



## Determination of Environmental Nonsignificance

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**Tahoma Salt Marsh Restoration**  
SEPA File Number: SEP2000-00071  
Related File Number: SHR2000-00031

**TO:** All Departments and Agencies with Jurisdiction

**SUBJECT:** Determination of Environmental Nonsignificance

In accordance with WAC 197-11-340, a copy of the Determination of Environmental Nonsignificance for the project described below is transmitted:

**Applicant:** Craig Sivley, P.E., Assistant Director  
City of Tacoma Public Works Department  
747 Market Street, Room 420  
Tacoma, WA 98402  
Staff Contact: John O'Loughlin, 253-502-2108

**Proposal:** Fill and grade of approximately 5500 cubic yards of clean fill/top-soil media or similarly suitable material to restore 1.95 acres of upland, inter-tidal and sub-tidal lands for a fish habitat improvement project. Project location is in the "S-7" Schuster Parkway Shoreline District. Per WAC 173-27-040(2)(p) Exempt Developments, a Shoreline Substantial Development Permit/Exemption is being processed in conjunction with this action.

**Location:** The site is located along Schuster Parkway at 1741 Schuster Parkway.

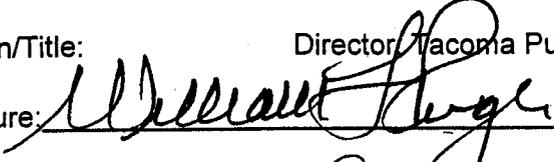
**Lead Agency:** City of Tacoma

**City Contact:** Karie Hayashi  
Senior Land Use Administration Planner  
Tacoma Public Works Department  
747 Market Street, Room 345  
Tacoma, Washington 98402  
(253) 591-5387

The lead agency for this proposal has determined that this project does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(9c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

You may appeal this final determination at the SEPA Public Information Center, Tacoma Municipal Building, 3rd Floor, 747 Market Street, Tacoma, Washington 98402. To file an appeal, submit a notice of appeal; the contents of the appeal as outlined in Tacoma Municipal Code 13.12.680; and a \$200.00 filing fee, no later than June 19, 2001.

Responsible Official: William L. Pugh, P.E.  
Position/Title: Director Tacoma Public Works Department

Signature: 

SEPA Officer Signature: 

Issue Date: June 5, 2001

Comment Deadline June 19, 2001

NOTE: The issuance of this Determination of Nonsignificance does not constitute project approval. The applicant must comply with all other applicable requirements of the City of Tacoma Departments and other agencies with jurisdiction prior to receiving construction permits.

cc: Craig Sivley, City of Tacoma Public Works Department, Room 400, 747 Market Street, Tacoma, WA 98402  
John O'Loughlin, City of Tacoma Public Works Department, Utility Services Engineering Division, 2201 Portland Avenue, Tacoma, WA 98421-2711  
Department of Ecology, Shorelands and Environmental Assistance Program, PO Box 47703, Olympia, WA 98504-7703

File: Building and Land Use Services File No. SHR2000-00031

SEP 2000-00071

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

- 1. Name of proposed project, if applicable: **Tahoma Salt Marsh Restoration**
- 2. Proponent/applicant--Name and phone number: **Craig S. Sivley, P.E., Asst. Director;  
City of Tacoma Public Works Dept.  
(253-591-5525)**

Proponent/applicant--Address: **City of Tacoma Public Works Department  
747 Market St., Room 400, Tacoma, WA. 98402**

- 3. Contact Person--Name and phone number: **John O'Loughlin**  
  
Contact Person--Address: **City of Tacoma Public Works Department, Utility Services  
Engineering Division. 2201 Portland Avenue, Tacoma, WA  
98421-2711**

4. Date checklist prepared: **August 8, 2000**

5. Agency requesting checklist: **City of Tacoma**

6. Proposed timing or schedule (including phasing, if applicable):

<b>Aug. 2000 - Feb. 2001</b>	<b>Project permitting.</b>
<b>Aug. 2001 - Oct. 2001</b>	<b>Project development.</b>
<b>Nov. 2001 - Nov. 2006</b>	<b>Project maintenance and monitoring and adaptive management.</b>

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

**The City will develop an adaptive management plan for this site in consultation with the Natural Resource Trustees, that will identify potential further activities.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

**Tahoma Salt Marsh Restoration Project Concept Plan. March, 1997.  
Tahoma Salt Marsh Site Characterization Report. May, 2000.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

**The City knows of no other pending applications.**

10. List any government approvals or permits that will be needed for your proposal, if known.

1. **Washington State Department of Fish and Wildlife Hydraulic Project Approval.**
2. **Washington State Department of Ecology CWA 401 Water Quality Certification.**
3. **Washington State Department of Ecology Approval to Allow Temporary Exceedance of Water Quality Standards.**
4. **US Army Corps of Engineers Section 404 / Section 10 Permit.**

5. *Gravel and Fill Permit - City of Tacoma - KAH 2/04/01*

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

***As part of a public development effort at the National Guard property, the City is proposing to restore intertidal aquatic habitat in the eastern-most 1.95 acres of the property. Additional land uses planned for the site include the development of the Chinese Reconciliation Project facilities in the center of the property adjacent to the restoration project site and, on the west side of the property, an extension of Commencement Park. This Checklist does not cover Chinese Reconciliation Park activities.***

***The restoration project would be situated on existing upland property formerly dominated by a dilapidated warehouse and on existing Intertidal and subtidal land presently encumbered by large amounts of debris and remnants of the Ruston formation. Project goals include:***

- i. Creating Intertidal tideflat and emergent habitat to provide nesting, refuge and feeding opportunities for a variety of fish and waterfowl species (e.g., salmon, juvenile flatfish, Western Grebe, Great Blue Heron, plovers, sandpipers).***
- ii. Providing a habitat linkage between nearshore habitat in the vicinity of Ruston Way/Pt. Defiance and intertidal and riverine habitat near the mouth of the Puyallup River.***
- iii. Providing a public education opportunity in close proximity to the Ruston Way shoreline to increase public awareness of the importance of this type of habitat in the ecosystem.***

***Project elements include:***

- i. Pre-design subsurface exploration to provide additional information specific to this habitat restoration project.***
- ii. Establishment of intertidal salt marsh and mudflat habitat in the central portion of the restoration project area;***
- iii. Restoration of beach area via the removal of debris, remnants of the Ruston Formation, and other anthropogenic materials.***
- iv. Creation of a tidal channel through the restored beach area connecting the intertidal salt marsh to Commencement Bay.***
- v. Planting riparian areas with native vegetation.***
- vi. Provisions for public access, consistent with habitat restoration and City of Tacoma shoreline program objectives.***
- vii. Provisions for monitoring and maintenance of the restoration project site.***

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any. If a proposal would occur over a range of area, provide the range or boundaries of the site(s).

***1741 N Schuster Parkway, approximately the southeastern 355 feet of the parcel.***

13. Assessor Parcel Numbers: # 8950002361

## **B. ENVIRONMENTAL ELEMENTS**

### **1. Earth**

- a. General description of the site (circle one):  
Flat, rolling, hilly, steep slopes, mountainous,  
other:

***The site is generally flat to gently sloping with steeper slopes at the waterward boundary.***

- b. What is the steepest slope on the site  
(approximate percent slope)?

***Bank slopes are approximately 30% in some areas.***

- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

***The soils on site are fill material which classify as sandy gravel with some sandy silt.***

- d. Are there surface indications or history of unstable soils in the immediate vicinity?

***The shoreward edge has a relatively high energy wave environment.***

- e. Describe the purpose, type and approximate quantities of filling or grading proposed. Indicate source of fill.

***Restoration to intertidal elevations will require the re-grading and the excavation of approximately 11,000 cubic yards of previously placed fill. Backfill of up to 5500 cubic yards of a clean fill/top-soil media or similarly suitable material will be used to achieve target intertidal elevations, provide a substrate for marsh vegetation, or to meet cleanup standards. Material used for backfill will meet EPA and State sediment or soil standards***

**and be physically suitable for the vegetation. The waterward face of the site may require the addition of rock armoring to protect the site.**

*Any contaminated material that is excavated will be treated or disposed at a permitted facility.*  
KAT 01/04/01

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

**Yes, erosion could occur during construction. The City will prepare a Project Construction Plan which will detail erosion control activities. The Plan will be approved by the Natural Resource Trustee Agencies (Trustees) prior to construction. Post-construction erosion is expected to be minimal due to the extent of plantings, armoring and mulching.**

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

**No impervious surfaces will be placed on the property. Any paths would utilize gravel, wood chips, or other suitable, pervious material.**

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

**Erosion control measures to be proposed as part of the construction plan will be commensurate with the material exposed. Control measures will include minimization of daily exposed area, covers for stock-piled soil, operation of equipment from upland areas, silt fencing, mulching, and measures as necessary to control fugitive dust.**

## 2. Air

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.

**Air emissions during construction would be limited to diesel equipment exhaust from excavators and trucks.**

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

**No off-site emissions or odors are evident that would affect this project.**

- c. Proposed measures to reduce or control emissions or other impacts to air, if any.

***Measures to control fugitive dust will be incorporated into the Project Construction Plan.***

### **3. Water**

#### **a. Surface**

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

***The project site borders Commencement Bay.***

- 2) Will the project require any work in or adjacent to (within 200 feet) of the described waters? If yes, please describe and attach available plans.

***The project site is located almost entirely within 200 feet of Commencement Bay.***

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

***A small amount of material (less than 900 cubic yards) would be removed from an area waterward of the line of MHHW. An even smaller amount of backfill will be required to restore project grades in this area. This backfill material will be a clean fill/top-soil media or similarly suitable material. Material used for backfill will meet EPA and State sediment or soil standards and be physically suitable for the vegetation.***

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities, if known.

***No surface water withdrawals or diversions are required as part of this proposal.***

- 5) Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.

***Bank areas presumably lie within the 100 year flood plain.***

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

***No discharge of waste materials will occur as part of this project.***

b. Ground:

- 1) Will the ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities, if known.

***Ground water will not be withdrawn and water will not be discharged to ground water as part of this project.***

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any. For example: domestic sewage, industrial, containing the following chemicals . . . agricultural; etc. Describe the general size of the system, the number of such systems, the number of houses to be served, if applicable, or the number of animals or humans the system(s) are expected to serve.

***No waste of any kind will be discharged to the ground as part of this project.***

c. Water Runoff (including storm water):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

***Water that falls onto the site as precipitation will drain to Commencement Bay through a reconstructed system of tidal channels. Tidal channels and marsh***

**plains will be planted with salt marsh vegetation to promote habitat and minimize erosion.**

- 2) Could waste materials enter ground or surface waters?

**No.**

- d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any.

**Tidal channels and marsh plains will be planted with salt marsh vegetation to promote habitat and minimize erosion.**

#### **4. Plants**

- a. Check or circle types of vegetation found on the site.

deciduous tree: alder, maple, aspen, other

evergreen tree: fir, cedar, pine, other

shrubs

grass

pasture

crop or grain

wet soil plants: cattail, buttercup, bullrush,

skunk cabbage, other

water plants: water lily, eelgrass, milfoil, other

other types of vegetation

√ Gumweed (*grindelia integrifolia*)

√ Himalayan Blackberry (*Rubus discolor*)

√ Scotch Broom (*Cytisus scoparius*)

- b. What kind and amount of vegetation will be removed or altered?

**A planting plan will be presented to the Natural Resource Trustees for review and approval prior to implementation. Himalayan blackberry, Scots broom and other invasive species will be removed and plantings will be comprised of a mixture of native vegetation suitable for this area.**

- c. List threatened or endangered species known to be on or near the site.

**No threatened or endangered species are known to be on or near the site.**

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

**The site will be planted in native vegetation, except for a small public access walkway. Species shall include:**

<b>Riparian Area</b>		<b>Salt Marsh</b>	
<b>Pacific Madrona</b>	<b>Arbutus menziesii</b>	<b>Spikerush</b>	<b>Eleocharis parvula</b>
<b>Shore Pine</b>	<b>Pinus contorta</b>	<b>Pickleweed</b>	<b>Salicornia virginica</b>
<b>Vine Maple</b>	<b>Acer circinatum</b>	<b>Fleshy Jaumea</b>	<b>Jaumea carnosa</b>
<b>Nootka rose</b>	<b>Rosa nutkana</b>	<b>Gumweed</b>	<b>Grindelia integrifolia</b>
<b>Oregon Grape</b>	<b>Mahonia nervosa</b>	<b>Saltgrass</b>	<b>Distichlis spicata</b>
<b>Hazelnut</b>	<b>Corylus cornuta</b>		

## 5. Animals

- a. Underline any birds and animals which have been observed on or near the site or are known to be on or near the site:

**birds: heron, songbirds, and various waterfowl such as Canadian Geese (*Branta Canadensis*) have been observed at or can be expected to utilize the site.**

**mammals: Small mammals are typically found on vacant properties such as this one. River otters (*Lutra Canadensis*) have been observed in the estuaries and near-shore areas of Puget Sound.**

**fish: Juvenile salmonids and other marine fish species have been observed of the waterways of Commencement Bay.**

- b. List any threatened or endangered species known to be on or near the site.

**Puget Sound Chinook (*Oncorhynchus tshawytscha*); Bald Eagle (*Haliaeetus leucocephalus*)**

- c. Is the site part of a migration route? If so, explain.

**Commencement Bay serves as a rearing area for juvenile salmonids migrating to the Pacific Ocean.**

- d. Proposed measures to preserve or enhance wildlife, if any.

**Construction of the restoration project would result in restored habitat or habitat functions serving numerous species of wildlife.**

## 6. Energy and Natural Resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs:

*The restoration project will not require a source of power.*

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

*No.*

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

*As the project will not require power, no energy conservation features are included in this proposal.*

## 7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

*No environmental health hazards will occur as a result of this proposal.*

- 1) Describe special emergency services that might be required.

*No emergency services will be required.*

- 2) Proposed measures to reduce or control environmental health hazards, if any:

*No health hazards will exist as part of this proposal; as a result, no measures are proposed to reduce such hazards.*

b. Noise

- 1) What types of noise exist in the area which may affect your project, (for example: traffic, equipment, operation, other)?

Noise from nearby railroad operations exist in the area however these factors are not thought to affect the project.

*Excessive noise has not been noted at the project site.*

KAA 01/04/00

- 2) What types of levels would be created by or associated with the project on a short-term or long-term basis (i.e., traffic, construction, operation, other)? Indicate what hours noise would come from the site.

