

Appendix O

Remedial Action Plan Presentation



Boat Harbour Remedial Action Plan

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Agenda

1. Goals and Remedial Option Development
2. Remedial Components



The Goal of the Project is develop a remedial solution to return Boat Harbour to tidal conditions and reconnect the community to A'se'k

Project Goals



The remedial solution must be:

- Founded on proven technologies
- Protective of human health and the environment
- Meet established timelines and milestones
- Provide the best value to the Province



Remedial Options Decision Process

Approach:

- Design Requirements (✓)
- Evaluation Criteria & Weighting Matrix (✓)
- Develop and Evaluate Remedial Options (✓)
- Bench Scale Testing (✓)
- Identify Qualified Remedial Options (✓)
- Pilot Scale Testing (80% ✓)
- Remedial Action Plan (80% ✓)

Collaborative |

**Workshops, BHEAC, BHCC,
Consultation with Regulators**

Open, Transparent, Traceable |

Detailed and Accepted

Documentation



Remedial Action Plan

Key Components:

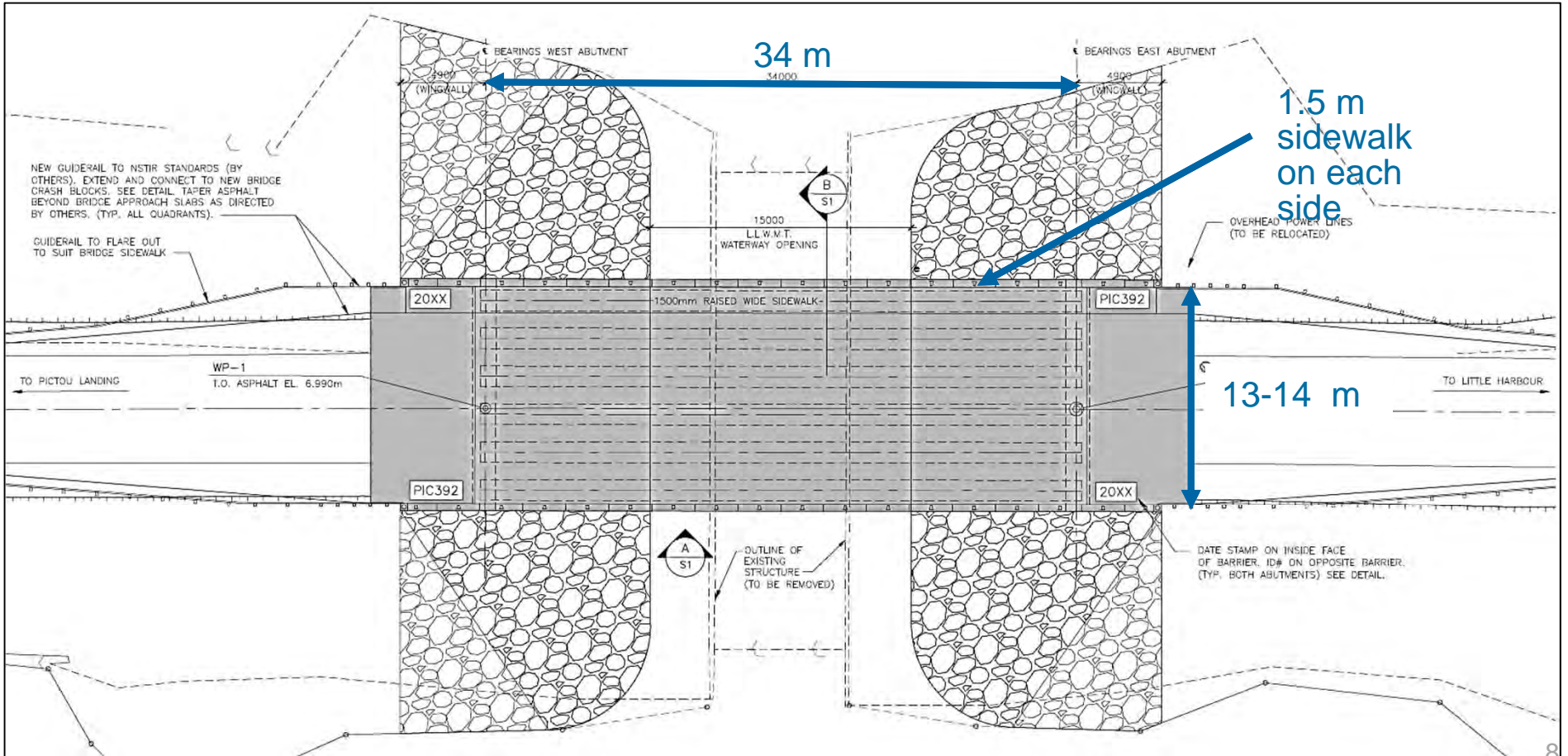
- Bridge (to replace causeway)
- Infrastructure Decommissioning
- Wetland Restoration
- Remediation Methodology and Approach (Sediment Management)
- Waste Management
- Other key considerations:
 - Return to tidal
 - End Use
 - Provision of Benefits



