Environmental Management Planning - Esquimalt Harbour Remediation Project

Protecting the Present While Cleaning-up the Past
Introduction

- Esquimalt Harbour Remediation Project
  - Site environmental setting
  - Environmental objectives
- Regulatory Context
- Environmental Assessment
- Environmental Management Planning
- Objectives protective & practical
- Performance Measurement
Esquimalt Harbour

- Located just west of Victoria BC
- Long history of naval and industrial activity, dating back to the mid-1800s
- Home of Canadian Forces Base Esquimalt (CFB Esquimalt)
- Six sites for remedial dredging based on concentrations above CCME
- Active harbour with ongoing naval activities
- No fin fish or shell fish harvesting is allowed within the harbour
Remediation works

- Dredging (intertidal and subtidal)
- Dewatering of dredgeate
- Capping
- Structural works (e.g., pilings removal/replacement, temporary works)
- Transport of materials
- Disposal
Environmental Assessment

- Water Quality
  - Suspension of sediments
  - Associated contaminants
- Noise
  - Ambient
  - Underwater noise
- Species at Risk
- Disturbance of marine habitat
- Mitigation
  - Habitat offset
  - Construction monitoring
Why is environmental management and monitoring important?

- Due diligence to confirm that the works are not resulting in harmful environmental impacts
- To confirm that protection measures are sufficient
- To identify when activities need to be modified or temporarily stopped
- To provide data for reporting to regulatory agencies
Tools for Environmental Management

- What needs to be protected
- Protection goals
- Tools to verify protection goals are met
- How protection goals will be met
Environmental Management Plan

- Plan to manage potential environmental risks identified by the EA
- Document the requirements for environmental management
  - Communication to Contractor (s)
  - Roles and responsibilities
- Support project review by regulatory agencies
- Establish performance monitoring objectives
- Decision framework for active and adaptive management
Environmental Management Plan

- Mitigation and Monitoring
  - Practical to implement
  - Real-time information for proactive management
  - Decision framework
- Developed prior to contracting
- Clearly outline expectations and requirements
- Allows contractor to develop and effective EPP
- Avoid delays to project schedule
- Predict and manage costs

April 29, 2014
Environmental Management & Monitoring

- Water Quality
  - Suspended sediments
  - TSS/NTU Relationship
  - Dredge elutriate testing
  - Water Quality Guidelines
  - Establishing performance monitoring objectives
  - Monitoring locations
  - Real-time monitoring
  - Laboratory analysis – validation

April 29, 2014
Environmental Management & Monitoring

- Marine work windows
  - Project schedule
  - Sequencing of work activities
  - Additional mitigation and monitoring

April 29, 2014
Environmental Management & Monitoring

- Marine mammal monitoring
- Fish aggregations/spawning
- Noise
  - Ambient and underwater
  - Mitigation measures
  - Monitoring
- Habitat Offsetting
  - Regulatory context
  - Habitat balance
  - Habitat banking
Summary

- Detailed Environmental Management Planning is important
  - Protect the environment
  - Understand how project environmental risks can be managed
  - Document requirements and performance monitoring objectives
    - Communication with stakeholders and reviewing agencies
    - Communication with Contractor(s) performing works
  - Practical, real-time, adaptive
  - Understand potential schedule and cost implications
Questions?