*During construction, noise levels in the immediate project area will increase due to the operation of heavy equipment during normal daylight construction hours. Post-construction noise levels will be identical to the levels which now exist at the vacant property.*

- 3) Proposed measures to reduce or control noise impacts, if any.

*Increased noise levels will be of limited duration and some distance from sensitive receptors. Control measures are likely not warranted. City staff will consult with adjoining property owners during construction to review operations if excessive noise is evident.*

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties?

*The site is presently not used, i.e. it is vacant property. Adjacent property uses include ship moorage, park lands and rail road tracks.*

- b. Has the site been used for agriculture? If so, describe.

*The site has not been used for agriculture.*

- c. Describe any structures on the site.

*There are no structures on site.*

- d. Will any structures be demolished? If so, what?

*There are no structures on site and so none need be removed.*

- e. What is the current zoning classification of the site?

*The parcel is zoned as a shoreline district.*

*"S-7" Schuster Parkway  
Shoreline District*

- f. What is the current comprehensive plan designation of the site?

*The area is designated "high-intensity" in the comprehensive plan.*

- g. If applicable, what is the current shoreline master program designation of the site?

*The shoreline has been designated "urban" in the shoreline master program.*

- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

*No part of the site has been classified as an environmentally sensitive area.*

- i. Approximately how many people would reside or work in the completed project?

*No people would reside or work at the completed project.*

- j. Approximately how many people would the completed project displace?

*No people would be displaced by completed project.*

- k. Proposed measures to avoid or reduce displacement impacts, if any.

*No measures are proposed or applicable.*

- l. Proposed measures to ensure the proposal is compatible with existing and projected land use and plans, if any.

*The proposed site use is an allowed use in this area and is compatible with surrounding uses.*

*The proposal is being reviewed per the criteria contained in WAC 173-27-040 (2)(p) Exempt Developments and a Shoreline Management Development Permit. Exemption is being processed together with this action.*

## 9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

***No housing units would be developed at the site.***

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

***No housing units would be eliminated at the site.***

- c. Proposed measures to reduce or control housing impacts, if any.

***No housing units would be eliminated or developed and measures to reduce or control impacts are not applicable.***

## 10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

***No structures will be built on the project site.***

- b. What views in the immediate vicinity would be altered or obstructed?

***There are no view corridors currently on site and no alteration of this situation is proposed.***

- c. Proposed measures to reduce or control aesthetic impacts, if any.

***There are no aesthetic impacts, therefore no measures to reduce or control them are necessary.***

## 11. Light and Glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

*Lights will not be installed at the project site.*

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

*Lights will not be installed at the project site.*

- c. What existing off-site sources of light or glare may affect your proposal?

*Vegetation at the site should provide a shield from any adjacent lights which might otherwise disturb wildlife.*

- d. Proposed measures to reduce or control light and glare impacts, if any.

*Site monitoring will include evening visits to review area lighting. If recommended by project biologists, city staff will consult with neighboring businesses to explore alternative use of lighting.*

## 12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?

*Nearby recreational opportunities include the Commencement Park and the proposed Chinese Reconciliation Park (CRP).*

- b. Would the proposed project displace any existing recreational uses? If so, describe.

*The project would not displace existing recreational opportunities.*

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

*The project may include a small path accessible from CRP or may simply involve a viewing opportunity from the CRP trails. The path, if included, will be accessible to the disabled and the elderly. KMH 01/07/01*

### 13. Historic and Cultural Preservation

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site?

***No historic or proposed historic places or objects are located on the site.***

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

***No evidence of landmarks or other items of cultural, historic or archaeological importance are in evidence at or next to the site.***

- c. Proposed measures to reduce or control impacts, if any.

***No measures are appropriate or applicable.***

### 14. Transportation

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

***The site is adjacent to Schuster Parkway, a major thoroughfare. The site is accessible by car, bike and foot.***

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

***The site is not accessible by bus. The nearest stop is approximately 0.25 mile away.***

- c. How many parking spaces would the completed project have? How many would the project eliminate?

***There will be no parking on site. Visitors will utilize existing Ruston Way shoreline and Commencement Park parking.***

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

*The project will not require improvements to existing streets and roads.*

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

*The project will not rely upon water, rail, or air transportation.*

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

*Based upon informal observations made at the Gog-le-hi-te wetland on Lincoln Avenue, this project will potentially generate two-three car trips per day.*

- g. Proposed measures to reduce or control transportation impacts, if any.

*Traffic impacts are not expected; as a result no control measures are proposed.*

*The proposal was been reviewed on 12/20/00 for vehicular accessibility; existing parking and access facilities are deemed adequate to serve the project.  
KAT 01/04/01*

## 15. Public Services

- a. Would the project result in an increased need for public services (i.e., fire protection, police protection, health care, schools, other)? If so, generally describe.

*The project will not result in an increased need for public services.*

- b. Proposed measures to reduce or control direct impacts on public services, if any.

*The project will not result in an increased need for public services; as a result, no impact control measures are proposed.*

**16. Utilities**

- a. Underline utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

*Electricity, natural gas, water, refuse service, and telephone are available on site.*

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

*The project may require irrigation; water is available at the site.*

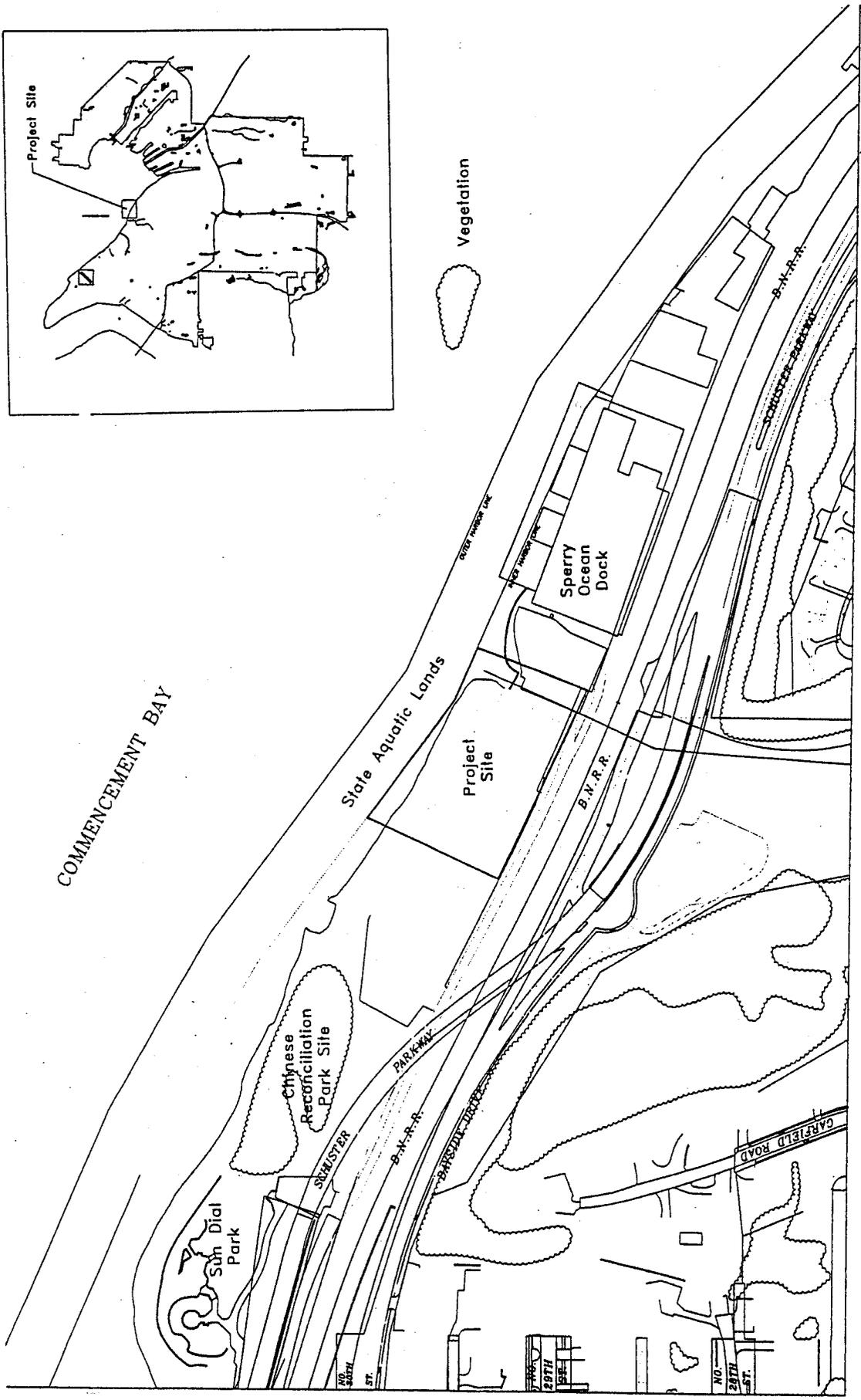
**C. Signature**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature of Proponent/Applicant: \_\_\_\_\_ 

Date: 8/11/00

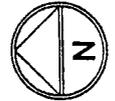
Received, Buildings and Land Use Services Division: _____
Date Submitted: _____
Receipt # _____ Filing Fee \$ _____



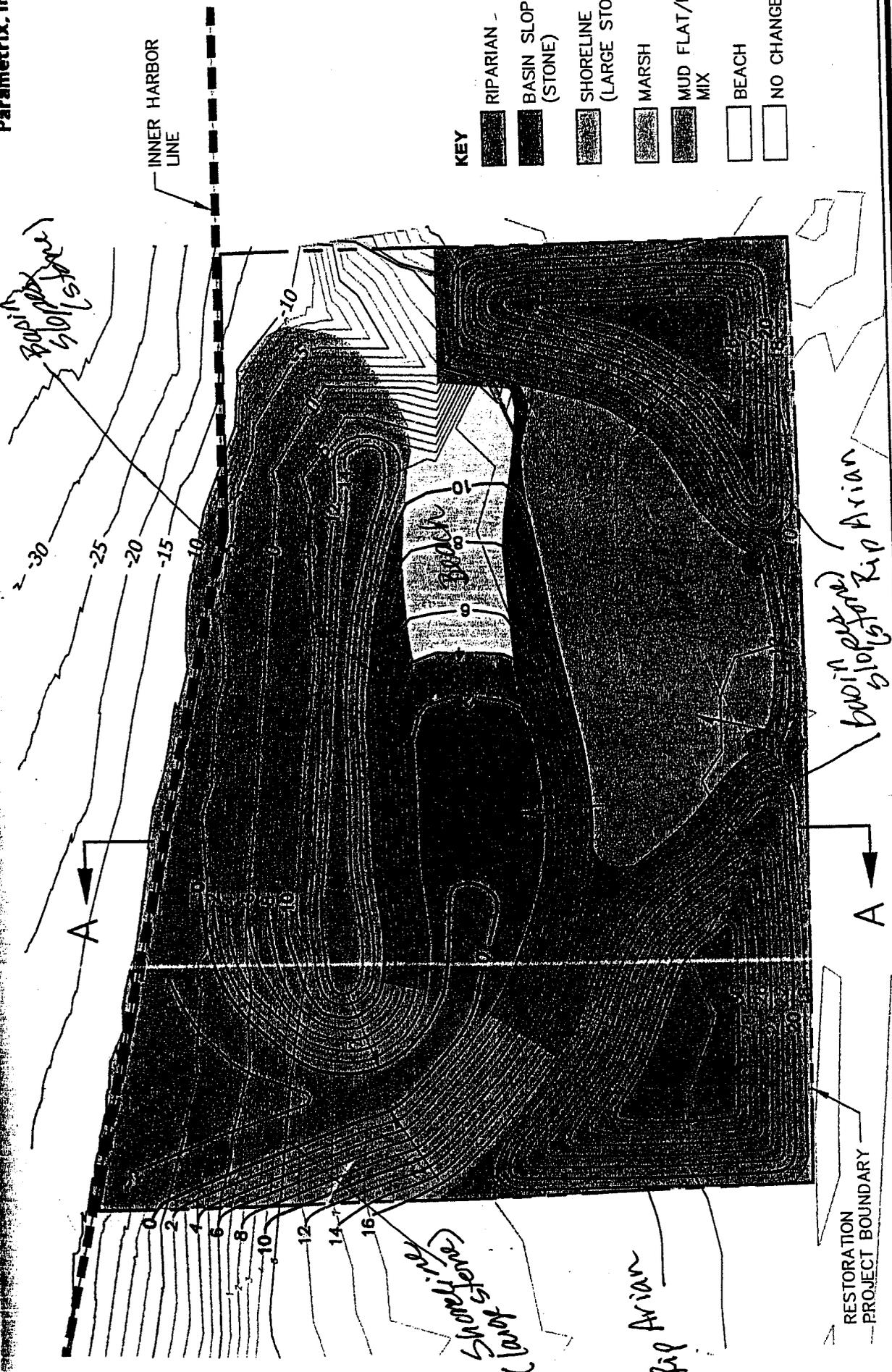
COMMENCEMENT BAY

In: Commencement Bay At: Schuster Pkwy  
 County of: Pierce State: Washington  
 Application by: City of Tacoma  
 Sheet 1 of 3 Date: 11/2000

Purpose: Tahoma Salt Marsh Restoration  
 Existing Conditions and Vicinity Map  
 Adjacent Property Owners: As shown  
 Datum: NGVD29



FILE: 1smv-schmap  
 DATE: 10/18/00

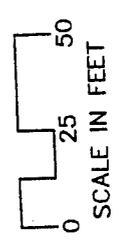


**KEY**

[Pattern]	RIPARIAN
[Pattern]	BASIN SLOPES (STONE)
[Pattern]	SHORELINE (LARGE STONE)
[Pattern]	MARSH
[Pattern]	MUD FLAT/FISH MIX
[Pattern]	BEACH
[Pattern]	NO CHANGE

**Figure 2-1**  
**Alternative A Site Plan**  
**Tahoma Salt Marsh**

SOURCE: CITY OF TACOMA FIELD SURVEY 3/15/00  
 NEW ELEVATIONS IN FEET MLLW DATUM  
 BASEMAP ELEVATIONS IN FEET, NGVD29 DATUM  
 NGVD29 + 6.3 = MLLW



FILE: 564036F4  
 DATE: 04/25/01



**City of Tacoma**  
Office of the Land Use Administrator  
Report and Decision

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**SHORELINE MANAGEMENT SUBSTANTIAL  
DEVELOPMENT PERMIT EXEMPTION OF:**

**FILE NO. SHR2000-00031**

City of Tacoma Public Works Department  
Environmental Science and Engineering Division  
2201 Portland Avenue  
Tacoma, WA 98421-2711  
Contact: John O'Loughlin

**SUMMARY OF REQUEST:**

The applicant is requesting a Shoreline Management Substantial Development Permit/Exemption to restore 1.95 acres of upland, inter-tidal and sub-tidal lands for a fish habitat improvement project at a site formerly occupied by the National Guard, along the Schuster Parkway shoreline. The shoreline will be enhanced with large rock, large woody debris and beach sediment to create a salt marsh estuary type of habitat.

