

CHAPTER THREE

ENVIRONMENTAL CONSIDERATIONS

3.0 Environmental Considerations

Most of the Waterfront District is built on tidelands, which have been dredged and filled to support over 100 years of heavy industrial waterfront activity. Portions of the site are affected by soil, groundwater and/or sediment contamination caused by historic releases of hazardous substances. Bringing this environmentally compromised land back into functioning and productive use is essential to meet the community vision for the central waterfront. Clean up of contaminated properties is regulated by the Washington State Model Toxics Control Act (MTCA). MTCA is a citizen-mandated law enacted through a voter's initiative and is the state counterpart to the federal Superfund law. Ecology is the lead agency responsible for the implementation and enforcement of MTCA. The mission of Ecology is to protect, preserve, and enhance Washington's environment, and promote the wise management of air, land and water for the benefit of current and future generations.

There are six state-listed cleanup sites within the Waterfront District. The MTCA cleanup process includes multiple steps from the initial discovery of contamination, to long-term monitoring to ensure the effectiveness of the cleanup action, to deed restrictions that ensure the long-term integrity of the cleanup action. The Department of Ecology, the Port and the City are working cooperatively to effectively and efficiently integrate site cleanup, habitat restoration, and redevelopment activities. Ecology's cleanup requirements will vary from site to site and will depend on a number of considerations including the nature and extent of contamination and the intended uses of the property.



Ecology must select the most appropriate cleanup action for current and reasonable foreseeable uses of the property. Cleanup methods may include treating, removing, or isolating contaminants in order to reduce exposure to humans and the environment. For each site, Ecology will evaluate a range of cleanup options that meet cleanup requirements given the current and planned uses of the property.

Environmental cleanup can be effectively and efficiently performed in conjunction with redevelopment activities. For example, if an environmental cleanup requires isolation of contaminated soil to reduce exposure, that isolation could be achieved through paving or buildings. The former GP tissue warehouse, located on the north side of the Whatcom Waterway, is an example of the integration of environmental cleanup and redevelopment. This warehouse was built in 1999 on top of a former municipal landfill and a state-listed cleanup site. The warehouse floor and surrounding parking lot were designed to function as an environmental cap which isolates contaminants in the underlying landfill from humans and the environment. The warehouse foundation includes a vapor control system which releases gases generated as the landfill decomposes over time.

Environmental cleanup requirements established by Ecology under state law will be adhered to throughout the redevelopment of contaminated properties within the Waterfront District.

Figure 3-1: State Listed Cleanup Sites



These sites are being actively managed to coordinate cleanup plans with habitat restoration and redevelopment to attain a safe and healthy waterfront.

There are six state-listed cleanup sites within the Waterfront District. These sites include contaminants at levels exceeding state standards in the soil, surface water, ground water and sediments caused by historic industrial activities. The upland sites were originally tide flats and sub-tidal areas in Bellingham Bay that were filled in, beginning in the mid 1800's, to support industrial activities.

