



# Central Waterfront Cleanup Site

## Draft Cleanup Action Plan



Public Meeting

September 18, 2019



# Meeting Purpose & Agenda

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- **Introductions, Meeting Purpose & Public Participation Overview**  
*Ian Fawley - Ecology*
- **Ecology Role, MTCRA Process & Requirements**  
*John Guenther - Ecology*
- **Site History & Sub-Areas**  
*Ben Howard - Port of Bellingham*
- **Contaminant Exposure Pathways & Current Conditions**  
*Sylvian Rodriguez, Julia Fitts – Anchor QEA*
- **Previous & Future Site Cleanup Work**  
*John Guenther - Ecology*
- **Closing & Next Steps**  
*John Guenther, Ian Fawley - Ecology*
- **Questions & Answers**



# Meeting Purpose

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- To present information on the Draft Cleanup Action Plan for the Central Waterfront Cleanup Site
  - Describe State Cleanup Process
  - Describe the site history and exposure pathways
  - Describe current conditions
  - Discuss previous cleanup work and the proposed cleanup action
  - Outline the legal agreement between Ecology and the Port of Bellingham/City of Bellingham
- Opportunity for public to ask questions, obtain additional information and provide input

# MTCA Process



## Washington's Formal Cleanup Process

### Discovery

- Report potential contamination to Ecology.



### Initial Investigation

- Determine if contamination requires further action.



### Site Hazard Assessment

- Evaluate potential risk to human health and the environment based on exposure potential and severity of hazard.



### Remedial Investigation

- Determine the nature and extent of contamination.
- Determine potential impacts to human health and the environment.



### Feasibility Study

- Identify methods to eliminate exposure to contamination on the site.
- Assemble methods into a range of cleanup alternatives.
- Use an environmental benefit vs. cost analysis to choose a preferred alternative.



### Cleanup Action Plan

- Describe Ecology's selected cleanup action, including:
  - Cleanup standards to protect human health and the environment.
  - Schedule of next steps.
  - Requirements for monitoring, operation, and maintenance.



### Engineering Design

- Create detailed design and construction documents for the cleanup action.



### Clean up the site!

- Complete the cleanup action. Examples of cleanup actions include:
  - Constructing a protective multi-layered capping system.
  - Treating contamination in place.
  - Removing contamination to a hazardous waste landfill.



### Monitoring and Site Use Controls

- Monitor and do on-going operations/maintenance.
- Restrict/prohibit activities that could disturb the cleanup.

### Reviews and De-listing

- Hold 5-year periodic reviews to ensure cleanup meets standards.
- Remove site from Hazardous Sites List after it meets all cleanup standards and requirements.

### Legal Agreements

- Define cleanup steps required after a Site Hazard Assessment.



### Interim Actions

- partially address contamination & may occur any time.



### Comment

### Public Participation

- Encourage community feedback throughout cleanup process.
- Hold public comment periods at key times.



## Second 30-Day Comment Period (Sept 16 – Oct 15, 2019)



- Cleanup Action Plan
- Agreed Order Amendment
- State Environmental Policy Act – Determination of Non-Significance



### Washington's Cleanup Law

Model Toxics Control Act (MTCA)