**LOCATION:**

The site is located along Schuster Parkway within the "S-7" Schuster Parkway Shoreline District and is addressed as 1741 North Schuster Parkway.

**DECISION:**

Approved, subject to conditions.

**NOTE:**

Appeal period closes July 31, 2003.

The effective date of approval for this request is August 1, 2003, provided no requests for reconsideration or appeals are timely filed as identified in APPEAL PROCEDURES of this Report and Decision.

**For additional information concerning this land use permit please contact:**

Karie Hayashi (253) 591-5387  
Building and Land Use Services  
Public Works Department  
747 Market Street, Room 345, Tacoma, WA 98402  
Email: khayashi@ci.tacoma.wa.us

## **REGULATIONS THAT APPLY**

### **Applicable Environmental Regulations and Evaluation:**

The City of Tacoma Public Works Department, the lead agency for this proposal, has determined that the project does not have a probable significant adverse impact on the environment. This Determination of Environmental Nonsignificance (DNS) is issued under WAC 197-11-340(2). This decision was made after review of a completed environmental checklist (SEP2000-00071) and other information on file with the lead agency. Any comments or mitigating conditions identified through the SEPA process are in the project file, and are included in the Special Conditions sections of this report and decision.

### **Applicable Requirements of the *Tacoma Shoreline Master Program* and *Tacoma Municipal Code*:**

#### ***Tacoma Municipal Code (TMC) Section 13.10.100, "S-7" Shoreline District – Schuster Parkway:***

A. Intent. The intent of the "S-7" Shoreline District is to allow development of deep water terminal and light industrial facilities, but to preserve the character and quality of life in adjoining residential areas, school and park properties.

C. Environmental Designation. The "S-7" Shoreline District is designated as an "urban" environment, as summarily defined in Section 13.10.030 of this chapter, and as further defined within those elements of the Shoreline Master Program which are adopted by resolution.

D. Substantial Development/Permitted Uses and Development Activities. The following uses and development activities shall be permitted, subject to the issuance of a Substantial Development Permit, if required:

8. Habitat improvement

#### ***Washington Administrative Code (WAC) 173-27-030 (6) states the following regarding development:***

"Development" means a use consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, or minerals; bulkheading; driving of pile; placing of obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to the act at any stage of water level.

#### ***Washington Administrative Code (WAC) 173-27-030 (7) states the following regarding exempt developments:***

"Exempt" developments are those set forth in WAC 173-27-040 and RCW 90.58.030.(3)(e), 90.58.140 (9), 90.58.147, 90.58.355, and 90.58.515 which are not required to obtain a substantial development permit but which must otherwise comply with applicable provisions of the act and the local master program.

**Washington Administrative Code (WAC) 173-27-040 (2) (p) states the following regarding exempt developments:**

- (p) A public or private project, the primary purpose of which is to improve fish or wildlife habitat or fish passage when all of the following apply:
  - (i) The project has been approved in writing by the State Department of Fish and Wildlife as necessary for the improvement of the habitat or passage and appropriately designated and sited to accomplish the intended purpose;
  - (ii) The project has received hydraulic project approval by the State Department of Fish and Wildlife pursuant to chapter 75.20 RCW; and
  - (iii) The local government has determined that the project is consistent with the local shoreline master program. The local government shall make such determination in a timely manner and provide it by letter to the project proponent.

\*\*\*

**The Tacoma Municipal Code (TMC) Development Regulations for habitat improvement (Section 13.10.175.B.8) state the following:**

- 8. Habitat Improvement. The following regulations apply to all Shoreline Districts within which habitat improvement activities are permitted:
  - a. Where possible, habitat improvement projects shall be protected in perpetuity. If future development proposes to impact existing habitat improvement sites, it must be demonstrated that there are no practicable alternatives to avoid adverse impacts, and further, that adequate mitigation is provided to address unavoidable losses.
  - b. Habitat improvements shall be approached on a watershed basis, and shall seek to promote an ecosystem or landscape approach, including integrating projects into their surrounding environments and promoting greenbelts for movement and use by species.

\* \* \*

**The Tacoma Shoreline Master Program (TSMP) provides the following policies for habitat improvement:**

Habitat improvement means any actions taken to intentionally improve the overall processes, functions and values of critical habitats, including wetland, stream and aquatic habitats. Such actions may or may not be in conjunction with a specific development proposal, and include, but are not limited to, restoration, creation, enhancement, preservation, acquisition, maintenance and monitoring. Habitat improvement includes actions to acquire and preserve key natural areas that remain; and to improve existing environmental conditions, such as providing new or better habitat, better water quality or other supporting factors, or increasing the number or diversity of species.

The City's goal is that in the short term, there is no net loss of wetland, stream, and aquatic habitat functions and acreage, and that in the long term, there is net gain of wetland, stream and aquatic habitat.

To meet the City's goal of long term gain of aquatic, wetland and stream habitat, the City shall review all development actions and ensure that unavoidable losses to habitat are appropriately mitigated, and promote voluntary improvements through a variety of incentives.

1. Policies
  - a. Habitat improvement actions should provide functioning and sustainable habitats. These habitats need not be pristine, but should contain functional elements of a healthy ecosystem.
  - b. Habitat improvement actions are encouraged in all shoreline districts, and are considered to be consistent with all kinds of uses, including residential, commercial, and industrial, provided that both are designed sensitively.
  - c. Habitat improvement actions should be focused on sites with low possibilities of contamination.
  - d. The City should seek to protect habitat improvement projects in perpetuity.
  - e. Habitat improvement actions should be integrated with any other regulatory efforts, including environmental remediation, source control, and site development actions, as well as long range planning activities.
  - f. Public access should be considered in all habitat improvement projects where appropriate. Where provided, such access should complement, not disrupt, the habitat improvement action.
  - g. Habitat improvement actions should be approached on a watershed basis, and should seek to promote an ecosystem or landscape approach, including integrating projects into their surrounding environments, promoting greenbelts for movement and use by species.
  - h. Where habitat improvements are proposed as mitigation measures, a nexus should be established between the impacted and proposed habitat, considering habitat type, size, functions and values, and connection to the larger ecosystem.
  - i. The environmental quality of Commencement Bay, its associated waterways, and the Tacoma watershed, including all near shore and adjacent upland areas, should be improved through comprehensive cleanup strategies, which combine, wherever and whenever possible, environmental cleanup, source control, habitat improvement and redevelopment activities as a means of achieving environmental and economic benefits and reducing the costs of implementing each separate activity.

## **FINDINGS MADE BY ADMINISTRATOR**

### **1. Project Description:**

The applicant is requesting a Shoreline Management Substantial Development Permit Exemption per WAC 173-27-040 (2) (p) to restore and create an inter-tidal aquatic habitat to be known as the Tahoma Salt Marsh. The site encompasses 1.95 acres of

upland, inter-tidal and sub-tidal lands owned by the City of Tacoma. Per WAC 173-27-040 (2)(p), the applicant has applied to WDFW for a streamlined Hydraulic Project Approval (HPA) and a written letter of approval. The development of the 1.95 acres is a part of a larger effort that the applicant proposes for the property formerly owned by the National Guard. In the future, other portions of the property will be developed as an extension of Commencement Park and as the Chinese Reconciliation Project. These future developments are not included in this subject request. However, when the Chinese Reconciliation Project is developed, it may be accessible to the Tahoma Salt Marsh via a small public access walkway or it may provide a viewing opportunity of the salt marsh. City of Tacoma shoreline and wetland assessment permits were granted for the Chinese Reconciliation Project on December 9, 2002 (see Public Works Department File # SHR2001-00021).

The restoration request now before the Land Use Administrator has the following project goals:

- Creation of intertidal tide flat and emergent habitat to provide nesting, refuge and feeding opportunities for a variety of fish and waterfowl species (e.g. salmon, juvenile flatfish, Western Grebe, Great Blue Heron, plovers, sandpipers).
- Providing a habitat linkage between near shore habitat in the vicinity of Ruston Way/Pt. Defiance and intertidal and riverine habitat near the mouth of the Puyallup River.
- Providing a public education opportunity in close proximity to the Ruston Way shoreline to increase public awareness of the importance of this type of habitat in the ecosystem.

The project elements are as follows:

- Establishment of intertidal salt marsh and mudflat habitat

Intertidal salt marsh and mudflat habitat would be created by excavating fill from the interior of the project site. Post construction elevations would range from less than 7 feet MLLW (0.7 ft NGVD29) in the mudflat area to 9-11 feet MLLW (2.7-4.7 ft. NGVD29) in areas of salt marsh to existing elevations – approximately 16.3 feet MLLW (10 ft NGVD29) – around the salt marsh perimeter with a potential for a berm at the edges.

Material at the intertidal interface and immediately below will be demonstrably suitable for use in the intertidal environment. Where subsurface exploration or project excavation reveals fill at the proposed wetland surface, such fill shall be excavated to a depth of 3 feet or to a depth where wood or other fill material is not evident, whichever is less. This additional excavated area will be backfilled with a suitable substrate to an elevation not greater than target elevations. Where substrate exploration reveals native material at the proposed intertidal surface and to a depth of two feet below that surface, the proposed surface would be considered suitable. Excavated fill would be removed to the appropriate disposal facility. If suitable, some excavated material may be utilized on site to create topographic features, such as a small berm near the edge of the restored project area.

Salt marsh areas will be planted with vegetation native to such environments in Western Washington. Salt marsh plants native to the area include, in higher elevation intertidal areas, tufted hairgrass, Pacific silverweed and meadow barley. Below mean

higher water and above mudflat areas, species such as fleshy jaumea, pickleweed, gumweed and saltgrass are expected to dominate.

A planting plan will be developed for the restoration site and would be subject to the review, comment and approval of resource agencies. Planting will be designed for 80% of the marsh and shall be based upon a review of similar projects in the Commencement Bay area. The applicant may propose during project permitting, if federal, state and tribal resource staff agree, that an additional area or areas of salt marsh be re-established through natural re-colonization in order to investigate the efficacy of natural re-colonization in this shoreline environment or if a higher value of habitat can be achieved through an alternative expenditure.

The inclusion of both mudflat and salt marsh at this restoration site has two purposes. First, the intertidal area as a whole is conceived as refuge habitat in what is otherwise a high energy shoreline environment during winter storm events. Second, the mudflat provides a mechanism to trap nutrients and detrital matter washed from upland areas following leaf drop or general plant senescence. The trapping of nutrients in the intertidal mudflat allows for additional use of carbon and other energy sources by resident, transient, sessile or motile intertidal species before the ultimate export of organic and inorganic detrital matter to Commencement Bay and Puget Sound.

- Restoration of the intertidal beach area

The applicant would restore intertidal beach area as part of the restoration effort. The existing beach area within the project site is approximately 350 feet in length and 0.45 acres in extent. Approximately two-thirds of the beach area is intertidal and the entire beach varies in width from 15 to 70 feet. The lower shore presently contains some elements of fine substrate and native materials which provide suitable intertidal habitat. Most of the shore area however is characterized by concrete rip-rap and remnants of the Ruston Way formation.

The applicant's goal for the beach area is two-fold. First, the applicant seeks to protect the interior of the property including restored intertidal habitats from wave-induced erosion. Second, the applicant seeks to re-establish beach habitat consistent with the property protection goal. The applicant expects to meet these two goals simultaneously by retaining in higher elevations of the beach area structural elements necessary to protect the property from wave-induced erosion, and by restoring a gravel-cobble-sand substrate for habitat utilization in the lower intertidal areas of the shore.

Rip-rap removed from the beach area and judged serviceable would be repositioned for back-slope shore stabilization and, with natural materials of a suitable size, utilized as a raised beach lip to help slow backwash and thereby retain beach materials. If necessary, the shoreline edge of the property would be cut back slightly. Structural protection would be maintained by use of the repositioned rip-rap positioned against the massive debris deposit (Ruston Way formation) that forms a linear scarp parallel to shore. The applicant would remove elements of the deposit (and other anthropogenic material) which now appear in smaller, discrete pieces waterward of the consolidated formation.

- Creation of a tidal channel through the restored beach area connecting the intertidal area with Commencement Bay

The restoration project plans include a provision for an intertidal channel connecting interior salt marsh and mudflat areas to beach areas and Commencement Bay. An alternative design concept would be simply to remove all of the fill material on the project site to intertidal elevations and allow the restored marsh area to be directly connected to Commencement Bay. The applicant expects though that wave action at the site would result in frequent disturbance within much of any such restored area. As a result, the applicant has adopted a design incorporating the channel connecting salt marsh to bay.

The design of self-maintained channels connecting interior bays to open waters has been studied by coastal engineers and geomorphologists for many years. Traditionally, such channels are heavily armored to protect them from wave action and as a result offer only nominal if any habitat value. In recent years, increased interest in maintaining shoreline resource values has resulted in designs based upon the utilization of site-available substrates. Primary design parameters include channel width, depth, and gradient; parameters affecting design elements include tidal prism (the volume of water exported from the interior bay between high and low tides), and channel substrate. Channel design will be based upon the maximum utilization of habitat enhancing substrates.

- Planting riparian areas with native vegetation

The applicant's plans for restoration call for planting of upland riparian flora around the perimeter of the newly created intertidal area. Riparian upland plantings will be comprised of a mixture of native vegetation suitable for this area, including Douglas Fir, Shore Pine, Pacific madrona, Vine Maple, Serviceberry, Nootka rose, Oregon grape and Hazelnut. Shrubs only will be used on the crest of the shoreline berm as access over this berm by heavy equipment may be necessary for future site maintenance activities.

A planting plan will be developed for the restoration site and would be subject to the review, comment, and approval of resource agencies. Planting will be designed for 100% of the riparian area less any land utilized for public access and shall be based upon a review of similar projects in the Commencement Bay area. Drip irrigation may be established to provide water to these plantings and soil amendments will be applied in a manner consistent with requirements for fertilizer use in shoreline areas. In areas where it is apparent that existing surface materials are not suitable for riparian plantings, the applicant will remove such material to a depth of three feet and backfill with a suitable soil prior to planting.