Site	Description
Cornwall Avenue Landfill	This site was used to support a variety of industrial activities from the late 1800's to 2004 including sawmill operations, a garbage dump, and pulp and paper mill product storage. The site is primarily contaminated with heavy metals, petroleum compounds, and solid waste caused by use of this property from 1953-1965 as a municipal landfill. The Port acquired this property in 2005 and transferred it to the City in 2012. The Port is currently managing the development of cleanup options, under Ecology oversight, which protect human health and the environment based upon a large waterfront park and mixed-use redevelopment along the bluff.
R.G. Haley	This site was used for a variety of industrial activities from the mid 1800's to late 1900's including lumber, coal and wharf operations. The site is primarily contaminated with petroleum compounds caused by wood treatment operations performed by R.G. Haley and other companies from 1951 to 1986. The City acquired this property in 2010 and is developing cleanup options, under Ecology oversight, which protect human health and the environment based upon mixed-use redevelopment.
Georgia Pacific West	This site was used to manufacture paper products from 1925-2007. The site is primarily contaminated with petroleum compounds, mercury, metals, and caustic caused by pulp, paper and chemical manufacturing operations performed by GP from 1963-1999. The Port acquired this property in 2005 and is developing cleanup options for the Chlor-Alkali Remedial Action Unit (RAU), under Ecology oversight, which protect human health and the environment based upon a combination of industrial and mixed-use redevelopment. The Port completed the cleanup of the Pulp/Tissue Mill RAU in 2016. Property redevelopment activities must maintain the integrity of the cleanup action by complying with the institutional controls in place for the site.
Whatcom Waterway	This site, located within the waters of Bellingham Bay including the Aerated Stabilization Basin, is primarily impacted by mercury contamination discharged from GP's former chemical plant from 1965-1979. The Port is implementing Ecology's selected cleanup action which protects human health and the environment based upon habitat restoration, a new marina, visitor moorage, marine trades and public access along the shoreline.
Central Waterfront	This site was used to support a variety of industrial activities from the early 1900's to the present, including a municipal and wood waste landfill, boat yards, foundry activity, petroleum storage, and pulp and paper mill product storage. The site is primarily contaminated with heavy metals, petroleum compounds, and solid waste caused by a range of historic industrial activities. The Port and City acquired most of the privately-owned portions of this site in 2005 and 2006 and are developing cleanup option plans under Ecology oversight which protect human health and the environment based upon industrial mixed-use redevelopment.
I&J Waterway	This site, located within the waters of Bellingham Bay, has been used since the early 1900's to support a variety of industrial activities including lumber mills, a rock crushing plant, frozen foods processing, and a seafood processing facility. The site is primarily contaminated with metals and phthalates caused by a range of historic industrial activities. The Port is developing cleanup options under Ecology oversight which protect human health and the environment based upon mixed-use redevelopment of the surrounding uplands and ongoing light industrial navigation requirements in the I&J Waterway.

Habitat Restoration

In 1999, Chinook salmon were listed as threatened under the Endangered Species Act in the waters throughout the Bellingham area. These fish, the largest of the Pacific salmon, once filled the surrounding waters and represented the natural heritage of the northwest coast. A combination of factors including over fishing, the destruction of habitat in the rivers and the ocean, and dams and other barriers, brought these massive fish to the brink of extinction. The decline of salmon is closely associated with the decline in the health of Bellingham Bay and Puget Sound. Over the past one hundred years, there has been a large recession in the population of species which inhabit the surrounding area including forage fish, bottom fish, orca whales, salmon and marine birds. The restoration of shoreline habitat is critical to a coordinated, ecosystem-wide restoration effort and figures prominently into redevelopment plans for the Waterfront District.



Bellingham's central waterfront was once surrounded by shallow mudflats and extensive eelgrass beds which offered a surplus of food and protection to juvenile salmon as they left nearby rivers and adjusted to salt water in preparation for a journey out to sea. This natural environment has been devastated by more than a century of unregulated heavy industrial activity on the waterfront. Historic industrial development expanded on top of traditional salmon spawning grounds and the shallow mudflats were filled to create new industrial land. Shorelines were hardened with bulkheads, docks, wharves and rip rap and, as young salmon lost their traditional habitat, they became increasingly vulnerable to predators.

Today, the shorelines throughout the Waterfront District include a legacy of failing bulkheads, old docks and over-water industrial structures. While these structures were important to the waterfront operations that supported the local economy for many years, some of the existing overwater structures are now recognized as impediments to the new community waterfront envisioned by the WFG. Removing failing and unused infrastructure will create opportunities to soften and reshape the shorelines to provide richer and more productive habitat for salmon at all tidal stages. Portions of the GP Wharf which are in usable condition will be retained into the future to support public access and water-dependent uses.

