



Port Granby Long Term Waste Management Facility (PG LTWMF)

Information Session

October 15, 2014



Public Works and
Government Services
Canada

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Welcome !

- **Critical:** The LTWMF construction contract is a critical component of the Port Hope Area Initiative.
- **Complex:** Site conditions and public interest add to the complexity of the work.
- **Unique:** We are glad there is a significant interest in this unique project.

2



Overview

- **Mandatory site visit: suppliers must attend the site visit on at least one of two dates (Oct. 15 or Nov. 19) to bid – must sign attendance sheet**
- **Information session is not mandatory (*attending the information session only will preclude you from bidding*)**
- **No new information is being disclosed during this information – The tender package takes precedence**
- **All Questions should be submitted in writing to RPC**
- **ALL correspondence must go to Lauren Woodhall at lauren.woodhall@pwgsc-tpsgc.gc.ca**



Port Granby LTWMMF

Program

- **1:00** **Introductions and Safety Moment**

- **1:05** **Presentations**
 - **Project Technical Aspects: Jimi Arey PWGSC - PM**
 - **Procurement Process: Lauren Woodhall – RPC**

- **4:00** **Wrap up**



Project Technical Aspects

1. Port Hope Area Initiative - Port Granby Project (PHAI-PG)
2. The Long Term Waste Management Facility
3. Contract “C”
4. Pre-Remediation Requirements
5. Project and Site Specific Plans
6. Main Elements of the Work
7. Challenges
8. Closure



PG LTWMF: Contract Work

The relocation of mixed historic low-level radioactive waste material (LLRW) and marginally contaminated soils (MCS) from the existing waste management facility to a new engineered containment mound.

The information provided during this presentation is general in nature. The conditions, constraints and scope of the Work are as defined in the tender document.

6



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Elliott Road – the ONLY designated supply access road to the site, has been upgraded under an earlier contract (Contract A);

The current waste management facility (south of Lakeshore Road) is to be accessed from the north site through both temporary and permanent roads during all construction activities.



Transportation Route – Only One Way to get to the Site



8



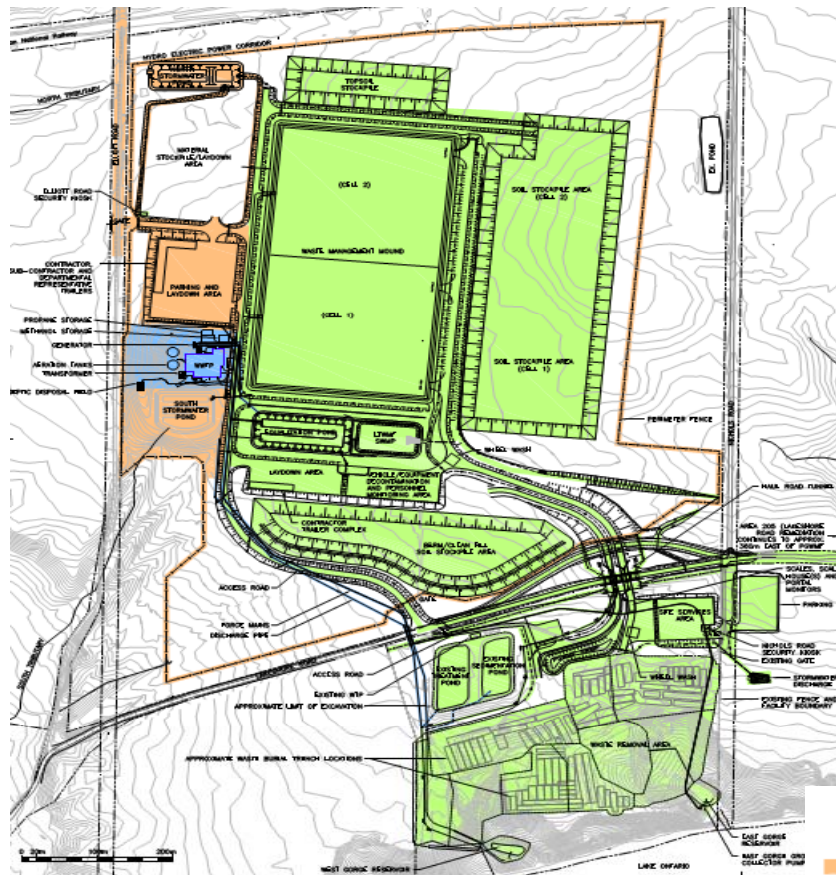
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The new Waste Water Treatment Facility (WWTF) has been constructed and is being commissioned under an earlier contract (Contract B).

This facility will be in use by owner during the work under Contract C and will ultimately serve the new LTWMF.