- Provision for public access

To promote community stewardship at the project site and pedestrian connections along the Ruston shoreline, public access will be fostered as part of the restoration project. Improvements may consist of a trail around the landward perimeter of the site or one or two shoreline view areas. The trail would provide an extension to the pedestrian pathway presently extending from Ruston Way through Commencement Park. The

path west of the restoration site is not part of the restoration project and its actual location and development will be coordinated by the Chinese Reconciliation Foundation. The Chinese Reconciliation Park Project was approved in December 2002 under City of Tacoma File Number SHR2001-00021. The path along the west side of the restoration project would provide a pedestrian overlook. Such an overlook provides for better viewing and presumably stewardship of the restoration project.

- Provisions for monitoring and maintenance

The applicant has included in the funding of the project monitoring and maintenance for a five-year period at an amount equal to 25% of the expected construction cost, or 5% per annum for five years. Additional funds are available for the monitoring of site conditions annually for five years. Monitoring will be primarily physical (intertidal surfaces elevation changes) and biological (planting success; colonization; fish and wildlife utilization), and money has also been budgeted for chemical (sediments) data collection. With the exception of one, existing monitoring wells will be destroyed during construction and the applicant does not plan to replace them. Monitoring Well Number 4, evident by a three foot stand pipe on the shoreline, may be retained both as a fixed point of reference and to provide on-going water quality data. The applicant expects that some parts of the monitoring program can be conducted in conjunction with local conservation and education groups.

## **2. Location:**

The site is located on property owned by the City of Tacoma on the southerly shore of the Commencement Bay. The street address for the site is 1741 North Schuster Parkway.

## **3. Shoreline District and TSMP Designation:**

The site is located in the "S-7" Schuster Parkway Shoreline District. It has an "urban" environmental designation under the *Tacoma Shoreline Master Program (TSMP)*.

## **4. Site and Existing Conditions:**

The site dimensions are approximately 341 by 260 feet and totals about 1.95 acres. It comprises the easterly half of the same site proposed for the development of the Chinese Reconciliation Project. The restoration project would be situated on existing upland property formerly dominated by a dilapidated warehouse and on existing intertidal and sub-tidal land presently encumbered by large amounts of debris.

## **5. Surrounding Area, Uses and Zoning:**

The Sperry Ocean Dock/Federal Readiness Reserve moorage facility abuts the site on the east, Commencement Bay lies to the north, Commencement Park is located to the north and Schuster Parkway and Garfield Gulch is found to the west. Residential development is located on the bluff over Schuster Parkway. These residential properties enjoy panoramic views across the site to the north of Commencement Bay and the Brown's Point area. Zoning in the vicinity is "S-7" Shoreline District, "R-2" One-Family Dwelling District and "VS" View Sensitive Overlay District.

## **6. Property Description:**

The property description is available in the Department of Public Work file.

## **7. History:**

The "S-7" Shoreline District was established in 1979. The urban environment for the site was designated by the *Tacoma Shoreline Master Plan* in 1976.

## **8. Site Visit:**

The Land Use Administrator viewed the site on December 6, 2000.

## **9. Notification:**

Public notification for the shoreline exemption was issued on November 11, 2000. Three letters of comment were received from members of the public and are set forth as Attachments "G", "I", and "N" to this report. These letters of comment were supplied to the applicant who provided written responses to the comments as set forth in Attachments "G", and "I". The project was placed in abeyance on January 9, 2001 pending receipt of an HPA permit and letter of approval from WDFW.

On May 19, 2003 the WDFW issued a HPA under log number ST-E9836-01. A copy of the HPA approval is appended to the report and decision as Attachment "J." On July 11, 2003 the letter of approval from WDFW was issued as shown in Attachment "M".

The project is also being reviewed by the Corps of Engineers for a Section 10 permit, and by the Washington State Department of Ecology for a 401 Water Quality Certification. A completed JARPA has been submitted to each of these agencies. In addition, the following environmental information has been prepared for this proposal:

- Draft Tahoma Salt Marsh Natural Resources Restoration Project Agency Review Draft/Contract Documents, January 2003
- Tahoma Salt Marsh Natural Resources Restoration Project Engineering Design Report (April 2001)

## **Attachments:**

- A. Vicinity map
- B. Existing conditions & demolition plan
- C. Contaminated soil excavation
- D. Final grading and restoration with detail sections
- E. Planting plan
- F. Plant list and details
- G. Letter from Scott Hansen, dated December 4, 2000
- H. Applicant's written responses to Scott Hansen letter
- I. Letter from Sperry Ocean Dock, Ltd., dated December 6, 2000
- J. Applicant's written response Sperry Ocean Dock letter
- K. Letter from Citizens for a Healthy Bay, dated December 6, 2000
- L. WDFW HPA approval
- M. WDFW Letter of approval
- N. Electronic mail from the City of Tacoma Economic Development Department, dated December 19, 2000
- O. Letter dated June 26, 2001 from State Department of Ecology

## **10. Applicable Provisions of the Tacoma Shoreline Master Program, Washington Administrative Code and Revised Code of Washington:**

The *TSMP*, including its implementing regulations set forth in the *TMC*, allows habitat improvement as a substantial development/permitted use activity and provides policy guidance for the same. See *TMC* Section 13.10.130.D.8. and *TSMP* at pages 77-78. Certain developments are exempt from the substantial development permit requirements of the State *Shoreline Management Act (SMA)* and the *TSMP*. See *WAC* 173-27-030(7). Habitat improvement projects are exempt from the substantial development permit requirements upon a showing of consistency with certain criteria. See *WAC* 173-27-040 (2) (p).

The subject request is generally consistent with all applicable provisions of the *TSMP* including the implementing regulations set forth in the *TMC* 13.10. The request is also consistent with the shoreline permit exemption criteria for habitat improvement projects set forth in *WAC* 173-27-040(2)(p). The applicable *TSMP* and *WAC* provisions are set forth in the regulation section of this report and decision and are incorporated herein as fully set forth.

## **11. Conclusions Adopted As Findings:**

Any Conclusion of Law hereinafter stated which may be deemed a Finding of Fact is hereby adopted as such.

### **CONCLUSIONS**

#### **1. Jurisdiction:**

The Land Use Administrator has jurisdiction in this matter. See Section 13.05.030 of the *TMC*.

#### **2. Environmental Determination:**

The City of Tacoma Public Works Department, the lead agency for this proposal, has determined that the project does not have a probable significant adverse impact on the environment. This Determination of Environmental Nonsignificance (DNS) is issued under *WAC* 197-11-340(2). This decision was made after review of a completed environmental checklist (SEP2000-00071) and other information on file with the lead agency. Any comments or mitigating conditions identified through the SEPA process are in the project file, and are included in the Special Conditions sections of this report and decision.

The Determination of Nonsignificance for SEP2000-00071 was issued on June 5, 2001 and became final on June 20, 2001. No appeals were filed on this determination.

#### **3. Burden of Proof:**

The applicant bears the burden of proof to demonstrate the proposal is consistent with policies of the *Shoreline Management Act* (hereinafter "SMA"), applicable provisions of the *TSMP*, including its implementing regulations, and the criteria set forth in Washington Administrative Code (*WAC*) 173-27-030 and *WAC* 173-27-040 (2) (p) for the approval of Shoreline Substantial Development Permit Exemptions.

#### **4. Consistency with Policies and Regulations:**

The following is an analysis of the requests consistency with the policies of the SMA, with the policies and regulations of the TSMP and TMC, and with the criteria set forth in the WAC and RCW.

The subject site is located in the "S-7" Schuster Parkway Shoreline District. Habitat improvement projects are permitted within this district subject to the issuance of a substantial development permit. Pursuant to WAC 173-27-040 (2) (p) such habitat improvement project activities are not required to obtain a substantial development permit if it can be demonstrated that the activities comport to the criteria set forth in the WAC and noted below:

*(A) The project has been approved in writing by the Department of Fish and Wildlife as necessary for the improvement of the habitat or passage and appropriately designated and sited to accomplish the intended purpose;*

On July 11, 2003 WDFW approved the project. By doing so WDFW deems the proposal as necessary for improving habitat or passage and is appropriately designated and sited to accomplish that purpose. The written approval is shown in Attachment "M".

*(B) The project has received hydraulic project approval by the Department of Fish and Wildlife pursuant to Chapter 75.20 RCW; and*

The project has received Hydraulic Project Approval from WDFW (See Attachment "L").

*(C) The local government has determined that the project is consistent with the local shoreline master program. The local government shall make such determination in a timely manner and provide it by letter to the project proponent.*

The project is consistent with the policies of the TSMP governing habitat improvements. In this regard, the project would improve habitat for juvenile salmonids by increasing areas for rearing and feeding, enhancing conditions of prey resources, and reducing stress from elevated water temperatures and suspended sediment loads. The site is expected to benefit water quality by re-establishing inter tidal vegetation communities. These communities in turn, would serve to trap sediments and filter water, which would benefit water quality both in Commencement Bay. Additionally, the project would serve as a functional component of the overall integrated NRDA Bay-wide restoration plan for Commencement Bay.

Findings have been entered that support a conclusion that the request here before the Land Use Administrator is consistent with the criteria required to be met for the authorization of a Shoreline Management Substantial Development Permit Exemption, provided conditions, as set forth below, are complied with by the applicant.

#### **Special Conditions:**

1. The applicant shall comply with the special and general provisions stipulated in HPA Log Number ST-E9836-02 from the State Department of Fish and Wildlife, set forth in Attachment "L".

2. The applicant shall comply with all applicable requirements of the Army Corps of Engineers pursuant to the work within federally regulated waters.
3. The applicant shall comply with all the applicable requirement of the State Department of Ecology as shown in Attachment "O."
4. The applicant is responsible for compliance with the applicable provisions of the Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531 et seq.), and this shoreline management substantial development permit exemption includes no representation or warranty of ESA compliance.

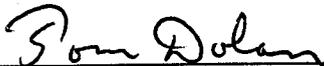
**5. Findings Adopted as Conclusions:**

Any Finding of Fact herein after stated which may be deemed a Conclusion of Law is hereby adopted as such.

**DECISION**

The request for a Shoreline Management Substantial Development Permit Exemption, as described above, is approved subject to the special conditions set forth in Conclusion 4.

ORDERED this 17th day of July, 2003.

  
\_\_\_\_\_  
TOM DOLAN  
Acting Land Use Administrator

FULL DECISION TRANSMITTED this 17th day of July, 2003 by certified mail to the following:

✓ John O'Loughlin, Environmental Services Division, City of Tacoma Public Works Department, 2201 Portland Avenue, Tacoma, WA 98421

FULL DECISION TRANSMITTED this 17th day of July, 2001 by first class mail to the following:

Scott M. Hansen, Puget Creek Restoration Society, 702 Broadway, Suite 101, Tacoma, WA 98402  
Gary Coy, Sperry Ocean Dock, Ltd., 15001 28<sup>th</sup> Avenue, S.W., P.O. Box 349, Seahurst, WA 98062-0349

Leslie Ann Rose, Citizens for a Healthy Bay, 917 Pacific Avenue, Suite 406, Tacoma, WA 98402

Dave Molenaar, State Department of Fish and Wildlife, MS 43200, 600 Capitol Way North, Olympia, WA 98501-1091

Ron Wilcox, Seattle District Corps of Engineers, PO Box 3755, Seattle WA 98124-2255

Kim Van Zwahlenberg, Shorelands and Environmental Assistance Program, State  
Department of Ecology, P.O. Box 47775, Olympia, WA 98504-7775  
David Duenas, Puyallup Tribe of Indians, Land Use Director, 1850 Alexander Avenue,  
Tacoma, WA 98421

SUMMARY OF DECISION TRANSMITTED this 17th day of July,  
2003 to the following:

All owners of property as indicated by the Pierce County Assessor/Treasurer's records  
within 400 feet of the subject site

Peter Huffman, Tacoma Economic Development Department

Bart Alford, Tacoma Economic Development Department

## APPEAL PROCEDURES

### **RECONSIDERATION:**

Any person having standing under the ordinance governing this application and feeling that the decision of the Administrator is based on errors of procedure or fact may make a written request for review by the Administrator within fourteen (14) days of the issuance of the written order. This request shall set forth the alleged errors, and the Administrator may, after further review, take such further actions as deemed proper, and may render a revised decision. A request for RECONSIDERATION of the Land Use Administrator's decision in this matter must be filed in writing with the Building and Land Use Services Division, Room 345, Third Floor, Tacoma Municipal Building, 747 Market Street, Tacoma, WA 98402, on or before July 31, 2003.

### **APPEAL TO HEARING EXAMINER:**

Any decision of the Land Use Administrator may be appealed by any aggrieved person or entity as defined in Section 13.05.050 of the *Tacoma Municipal Code*, within fourteen (14) days of the issuance of this decision, or within seven (7) days of the date of issuance of the Administrator's decision on a reconsideration, to appeal the decision to the Hearing Examiner.

An appeal to the Hearing Examiner is initiated by filing a Notice of Appeal accompanied by the required filing fee. Filing of the appeal shall not be complete until both the Notice of Appeal and required filing fee have been received. The Notice of Appeal must be in writing and shall contain the following:

- (1) A brief statement showing how the appellant is aggrieved or adversely affected.
- (2) A statement of the grounds for the appeal, explaining why the appellant believes the administrative decision is wrong.
- (3) The requested relief, such as reversal or modification of the decision.
- (4) The signature, mailing address and telephone number of the appellant and any representative of the appellant.

An APPEAL of the Land Use Administrator's decision in this matter must be filed with the Hearing Examiner's Office, Seventh Floor, Tacoma Municipal Building, on or before July 31, 2003, together with a fee of **\$250.00**. THE FEE SHALL BE REFUNDED TO THE APPELLANT SHOULD THE APPELLANT PREVAIL.

