The Intersection of Excess Soil Management and Site Remediation in Ontario

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Agenda

- O. Reg. 406/19 – in 2023.
- Typical Site Remediation.
- Intersection of Excess Soil and Remediation:
  - *What portions of excess soil management regulation are applicable?*
- Reduction of Excess Soil.
- Recap/Takeaways.

Excess Soil Regulation

- Ontario Regulation 406/19: Onsite and Excess Soil Management;
- Rules for Soil Management, adopted by reference;
- First introduced in December 2019, amended since;
- Purpose:
  - Proper management of excess soils;
  - Ensure valuable resources don't go to waste;
  - Provide clear rules on managing and reusing excess soil;
  - Help to facilitate local beneficial reuse;
  - Reduces greenhouse gas emissions from soil transportation; and
  - Ensuring strong protection of human health and the environment.
- System of transparency, accountability and traceability.

Excess Soil Regulation

- Clear process when dealing with little to no contamination;
- Some provisions for reuse of excavated soil. On-site low risk processing without an Environmental Compliance Approval (ECA) and does not deem as a waste:
  - Passive aeration, passive dewatering, mechanical dewatering, mixing (not for the purposes of diluting contaminants), soil turning, size-based sorting, sorting for removal of debris, and mixing with substance for dewatering.
- Excavated soil only considered a waste when leaves the project area and if not following the Excess Soil regulatory process:
  - A slight departure from the previous waste determination when excavated.

Typical Site Remediation

General Purpose:

- Restore property values.
- Human Health and Environmental protection.
- Transactions/loans.
- Prevent/minimize off-site impacts.

Could involve combination of many steps or processes:

- Source removal and offsite treatment/disposal – excavation.
- In-situ or ex-situ treatment and remain on-site.
- Risk-based approaches (Risk Assessment, Monitored Natural Attenuation).
- Evolving to preferences for low-impact, more sustainable approaches.

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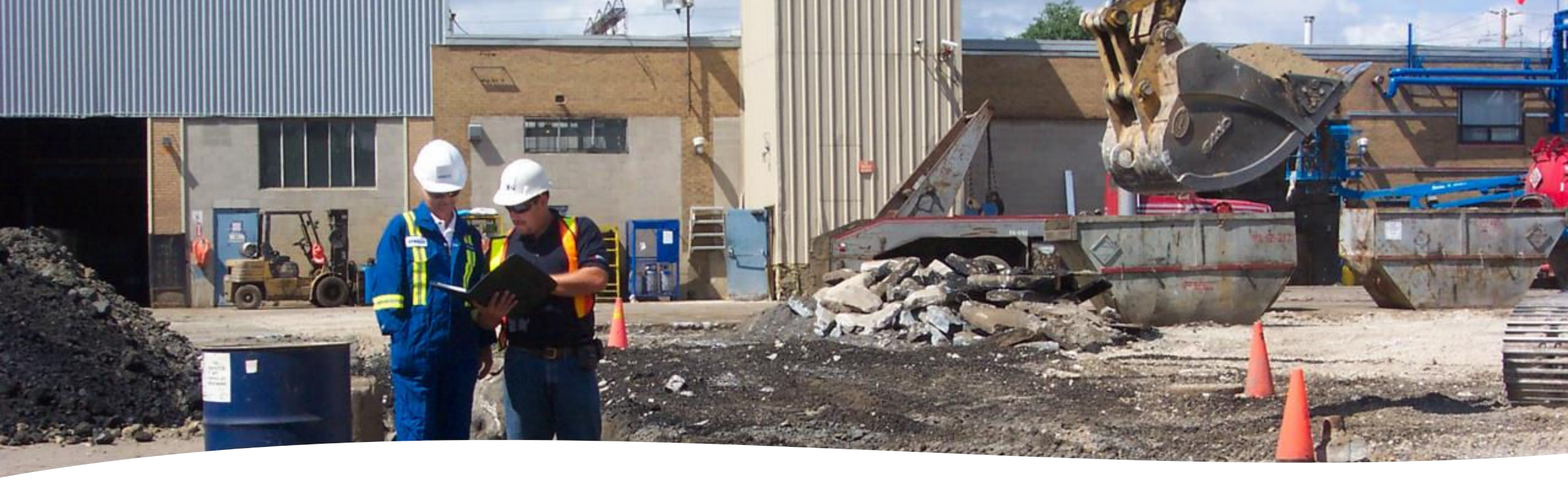

Intersection of Excess Soil and Remediation

- **Site redevelopment – often brownfields**:
  - Could involve excavation and removal of both contaminated soil and non/marginally contaminated soils;
  - Remediation, below grade structures/features, poor geotechnical properties.

- **Appropriate identification and delineation of soil quality**:
  - Heavily contaminated – unusable, send for treatment or disposal;
  - Marginally contaminated – reuse potential;
  - Non-contaminated – reuse.

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Intersection of Excess Soil and Remediation

- **Why study quality? Delineate?**
  - Costs – different fees for impacted soil treatment/disposal vs. reuse;
  - Opportunities for local reuse;
  - Demonstrate full understanding when looking for soil relocation sites;
  - APEC vs. non-APEC areas;
  - Strategic excavation – separate soils of differing qualities:
    - ✓ Reuse of topsoil or aggregates;
    - ✓ Clean vs. contaminated soils.

