

# ON-SITE AND EXCESS SOIL MANAGEMENT

## REGULATION 406/19 (UNDER THE EPA)


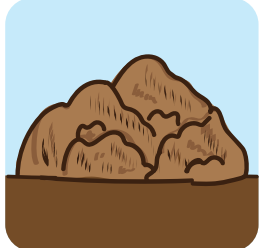

### WHAT IS ONTARIO REGULATION 406/19?

The premise of O. Reg. 406/19 is that soil is a precious and limited resource and, as with any limited resource, excess soil generated from construction and earthmoving projects needs to be properly managed. The regulation provides clarity and direction to ensure excess clean soil does not simply end up in landfills, while at the same time reuse sites are not receiving contaminated soil. This involves risk-based rules related to sampling and testing excess soil to determine the levels of contaminants which may be present and direction on how that soil can be reused.

### NEW QUALITY STANDARD TABLES

This regulation introduces a new series of soil and leachate quality standards to help determine if excess soil can be used at a reuse site (i.e. is not deemed a waste). Similar to O. Reg. 153/04, the standards are presented in a series of Tables and reflect risk factors such as the type of property for the reuse site as well as the site characteristics (proximity to a water body, depth of soil, etc).








### MINIMUM TESTING REQUIREMENTS:

<b>IN SITU (UNDISTURBED) SOIL</b>		<ul style="list-style-type: none"><li>• BTEX</li><li>• F1-F4</li><li>• Leachate (see section on following page)</li><li>• Metals (Ag, As, Ba, Be, B, Cd, Cr, Co, Cu, Pb, Mo, Ni, Sb, Se, Tl, U, V, Zn)</li><li>• pH – sufficient number to define representative pH of the project area</li><li>• SAR and Conductivity – if exposed to deicing products</li></ul>
<b>STOCKPILED SOIL</b>		Same as above
<b>SOIL FROM STORMWATER MANAGEMENT POND (SWMP)</b>		Same as above plus <ul style="list-style-type: none"><li>• CN (WAD)</li><li>• PAH</li></ul>



**SAMPLING REQUIREMENTS:**

Depending on where the soil is located, the minimum sampling requirements are summarized below.

		REFERENCE TABLES	MINIMUM SAMPLING REQUIREMENTS
<b>IN SITU (UNDISTURBED) EXCESS SOIL</b>			
<b>SMALL VOLUME EXCAVATIONS</b>			
<350 m <sup>3</sup>		O. Reg. 153/04 Tables 1 – 9 (Coarse Soil Standards)	3 samples
<b>VOLUME INDEPENDENT EXCAVATIONS</b>			
0 – 600 m <sup>3</sup>		O. Reg. 406/19 Volume Independent Tables 1 – 9.1  O. Reg 406/19 Leachate Screening Tables 1 – 9.1 (if leachate analysis is required)	3 samples
600 – 10,000 m <sup>3</sup>			<b>Above plus</b> 1 sample per 200 m <sup>3</sup>
10,000 – 40,000 m <sup>3</sup>			<b>Above plus</b> 1 sample per each 450 m <sup>3</sup>
>40,000 m <sup>3</sup>			<b>Above plus</b> 1 sample per 2,000 m <sup>3</sup>
<b>STOCKPILES</b>			
		Same as above	Sample from the interior of the stockpile. Take enough samples to characterize the depth profile and spatial variation of Contaminants of Potential Concern (COPCs). Sampling frequency is as per Table 2 of O. Reg. 153/04 (unless the material is defined as SWMP)
<b>STORMWATER MANAGEMENT POND SEDIMENT (SWMP)</b>			
		Same as above	<b>For sites with defined stockpile “Zones”:</b> Sampling requirements are as per Volume Independent Excavations (see above)  <b>For sites without defined stockpile “Zones”:</b> Follow Table 2, Sch. E, O. Reg. 153/04

## LEACHATE ANALYSIS:

- ✗ Not required for small volume projects (i.e. <math><350\text{ m}^3</math>)
- ✗ Not required if the bulk results are less than Table 1 Background Standards
- ✓ Required if the chemical is identified as a COPC and has a superscript “a” in the applicable excess soil quality standards table
- ✓ Required for SWMP samples for any metal or hydride-forming metal that has a superscript “a” in the applicable excess soil quality standards table
- ✓ Sampling frequency – 3 samples + 10% of bulk samples taken

O. Reg. 406/19 requires the use of SPLP\* leachate methodology (EPA Method 1312). SPLP leachate methodology is similar to TCLP leachate used under O. Reg. 558/00 but it utilizes a different leachate fluid meant to simulate the effect of acid rain leach. It cannot be used to profile waste for the purpose of hazardous waste classification.

*\* Note that the lab can use TCLP or SPLP for samples submitted prior to Jan. 1 2022. Thereafter leachate extraction must follow SPLP protocols*

## YOUR DELIVERABLES AS PROJECT LEADER OR QUALIFIED PROFESSIONAL (QP):

Prior to removing excess soil from a project area, the Project Leader, with the involvement of a Qualified Professional (QP), must:

1. Prepare an assessment of past uses
2. Prepare and implement a sampling and analysis plan
3. Prepare a soil characterization report
4. Prepare an excess soil destination assessment report
5. Develop and implement a tracking system for the soil (QP is not required)

## PHASED-IN APPROACH:

The new regulation is being phased in over time, as follows (with provisions for grandfathering existing projects):

- January 1, 2021 – reuse rules, including risk-based standards, waste designation and approvals
- January 1, 2022 – testing, tracking and registration
- January 1, 2025 – restrictions on landfilling soils

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