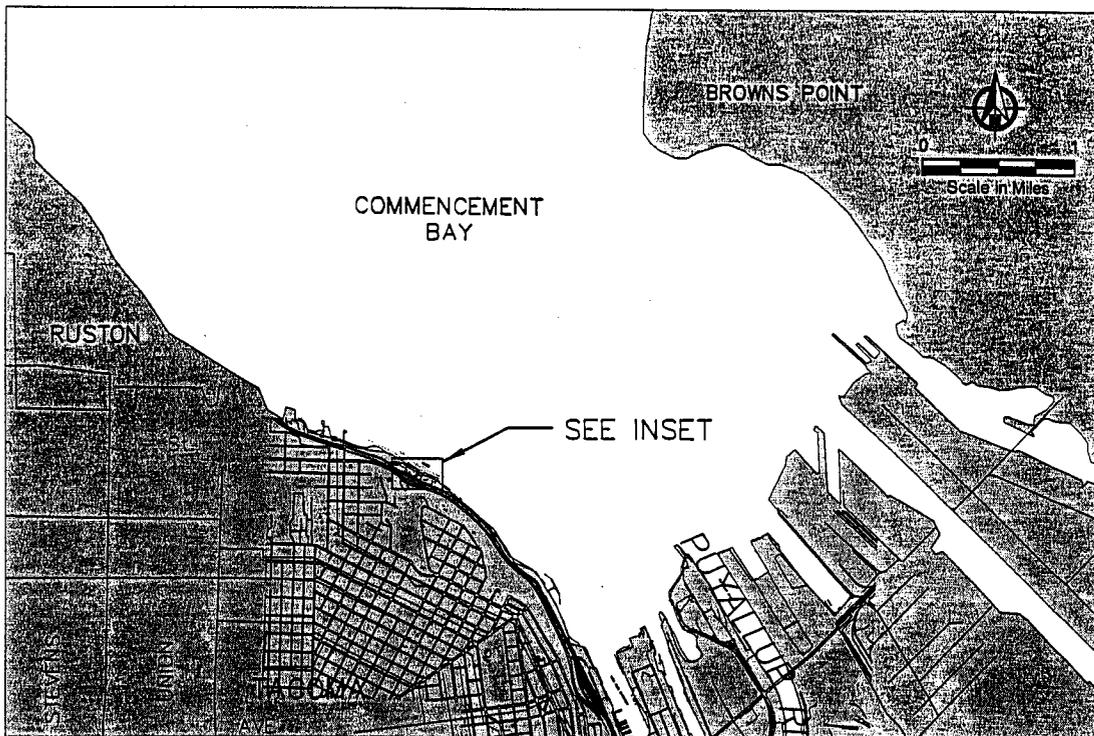
(Pursuant to Section 2.09.020 of the *Tacoma Municipal Code*, fees for appeals shall be waived for qualifying senior citizens and persons who are permanently handicapped who are eligible for tax exemption because of financial status.)

PROJECT RESTORATION  
 BOUNDARY  
 LAT. 47°16'26"N  
 LONG. 122°27'32"W  
 DRIVING INSTRUCTIONS:  
 1. I-705 N TO SCHUSTER  
 PARKWAY.  
 2. EXIT TO RUSTON WAY  
 (LEFT LANE).  
 3. AFTER OVERPASS &  
 BEFORE TRAFFIC LIGHT AT  
 McCARVER ST., TURN LEFT  
 INTO PARKING LOT, DRIVE  
 EAST ON ACCESS ROAD  
 TO SITE.



INSET

Attachment  
 A



PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

VICINITY MAP

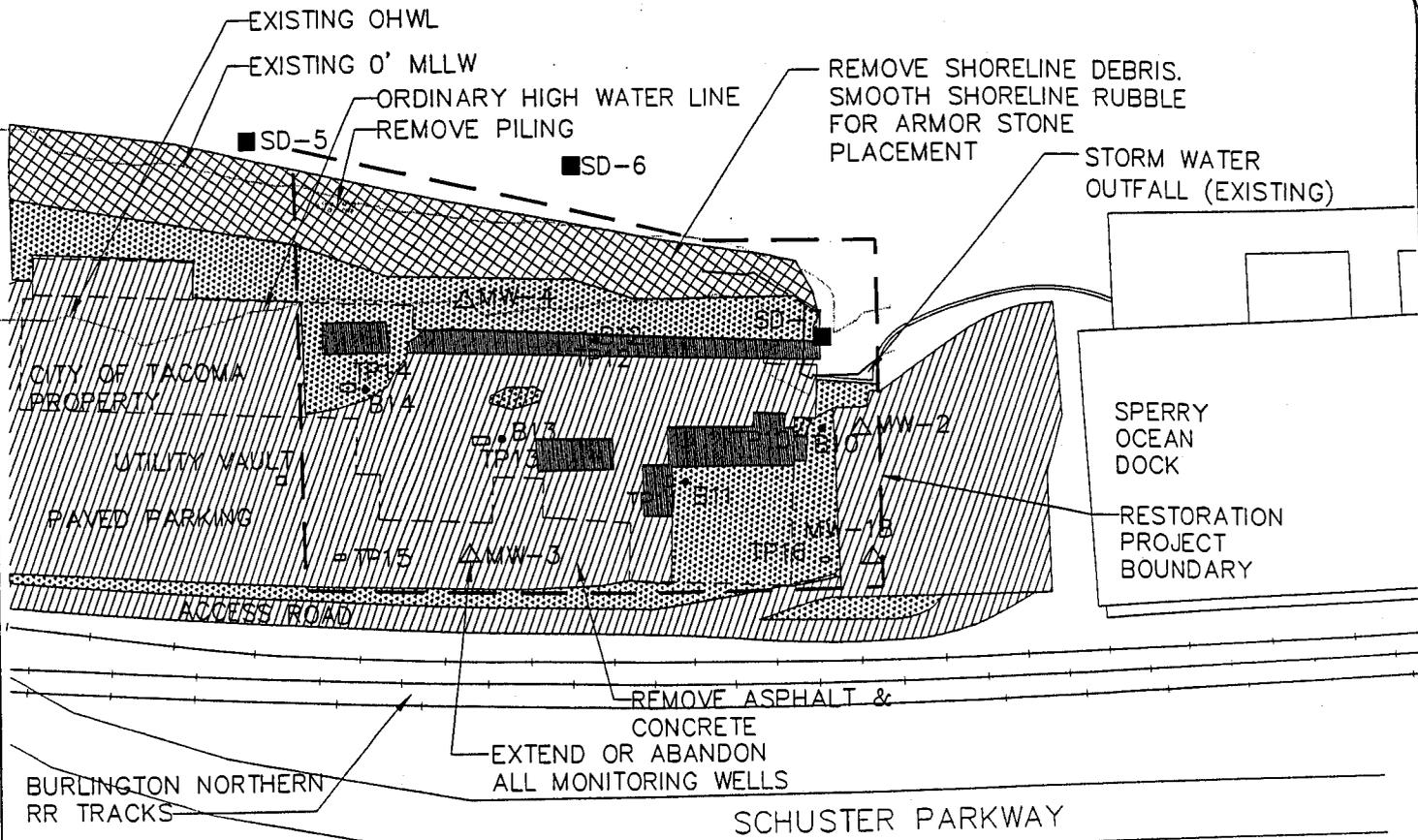
TAHOMA SALT MARSH RESTORATION



DATUM: MLLW

SCALE: AS NOTED

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 1 OF 12 FEBRUARY 2003



NOTES:  
 1. VEGETATION IS MINIMAL, WEEDS & NON-NATIVES.

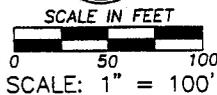
LEGEND

MONITOR WELL	ΔMW-2		SOIL/SAND/GRAVEL
TEST PIT	□ TP13		CONCRETE
BORING LOCATION	• B13		ASPHALT
SEDIMENT SAMPLE	■ SD-7		BROKEN CONCRETE RUBBLE
FORMER WAREHOUSE (DEMOLISHED 1/96)			

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

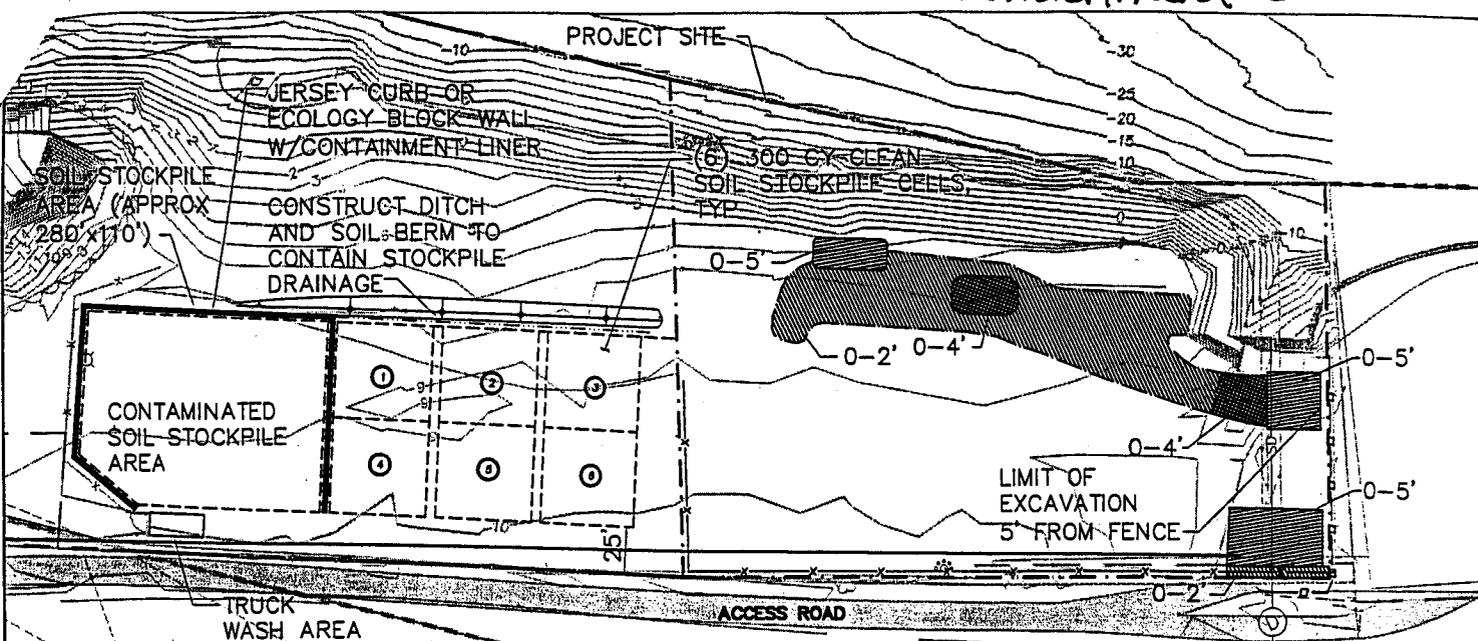
DATUM: MLLW

EXISTING CONDITIONS & DEMOLITION PLAN



TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 2 OF 12 FEBRUARY 2003



**LEGEND**

EXPECTED ZONES OF EXCAVATION OF SOIL WITH CONTAMINANT CONCENTRATIONS EXCEEDING PROJECT CLEAN UP GOALS. DEPTHS APPLY FROM EXISTING GROUND SURFACES, INCLUDING CONCRETE AND ASPHALT SLABS AND PAVEMENT.

-  0-2 FT
-  0-4 FT
-  0-5 FT

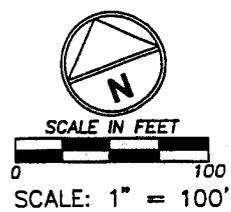
**NOTES:**

1. CONTAMINATED AREA EXCAVATION TO BE FIELD STAKED BY ENGINEER.
2. ADDITIONAL CONTAMINATED SOIL EXCAVATION OR CAP PLACEMENT AREAS TO BE DETERMINED FOLLOWING INITIAL EXCAVATION. COMPLETE AS DIRECTED BY ENGINEER IN FIELD.
3. EXCAVATE SITE IN 300 CY INCREMENTS AND STOCKPILE. OWNER WILL COMPLETE STOCKPILE AND EXCAVATION AREA SOIL SAMPLING AND ANALYSES. SEE SPECIFICATIONS.
4. ANTICIPATE STANDBY DAYS FOR OWNER SAMPLING AND TESTING. SEE SPECIFICATIONS.
5. CONTRACTOR TO DESIGN AND MANAGE STOCKPILE AREA AND DISPOSE OF RUNOFF AND DRAINAGE. SEE SPECIFICATIONS.

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

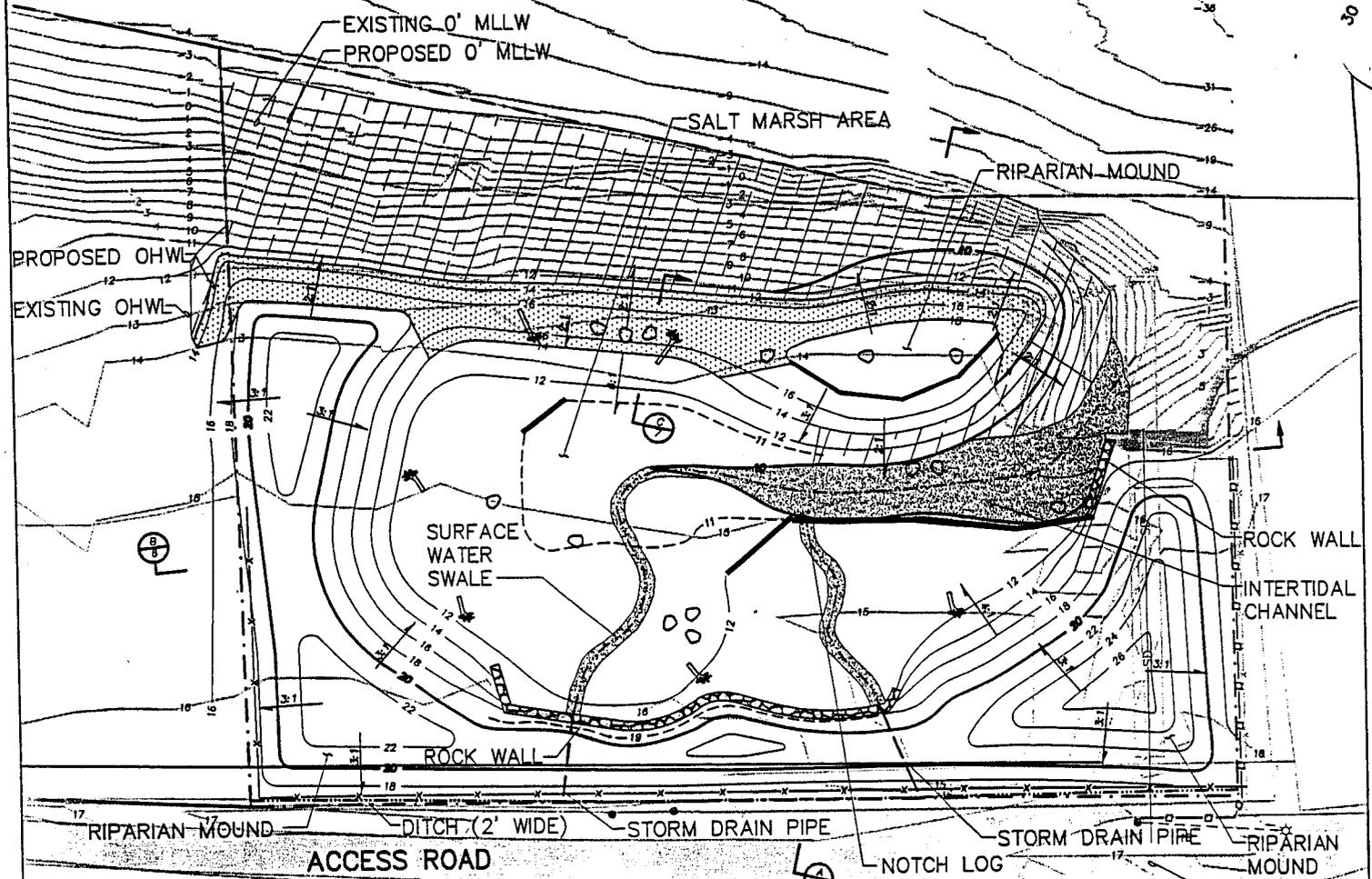
DATUM: FT. NGVD29

**CONTAMINATED SOIL EXCAVATION**



**TAHOMA SALT MARSH RESTORATION**

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 3 OF 12 FEBRUARY 2003



**LEGEND**

- SHORELINE ARMORING (RIPRAP W/FISH MIX)
- SHORELINE ARMORING (RIPRAP)
- INTERTIDAL CHANNEL
- INTERMEDIATE CONTOUR LINE
- SWALE
- ROUNDED NATURAL BOULDER (1. CY MIN.)
- LOG BERM
- ROOT WAD

