

Date: April 25, 2025



**SOIL  
SOLUTIONS INC.**



# Soil Management Plan

Paramedic Response Station #33 (PRS33)  
2960 and 2980 Teston Road  
Vaughan, ON

Prepared For: The Regional Municipality of York  
Document No.: XS.1023-10164\_Rev.03

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## 1.0 INTRODUCTION

XS Soil Solutions Inc. (XS Soil) and Montrose Environmental Solutions Canada Inc. (Montrose; formerly Matrix Solutions Inc.) have partnered together to provide The Regional Municipality of York (York Region), Qualified Person (QP) services under Ontario Regulation (O. Reg. 406/19): On-Site and Excess Soil Management. XS Soil and Montrose were retained by York Region to conduct soil management practices in accordance with O. Reg. 406/19, for the proposed Paramedic Response Station #33 (PRS33) located at 2960 and 2980 Teston Road in Vaughan, Ontario (the Site or Project Area). This Soil Management Plan (SMP) was developed based on the following regulations and guidelines:

- The Ministry of Environment, Conservation and Parks (MECP) guidance document *“Management of Excess Soil – A Guide for Best Management Practices” (MECP BMP)*, as amended July 15, 2021.
- Ontario Regulation (O.Reg.) 406/19: *On-site and Excess Soil Management* and the associated *Rules for Soil Management and Excess Soil Quality Standards* (Soil Rules), as amended.
- The Environmental Protection Act (EPA)
- O.Reg. 153/04: *Records of Site Condition – Part XV.1 of the Act*, as amended.
- O.Reg. 347: General – *Waste Management*

The purpose of this SMP is to provide a guideline for sampling, handling and overall management of excess soil generated from the Project Area. Soil management practices within the Project Area will be done in a manner that promotes sustainability and the protection of the natural environment, while maximizing the reuse of excavated material, when practicable, and mitigating the potential for adverse environmental effects. This SMP will serve as a guide for the following, but not limited to:

- Initial soil quality and characterization along the Project Area
- Soil sampling protocols
- Anticipated soil volumes to be generated from the Project Area
- Mitigation measures to be taken during the excavation works to minimize impacts to the surrounding environment
- Contingency measures for load rejections at the receiving site(s)
- Soil tracking and record keeping
- Dust and mud control measures

## 2.0 PROJECT AREA DESCRIPTION

Table 1 – Project Area Details

<b>Municipal Site Address</b>	2960 and 2980 Teston Road, Vaughan, Ontario
<b>Site Location</b>	Located on the northeast corner of Jane Street and Teston Road. A tributary branching from the Don River West Branch runs east and south of the site, flowing south toward the Don River and Lake Ontario. Residential and commercial properties are located to the north, east and south of the site. Agricultural land is located to the west of the site.
<b>Approximate Site Plan Area</b>	~0.26 hectares (0.64 acres)
<b>Legal Description</b>	2960 Teston Road: PART LOT 26 CONCESSION 4 AS IN R275257, EXCEPT PART 1, EXPROPRIATED PLAN D943; VAUGHAN – 03344-0192 (LT)  2980 Teston Road: PART LOT 26 CONCESSION 4 VAUGHAN, PARTS 1, 2 & 3 EXPROPRIATED PLAN D949, VAUGHAN – 03344-0193 (LT)
<b>Current Site Owner and Contact (Project Leader)</b>	York Region/The Regional Municipality of York Contact: Christine Chow, PMP Project Manager The Regional Municipality of York (289) 763-3258 Christine.chow@york.ca
<b>Qualified Person</b>	Karim Hosny, MEB, P.Eng., QP <sub>ESA</sub> Found, Project Manager XS Soil Solutions Inc. 5353 John Lucas Drive, Burlington, ON. L7L 6G5 (647) 221-7504 Karim.hosny@xssoil.ca
<b>Current Site Occupant</b>	N/A – vacant land
<b>Current Site Building</b>	N/A

As estimated by York Region, the maximum depth of excavation will extend to 2.5 metres below ground surface (mbgs) with a calculated total volume of 2,964.24 cubic metres (m<sup>3</sup>) to be generated from the Site. Bedrock is not anticipated to be encountered during the excavation, and the groundwater depth has been reported to be below the proposed final depth of excavation, as such, no dewatering is anticipated during the excavation.