Intersection of Excess Soil and Remediation

What portions of excess soil management regulation are applicable?

- Soil Registry operated by RPRA – Section 8;
- (1) a notice to be filed in the Registry (1.1) meeting criteria:
  1. *Enhanced Investigation Project Area (EIPA) unless:*
     - ✓ Record of Site Condition (RSC) has been filed and does not have a Certificate of Property Use (CPU) from a Risk Assessment; and
     - ✓ No part of the RSC property has been used as an EIPA since the RSC was filed.

Enhanced Investigation Project Area:

- ➢ Industrial Use;
- ➢ A garage;
- ➢ Bulk Liquid Dispensing (incl. gasoline); and
- ➢ Dry-cleaning

2. *Project Area is located within an area of settlement and generating 2,000 m^3 or more <u>unless</u> most recent use was:*
   - ✓ Residential, institutional, parkland, agricultural.

3. *All or part of a project area is being remediated by excavating and removing excess soil from the project area for the purpose of reducing contaminants on, in or under the project area, including remediating the project area for the purposes of filing an RSC under Part XV.1 of the Act.* Exceptions:
   - ✓ Less than 100 m^3 and not sent to a Class 2 soil management site;
   - ✓ Danger to health of persons or impairment to the natural environment, serious or risk of injury to property, plant, or animal life;
   - ✓ Order imposed by subsection 93(1) of the *EPA*, or an order by authority with jurisdiction.

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Intersection of Excess Soil and Remediation

What portions of excess soil management regulation are applicable?

Registry sites – Planning Documents (Sections 11 to 16):

- **Assessment of Past Uses** (APU, or equivalent Phase One ESA);
- **Sampling and Analyses Plan** (SAP), and **Soil Characterization and Report** (SCR):
  - SAP not needed for soil to be excavated and deposited at a Class 1 soil management site (treatment/disposal).
- **Excess Soil Destination Assessment Report** (ESDAR):
  - Specifies to identify each site soil is to be sent including Class 1 soil management sites, landfill sites and dumps.
- **Soil Tracking**:
  - Developed before removed, to track during transportation and deposit;
  - Does not need to be a digital/electronic although there are established systems.

Intersection of Excess Soil and Remediation

What portions of excess soil management regulation are applicable?

- Hauling Record (Section 18):
  - ➢ Record accompanies each and every load of soil;
  - ➢ Details on date/time loaded and off-loaded;
  - ➢ Names of individuals:
    - ✓ Regarding the load and the soil quality;
    - ✓ Driver and firm transporting (plus license plate);
    - ✓ Acknowledging the soil when arrived at destination (plus phone number, and declaration).

Intersection of Excess Soil and Remediation

What portions of excess soil management regulation are applicable?

Record Keeping – good practice and due-diligence

Project leaders, QPs, and Reuse Sites for 7 years.

Haulers for 2 years.

Intersection of Excess Soil and Remediation

What portions of excess soil management regulation are applicable?

- Section 2 (6) of the Soil Rules:
  - Heavily Impacted Soil that Cannot be Reused at a Reuse Site:

    1. Where a qualified person [QP] determines based on limited sampling and analyses that soil within an APEC contains concentrations of contaminants exceeding the Table 3 small volume excess soil quality standards for RPI property uses, and where deriving site-specific excess soil standards (e.g., via the BRAT) is not a viable option for reuse, then the QP may depart from the sampling and analysis requirements of Sampling and Analyses Plan if the QP has determined that the only practical disposal option for the impacted soil is to transport it to a Class 1 soil management site or to a landfill or dump.

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Reduction of Excess Soil

Why reduce the volume to be relocated?

- Overall cost savings;
- Reduce cost of replacement with aggregates, possibly;
- Reduction of landfill disposal; and
- Reduce green house gases from transportation.

How to reduce?

- Early investigations and planning – use assessment and remediation skills;
- Change designs for development to embrace the grades;
- Reuse on-site for a beneficial purpose (berms etc.);
- Reuse materials on-site where possible (topsoil, aggregates);

Reduction of Excess Soil

How to reduce (cont'd)?

- Geotechnical ground improvements – specialty services:
  - May not need to replace soil for geotechnical purposes – enhancements.
- Send the cleanest soil for reuse – impacted soil to stay on-site, safe:
  - More opportunities for local reuse;
  - No disposal;
  - Lower cost for soil movement/relocation.
- Low-risk processing to improve reuse product for on-site or off-site;
- On-site treatment (in-situ and ex-situ methods);
- Risk Assessment.

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Recap/Takeaways

- Excess Soil Regulation is here;
- Portions of Excess Soil Regulation are applicable to excavation remediation projects:
  - Registration;
  - Assessment of Past Uses (Phase One ESA) – identify possible sources/contaminants;
  - Excess Soil Destination Assessment Report – ensure soil is being directed to an appropriate reuse or disposal site;
  - Tracking – shows soil is delivered from/to appropriate locations;
  - Hauling Record – accompany each and every load;
  - Record Retention – at least 7 years.
- There are options and methods to reduce excess soil especially when planned early.

Thank you!

Questions/Comments?

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