RESTORATION ZONE	AREA (ACRES)
RIPARIAN (>14 FT MLLW)	0.66
SHORELINE BERM RIPARIAN (>14 FT MLLW)	0.06
RIPARIAN/SALT MARSH TRANSITION (12-14 FT MLLW)	0.12
SALT MARSH (10-12 FT MLLW)	0.41
SHORELINE BERM TOP (>13 FT MLLW)	0.13
SHORELINE (W/FISH MIX) (<13 FT MLLW)	0.40
INTERTIDAL CHANNEL	0.10
SUBTIDAL (UNCHANGED)	0.07
	1.95

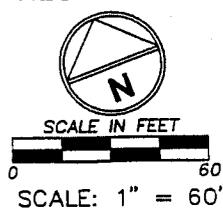
*Attachment D*

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

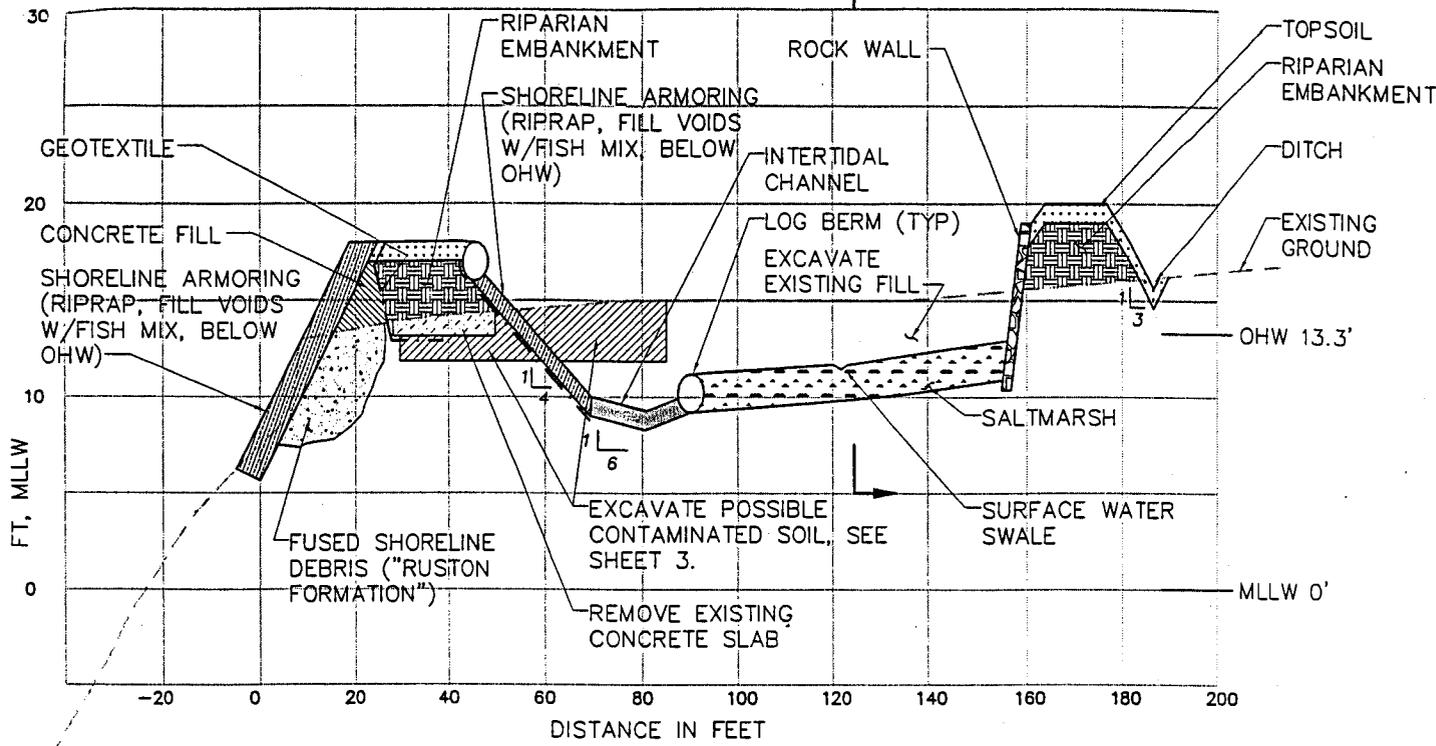
FINAL GRADING & RESTORATION

TAHOMA SALT MARSH RESTORATION

DATUM: MLLW



IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 4 OF 12 FEBRUARY 2003



SECTION A

LEGEND

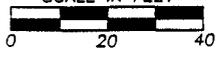
-  ESTIMATED LIMITS OF CONTAMINATED SOIL
-  WASTE CONCRETE FILL
-  RIPARIAN EMBANKMENT
-  SHORELINE ARMORING (RIPRAP W/FISH MIX)
-  SHORELINE ARMORING (RIPRAP)
-  SALT MARSH (SOIL AMENDED W/COMPOST)
-  TIDAL CHANNEL (FISH MIX)
-  SALT MARSH TRANSITION AREA (TOPSOIL W/EROSION CONTROL BLANKET)
-  TOPSOIL (W/EROSION CONTROL BLANKET)

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

DATUM: MLLW

SECTION A

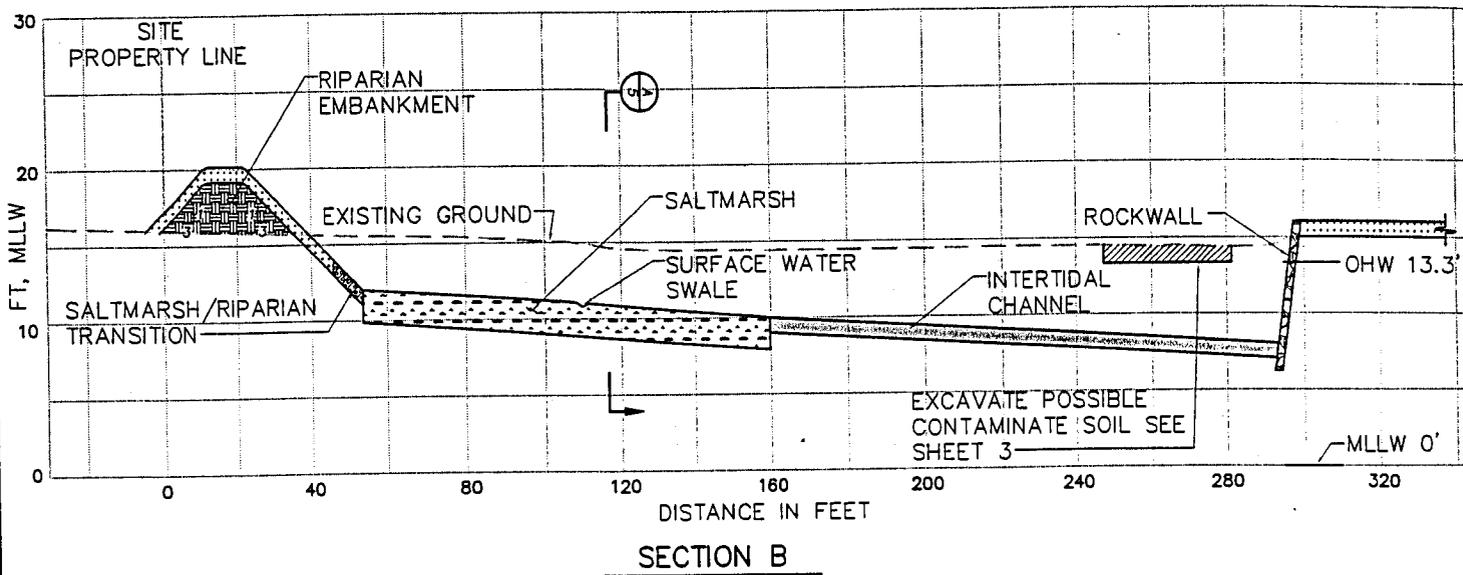
SCALE IN FEET



SCALE: 1" = 40'

TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 5 OF 12 FEBRUARY 2003



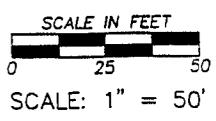
**LEGEND**

-  ESTIMATED LIMITS OF CONTAMINATED SOIL
-  WASTE CONCRETE FILL
-  RIPARIAN EMBANKMENT
-  SHORELINE ARMORING (RIPRAP W/FISH MIX)
-  SHORELINE ARMORING (RIPRAP)
-  SALTMARSH (SOIL AMENDED W/COMPOST)
-  TIDAL CHANNEL (FISH MIX)
-  SALTMARSH TRANSITION AREA (TOPSOIL W/EROSION CONTROL BLANKET)
-  TOPSOIL (W/EROSION CONTROL BLANKET)

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

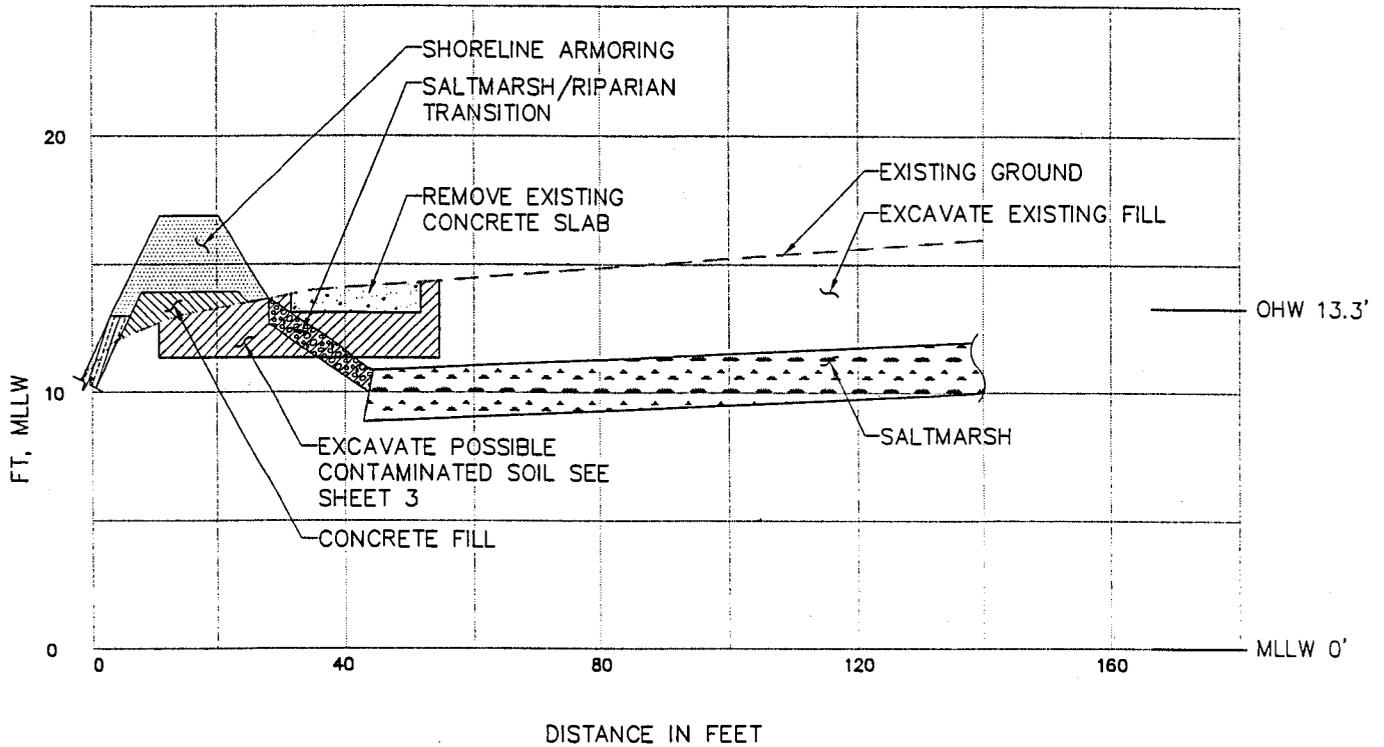
DATUM: MLLW

**SECTION B**



**TAHOMA SALT MARSH RESTORATION**

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 6 OF 12 FEBRUARY 2003



SECTION C

**LEGEND**

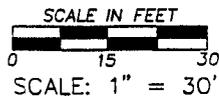
-  ESTIMATED LIMITS OF CONTAMINATED SOIL
-  WASTE CONCRETE FILL
-  RIPARIAN EMBANKMENT
-  SHORELINE ARMORING (RIPRAP W/FISH MIX)
-  SHORELINE ARMORING (RIPRAP)
-  SALT MARSH (SOIL AMENDED W/COMPOST)
-  TIDAL CHANNEL (FISH MIX)
-  SALT MARSH TRANSITION AREA (TOPSOIL W/EROSION CONTROL BLANKET)
-  TOPSOIL (W/EROSION CONTROL BLANKET)