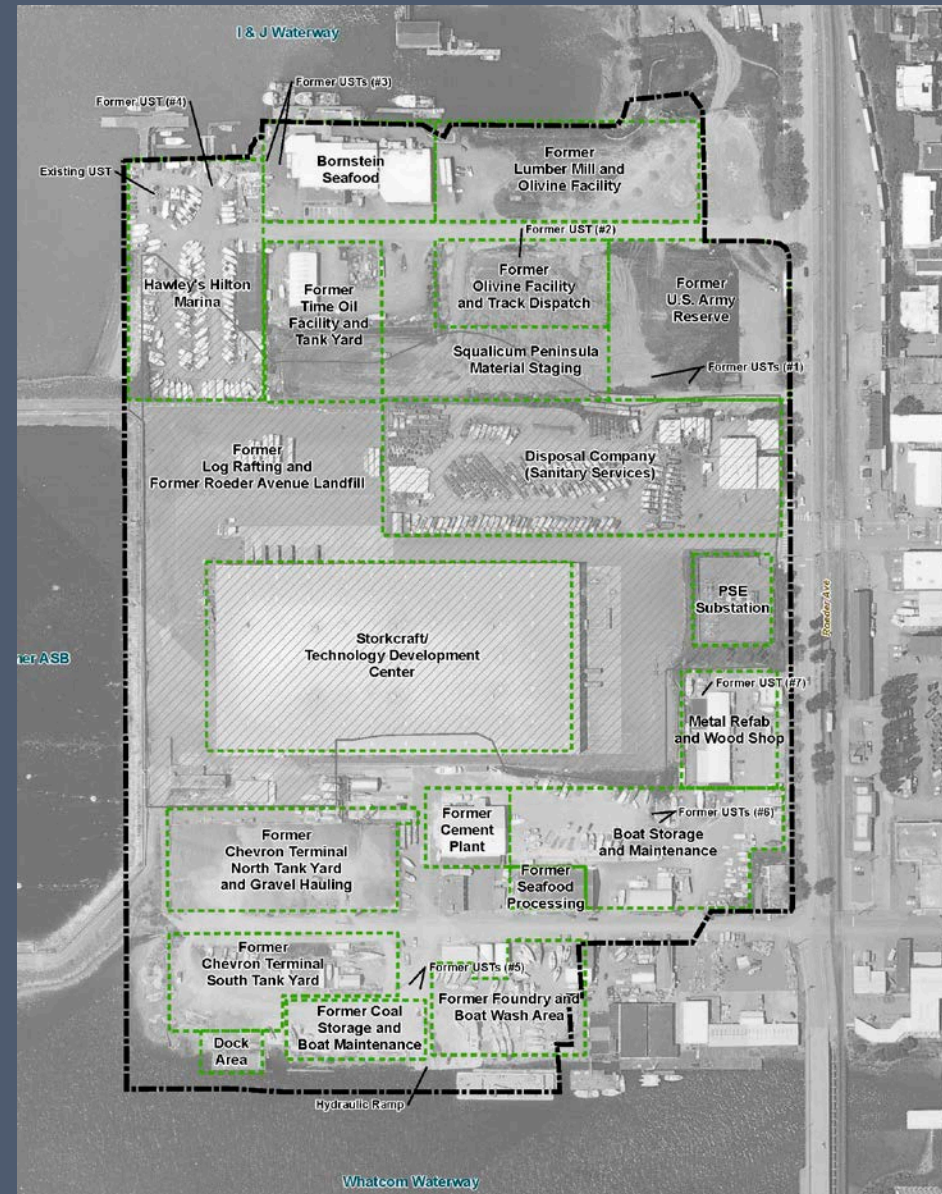
MTCA defines the cleanup process. This public-initiated environmental law directs upland cleanups (on land or in groundwater) and sediment cleanups (in freshwater or marine environments). Ecology enacts MTCA and regulates the cleanup process.