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Overall Site Plan

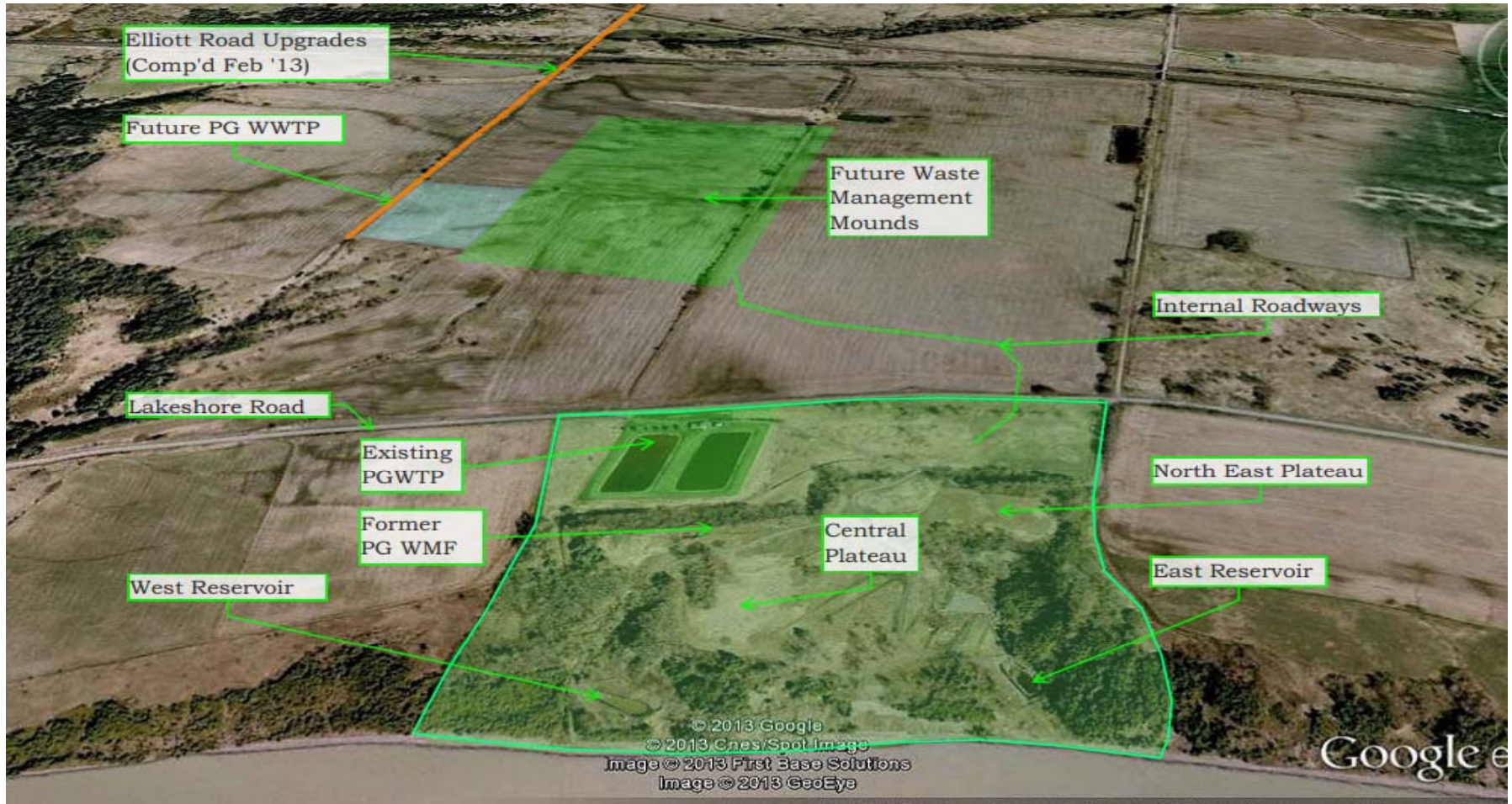
Contract 'A'
Upgrade Elliott Road
Completed

Contract 'B'
Port Granby WWTP
Awarded Dec '12

Contract 'C'
Port Granby LTWMF



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Pre-Remediation Requirements

No remediation (relocation of waste from current site) can occur until all enabling facilities are in place (*except for minor temporary relocations during site preparation*).

- 1. Lakeshore Road Underpass**
- 2. Main Access and Temporary Construction Roads**
- 3. Containment Mound (Cell 1)**
- 4. Pumping Stations, Equalization Pond & Forcemains**
- 5. Temporary Facilities:** Vehicle Radiation Scanner & Scales installation, Decontamination stations, site offices, etc

12



Site Specific Plans

There is a requirement for the development, submittal and implementation of Site Specific Plans under the contract.

Many of these Site Specific Plans must be in place prior to start of the Work.



Project Plans

There are a number of Project Plans applicable to and referenced in the tender documents including but not limited to:

1. Health and Safety Plan
2. Environmental Management and Protection Plan
3. Radiation Protection Plan
4. Radioactive Material Transportation Plan
5. Contaminated Soil Management Plan
6. Dust Management Plan
7. Surface Water Management Plan
8. Quality Assurance Plan
9. Remediation Verification Standard Operating Procedures
10. Traffic Management Plan
11. And a few more



Main Elements of the Work

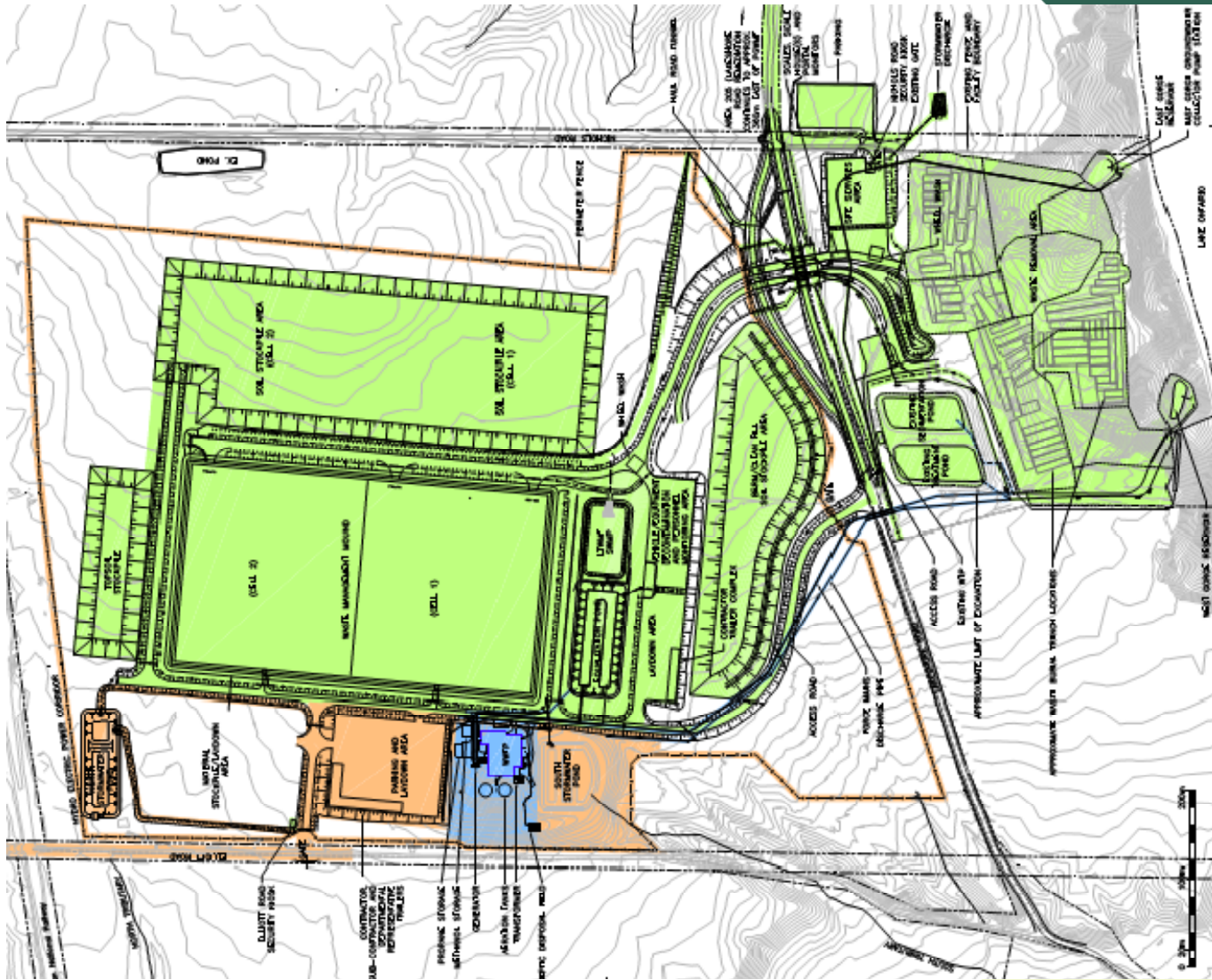
1. **Construction of Lakeshore Road Underpass and other enabling features,**
2. **New Engineered Containment Mound,**
3. **Excavation and Relocation of the Waste,**
4. **Decommissioning of Existing Facilities**
5. **Mound Closure, and Site Re-instatement.**