The Port and City, working in collaboration with the multi-agency task force, the Bellingham Bay Pilot, have identified the highest priority habitat restoration areas in Bellingham Bay. The Waterfront District will support Puget Sound recovery efforts by restoring several miles of urban shorelines, removing creosote pilings and unnecessary overwater structures, improving nearshore connectivity, and building more than four acres of new shallow habitat benches. Human activities and the natural environment will be balanced through design solutions which integrate shoreline habitat into mixed-use urban redevelopment. While salmon recovery and the customary return of Chinook will ultimately require all causes of decline to be

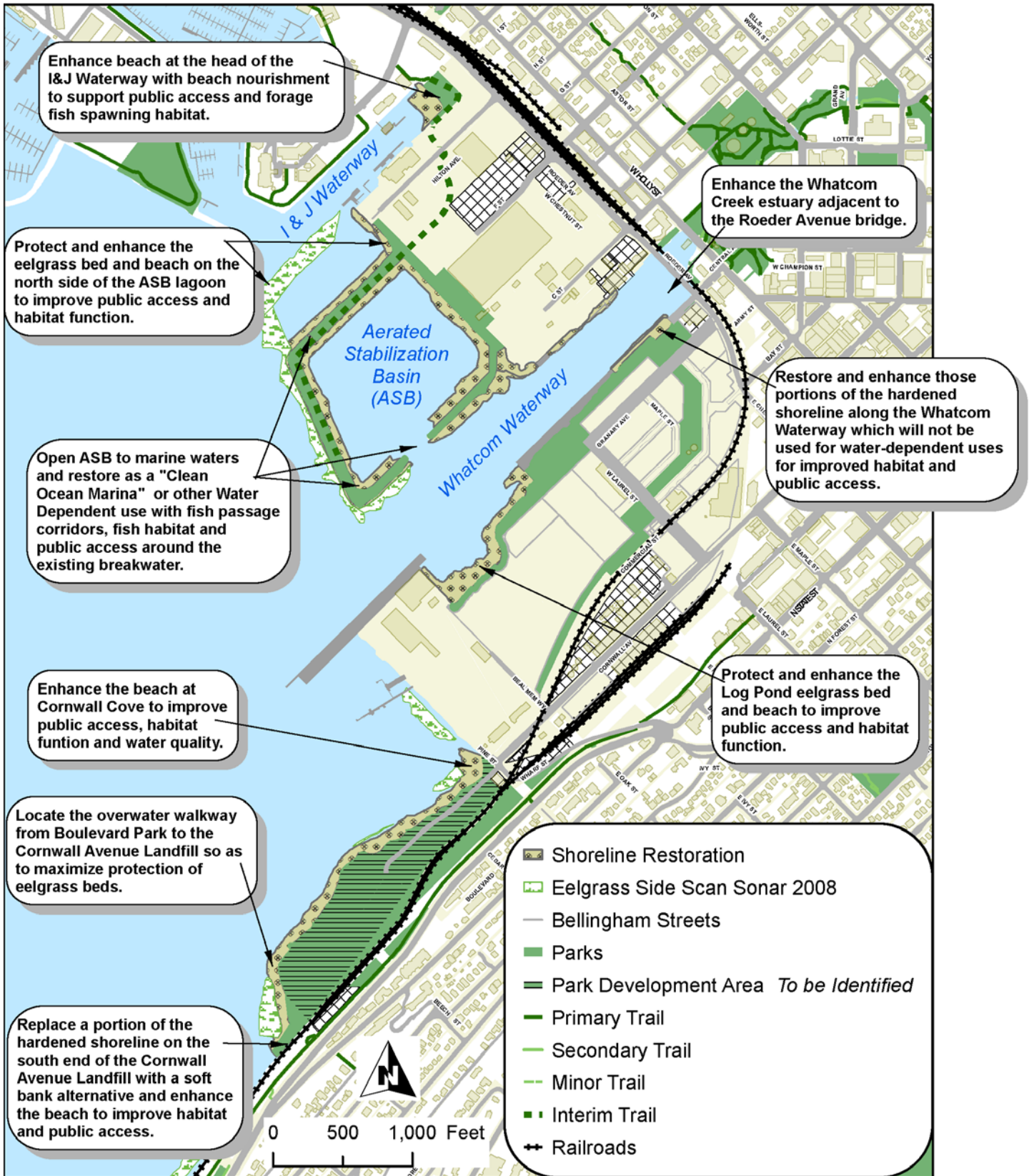
addressed, the Waterfront District redevelopment will restore critical nearshore salmon habitat and serve as a Puget Sound model for how urban development can be carefully balanced with intricate human-nature interactions.