## 3.0 QUALIFIED PERSON (QP) QUALIFICATIONS

The following QP will be involved in the development and implementation of this SMP:

Table 2 – QP Details

<b>QP</b>	Karim Hosny
<b>Qualifications</b>	MEB, P.Eng., QP <sub>ESA</sub>
<b>PEO License Number</b>	100171690
<b>Contact Information</b>	647.221.7504 or <a href="mailto:karim.hosny@xssoil.ca">karim.hosny@xssoil.ca</a>
<b>Years of Relevant Experience</b>	13
<b>Recent Experience</b>	<ul style="list-style-type: none"> <li>Successfully sampled, tracked, and managed the movement of over 3.0 million m<sup>3</sup> of excess soil from large infrastructure projects, most recent the Eglinton Crosstown LRT. Management of excess soil complied with <i>MECP</i> BMP, ahead of the new O.Reg.406/19.</li> <li>Currently managing the excess soil protocols from similar municipal watermain and wastewater main replacement works in the Region of Halton and Region of Peel.</li> </ul>
<b>Additional Industry Knowledge</b>	<ul style="list-style-type: none"> <li>Keynote speaker at the 2019 Excess Soil Symposium</li> <li>Member of the Ontario Environment Industry Association (ONEIA)</li> <li>Was a member of multiple ONEIA steering committees developing O.Reg.406/19 Best Practices: <a href="https://www.oneia.ca/excess-soil">https://www.oneia.ca/excess-soil</a></li> <li>Was a member of the RPRA steering committee as a key member of the industry, guiding the development of the Online Excess Soil Registry (to be implemented in 2022 as per <i>MECP</i>).</li> <li>Currently a member of the Excess Soil Working Group with the <i>MECP</i>.</li> </ul>

## 4.0 BACKGROUND

A number of previous environmental reports were reviewed by XS Soil and Montrose, which are summarized in detail within the Assessment of Past Uses (APU) report developed by Montrose dated April 22, 2025 (Montrose APU). From the reports, a summary of the historical site condition includes, the following:

- The Site was first developed for residential use in the 1940s, which was later demolished in 2004.
- From the 2018 Phase One Environmental Site Assessment (ESA) completed by EXP, two onsite Areas of Potential Environmental Concern (APECs) and three offsite APECs were noted, that warranted a Phase two ESA to be completed.

- From the 2018 Phase Two ESA, three boreholes were advanced across the site. Soil and groundwater samples were submitted for laboratory analysis of various parameters, which were observed to meet the O. Reg. 153/04, Table 2 standards for industrial/commercial/community (ICC) property use.
- Groundwater levels were measured at approximately 9.0 to 9.5 mbgs.
- EXP completed updated Phase I and II ESAs in 2021, however, no new findings were observed.

Based on findings from the Montrose APU, two onsite Potentially Contaminating Activities (PCAs) and four offsite PCAs were identified, resulting in one APEC onsite as shown in the table below. The other PCAs were investigated in 2018 and 2021 by EXP, which resulted in no soil or groundwater contamination.

Table 3 – Area of Potential Environmental Concern

Area of Potential Environmental Concern	Location of Potentially Contaminating Activity	Potentially Contaminating Activity	Location of PCA	Contaminants of Potential Concern (COPC)	Potentially Impacted Media (Soil and/or Groundwater)
APEC-1 (Fill Materials of Unknown Quality)	Entire Project Area	Item 30 - Importation of Fill Material of Unknown Quality	On-Site	PAHs Metals Hydrides	Soil

The findings from Montrose APU were utilized to complete a Sampling & Analysis Plan and a subsequent Soil Characterization Report that is presented herein.