# Central Waterfront Site Location



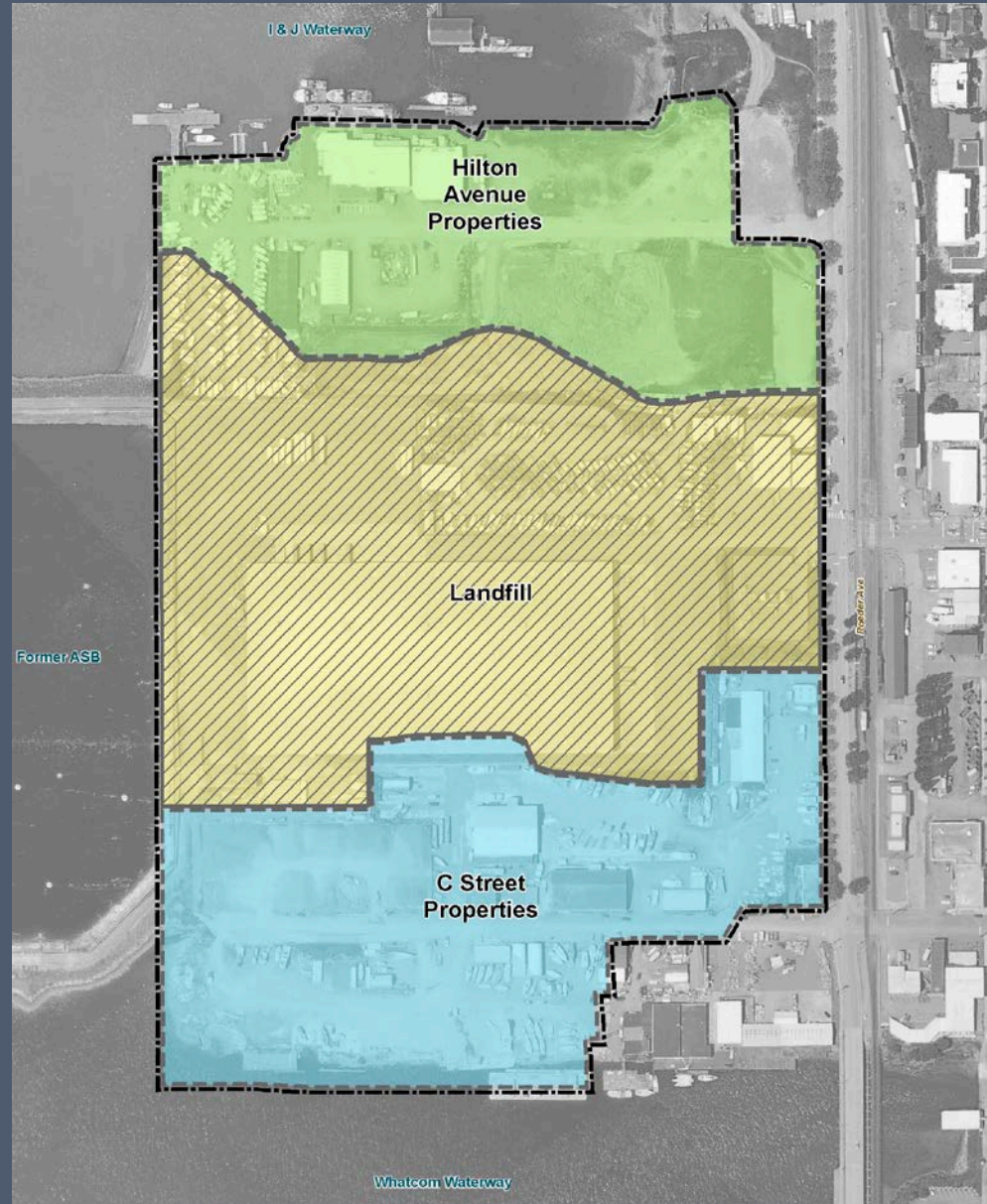
# Site History & Uses

- Municipal Landfill
- Lumber Mill
- Boat Maintenance/Storage
- Bulk Fuel Terminal
- Olivine Processing Plant
- Fueling Operations
- Foundry Operations
- Miscellaneous Industrial Uses

