Excess Soil that will be deposited at the Reuse Site.
l. Identification of the Project Area, Class 1 Soil Management Site or Class 2 Soil Management Site from which the Excess Soil was transported to the Reuse Site.
    i. Obtain from the Project Area/Project Leader the Planning Documents and relevant reports and information regarding the Excess Soil to be deposited at the Reuse Site before the Excess Soil is deposited at the Reuse Site.
    ii. Provide written acceptance by the Reuse Site Owner/Operator of the Excess Soil from the Project Area before permitting a load of Excess Soil to be deposited at the Reuse Site and upon review of the Planning Documents and relevant reports

and information provided by the Project Area/Project Leader regarding the Excess Soil to be deposited at the Reuse Site.

iii. Before permitting a load of Excess Soil to be deposited at the Reuse Site, the load is inspected by the Owner or Operator of the Reuse Site or a person acting on the Owner or Operator's behalf to ensure the load is appropriate for depositing at the Reuse Site and that it is consistent with the information in the Planning Document and relevant reports.

m. A declaration by the Owner or Operator of the Reuse Site, stating that these steps have been taken and will continue to be taken.

3. Within 30 days after the final load of Excess Soil for final placement at the Reuse Site, the Owner/Operator of the Reuse Site update the Registry filing notice with the following:
    a. Confirmation that all Excess Soil for final placement has been deposited at the Reuse Site.
    b. The total amount of Excess Soil for final placement deposited at the Ruse Site.
    c. The date on which the final load of Excess Soil for final placement was deposited at the Reuse Site.
4. If the Reuse Site Owner/Operator becomes aware that the Registry notice filing is no longer complete or accurate, the Reuse Site Owner/Operator shall update the notice within 30 days.
5. The Reuse Site Owner/Operator shall maintain copies of the Planning Documents received by the Project Area and copies of the written acceptance by the Reuse Site for a period of seven (7) years in accordance with Section 28 or the Regulation.
    a. Noting that the hauling record (Section 18 of the Regulation) shall be maintained for a period of at least two (2) years after the day that the Excess Soil was loaded for transportation.

11.0 Documentation Prepared Prior to Excess Soil Movement to Reuse Site

As the destination for the Excess Soil is not always known by the Project Area parties at the time of conducting the Excess Soil Project activities or issuing the associated excavation contract, it is helpful that the Project Leader have a Preliminary ESDAR completed to share with the excavation Contractor and their QP-C. This preliminary ESDAR would include a summary of the Project Area and the Excess Soil to be generated by the Project. The Contractor can then share this preliminary ESDAR, along with the Project Area APU, SAP and SCR documents with prospective Reuse Sites to confirm acceptability.

To facilitate the Excess Soil matching activities, it is also helpful that the Reuse Site have a document that outlines the Section 19 Regulatory requirements including the following:

- Location
- Name of Owner/Operator
- Reuse Site Registry Notice Filing Number (if applicable)
- Any instruments governing the soil quality and quantity
- Relevant soil quality acceptance standards (e.g., ESQS, site-specific, other)
- Undertaking related to the beneficial reuse
- Reference to a Reuse Site Fill Management Plan or other relevant documentation

The Contractor and their QP-C can then present a suitable match to the Project Leader and the QP-PL for their review and acceptance. The ESDAR can be finalized to include information for the accepted

Reuse Site(s) to facilitate the Reuse Site Owner/Operator written acceptance and the Project Area Registry filing notice.

11.1 Registration with Resource Productivity and Recovery Authority (RPRA)

For Reuse Sites receiving greater than 10,000 m^3 of soil, per Section 19 of the Regulation, the Reuse Site Owner or Operator is required to Register on the Resource Productivity and Recovery Authority (RPRA) online at https://rpra.ca/programs/excess-soil-registry/. Once registered, the Reuse Site will be assigned a Reuse Site Notice Identification Number (RS ID), which will be available to the public for viewing through the "Search Notices" link on the RPRA Excess Soil home page.

12.0 Documentation Prepared Post Excess Soil Movement to Reuse Site

A Reuse Site may have reporting requirements, which may or may not be included in the Reuse Site Instrument. Reporting requirements should be documented in the Reuse Site Fill Management Plan. In accordance with Section 19 of the Regulation, once the final load of Excess Soil is placed at the Reuse Site, the Reuse Site Owner/Operator will update the Registry filing notice (if applicable). That update will include the total amount of Excess Soil deposited at the Reuse Site and the date on which the final load of Excess Soil was deposited at the Reuse Site.

In addition, if the Reuse Site Owner/Operator becomes aware that the Registry notice filing is no longer complete or accurate, the Reuse Site Owner/Operator is required to update the notice within 30 days.

The Reuse Site may also have an obligation to prepare documentation related to their acceptance of soil at the Reuse Site in accordance with their site-specific instruments.

The Reuse Site is required to retain documentation related to the receipt of Excess Soil at the Reuse Site for a period of seven (7) years in accordance with Section 28 of the Regulation. As a best practice, the Reuse Site should have a filing system that organizes the documentation related to each of the Project Area records that have been provided to them. Additionally, the document retention includes the written acceptance prepared by the Reuse Site owner/operator and tracking details shared by the Project Area tracking system.

The Reuse Site may also have their own method for confirming receipt of Excess Soil (i.e., using a weigh scale or some other form of ticketing system). These receipts should be shared with the applicable source site Project Leader and maintained in the Reuse Site records retention. As a Best Practice, the Reuse Site may consider an annual summary of Excess Soil received to the Reuse Site, which could be helpful for any audit activities by the MECP or third parties.

13.0 Acknowledgements

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References

Regulations

Ontario Regulation 406/19

https://www.ontario.ca/laws/regulation/r19406

Ontario Regulation 153/04

O. Reg. 153/04: RECORDS OF SITE CONDITION - PART XV.1 OF THE ACT (ontario.ca)

Ontario Regulation 903

https://www.ontario.ca/laws/regulation/900903

Rules For Soil Management and Excess Soil Quality Standards

https://files.ontario.ca/mecp-soil-rules-en-2022-12-29-v2.pdf

Guidelines and Best Practices

Best Management Practices Aggregate Pit and Quarry Rehabilitation in Ontario, OPSE

https://ospe.on.ca/wp-content/uploads/2021/04/Best-Management-Practices-for-Aggregate-Pit-and-Quarry-Rehab-in-Ont..pdf

Scientific Report, Beneficial Reuse of Excess Soil at Aggregate Pits and Quarries, OPSE

https://ospe.on.ca/wp-content/uploads/2021/04/April-19-2021-Scientific-Report-for-MECP.pdf

Other References
https://www.ontario.ca/document/excess-soil-fact-sheets/bringing-excess-soil-reuse-site