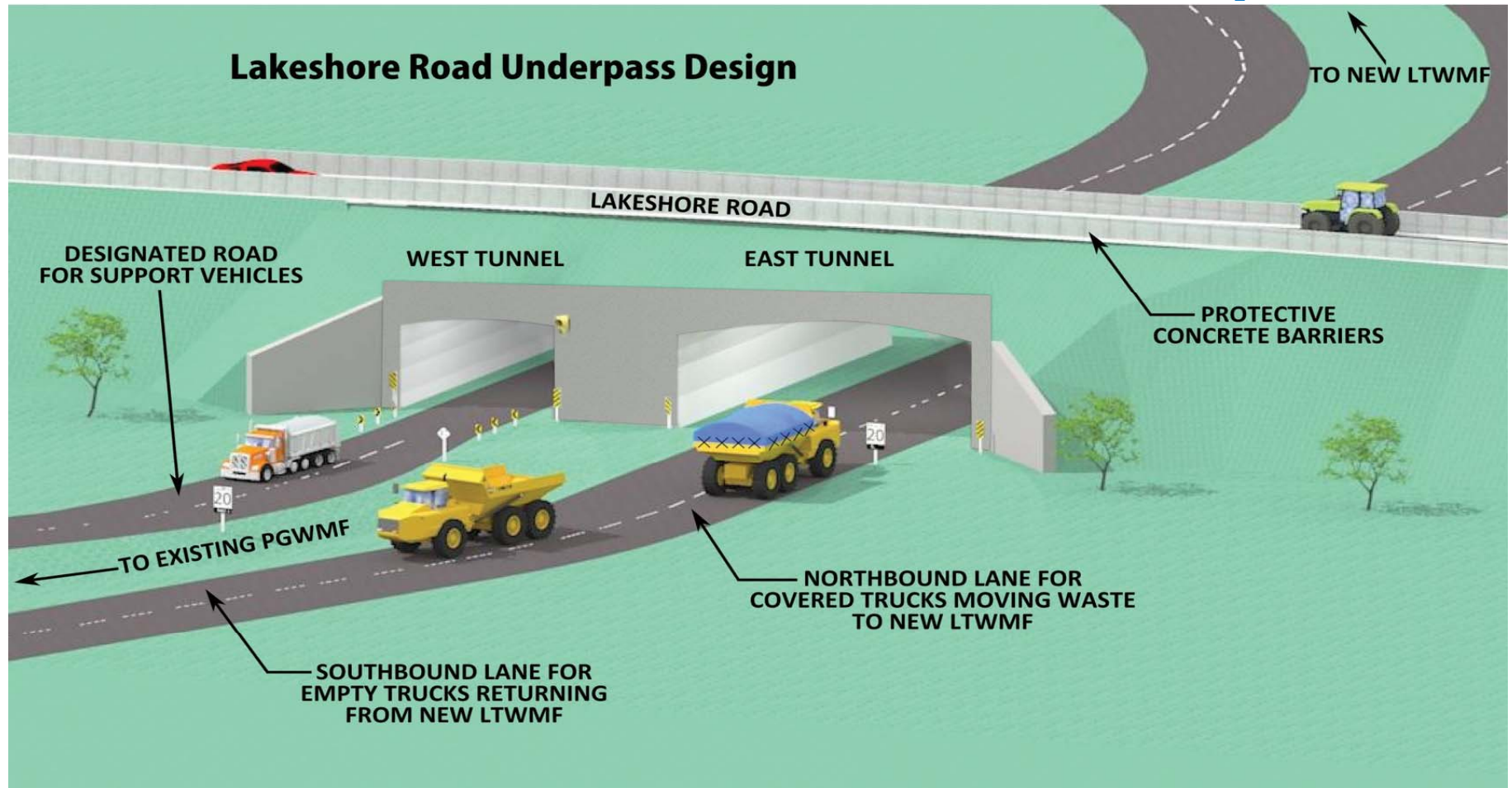
Construction Of Lakeshore Road Underpass

- Remediation activities are not to disrupt traffic flow on Lakeshore Road
- Temporary detour to be constructed to allow construction of the underpass.
- Lakeshore Road must safely accommodate needs of local traffic at all times including vehicles, cyclists and pedestrians
- The Underpass is a temporary installation that is to be removed under the contract on completion of the remediation work





