Rock Bay Remediation Project
Stage 3 Update – May 20, 2015

Presentation to: Bettering Environmental Stewardship & Technology, Whistler, BC

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Outline of Presentation

• Background and Site History
• Remedial Objectives
• Construction Plan
• Work Underway or Completed
• Work to be Completed
Site Location

• Location:
  – Victoria Harbour
  – 1.7 km to BC Legislature
  – 1.1 km to Downtown Victoria
  – Commercial / Industrial Area

• Transport Canada land (red)
  – Uplands (1.7 ha)
  – Harbour Floor (2.0 ha)
Gas Plant Site

- 1862 – 1953: coal gasification plant in operation
  - Provided gas for street lighting and heating
- Afterwards, light industrial and commercial operations; last used as a school bus parking lot.
Infilling of Rock Bay

- “One Rock Bay”
- 1924 Six Harbours Agreement
  - Established boundary of federal/provincial property in Victoria Harbour
Transport Canada Fill Sites

North area
- Late 1800s - tannery
- Early 1900s - sawmills
- Early 1960s - sawmill closed
- 1973 - concrete plant opened

West area
- Early 1900s to 1948 - sawmill at Barclay Pt.
- 1949 - propane tanks
- 1992 - propane tanks removed
Soil Contamination

- **Soil:**
  - PAHs > CSR CL and Hazardous Waste (HW)
  - Metals and hydrocarbons > CSR CL.
Soil Contamination

South uplands
(Stage 1)

Rock Bay
(Stage 3)

North uplands

Sand seam

Weathered Victoria Clay

Victoria Clay
Regulatory Involvement

• 1996 – Transport Canada and BC Hydro notified of a potential order to remediate contamination identified on site.

• 2003 Revised Recommended Remedial Strategy approved by BC MOE, DFO and Environment Canada
  – Uplands: remove soil > CL
  – Marine: remove sediment > hazardous waste
Stage 1 and 2 Remedial Work

- Stage 1: Aug 2004 – Sept 2005
- Barclay Point: Sept/Oct 2009

- Mass of soil removed:
  - HW: 50,300 t
  - W: 74,100 t
  - CL: 78,500 t
Stage 1

Stage 2

Stage 3
Barclay Point
Rock Bay Stage 3 Requirements

• Transport Canada required that:
  – All excavation to be conducted in the dry; eliminate risk of mobilization and residual contamination
  – Excavation of contaminated soils up to upland property lines.
  – Excavation of the sand seam within the clay along the south property line
  – Treatment and/or destruction of waste and hazardous waste material
  – Backfilling and shoreline restoration
Roles and Responsibilities

• Transport Canada
  – Custodial department

• PWGSC
  – Project management and contracting authority

• Quantum Murray LP
  – Prime contractor

• Anchor QEA
  – Construction monitoring

• Hemmera
  – Environmental monitoring
  – Confirmation sampling
  – Neighborhood Air Quality Monitoring Program

• Golder Associates
  – Quality assurance
  – Construction risk assessment
  – Budget estimation and schedule assessment
Rock Bay Stage 3 Construction Plan

- Site preparation
- Cofferdam to seal off the bay
- Bypasses for the 626 and 627 storm sewers
- Shoring along upland property lines
- Draining of the bay
- Excavation and transport of an estimated 90,000 tonnes of material
- Treatment and disposal of contaminated soils
- Backfilling and shoreline restoration
Site Preparation and Shoring

- Jun 2014 – mobilization
- Jun to Jul 2014
  - site facilities
  - paving of stockpile storage area
  - water treatment plant
- Jul 2014 – shoring contractor mobilized to site.
Cofferdam Construction

- Aug to Nov 2014 – main cofferdam construction
- Nov 2014 to Feb 2015 – northern cut-off wall
Shoring along South Property Line

- Aug to Dec 2014 – shoring along south property line
- Sept 2014 to Feb 2015 – 626 storm sewer bypass construction
- Dec 2014 - excavation and backfilling in SCD1
Closing off of the Bay

- Feb 2015 – closing off of the bay and draining
- Feb to Mar 2015 – 627 sewer bypass construction
Bulk Excavation

- Mar 2015 – installation of shoring along east property line
- bulk excavation begins

Coal tar seeping out of a gooey duck hole
Bulk Excavation
Work to be Completed

2015
- Excavation along east property line
- Excavation along south property line for sand seam
- Bulk excavation and north area; backfilling
- Shoreline restoration; restore 626 and 627 storm sewer outfalls; re-flood the bay.
- Removal of main cofferdam and perimeter shoring
- Demobilization; treatment and disposal of contaminated soil and sediment

2016
- Post remediation monitoring and documentation for uplands
- Finalize sale of the Rock Bay uplands to the Songhees and Esquimalt Nations upon confirmation of remediation.