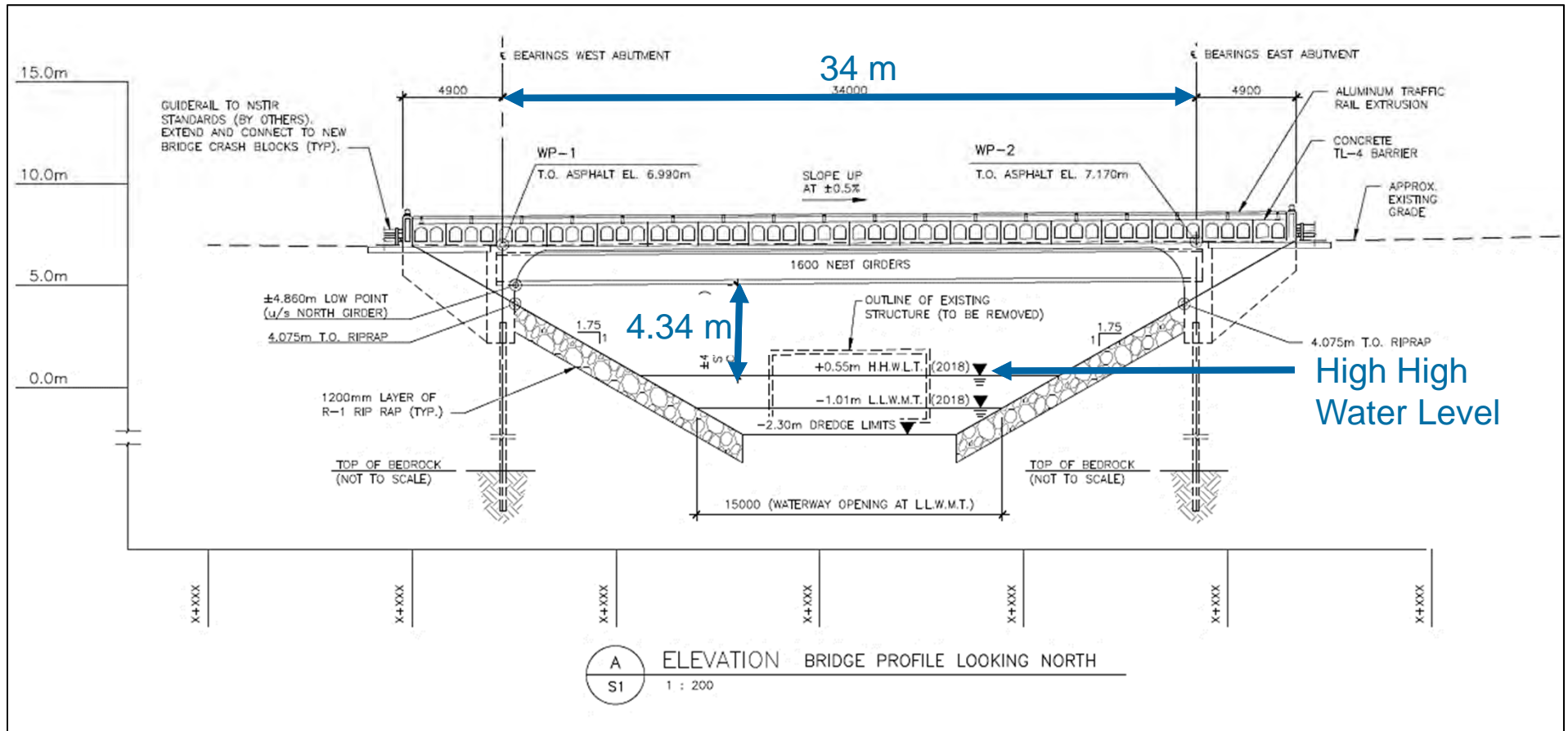
Bridge | Concrete Girder Bridge



Bridge Plan | FC1 & FC2



Bridge Cross Section



Infrastructure Decommissioning

- Pipeline (on land/in water)
- Treatment Buildings
- Dam

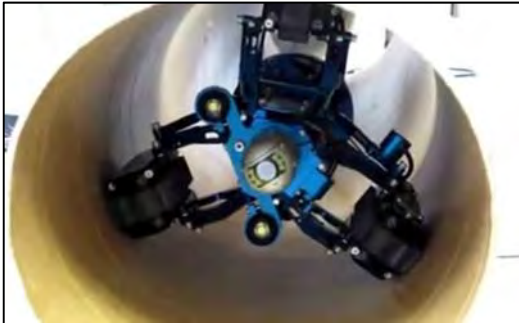


Pipeline

Abandon

Clean, inspect and abandon

Cut and cap at manholes (+/- every 300 m)



Fill | Beneath Hwy 348

Clean, inspect, fill and abandon



Remove | Indian Cross Point?

Clean and remove

With archeological monitoring



Treatment Buildings

Decommission and Demolish; Remove footings 0.9m below ground

- Press Building (*Potential to repurpose, ongoing discussions with PLFN*)
- Mobile Building Adjacent to Press Building
- Storage Shed
- Air Monitoring Shelter
- Electrical Building
- Mobile Building belonging to CTS Electrical
- Silo
- Electrical Building for Silo
- Point A Building
- Point C Buildings



Dam

Decommission and demolish; Remove abutments back to natural shoreline to minimizing water velocity under tidal conditions



Wetland Management

Natural Attenuation | Freshwater Wetlands (Former Ponds 1, 2, 3 and Estuary)



