



# **New Soil Management Rules will impact Brownfield Redevelopment**

**Remtech 2021**



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# Agenda

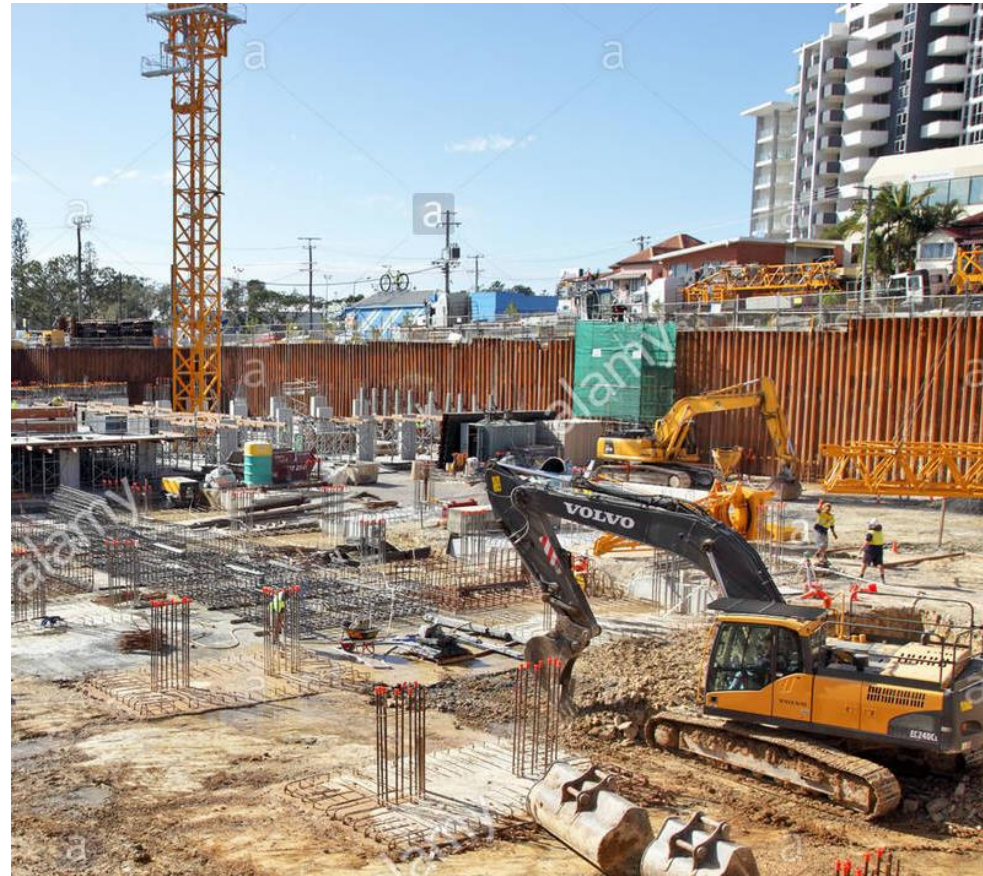
- **Brownfield Redevelopment**
- **New Rules**
- **How will impact Brownfield Projects**
- **Example Case Study**
- **Takeaways**
- **Q&A**

# Brownfield Redevelopment

- Underutilized properties, often associated with former industries and most often with contaminants in soil and groundwater.
- Key to redevelopment is the understanding of financial liabilities associated in finding the higher and better use.
- Certainty of costs usually needed to determine feasibility.