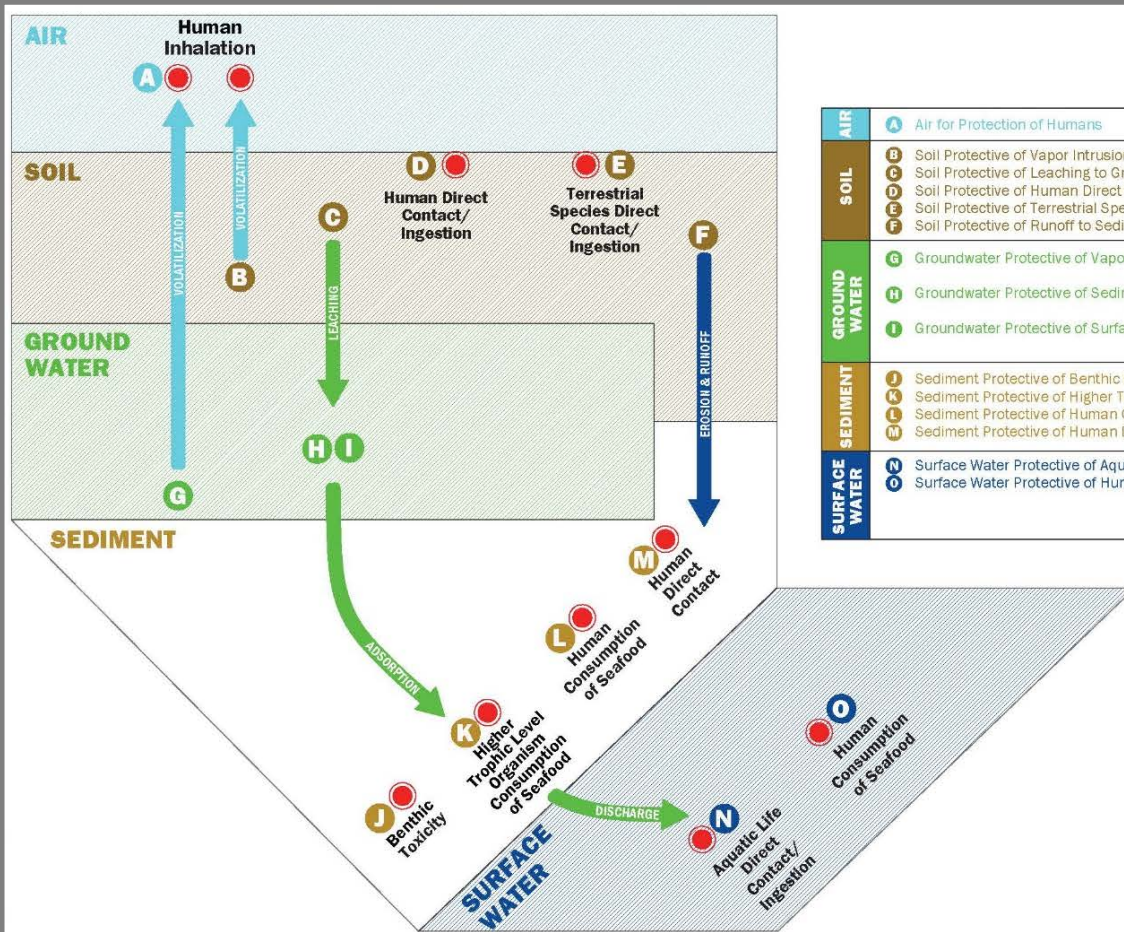


# “Sub-Areas”

- Hilton Ave Properties
- Landfill
- C Street Properties



# Exposure Pathways



<b>AIR</b>	<b>A</b> Air for Protection of Humans	Groundwater and soil screening levels protective of vapor intrusion
<b>SOIL</b>	<b>B</b> Soil Protective of Vapor Intrusion	Subarea-specific empirical soil vapor data Calculated soil screening levels protective of groundwater (Table 4-2a) Soil screening levels protective of direct contact from CLARC (Table 4-2a) Pathway incomplete at Site (refer to Section 3.4.1) Sub-Area specific
	<b>C</b> Soil Protective of Leaching to Groundwater	
	<b>D</b> Soil Protective of Human Direct Contact	
	<b>E</b> Soil Protective of Terrestrial Species	
<b>GROUND WATER</b>	<b>F</b> Soil Protective of Runoff to Sediments	Groundwater screening levels protective of vapor intrusion from Ecology (2009) (Table 4-1) & subarea-specific empirical soil vapor data Calculated groundwater (porewater) screening levels protective of sediment (Table 4-1) Groundwater screening levels protective of marine water from CLARC (Table 4-1)
	<b>G</b> Groundwater Protective of Vapor Intrusion	
<b>SEDIMENT</b>	<b>H</b> Groundwater Protective of Sediment	Site does not include sediment in adjacent Whatcom Waterway and I & J Waterway site. However, groundwater screening levels applied at Site protect against recontamination of Whatcom Waterway and I & J Waterway sediment (exposure pathway H), as described in Section 4.2.1.
	<b>I</b> Groundwater Protective of Surface Water	
<b>SURFACE WATER</b>	<b>J</b> Sediment Protective of Benthic Organisms	Site does not include surface water in adjacent Whatcom Waterway and I & J Waterway site. However, groundwater screening levels applied at Site are protective of Whatcom Waterway and I & J Waterway surface water (exposure pathway I), as described in Section 4.2.1.
	<b>K</b> Sediment Protective of Higher Trophic Level Organisms	
	<b>L</b> Sediment Protective of Human Consumption of Seafood	
	<b>M</b> Sediment Protective of Human Direct Contact	
<b>SURFACE WATER</b>	<b>N</b> Surface Water Protective of Aquatic Life	Site does not include surface water in adjacent Whatcom Waterway and I & J Waterway site. However, groundwater screening levels applied at Site are protective of Whatcom Waterway and I & J Waterway surface water (exposure pathway I), as described in Section 4.2.1.
	<b>O</b> Surface Water Protective of Human Consumption of Seafood	