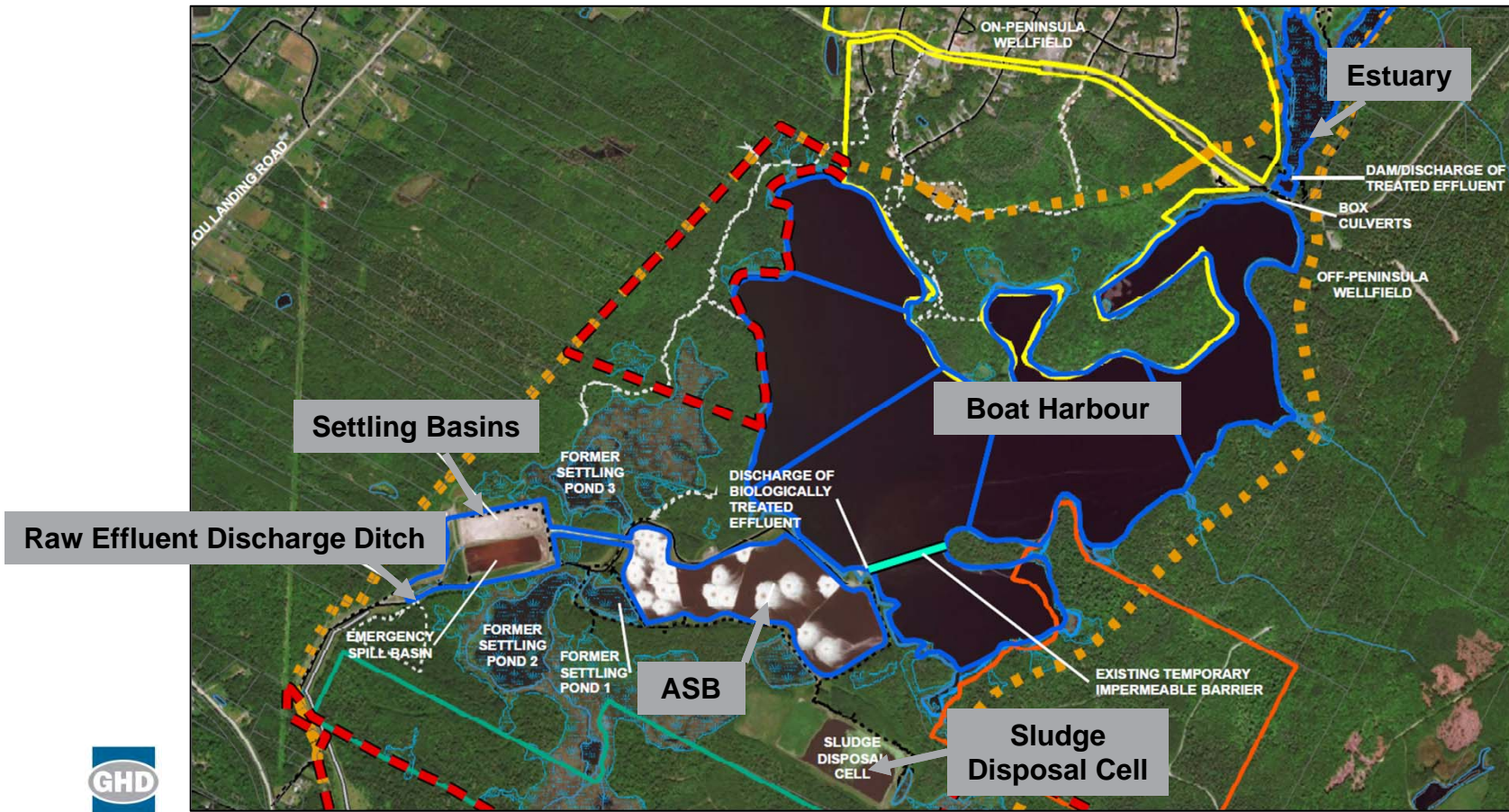
- Natural Attenuation Processes
- Ecological Risk Assessment
- Human Health Risk Assessment
- Wetland Area Functions and Values
- Risk Management/Active Remediation – *Cap and or remove in portions of freshwater wetlands*

Wetland Management | Active Remediation for Former Ponds 1, 2, and 3

- Dewater, excavate impacted sediment, and restore including planting or seeding of native aquatic and terrestrial through use of vegetation



Sediment Management



Sediment Management | Background

Area	In-Place Volume (m3)	Dewatering	Stabilization
		Final Disposal Volume (m3)	Final Disposal Volume (m3)
Raw Effluent Discharge Ditches	1,000	500	1,100
Twin Settling Basins	25,000	12,500	26,800
Aeration Stabilization Basin	129,000	58,100	138,100
Boat Harbour Stabilization Lagoon	577,000	173,100	617,400
Existing Disposal Cell	180,000	116,000	116,000
Estuary	49,000	25,500	52,500
Wetland Areas	263,000	132,000	281,500
Total	1,244,000	517,700	1,233,400



Sediment Management | Removal

Removal in the Wet



Removal in the Dry



Sediment Management | Geotube Dewatering



Waste Management | Background

Remediation will generate the following waste streams:

- Sludge waste
- Construction and Demolition (C&D)
- Industrial waste

Waste Type	In Place Volume (m ³)	Final Disposal Volume (m ³)
Sludge/Sediment	1,224,000	517,700
C&D Debris	N/A	1,100



Quantities to be verified through pilot scale testing and sludge thickness and sludge/sediment interface mapping



Waste Management

On-site Disposal in Existing Containment Cell



Waste Management

Existing Containment Cell – Vertical Expansion, Base Modification, Waste Placement, Closure

- Increase height of perimeter berms
- Modify base liner and leachate collection systems
 - New HDPE liner over existing clay liner
 - New HDPE leachate collection piping and drainage stone
 - Sequence modification to accommodate existing waste in place
- Geotubes placed in containment cell prior to filling
- Placement of final cover with passive landfill gas vents
- Surface water ditches and ponds





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