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

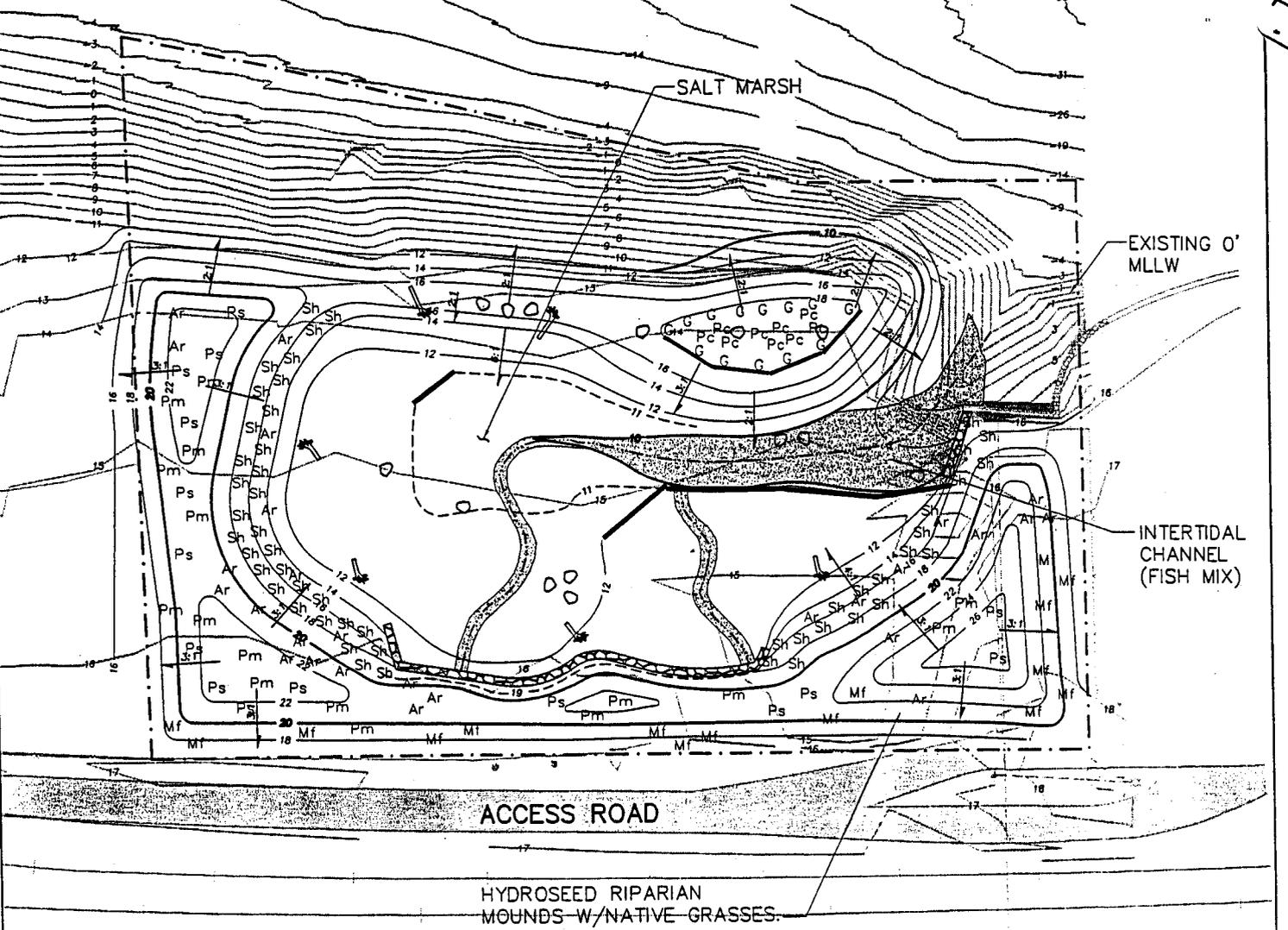
SECTION C

TAHOMA SALT MARSH RESTORATION

DATUM: MLLW



IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 7 OF 12 FEBRUARY 2003



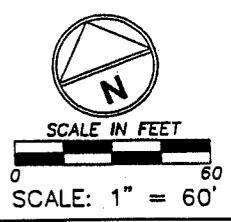
Attachment E

NOTE:  
SEE SHEET 9 FOR PLANT LIST.

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

DATUM: MLLW

PLANTING PLAN



TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 8 OF 12 FEBRUARY 2003

DATE: 02/12/03 FILENAME: S1564036P01.DWG-06 XREF: S: X31584036P01.DWG | A31564036P01.DWG |

**TREES & OTHERS**

Attachment 7

ABBREV.	SPECIES	COMMON NAME
Ar	ALNUS RUBRA	RED ALDER
Am	ARBUTUS MENZIESII	MADRONA
Mf	MALUS FUSCA	PACIFIC CRAB APPLE
Ps	PICEA SITCHENSIS	SITKA SPRUCE
Pc	PINUS CONTORTA 'CONTORTA"	SHORE PINE
Pm	PSEUDOTSUGA MENZIESII	DOUGLAS FIR
Sh	SALIX HOOKERIANA	HOOKERS WILLOW
G	GRINDELIA INTEGRIFOLIA VAR. MACROPHYLLA	GUMWEED

**SHRUBS**

NOTE: PLANT IN SINGLE SPECIES GROUPS OF 3 TO 12, IRREGULAR SPACING AND GROUPING

SPECIES	COMMON NAME
CEANOTHUS VELUTINUS	SNOWBRUSH
HOLODISCUS DISCOLOR	OCEANSPRAY
MAHONIA AQUIFOLIUM	OREGON GRAPE
PHILADELPHUS LEWISII	MOCK ORANGE
RIBES SANGUINEUM	RED-FLOWERING CURRANT
ROSA GYMNOCARPA	BALDHIP ROSE
RUBUS PARVIFLORUS	THIMBLEBERRY

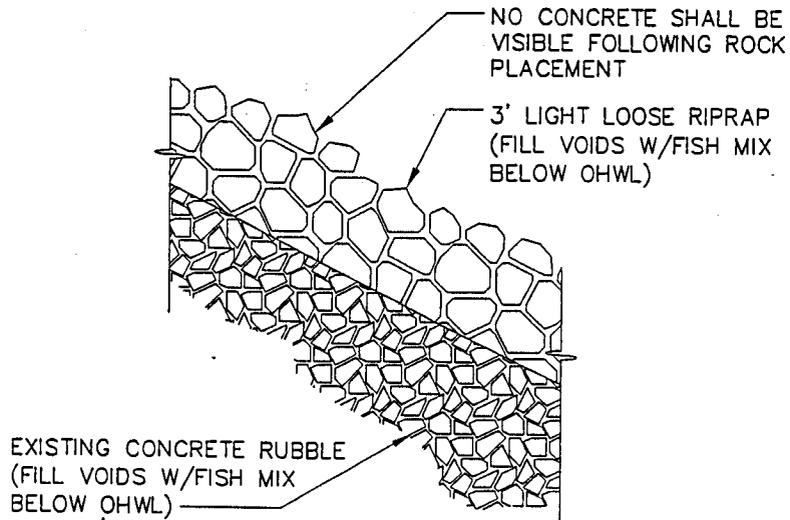
**EMERGENT/SALT MARSH PLANT ZONE SCHEDULE**

NOTE: PLANT IN SINGLE SPECIES GROUPS OF 50 TO 200

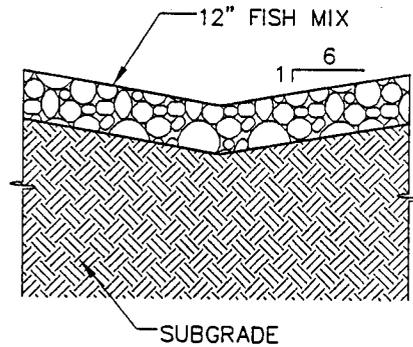
SPECIES	COMMON NAME
CAREX LYNGBYE!	LYNGBY SEDGE
DISTICHLIS SPICATA	SALT GRASS
JUNCUS BALTICUS	BALTIC RUSH
SALICORNIA VIRGINICA	PICKLEWEED
TRIGLOCHIN MARITIMUM	SEASIDE ARROW GRASS
SCIRPUS ACUTIS *	HARDSTEM BULRUSH
SCIRPUS AMERICANUS *	AMERICAN THREE-SQUARE BULRUSH
JUNCUS GERARDII *	MUD RUSH
SCIRPUS MARITIMUS *	SEACOAST BULRUSH

\* PLANT AROUND EDGE OF SALT MARSH, BETWEEN ELEVATION +12 AND +15 FT. MLLW.

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION	PLANT LIST	TAHOMA SALT MARSH RESTORATION
DATUM: MLLW		IN: SECTION 29, TOWNSHIP 21N, RANGE 3E COUNTY OF: PIERCE STATE OF: WA APPLICATION BY: CITY OF TACOMA SHEET 9 OF 12 FEBRUARY 2003

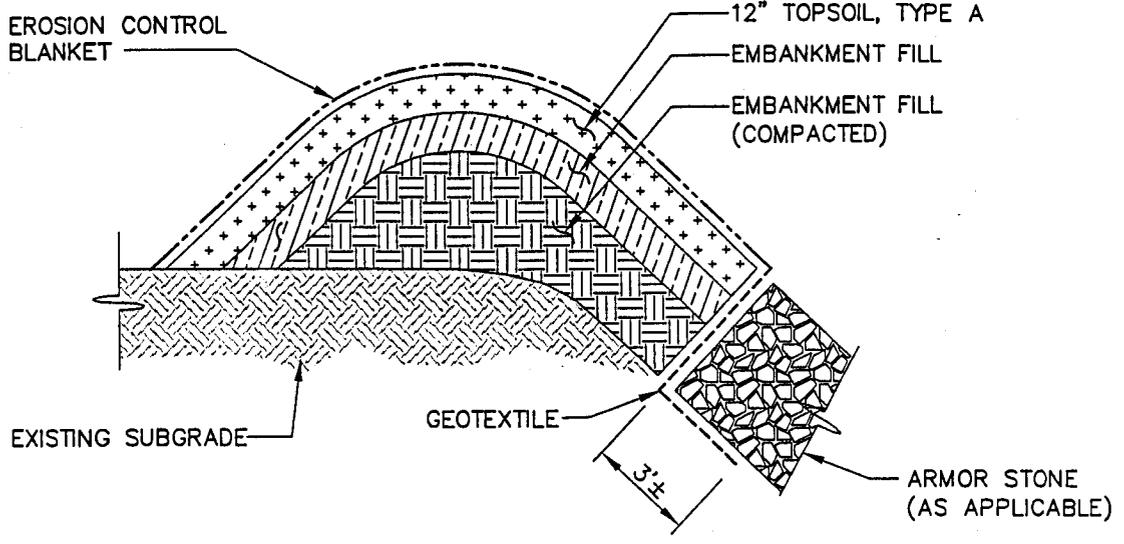


SHORELINE ARMORING

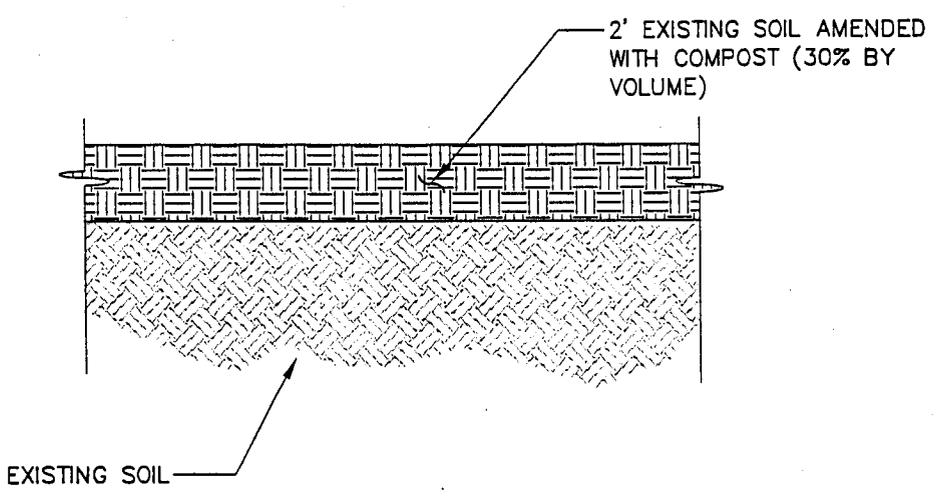


INTERTIDAL CHANNEL

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION	DETAILS	TAHOMA SALT MARSH RESTORATION
DATUM: MLLW	SCALE: NONE	IN: SECTION 29, TOWNSHIP 21N, RANGE 3E COUNTY OF: PIERCE STATE OF: WA APPLICATION BY: CITY OF TACOMA SHEET 10 OF 12 FEBRUARY 2003