- LEGEND:**
- LEACHING → Contaminant Transport Pathway
  - Point of Exposure
  - Ⓜ Exposure Pathway / Screening Level



# Hilton Ave Properties - Conditions

- Soil impacts from industrial activities

- Petroleum

- Volatile Organic Compounds (VOCs)

- Metals

- Polycyclic Aromatic Hydrocarbons (PAHs)



# Landfill - Conditions

## Refuse and groundwater impacts from landfill

- Refuse
- Landfill Gas
- Volatile Organic Compounds (VOCs)
- Metals
- Polycyclic Aromatic Hydrocarbons (PAHs)



# C Street Properties - Conditions

- Soil and groundwater impacts from bulk fueling and boat yard activities

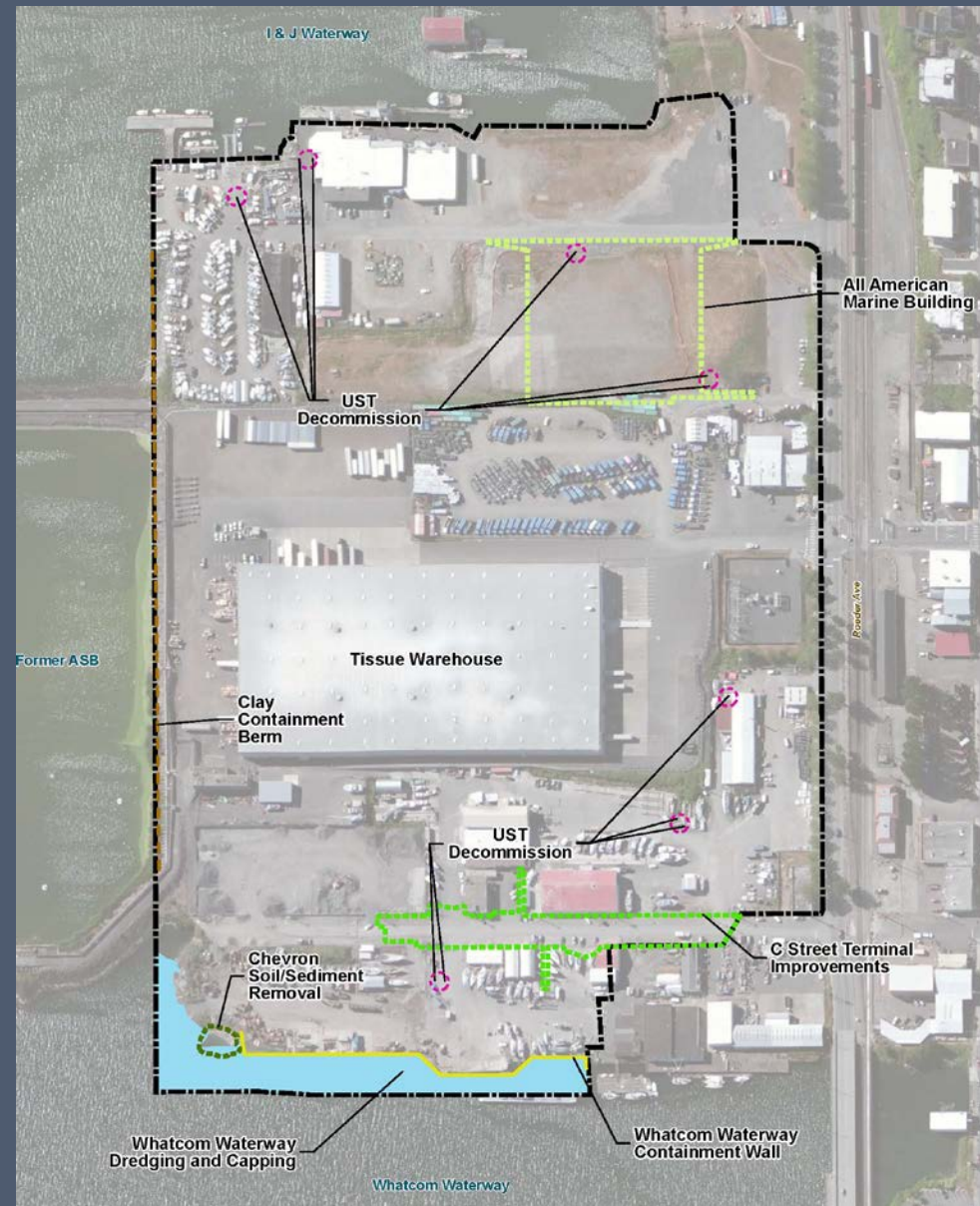
- Petroleum
- Metals
- Polycyclic Aromatic Hydrocarbons (PAHs)