PG LTWMF: Lakeshore Rd Underpass

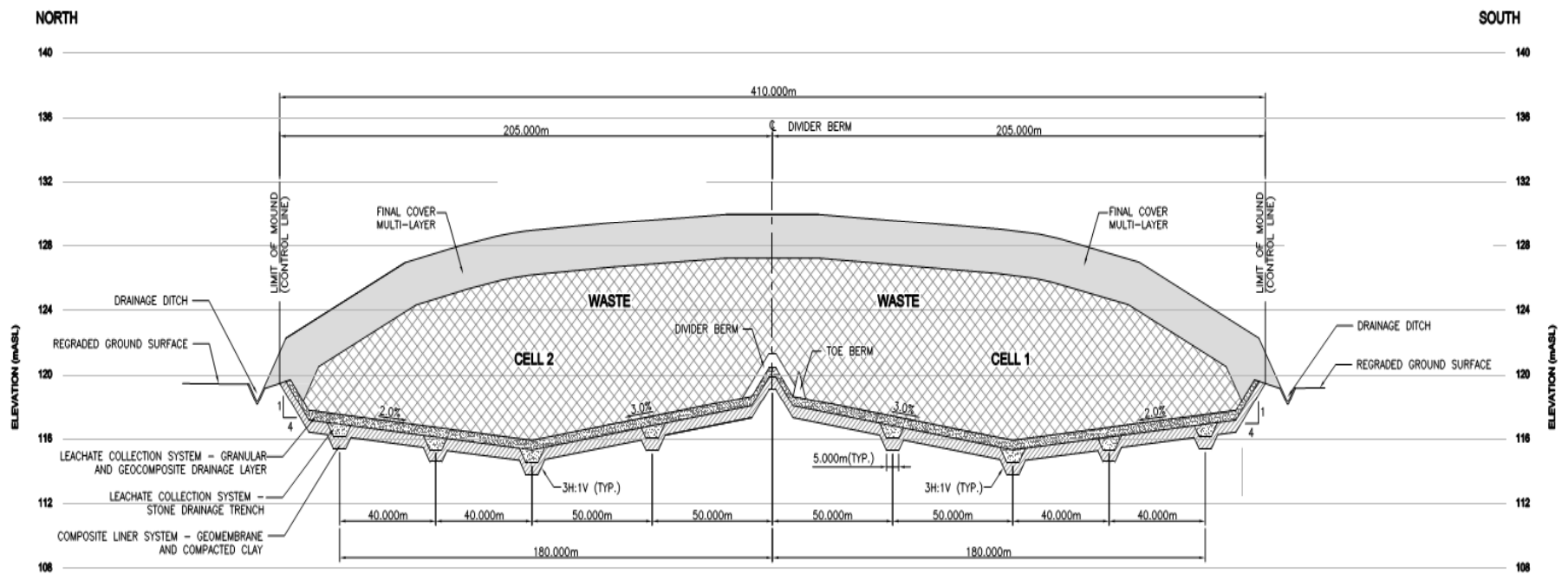


Engineered Containment Mound

- **700m north of current waste area and adjacent to new Water Treatment Facility.**
 - **Comprising two cells**
 - **Leachate collection system including two new pump houses**
 - **Composite Liners (Natural Clay, HDPE, GCL, ...)**
 - **Approximate final dimensions; 410m x 230m x 15m (Greater than 15 football fields)**

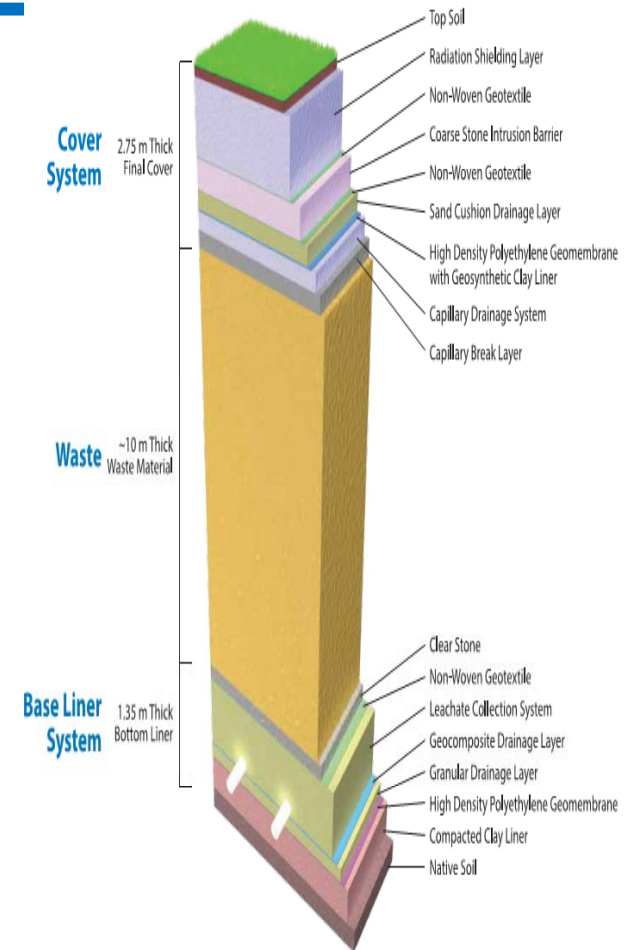
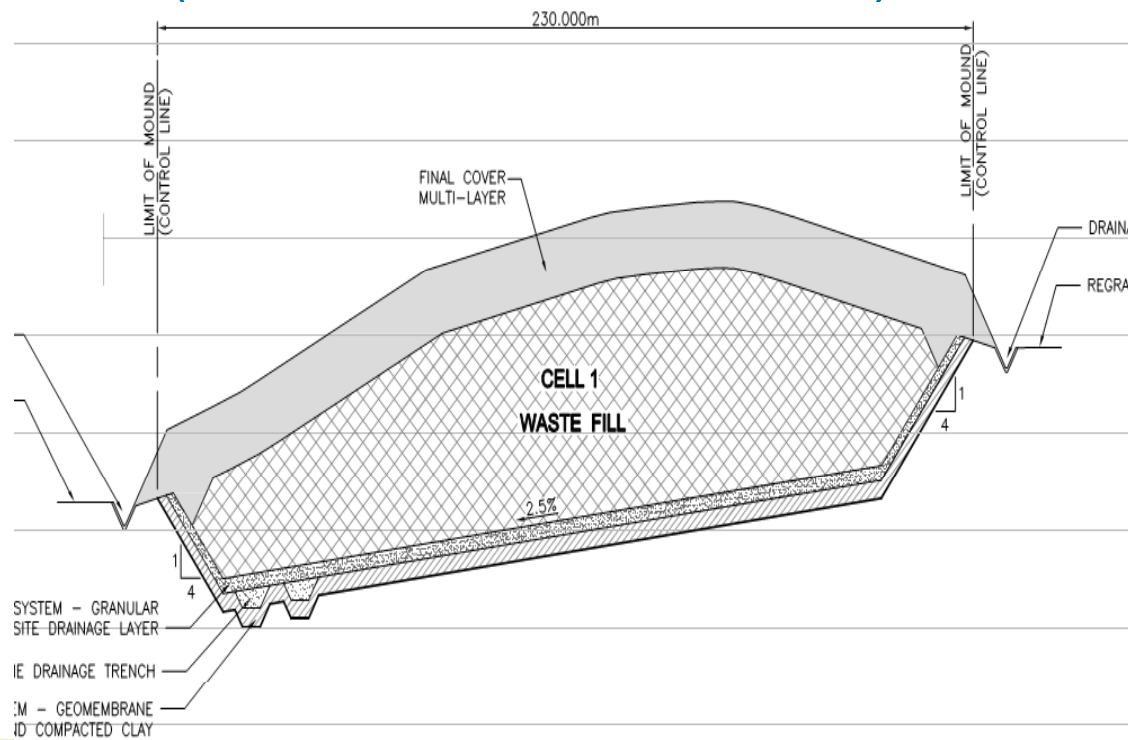