The habitat restoration projects illustrated on Figure 3-2 will occur over time as environmental remediation projects are completed and upland areas are converted to mixed-use development. In 2016, the Port of Bellingham and Department of Ecology completed Phase 1 of the Whatcom Waterway cleanup, which resulted in the removal of 111,450 cubic yards of contaminated sediments and over 250 tons of creosote treated wood and vertical bulkheads from the Whatcom Waterway. The Port of Bellingham is currently reevaluating the proposed future use of the ASB lagoon and working with the Department of Ecology to determine the most appropriate cleanup for Phase 2 of this site.



Bulkheads, creosote pilings and concrete debris were removed from the Downtown Waterfront shoreline during the Phase 1 Whatcom Waterway cleanup to support public access and habitat restoration.

Figure 3-2: Habitat Restoration Opportunities



Shoreline Development

The Waterfront District includes approximately 3 miles of shoreline, which is regulated by the City's Shoreline Master Program. (SMP) The Washington State Department of Ecology approved the City's SMP in February of 2013.

The SMP includes the "Waterfront District" shoreline designation under which "Special Area Planning" was conducted as specified in WAC 173-26-201(3)(d)(ix). The stated purpose of the Waterfront District Shoreline Designation is:

"To plan for, protect and implement restoration of the shoreline ecological function, reserve areas for water- dependent and water-related uses, maximize public access to the shoreline and accommodate shoreline mixed uses and non-water-oriented uses where appropriate."

The SMP establishes Shoreline Management Policies for the Waterfront District, which were adapted from the WFG Guiding Principles for City Center and the Waterfront District Implementation Strategies. The Shoreline Policies and Implementation Strategies in the Waterfront District Sub-area Plan are consistent with and implement the Waterfront District Shoreline Management Policies in the SMP.

The SMP includes habitat protection and restoration management policies for the Waterfront District that incorporate and are integrated with the Bellingham Bay Demonstration Pilot Project Comprehensive Strategy analysis. The policies include:

- Coordinating with state, federal and local agencies including Lummi Nation and Nooksack Tribe to improve ecological function of the shoreline.
- Cooperative projects and funding for shoreline restoration, habitat enhancement, environmental remediation and public access should be identified.
- Pocket beaches within the Waterfront District should be reserved for preservation and restoration / enhancement as habitat and public access points.



Restored beach at Waypoint Park

The SMP also includes a Waterfront District Development Regulation Matrix with minimum and maximum shoreline setbacks, buffers and height regulations for each shoreline use area. A minor amendment to the SMP was adopted in 2017 to modify the shoreline designation for a portion of the Log Pond area.

Sea Level Rise

The Waterfront District infrastructure and development will be constructed to accommodate potential long-term sea level rise and tsunami conditions. Most of the site is currently located at an elevation of 5-7 feet above the Mean High Water Mark, which is 14 to 16 feet above sea level. Recent climate change studies have projected sea level to rise 15" to 50" over the next 100 years. Development in the Waterfront District shall be constructed in accordance with the best available science sea level rise information at the time the development occurs.

The site grade for parks, infrastructure and development pads will be raised to levels appropriate for the design lifetime of the projects. Marine-related industrial uses which need water access and buildings or facilities with a low initial cost or short life span may be located close to current sea level elevations and modified over time to adjust to rising sea level. Commercial, residential and institutional uses with a longer building life or more significant investment will be elevated at appropriate levels to reflect projected sea level rise. The Port has completed an environmental capping project that placed several feet of clean gravel on most of the Downtown Waterfront area in 2016, and the City of Bellingham is working on the construction of Granary Avenue and Laurel Street, which will be 16 to 21 feet above sea level.