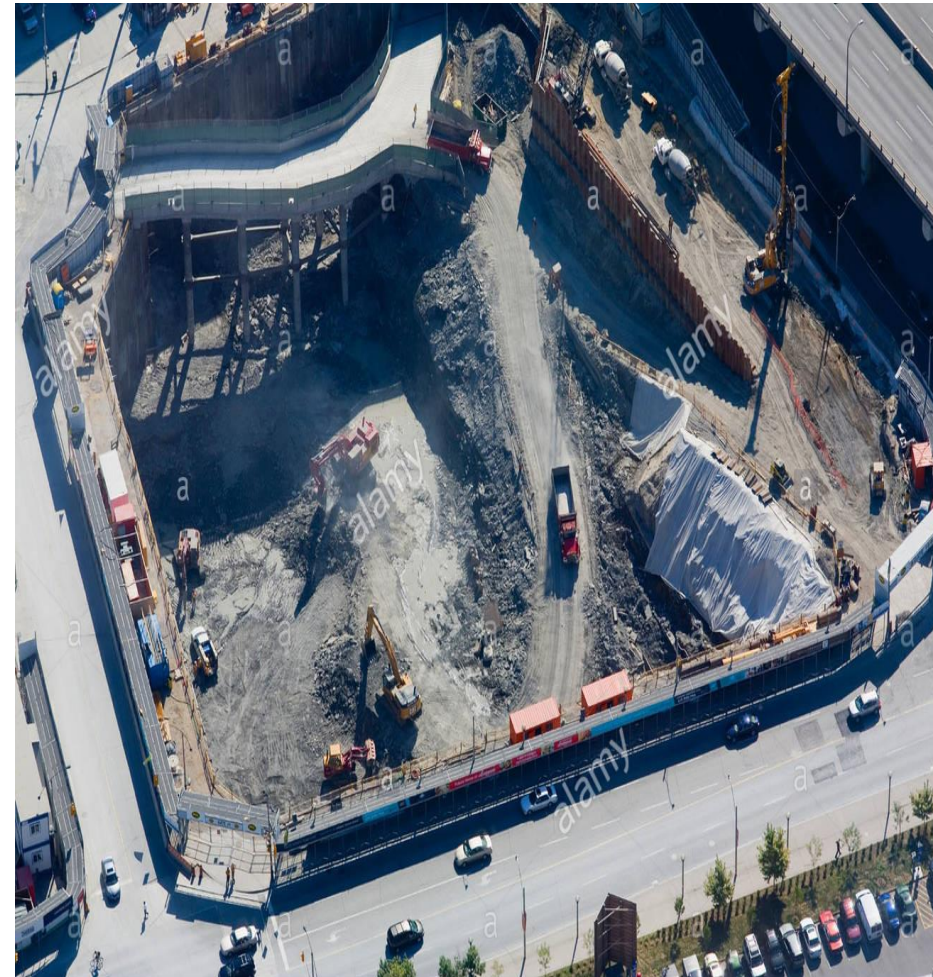
# Brownfield Redevelopment

- **Tools in place for soil and groundwater remediation or management**
  - Risk assessment, in-situ remediation techniques
  - Ground improvement activities can alleviate geotechnical issues



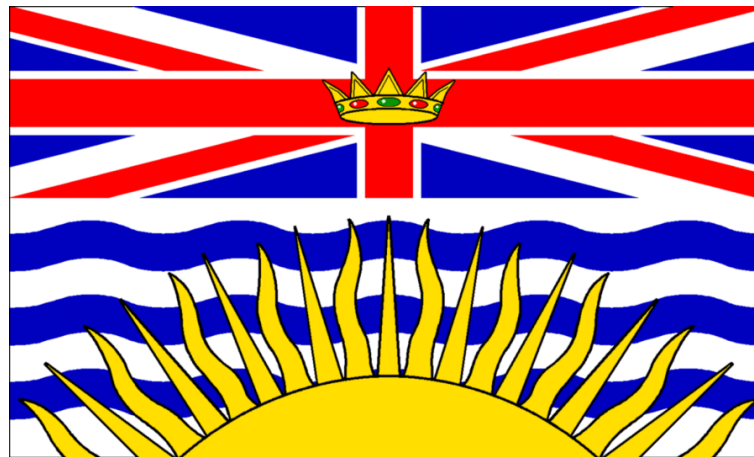
# Brownfield Redevelopment

- **Some redevelopments include extensive excavation – soil requiring relocation**
  - Below grade parking for most density use
  - Excess soil
  - Soil may be un-impacted or “clean”



# New Rules

- **British Columbia is proposing amendments**
  - Relocation of Soils from Contaminated Sites
  - Section 55 of the Environmental Management Act
  - 2014 discussion, 2016 intentions, 2019 policy direction and 2021 intentions around the proposed amendments



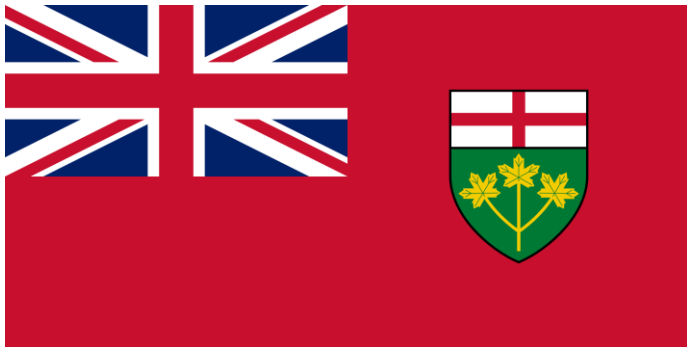
# New Rules

- Quebec has added to existing Regulations
  - Better control on transportation and burial of excavated contaminated soils
  - Tracking system for traceability of soil movement
  - Monetary penalties



# New Rules

- Ontario has new Regulation being implemented



## Two Main Phases:

- January 2021
- January 2022

- Regulation 406/19 – On-site and Excess Soil Management and adopted Soil Rules and Standards
- Soil is a “waste” if not following Reg. and Rules, no matter the level of contamination
- Early characterization, Planning, Registration, Tracking between locations, Documentation
- Reuse opportunities and on-site processing options that previously required Approvals