- Shoreline work completed as part of Whatcom Waterway Cleanup



# Elements of the Cleanup

- Clay Berm/ASB Construction
- UST Decommission
- Tissue Warehouse (capping)
- Whatcom Waterway Containment Wall, Dredging and Capping
- Chevron Independent and Interim Actions
- C Street Terminal Interim Action
- All American Marine Interim Action



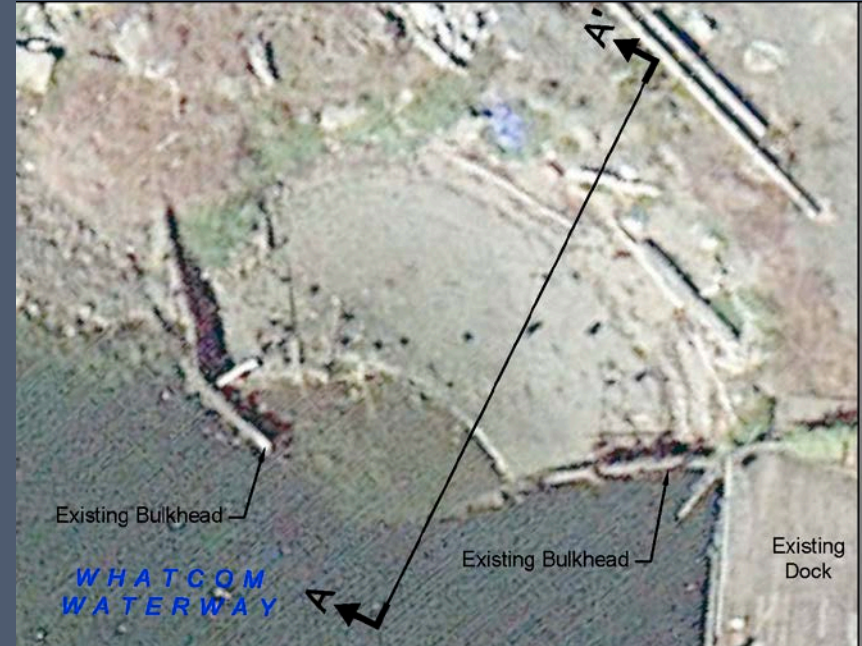
# Previous Cleanup Work

- Whatcom Waterway Containment Wall, Dredging and Capping