Engineered Containment Mound (North-South cross section)



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Engineered Containment Mound (East-West cross section)



Excavation and Relocation of Waste

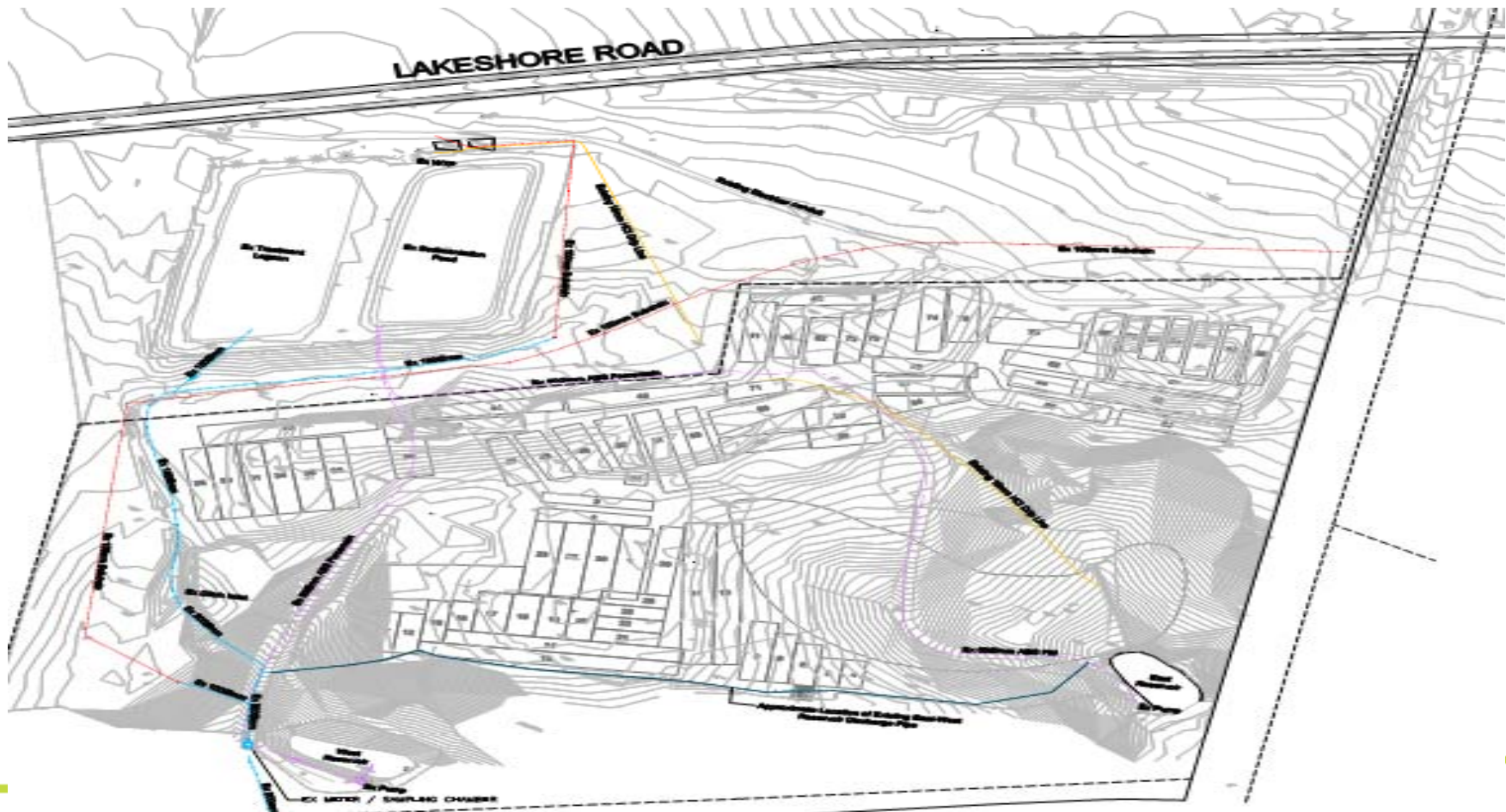
Excavation and relocation of waste may only proceed when all preparations have been completed.

- **Approx. 550,000 tonnes of mixed Low Level Radioactive Waste (including industrial waste)**
- **Waste buried in defined trenches as well as at end-dumping locations within the confines of the current waste management facility.**
- **The reference documents include details of waste characteristics and possible locations.**

22



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PG Waste Burial Locations



24



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Excavation and Relocation of Waste

Nature of the Waste

- Low Level radioactive Waste (LLRW): The waste is the result of radium and uranium processing in Port Hope.
- Radioactive Contaminants of Potential Concern: Radium-226; Thorium-230; Thorium-232; Uranium
- Potential Exposures predicted average at Port Granby site compared to public (1 mSv/y):
 - » Backhoe operator 2.1 mSv/y (milliSievert/year)
 - » Workers: 1 mSv/y
 - » Monitoring Technician 7.1 mSv/y
- Primary Radiation Exposure Pathways:
 - External
 - Internal (Inhalation and ingestion)

25



Excavation and Relocation of Waste

Nature of the Waste

- **Neutralized Raffinate (“peanut butter”)**: Soft red-brown, clayey/sandy silt, water content 50 to 90%, relatively high gamma radiation and arsenic concentrations.
- **Calcium Fluoride Residue (“toothpaste”)**: White paste-like highly caustic and corrosive, classified as very soft white clayey silt to siltyclay, water content 36 to 37%, very sticky, burns skin.
- **Mixed industrial Refuse/Plant Garbage**: Highly heterogeneous, glass, plastic, lumber, rags, shop waste, paint cans, cardboard, paper, incinerator ash, brick, concrete, steel components, insulation, scrap equipment including tanks, vessels, piping, possible vehicle.