# Ontario's New Program

- **Under O. Reg. 406/19 excess soil management requires planning well ahead of excavation** (responsibility of Project Leader/owner)
  - Assessment of Past Uses (eq. Phase One ESA)
  - Sampling and Analyses Plan and Soil Characterization Report (eq. Phase Two ESA, added characterization based on volume of excess soil to be generated)
  - Excess Soil Destination Assessment Report
  - Project Registry for sites  $>10,000 \text{ m}^3$  excess

# Ontario's New Program

- Under O. Reg. 406/19 excess soil management requires tracking between Project Area (source) and Destination Site (receiving)



- Hauling Records during transport



# Impact to Brownfield Development

- **Old Brownfield system included:**
  - Deal with contamination ...
  - Non-contaminated – instruct the excavation contractor to find a home ... at project bid stage ... \$\$\$
  - Illegal dumping of soil that was not properly characterized or misrepresentation of quality (highly publicized cases)
  - Innocent parties (farmers looking for good fill)
  - These days are gone ... Soil is now “waste” unless full compliance with O.Reg. 406/19 – can be enforced as such
  - Government bodies looking for strict regulatory compliance

# Impact to Brownfield Development

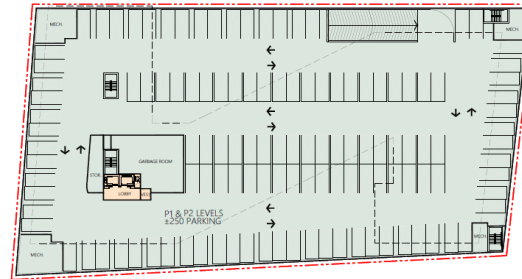
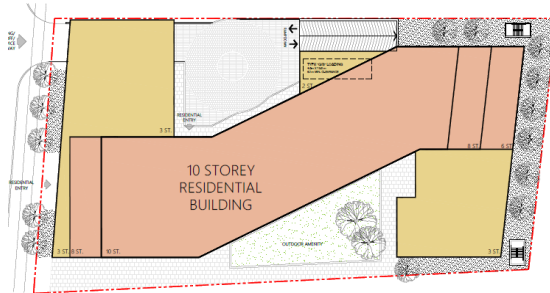
- **Understand the costs ahead of “go/no-go”**
  - Further assessment of soil quality – estimate on volume
- **Find places for excess soil long before excavation**
  - Demand will go up in heavily populated areas
  - Costs and GHGs considerations
  - Reuse sites vs. Treatment/Disposal
  - Geotechnical suitability for the soil at reuse site(s)
- **Project Team now must include a Qualified Person**
  - Full-service providers who understand Excess Soil Mgmt.

# Example Case Study

- Former mixed residential and commercial business properties, north area of GTA
- Intended use is for institutional



# Example Case Study



- Development includes 2 levels of underground parking
- Soils excavated will be excess to project
  - Needs proper management



# Example Case Study



- **Development application**
  - triggers Phase One and Two ESAs but not RSC
- **Minor Areas of Potential Environmental Concern (APECs) identified in Phase One, investigated in Phase Two**

# Example Case Study



- **APECs identified included:**
  - Small Piles of Fill – unknown quality
  - Surface impacts from storage/operations
  - Fuel oil use for home heating





# Example Case Study

- **Phase Two ESA completed:** **\$13,000**
  - 12 test pits and 3 BH/MWs for soil and groundwater
  - Results compared to site condition standards for identification of impacts
- **Excess Soil Characterization addition:** **\$34,000**
  - Estimated 27,000 m<sup>3</sup> excess soil will be generated
  - 88 samples for metals + hydrides, BTEX & PHCs, PAHs, pH, EC/SAR
  - Samples from depth of excavation
  - Results compared to new Excess Soil Quality Standards

# Example Case Study

- **Extra Costs for Excess Soil Management in Project Development**
  - Excess Soil Assessment Report = \$1,500
  - Soil Management Plan = \$1,500
  - QP for liaison with contractor and receiver = \$5,000
  - Project Registry (still in proposal) = \$675
  - Demand based increases (est. \$25/load x 2700 loads) = \$67,500
  - Tracking software \$750/mo. (assume 6 mos.) = \$4,500

**Estimated Added Costs for Excess Soil Management = \$114,675**

# Takeaways for Other Regions

- Stricter Rules are coming – certainty is desired
- Early planning and characterization is the key
- Know what you're dealing with
  - not relocating potential problems
- Owner/Developer maintains responsibility
  - responsible management of soil, ensure proper team
- **HUGE** shift for construction and development
- Higher costs upfront, but lower if properly planned

Thank you

Questions?



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