# Previous Cleanup Work

- Chevron Independent and Interim Actions



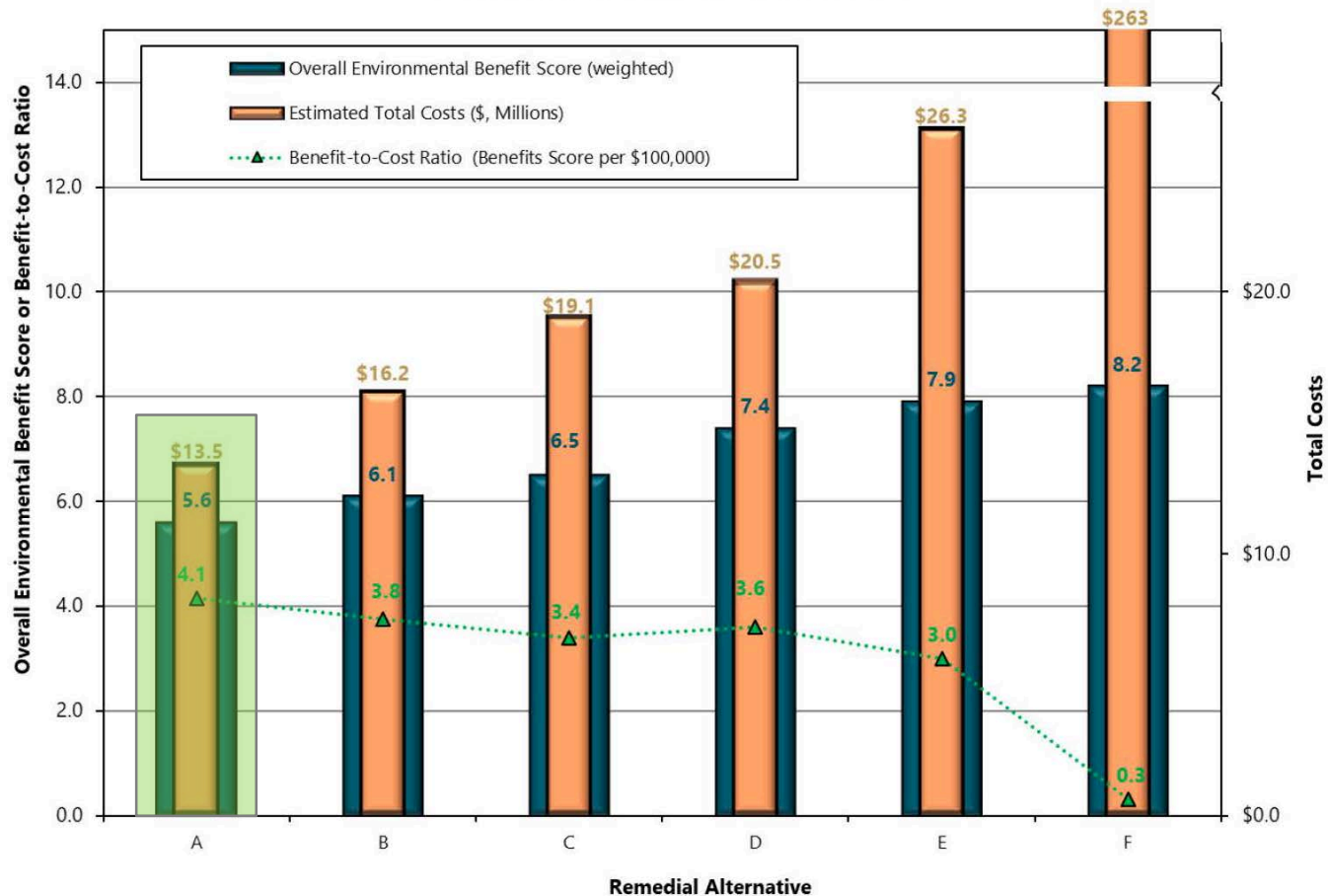


# MTCA Cleanup Requirements

- Remedial Action Objectives
- Cleanup Standards
  - Chemical- and media-specific
  - Protective of human health and the environment
- Points of Compliance
  - Location where cleanup level must be attained
- Applicable, Relevant, and Appropriate Requirements
  - Local, state, and federal laws