Waterfront District Guiding Principles and Implementation Strategies

The WAG sponsored a public involvement process during 2005 and 2006, which led to City and Port adoption of “Guiding Principles and Implementation Strategies” in 2006. The following Implementation Strategies provide guidance related to Environmental Restoration, Habitat and Shorelines:

- Continue to work with State and Federal and local agencies, organizations, institutions, including the Lummi Nation and Nooksack Tribe to be good stewards of the environment. Identify opportunities for cooperative projects and joint funding for shoreline restoration, habitat enhancement, environmental remediation and public access improvements.
- Evaluate sites identified in the Waterfront Futures Group “Opportunities and Ideas for Habitat Restoration and Water Access on Urban Bellingham Bay” and other plans and studies for designation as public access and shoreline restoration sites in the New Whatcom* Master Plan and City of Bellingham Shoreline Master Program update.
- Designate the natural shoreline areas at the head of the I&J Waterway, the foot of Cornwall, and adjacent to the Log Pond for preservation and enhancement as habitat and public access points.
- Explore opportunities to rehabilitate and enhance hardened shoreline along the Whatcom Waterway, ASB lagoon and other shores for improved habitat and public access.
- Continue work with NOAA to develop a “Clean Ocean Marina” standard which incorporates environmental remediation, habitat enhancement, pollution prevention practices and public access, and apply these standards to the proposed New Whatcom* Marina.
- Make the majority of water’s edge accessible via non-motorized means of transportation, including pedestrian walkways, bicycle trails, motorized and non-motorized boat access, and transient moorage, connected to a network of parks, trails and transit connections. Restrict or control public access to areas used for water- dependent industry, sensitive habitat or government agency uses where public access would conflict with public health or safety, habitat protection or national security.

* Note: This planning area, originally called “New Whatcom” has been renamed the Waterfront District.

3.1 Environmental Considerations Policies

Environmental Cleanup

1. Work with Ecology to coordinate the selection of environmental cleanup strategies that are appropriate and compatible with anticipated land uses.

2. Integrate habitat restoration into Ecology required cleanup actions.
3. When implementing Ecology-required cleanup actions, incorporate sustainable strategies to minimize the net environmental footprint.
4. Identify areas within cleanup site boundaries which best support modified Low Impact Development solutions as part of future upland redevelopment.
5. Evaluate the beneficial reuse of dredge material that meets Ecology standards as fill material and as raw material for construction projects.
6. Clean-up levels will be developed pursuant to state law to be protective of land uses in the Waterfront District.



The Port has partnered with the Department of Ecology to clean up historic contamination and prepare the Waterfront District for redevelopment

Habitat

7. Where appropriate, replace hardened shorelines with natural beach alternatives in coordination with cleanup and redevelopment activities to enhance habitat, improve aesthetics, reduce long-term maintenance costs, and achieve the stabilization and safety of the shoreline.
8. Protect, restore, and enhance eelgrass habitat.
9. Protect, restore and enhance nearshore habitat connectivity.
10. Protect, restore, and enhance natural habitat forming processes such as stream hydrology, tidal hydrology, sediment supply, wave environment, long shore sediment transport, and the food web.
11. Create shallow water habitats by modifying elevations.
12. Remove creosote-contaminated logs, pilings and debris or replace with non-creosote alternatives.
13. Use Low Impact Development stormwater principles to improve wildlife habitat and enhance estuarine functions.
14. Restrict off-leash dog areas and boat anchoring from sensitive nearshore habitat areas.
15. Develop complex riparian vegetation along the shoreline in order to restore habitat. Where appropriate, include designated trails and areas of focused public access to the water.
16. Restoration and enhancement opportunities should be integrated with site clean-up plans to the extent allowed under project-specific regulatory permitting requirements and implemented as specified in the SMP's Restoration Plan, the Whatcom Resource Inventory Area 1's "Marine Nearshore and Estuarine Assessment and Restoration Prioritization" plan and the City's Habitat Master Restoration Plan.

Shorelines

17. The majority of water's edge should be accessible via non-motorized means of transportation, including pedestrian walkways, bicycle trails, motorized and non-motorized boat access, and transient moorage, connected to a network of parks, trails and transit connections.
18. Public shoreline access may be restricted in areas used for water-dependent industry, sensitive habitat or government agency uses where public access would conflict with public health or safety, habitat protection or national security.