## 5.0 SAMPLING AND ANALYSIS PLAN

Based on APEC-1 identified above, it is reasonable to consider the upper 2.5 m depth range to be made up of the fill material, and thus, the COPCs to be contained within this depth range as well.

Based on the above, the volume representing the known APEC onsite has been determined as a total of approximately 2,900 m<sup>3</sup>, which would be subject to the sampling frequency requirement outlined within the Soil Rules. As outlined within the Soil Rules, one (1) sample will be analyzed for every 200 m<sup>3</sup> of soil, including 10% for duplicate samples for quality assurance/quality control measures. In addition, mandatory leachate analysis is required on a minimum of three (3) soil samples and 10% of the bulk samples for projects generating over 600 m<sup>3</sup>.

Samples will be collected via boreholes across the Project Area with a focus within the proposed building footprint, as majority of the excess soil volume will be generated from this area.

The table 4 below outlines the samples to be collected and submitted for laboratory analysis:

Table 4 – Proposed Sample Submission

Total Number of Proposed samples	APECs (Location)	Anticipated volume of APEC (m <sup>3</sup> )	Laboratory Submission
14 +  1 duplicate + 4 mSPLP	APEC-1  (Entire Project Area footprint)	2,900 m <sup>3</sup>	PHC/BTEX, PAH, M&I

mSPLP – modified Synthetic Precipitation Leaching Procedure (leachate analysis)

PHC – Petroleum Hydrocarbons

BTEX – Benzene, Toluene, Ethylbenzene, Xylenes

PAH – Polycyclic Aromatic Hydrocarbons

M&I – Metals and Inorganics

## 6.0 ONSITE EXCESS SOIL MANAGEMENT

Excess soil is an important resource that is encouraged to be preserved and reused when practicable. The Client, with support from XS Soil and Montrose, is encouraged to work with the contractor to make conscious efforts to reduce soil waste from the excavation works through adequate soil sampling and characterization and limiting over excavation, where possible. Completing an excess soil destination assessment on receiving sites for disposal purposes of various soil quality types will assist in the diversion of soil from landfill and waste transfer facilities. If soil cannot be reused onsite, the preference will be to reuse the excess soil at other development and/or infrastructure projects; encouraging the beneficial reuse of excess soil in a manner that promotes sustainability and the protection of the natural environment.

### 6.1 SOIL REUSE ONSITE

Excess soil generated from the Project Area may be reused as backfill material, where practicable. Due to the limited space onsite, there will be no ability to store material for future use. Therefore, the ability to reuse excess soil will be determined by three factors:

1. Timing: the timing of excavation from one area and the readiness to accept backfill material at another area onsite.
2. Environmental Quality: the excess soil proposed for reuse must satisfy the applicable site condition standards.
3. Geotechnical Quality: the excess soil proposed for reuse must satisfy the geotechnical requirements determined by the allowable design limits for backfill material around the utilities, as dictated by a geotechnical engineer.

At the time of this SMP, there is no anticipated volume of soil reuse expected at the Project Area during the excavation works, however may be reassessed during the construction phase.

## 6.2 SOIL RECEIVING SITES

Facilities that will accept soil for beneficial reuse from the Project Area will undergo a review and assessment process in line with the O.Reg. 406/19, the associated Soil Rules and Contract Documents.

Facilities and disposal sites that will accept soil as waste are required to provide the Environmental Compliance Approval (ECA) or Certificate of Approval (CofA) under which the facility operates. Adequacy of documentation from the proposed receiving sites, including soil acceptance letters, will be determined by the XS Soil QP and in accordance with the Contract Documents.

Identification of a potential site for beneficial reuse and disposal site or waste facilities are to be confirmed during the construction phase.

All potential receiving sites will undergo an excess soil destination assessment, completed by the XS Soil QP, as per O.Reg. 406/19 and the Soil Rules. The list of receiving sites will be revised as needed during the progression of the construction activity to adequately facilitate for all the potential excess soil generated at the Project Area.