26



Excavation & Relocation of Waste: Nature of the Waste

- **Magnesium Fluoride/Metals Slag:** Dry greyish fragmented product including fine powder. Consists of magnesium fluoride and small amounts of uranium metal. Buried in approximately 6,000 steel 210-litre drums. Location unknown.
- **Radium Waste:** Generally dark red/brown paste-like sticky sludge, moist to wet considered loose to very loose state. Found to be intermixed with other waste. Slightly caustic.
- **Miscellaneous Chemical Wastes:** Various small quantities of chemical waste; may include silver residue, cobalt residue, beryllium waste, uranium scrap, zirconium residue, ammonia nitrate liquid. Possible cylinders containing compressed gas.
- **Soil from Remedial Works:** Contaminated soil including brick and asphalt from various sites. Used as cover material, thus widely distributed.

27



Excavation Strategy & Sequencing



Construction sequence



Staged Excavation ...

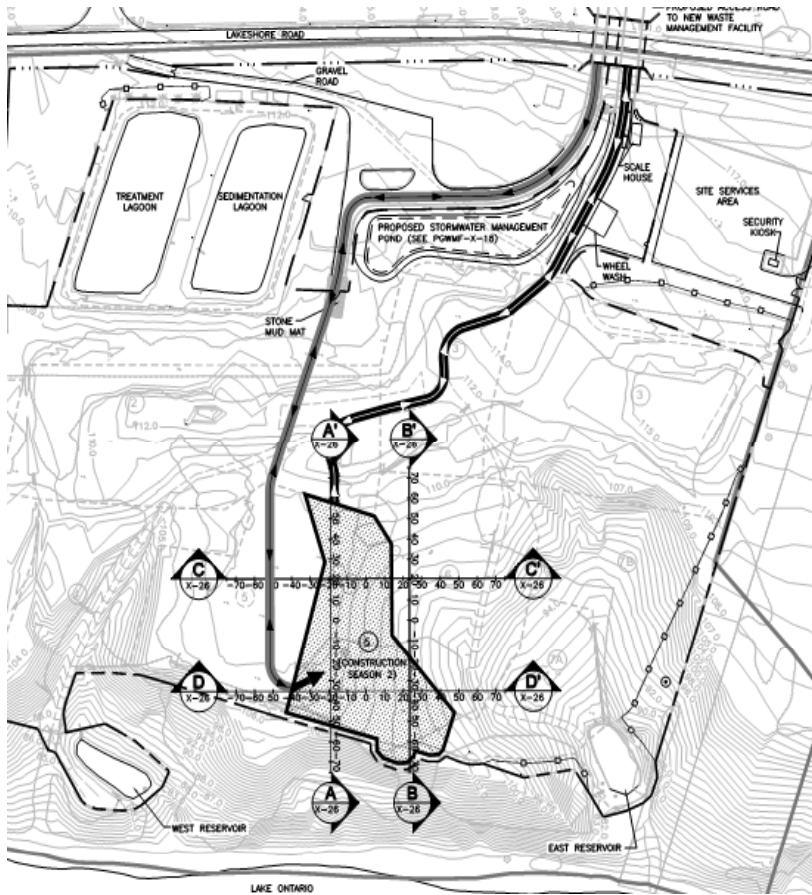
For example, each excavation stage could possibly involve the following activities:

- Construct haulage roads
- Tree removal and grubbing
- Dewatering plus surface water management and erosion control
- Excavate and Store Clean Soil for Re-use
- Excavate, haul and place waste material
- Validate cleanup
- Install Groundwater Collection System
- Backfill
- Replace ground cover
- Shape contours for surface water management