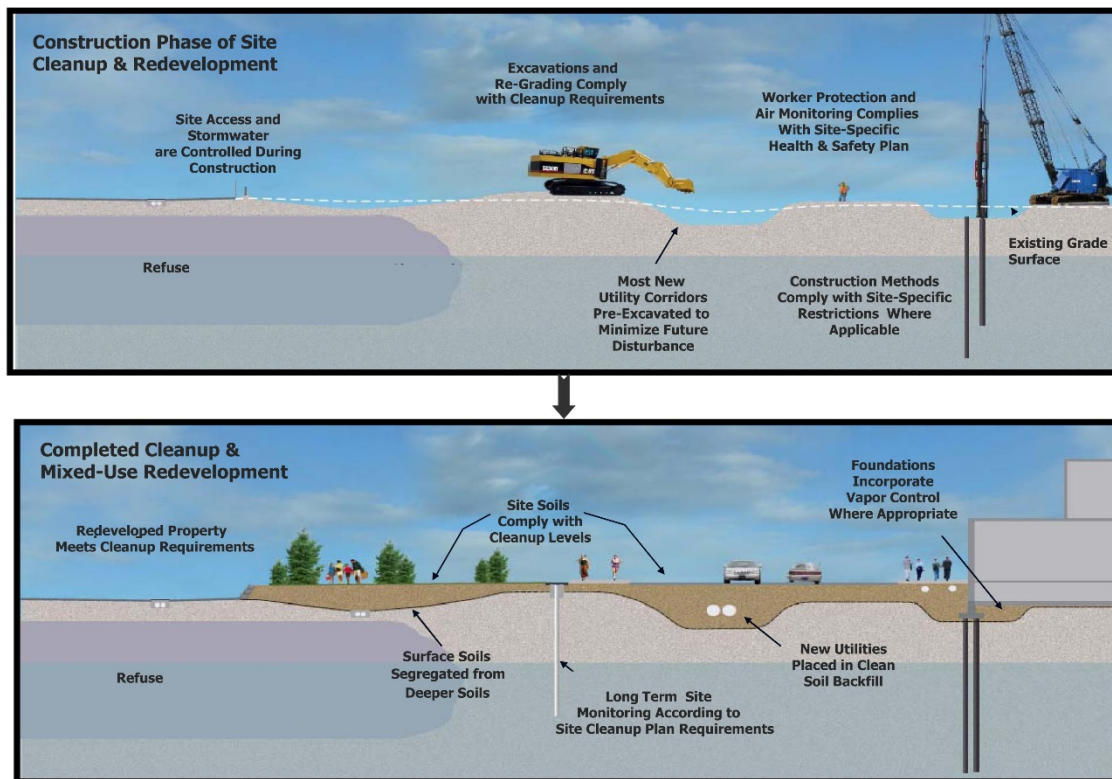
19. Shoreline areas within the Cornwall Beach, ASB lagoon and the head of the I&J Waterway are designated as a Recreational Shoreline Environment where the primary uses within shoreline jurisdiction are public recreation, open space and habitat restoration. Accessory uses intended to support public recreation or serve park visitors should also be permitted in this area. These shoreline areas will be restored for public access and habitat function. Water-dependent, water-related and water-enjoyment uses are also permitted within Recreational Shorelines.
20. The shorelines within the Downtown Waterfront area and the Log Pond are designated as Waterfront Mixed-Use Shoreline Environments where the water's edge is reserved for habitat and public access, with variable building setbacks to allow businesses, residences, and public facilities to be located within shoreline jurisdiction.
21. Buildings located within shoreline jurisdiction along the Whatcom Waterway should have variable shoreline setbacks and open space between buildings to avoid construction of a wall of buildings close to the water.
22. The Bellingham Shipping Terminal and Marine Trades Area of the Waterfront District are identified as appropriate locations for water-dependent and water-related uses and ancillary activities to support commercial fishing, recreational boating and maritime industries, including boat building and repair.
23. Parking within shoreline areas should be located under buildings or within parking structures located on the upland side of the development unless associated with a water-dependent use or unless no other feasible alternative exists. Surface parking, with appropriate stormwater management, may be developed as an interim use on areas planned for future redevelopment. Where interim surface parking is permitted, the long-term parking strategy and timing of the proposed redevelopment should be specified in the shoreline permit for the project.
24. Streets within shoreline jurisdiction should be designed and aligned in such a manner that the minimum width of travel way for vehicles is provided to facilitate circulation and accommodate future land uses.
25. Shoreline buffers should be managed to preserve, enhance and restore native vegetation and habitat functions. Public trails to provide water access should be permitted within shoreline buffers, provided they are designed and managed to protect or enhance shoreline ecological function.
26. Parks, trails, public plazas, artwork, signs benches and outdoor seating areas should be allowed within shoreline setbacks outside of designated shoreline buffers, other than areas designated for habitat restoration in future park plans.
27. Site grades should be raised to accommodate potential long-term sea level rise and tsunami conditions appropriate to the design life-time of the project.