## 6.3 SOIL STOCKPILING

Due to the proposed design of excavation soil stockpiling is not anticipated to be required onsite, however, this will be revised during the construction phase. At the time of this SMP, offsite soil stockpiling is also not anticipated during the construction phase.

## 6.4 UNEXPECTED MATERIAL AND LOAD REJECTION

The soil sampling completed by XS Soil and Montrose was done to adequately characterize the soil for appropriate removal and disposal options during the construction phase. The onsite instructions will be provided to the project team prior to excavation to ensure proper soil handling and management.

During the excavation, if soil that was previously characterized as beneficial reuse (or “clean”) is found to contain deleterious material or any form of contamination from visual inspections, the excavation is to stop immediately and York Region along with the XS Soil QP are to be notified for direct instructions of soil handling procedures. The soil will be rerouted to a waste facility and further soil sampling may be collected to confirm the extent of the contamination. Similar protocols will be followed if loads are rejected at the receiving site based on visual observations or through regular QA/QC sampling. The XS Soil QP will determine if an investigation into the source of the contamination is necessary.

Deleterious materials may include, but is not limited to:

- Presence of drums and/or containers



- Sheens, films or discoloration on the soil
- Trash/garbage or waste debris
- Presence of odours
- Oily residue intermixed with earth
- Cinders and ash
- Topsoil/vegetation and/or tree roots

## 6.5 SOIL TRACKING AND RECORD KEEPING

Soil tracking in accordance with Section 16 of O. Reg. 406/19 will be required as part of the excavation and soil removal operation. Electronic ticketing or paper tickets should be implemented on site with every load of excess soil that is removed. A tracking system must be capable of tracking the following information in respect to each load of excess soil that is removed from the Project Area:

1. The locations of the project area where the soil was excavated and stockpiled, if applicable, and the quality of the soil associated with those locations and stockpiles.
2. The quality of the load of excess soil being removed from the project area, unless the excess soil is to be sampled at a Class 2 soil management site or a local waste transfer facility.
3. The quantity of the load of excess soil is to be deposited as communicated to the driver of the vehicle.
4. The location of the site at which the excess soil is to be deposited as communicated to the driver of the vehicle.
5. The date and time the excess soil left the project site.
6. The person from the project area responsible for overseeing the loading of the excess soil for transportation.
7. The name of the corporation, partnership or firm transporting the excess soil, the name of the driver of the vehicle and the number plates issues for the vehicle under the *Highway Traffic Act*.
8. The date and time the excess soil was received at the site where the excess soil has been deposited.
9. The contact information of the person who acknowledged receipt of the load of excess soil on behalf of the site where the excess soil was deposited.
10. Confirmation that the vehicle that deposited the excess soil and the volume of soil received at the site where the excess soil was deposited is the same as that which left the project area.

All excess soil records under O. Reg. 406/19 will be kept for a minimum of 7 years and hauling records will be kept for a minimum of two years.

## 6.6 OFF SITE TRANSPORTATION

### *6.6.1 Truck Access and Staging*

Upon award of the scope of work, the contractor will be required to provide truck staging and access methods onsite for excess soil transport offsite.

### *6.6.2 Hauling Routes*

Upon award of the scope of work, the contractor will be required to confirm excess soil receiving sites, and thus provide appropriate hauling routes to and from approved receiving site(s).

## 7.0 SITE CONTROLS

In keeping the Project Area operational and satisfying certain onsite requirements, other onsite aspects must be considered to ensure the natural environment is protected during the soil movement, stockpiling and placement process.

### 7.1 MUD AND DUST CONTROL

Mud and dust control measures will be employed onsite as needed, in all areas where work is being conducted. These areas include but are not limited to:

- Areas of heavy equipment and vehicular traffic,
- Soil excavation and backfill activities,
- Soil loading and unloading operations.