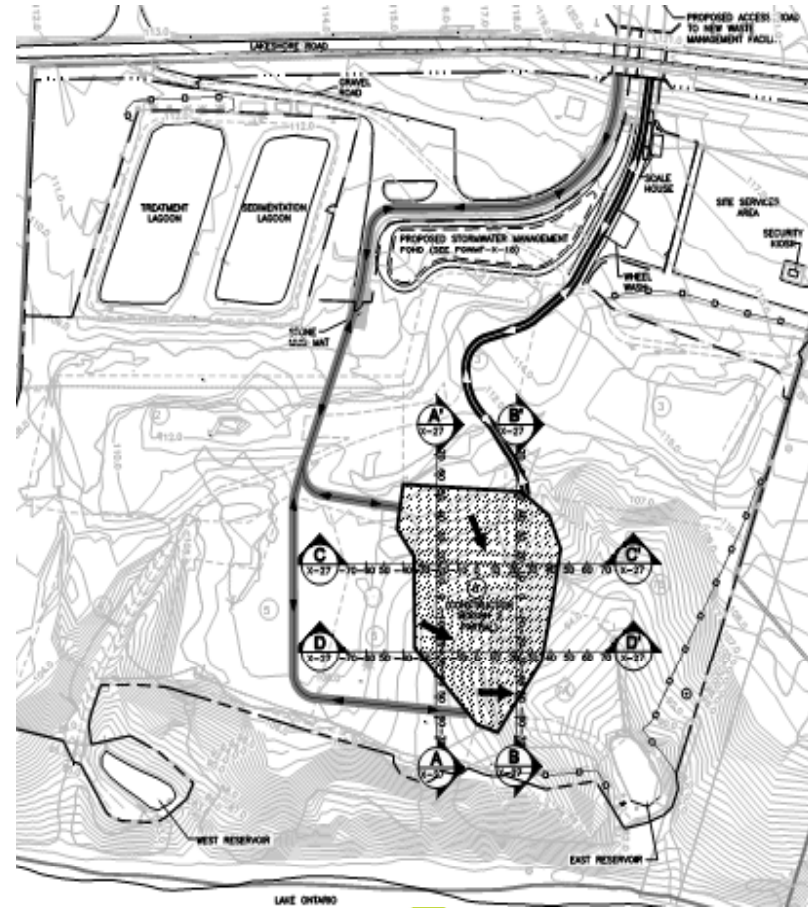


Staged Excavation & Waste Relocation

Season 2; Remedial Region 5 east



Season 2; Remedial Region 6

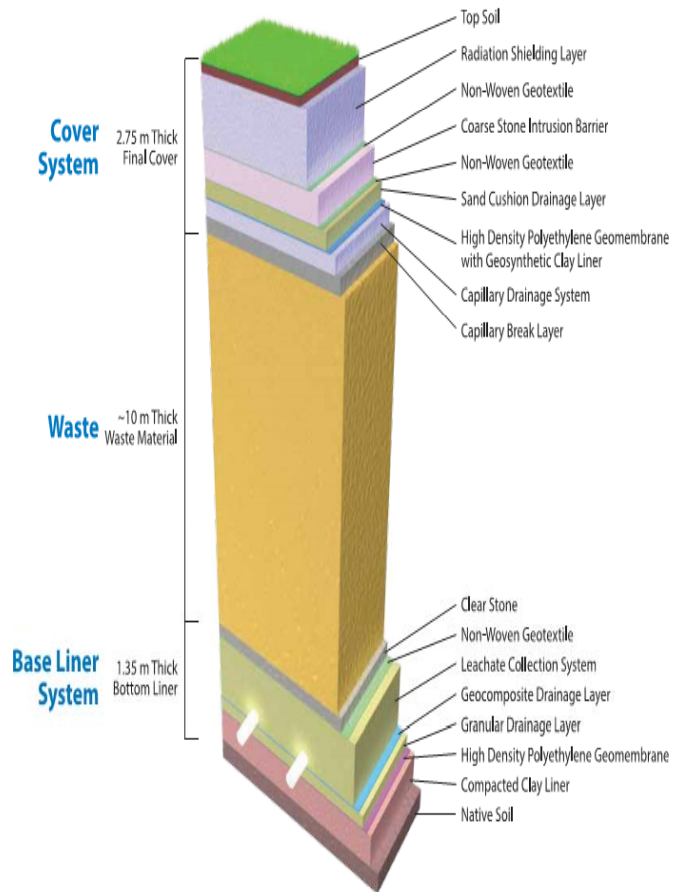
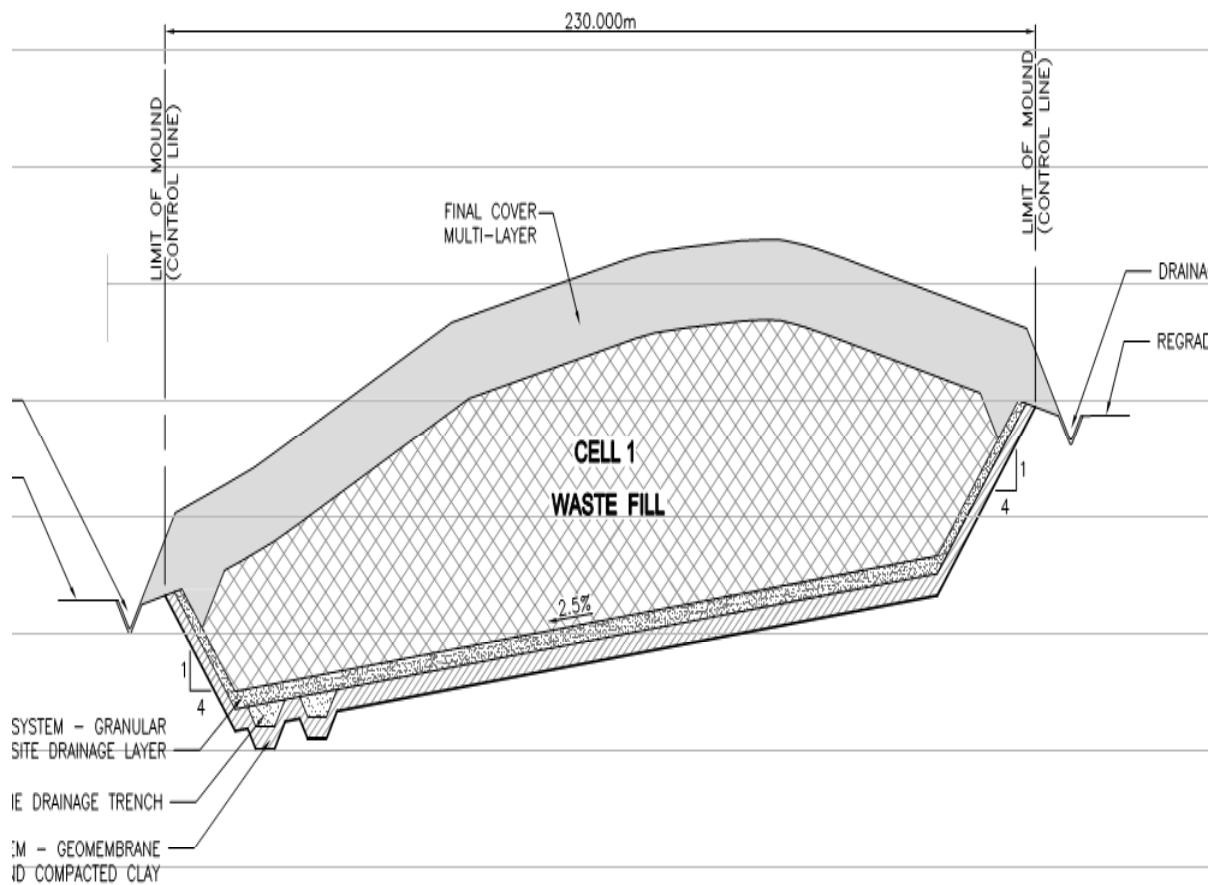


Existing Facilities Decommissioning & Removal

- Existing two reservoirs (*east and west*)
 - *Including associated pipes & electrical components*
- Existing waste water treatment facility
 - *Two lagoons and incidental piping and equipment*
 - *Process tanks and associated components*
- Forcemains, sub-drains, fencing, select power poles, etc