3.2 Environmental Considerations Implementation Strategies

1. Replace a portion of the hardened shoreline on the south end of the Cornwall Avenue Landfill with a soft bank alternative and enhance the beach to improve habitat function and public access in coordination with cleanup and redevelopment activities in the Cornwall Beach Area.
2. Locate the overwater walkway from Boulevard Park to the Cornwall Avenue Landfill so as to protect eelgrass beds from construction impacts. Enhance the Cornwall Cove beach to improve public access and habitat function in coordination with cleanup and redevelopment activities in the Cornwall Beach Area.
3. Enhance stormwater management at Cornwall Cove beach in accordance with Ecology stormwater standards, in coordination with the upgrade of Cornwall Avenue.

4. Enhance the Log Pond beach to improve public access and habitat function in coordination with cleanup and redevelopment activities in the Log Pond Area.
5. Protect and enhance the Log Pond eelgrass bed.
6. Portions of the hardened shoreline along the Whatcom Waterway which are not being retained for water-dependent uses should be restored and enhanced for improved habitat and a variety of public access experiences upon completion of environmental remediation and in coordination with redevelopment activities in the Downtown Waterfront area.
7. Build public promenades along the waterfront with viewing platforms and overlooks to provide users with recreational opportunities and vistas of key estuary and habitat areas in coordination with upland redevelopment activities.

Figure 3-3: Coordinating Site Redevelopment with Cleanup Requirements



8. Enhance the Whatcom Creek estuary adjacent to the Roeder Avenue Bridge.
9. After completion of environmental remediation, the ASB lagoon may be opened to marine waters and restored as a Clean Ocean Marina with fish habitat and public access around the rim of the existing breakwater, or another water-dependent use. In the event that a marina is built, it should include fish passage corridors through the north and south sides of the breakwater which are located so as to protect existing eelgrass beds from construction impacts.
10. Enhance the shoreline next to the C Street stormwater outfall in coordination with cleanup and redevelopment activities in the Marine Trades Area. This beach shoreline area should not be designated as a public beach due to proximity to the stormwater outfall.
11. Enhance the beach on the north side of the ASB lagoon to improve public access and habitat function in coordination with cleanup and redevelopment activities in the Marine Trades Area.

12. Enhance beach at the head of the I&J Waterway with beach nourishment to support public access and forage fish spawning habitat in coordination with cleanup and redevelopment activities in the Marine Trades Area.
13. Remove creosote-treated pilings and unnecessary overwater structures or replace with non-creosote alternatives.
14. Use sustainable design as part of environmental cleanup where feasible (i.e. design impermeable, rainwater-harvesting structures that act as subsurface “caps” for deeper contaminated materials but allow for near-surface water movement and infiltration for collection).
15. Continue to work with State and Federal and local agencies, organizations, institutions, including the Lummi Nation and Nooksack Tribe to be good stewards of the environment. Identify opportunities for cooperative projects and joint funding for shoreline restoration, habitat enhancement, environmental remediation and public access improvements.
16. Development within shoreline jurisdiction shall comply with the shoreline buffers, setbacks and height limits for the Waterfront District, established in the current City of Bellingham Shoreline management Plan.
17. Restrict off-leash dogs and boat anchoring from sensitive near-shore habitat areas.
18. Develop an interpretive signage program to educate the public about sensitive habitat areas and access restrictions.