Efforts will be made to minimize mud and dust generation onsite:

- A reduced speed limit may be enforced onsite for all vehicles.
- When required, paved traffic area, driveways, sidewalks and streets will be cleaned by street sweeping and/or washing.
- Water trucks, and sprays may also be utilized during hot summer days and during high winds to minimize dust generation.
- Regular manual sweeping and general housekeeping will be maintained onsite not to hinder regular vehicular traffic on the surrounding right-of-way.

### 7.2 NOISE CONTROL

Noise levels shall be controlled in accordance with applicable Noise By-laws and the Occupational Health and Safety Act. For equipment required to operate beyond normal working hours, special measures for noise attenuation, such as broadband back-up alarms will be explored and proposed to the Contract Administrator on a case-by-case basis.

### 7.3 SPILL RESPONSE

The contractor must be prepared for spill response in the event of an uncontrolled release associated with site activities (e.g. fluid). The type of material will need to be suitable for the liquid contaminants that may be present onsite (e.g., fuels and fluids in trucks and equipment, hydraulic fluids, etc.). In particular, spill response specifications should address the following requirements:

- Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of toxic substances, odour and pollutants produced by excavation and backfilling,
- Being prepared to intercept, clean up, and dispose of spills or releases that may occur, and
- Promptly report spills and releases potentially causing damage to the environment to the MECP Spills Action Centre, The Regional Municipality of York, and any other authority having jurisdiction or interest in spill or release including any conservation authority, water supply authorities, drainage authorities, road authorities, and the fire department.

### 7.4 EROSION AND SEDIMENT CONTROL

Erosion and sediment control measures will comply with the requirements of the *Erosion and Sediment Control Guideline for Urban Construction*, edition December 2006. Erosion and sediment control measures will include the installation and maintenance of catch basin filters within surrounding catch basins. Regular monitoring of the filters will be conducted and repaired/maintained as needed.

Temporary erosion and sediment control shall be completed in accordance with the project specific requirements, ensuring the protection of the natural environment and limiting off site migration of project water and sediment through runoff.

### 7.5 PROJECT AREA SECURITY MEASURES

The Project Area is currently fenced with perimeter fencing and a gate entrance that will be utilized during the construction phase of the project, adding a form of site security while also protecting from illegal dumping onsite.

## 8.0 QP DECLARATION

It is the opinion of the XS Soil QP that the Project Leader has provided XS Soil Solutions Inc. and the QP with all necessary information to access the Project Area located on 2960 and 2980 Teston Road, in the City of Vaughan ahead of the excavation activity. At the time of this SMP all necessary environmental investigations were provided and reviewed by the XS Soil QP for the development of this plan. Further confirmation of the Project Area characteristics will be determined during excavation and/or construction.

This Soil Management Plan has been prepared by a QP in accordance with Ontario Regulation 406/19 and the associated Soil Rules, to the best of the QP's knowledge.

## 9.0 LIMITATION

It should be noted that the results of the chemical analysis refer only to the soil samples collected from the sample locations, and the future Soil Characterization Report developed by XS Soil will provide factual results of the chemical analysis for the specific parameters analysed. The inferred soil quality between sampling points is to the best knowledge and ability of the XS Soil QP and may vary during onsite excavation works. If any deleterious materials are identified during the excess soil handling in areas that were previously characterized for beneficial reuse, immediate segregation of the material should be completed, and additional testing may be required. Regular XS Soil QP monitoring during the excavation is not anticipated to occur during the placing and packing of the excess soil material.

The conclusions presented in this plan are based on work performed by trained, professional and technical staff in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time of this Excess Soil Management Implementation Plan. XS Soil reserved the right to amend or supplement this report based on additional information or documentation provided or any other evidence that becomes available.

Acceptance of any excavated soil will be at the discretion of the receiving site. It is the responsibility of the receiving site to ensure that the soil received is represented by the soil testing reports provided.

The purpose of the Excess Soil Management plan was to assess soil reuse options and to outline excess soil management and handling practices during the excavation activities. This plan does not constitute a Phase Two Environmental Site Assessment as defined in Ontario Regulation 153/04, as amended.

**Prepared by:**



April 25, 2025

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