# Disproportionate Cost Analysis

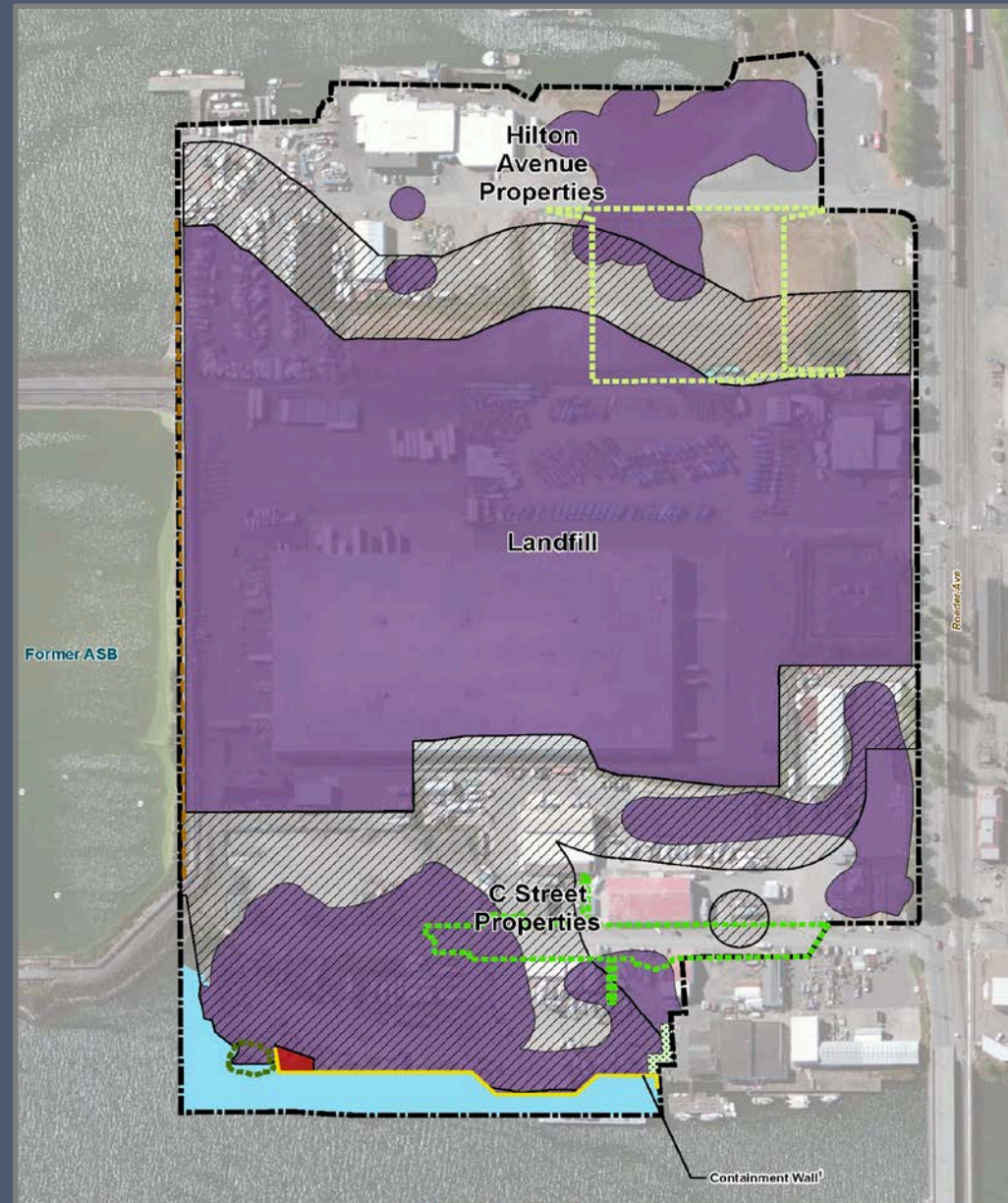
Figure 5-2  
Relationship Between Benefits and Costs





# Preferred Cleanup Action

- Soil / Refuse Cap
- Hotspot Soil Removal
- Landfill Gas Controls
- Monitored Natural Attenuation
- Contingent Groundwater Treatment





# Next Steps

- Draft Cleanup Action Plan Public Comment Period
  - 30-day public comment ends **October 15<sup>th</sup>**
  - Ecology response to comments
  - Ecology Finalize Cleanup Action Plan based on comments received
- Cleanup Design & Permitting, 2019-2020
- Cleanup Construction, 2021
- Long Term Monitoring, 2021 and beyond

# Ecology Wants Your Comments

- Document Availability

Ecology's Web Site:

[bit.ly/CentralWaterfront](http://bit.ly/CentralWaterfront)

Document Repositories

- Bellingham Library - Main Branch
- Ecology's Bellingham Field Office – 913 Squalicum Way
- Ecology's Northwest Regional Office – Bellevue

- Submit Comments by **October 15, 2019**

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# Questions?