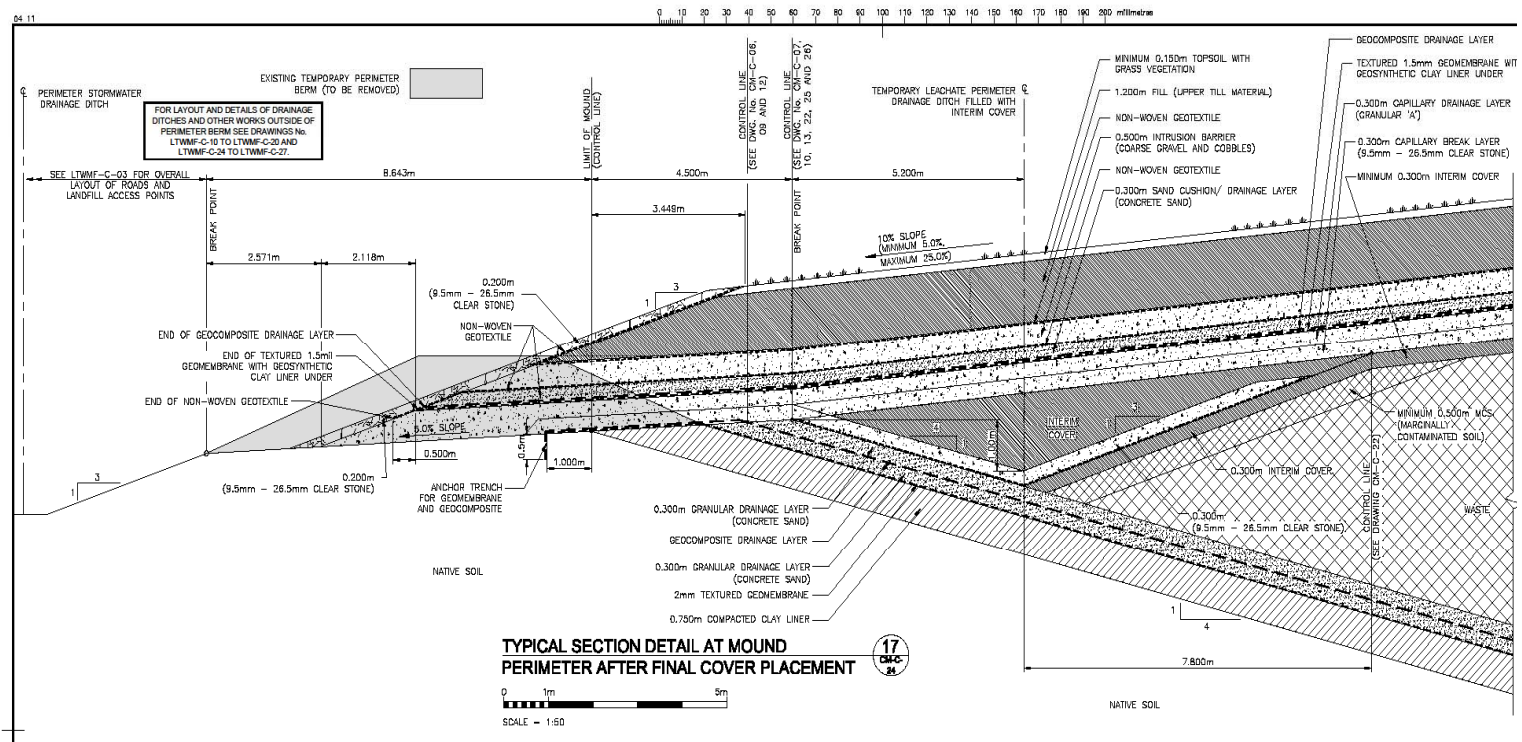


Mound Closure



Port Granby LTWMF

Mound Closure



Temporary Installations Decommissioning & Removal

- **Lakeshore Road Underpass and by-pass / Detour**
Including associated structures, fixtures, and sub-drains
- **Temporary Water Well, Water Management Ponds,**
and associated equipment and piping not forming part of the
permanent installation
- **All temporary construction facilities** Including haulage
roads, laydown areas, parking, site offices and associated
installations.



Site Re-instatement: Final Grading, Landscaping / Plantings



35



Important Challenges Include:

- **CNSC License Restrictions**
- **Multitude of Project and Site Specific Plans**
- **Restricted Site Access:**
 - **Sharing of Elliott Road with farmers, etc...**
 - **Two railway crossings & underpass**
 - **Limited usage of Lakeshore Road**
- **Involvement of Local and Federal Agencies**
- **Residents' Organizations**



Important Challenges (Cont'd)

- **Lakeshore Road Bypass/Detour & Underpass**
- **Construction of Mound Liners**
- **Mixed Contaminants include LLRW**
- **Silt and Surface Water Management**
- **Dust, Noise and Light Control**
- **Rigorous Personnel Exposure Monitoring**
- **Equipment Decontamination**
- **Traffic Management**





Contracting Process



Special Instructions

- Contract Counterparty (SI19)
 - PWGSC manages RFP, AECL awards contract
- Bid security (SI20) – bids must complete Appendix 12
- Bidders must also complete the entire Bid and Acceptance Form and Combined Price Form (Appendix 1)
- Security requirements at bid closing (SC01) – DOS & Reliability Status
- Closing date is December 18th, 2014 – No public opening



Additional Requirements

- Insurance requirements (SC02)
 - The Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in Appendix 9.
- Contract security – Letter of credit 20% of contract amount

40



Method of Selection

- Bids must satisfy all mandatory Technical Criteria
- Bids must obtain a min. of 70% overall in the Point Rated Technical Criteria and a min of 50% for each Criterion.
- The lowest priced bid that satisfies both of the above requirements shall be recommended for contract award.

41



Mandatory Technical Evaluation Criteria

- Appendix 5, Section 4
 1. Occupational Health and Safety Policy Statement
 2. Environmental Policy Statement
 3. Quality Management System
 4. Laboratory Certification



Point Rated Technical Evaluation Criteria

- Appendix 5, Section 5
- 785 points – 70% minimum overall (pass mark of 549.5)
- Must obtain at least 50% in each section:
 - ***5.1 Achievements of the Bidder as a Prime Contractor (70 points)***
 - ***5.2 Achievements of Three Proposed Major Subcontractors (45 points)***
 - ***5.3 Achievements of Proposed Key Personnel (125 points)***
 - ***5.4 Achievements of Proposed Backup Key Personnel (70 points)***
 - ***5.5 Understanding of the Project and Scope of Work (250 points)***
 - ***5.6 Methodology (225 points)***

43



Reminder

- Next site visit and information session will be on November 19th, 2014
- Please send questions to:

Lauren Woodhall

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Telephone: 416-512-5873