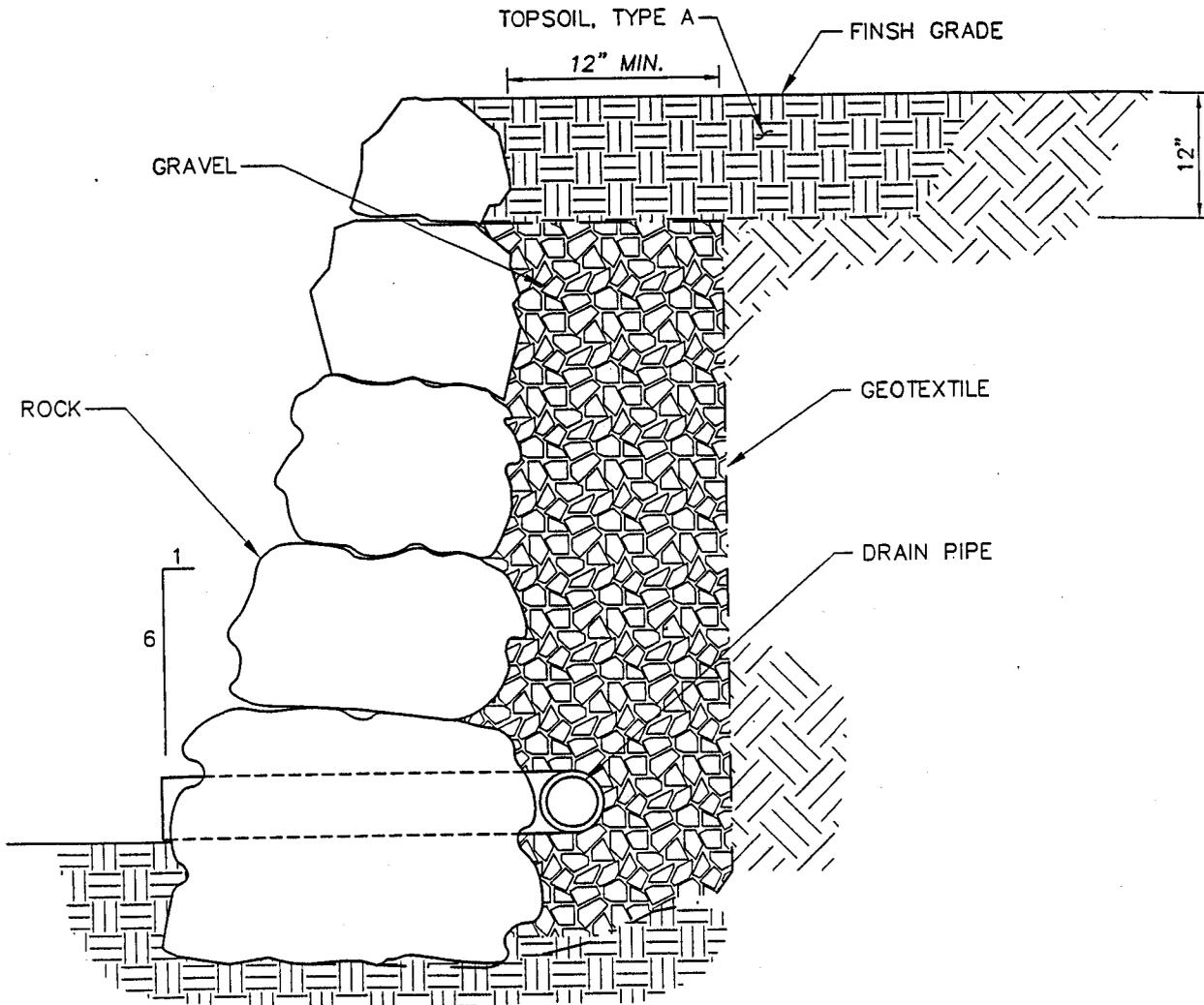


RIPARIAN EMBANKMENT

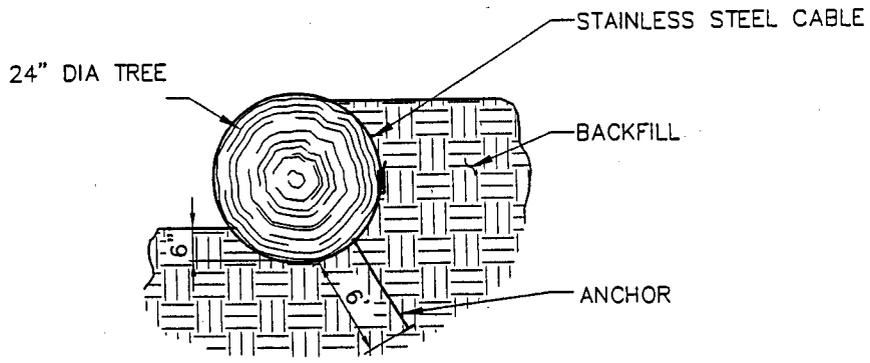


SALT MARSH SOIL

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION	DETAILS	TAHOMA SALT MARSH RESTORATION
DATUM: MLLW	SCALE: NONE	IN: SECTION 29, TOWNSHIP 21N, RANGE 3E COUNTY OF: PIERCE STATE OF: WA APPLICATION BY: CITY OF TACOMA SHEET 11 OF 12 FEBRUARY 2003



ROCKWALL



LOG BERM

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION	DETAILS	TAHOMA SALT MARSH RESTORATION
DATUM: MLLW	SCALE: NONE	IN: SECTION 29, TOWNSHIP 21N, RANGE 3E COUNTY OF: PIERCE STATE OF: WA APPLICATION BY: CITY OF TACOMA SHEET 12 OF 12 FEBRUARY 2003

Scott M. Hansen  
11419 86<sup>th</sup> Ave. E. #C  
Puyallup, WA. 98373  
(253) 845-6578  
Fax: (253) 383-2446  
E-mail: [ScottyMH@Worldnet.att.net](mailto:ScottyMH@Worldnet.att.net)

December 4, 2000

Karie Hayashi  
Building and Land Use Services Division  
Public Works Department  
747 Market Street, Room 345  
Tacoma, WA. 98402  
253-591-5387  
[Khayashi@ci.tacoma.wa.us](mailto:Khayashi@ci.tacoma.wa.us)

RECEIVED  
DEC 06 2000  
Ans'd

To Karie:

The following comments are pertaining to the Shoreline Management Substantial Development Permit/Exemption proposal number SHR2000-00031.

To start off with I am slightly perturbed that I found out about the comment period on this project proposal threw a third party. I am supposed to be on the mailing list for all shoreline related development proposals yet I was not notified of this pending action; I have been receiving notification in the past. In addition, my position as a commissioner on the Environmental Commission for the City of Tacoma should also trigger a red light to keep me on the receiving end of shoreline related agenda.

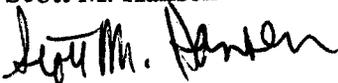
Do not get me wrong I am very much in support of restoring damaged habitat in our shorelines. Especially since we have, only 1% left of our estuary/nearshore habitat that is still in a viable state. Thus, I want to show support for the City of Tacoma's efforts to yet bring back some more nearshore/salt marsh habitat to the Commencement Bay area of ours. Nevertheless, I have some concerns about the proposal that I feel should be addressed so the project can move ahead and become beneficial habitat for aquatic and terrestrial wildlife species.

- 1) I would like to see the Adaptive Management Plan that will be developed; I feel that this should be done before a permit is issued. In addition, I do feel that a permit procedure should be the course of action to take place. The reasoning is that for one I would like to see what further activities might or will take place associated with this project.
- 2) What types of monitoring and maintenance provisions and procedures will take place for the restoration project. I would like to see the thoroughly developed plans before a permit is issued.
- 3) I feel the results of the subsurface exploration should be made available before any further steps are taken in the permit issuing process.

- 4) Are the native vegetation plants that are going to be used grown in this area to be acclimated to this area to insure a successful project?
  - 5) Where is this debris from the excavation process going to be taken and used?
  - 6) When this tidal channel component of the project is completed, will it then only provide connectivity at high tide or throughout the different tidal levels?
  - 7) Will fill material come from any sediment cleanup activities from other parts of Commencement Bay?
  - 8) Another issue is that I feel the Project Construction Plan should be made available for review before issuance of a permit.
  - 9) This fill material should be close in composition with the current native intertidal material.
  - 10) Will seed stock for invertebrates etc. be used to get a running start on those populations success?
  - 11) What will minimize erosion effects, such as from storm runoff, while the salt marsh plants and other vegetation are growing in time to take over control of this problem?
  - 12) Would like to see a planting plan before approval of issuing a permit.
  - 13) How will the invasive plants be eradicated?
  - 14) What are other species of native vegetation that will be used or are those listed just the type that will be planted?
  - 15) Would the paths and pedestrian areas be accessible to the disabled and elderly?
  - 16) I feel the calculations that say only an additional 2-3 cars use per day is an estimate that is way to low, especially on a nice spring or summer day when so many people go down to the Ruston Way area. Thus an already stressed parking situation is increased.
  - 17) Has a hydrology study been done? This would be needed to ascertain fresh water influence on the estuary and the development of it and its aquatic vegetation.
  - 18) Is there an underground stream that has been associated in the area of the adjoining park on the other side of Ruston Way. So wouldn't that have influence on the estuary development as far as subsurface fresh water influx.
  - 19) What soil sampling has been done to ascertain any possible contaminants in the subsurface that could have detrimental effects on the restoration sites.
- These concerns need to be addressed before any project of this magnitude and importance is permitted. We need this type of habitat for the Commencement Bay ecosystem but it must be developed in a manner that will make it viable part of the entire Bay area and not one that would possibly become a detriment to the aquatic and terrestrial species in the area.

Sincerely,

Scott M. Hansen



Comment:

1. I would like to see the Adaptive Management Plan that will be developed; I feel this should be done before the permit is issued. In addition, I do feel that a permit procedure should be the course of action to take place. The reasoning is that for one I would like to see what further activities might or will take place associated with the project.

Response:

This project is being developed pursuant to a consent decree between the City of Tacoma and Commencement Bay Natural Resource Trustees. This project concept was described in that consent decree in appendix C. As such, the schedule for development and the content of the project itself were subject to public comment at that time. No actions other than the excavation, backfill, and planting described in the permit application are currently planned for the site. The adaptive management plan will be developed under the oversight of the Trustees, experts in restoration science in Commencement Bay. The trustees conduct quarterly public meetings where restoration projects are discussed. The City has also solicited comment from technical staff at Citizen's for a Healthy Bay (where Mr. Hansen is a Board Member) during project development. We feel that these procedures have and will continue to offer ample opportunity for public input.

Comment:

2. What types of monitoring and maintenance provisions and procedures will take place for the restoration project. I would like to see the thoroughly developed plans before the permit is issued.

Response:

The types of monitoring procedures will include:

- qualitative, descriptive methods for vegetation monitoring;
- quantitative methods for determining vegetative cover of native versus invasive species;
- monitoring of physical processes, such as erosion and deposition.

Maintenance activities may include: providing protection for plants from herbivory, erosion control as necessary, replanting of vegetation, watering plants during dry season until establishment, and invasive plant control.

The Maintenance and Monitoring plans will be developed under the review and oversight of the Trustees.

Comment:

3. I feel the results of the subsurface exploration should be made available before any further steps are taken in the permit issuing process.

Response:

The City's consultants prepared a Site Characterization report which was reviewed by the Trustees and the Department of Ecology. A copy of this document is available by contacting:

Mr. John O'Loughlin  
2201 Portland Ave  
Tacoma, WA 98421  
Phone: 253-502-2108  
Fax: 253-502-2107  
E-mail: joloughl@cityof tacoma.org

Comment:

4. Are the native vegetation plants that are going to be used grown in this area to be acclimated to this area to insure a successful project.

Response:

The native plants to be used on this project will be grown at a local nursery from local seed stock. As such, the vegetation will be acclimated to the Commencement Bay area.

Comment:

5. Where is the debris from the excavation process going to be taken and used?

Response:

Clean soil material from the excavation will be reused on site or on the adjacent site of the Chinese reconciliation Park project to the maximum extent practicable. Any contaminated material that is excavated will be treated or disposed at a permitted facility.

Comment:

6. When the tidal channel component of the project is completed, will it then only provide connectivity at high tide or through out the the different tidal levels?

Response:

The plan shows the mouth of the tidal channel at an elevation of approximately 0 feet MLLW. This will allow connectivity through the majority of the tidal cycle.

Comment:

7. Will fill material come from any sediment cleanup activities from other parts of Commencement Bay?

Response:

The project will specify the required physical and chemical characteristics of the appropriate substrate in order to match native conditions as well as practicable. A potential source of fill associated with any particular activity in Commencement Bay would depend on compliance with the spec, availability and cost. Fill material will not be accepted from a contaminated site.

Comment:

8. Another issue is that I feel the Project Construction Plan should be made available for the review before the issuance of a permit.

Response:

The project construction plan will be reviewed by the Commencement Bay Natural Resource Trustees.

Comment:

9. This fill material should be close in composition with the current native intertidal material.

Response:

The site is an historical fill, therefore little of the current intertidal material is "native". However, the project intends to restore "native" conditions to the maximum extent practicable.

Comment:

10. Will seed stock for invertebrates etc. be used to get a running start on those populations success?

Response:

The project will rely on natural colonization for invertebrates.

Comment:

11. What will minimize erosion effects, such as from storm runoff, while the salt marsh plants and other vegetation are growing in time to take over control of this problem?

Response:

Jute mats will cover the slopes on the site to protect against erosion. Slopes subject to wave action may be protected stone.

Comment:

12. Would like to see a planting plan before approval of issuing a permit.

Response:

The project planting plan will be reviewed by the Commencement Bay Natural Resource Trustees.

Comment:

13. How will invasive plants be eradicated?

Response:

Invasive plant control will be accomplished through physical means (uprooting and/or cutting) or potentially through the targeted use of herbicides.

Comment:

14. What are other species of native vegetation that will be used or are those listed just the type that will be planted?

Response:

Other potential plantings may include: Tall Oregon grape (*Berberis aquifolium*), salmonberry (*Rubus spectabilis*), native roses (*Rosa nutkana*), Douglas fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*)

Comment:

15. Would the paths and pedestrian areas be accessible to the disabled and the elderly?

Response:

The public access paths will be coordinated through the Chinese Reconciliation Park and are anticipated to be accessible to the disabled and the elderly.

Comment:

16. I feel the calculations that say only an additional 2-3 cars use per day is an estimate that is way too low, especially on a nice spring or summer day when so many people go down to the Ruston Way area. Thus an already stressed parking situation is increased.

Response:

We feel that the estimate is reasonable based on experience with other restoration projects in Commencement Bay. If the project were redesigned to include a parking lot, the habitat value of the resulting design would obviously be greatly diminished and project goals would be significantly compromised.

Comment:

17. Has hydrology study been done? This would be needed to ascertain fresh water influence on the estuary and the development of it and its aquatic vegetation.

Response:

The ground water levels in five wells in the project area have been monitored over the course of the tidal cycle to ascertain information on the hydrology of the area. This information will be used in consideration of the influence of freshwater on the site.

Comment:

18. Is there an underground stream that has been associated in the area of the adjoining park on the other side of Ruston Way? So wouldn't that have influence on the estuary development as far as subsurface fresh water influx?

Response:

There is a storm water line that comes down through Garfield Gulch and discharges to Commencement Bay at the eastern end of the site and some calculations have been made to estimate the volume. The presence of this freshwater discharge has been considered in the design of the project. We do not anticipate that this storm water will have a

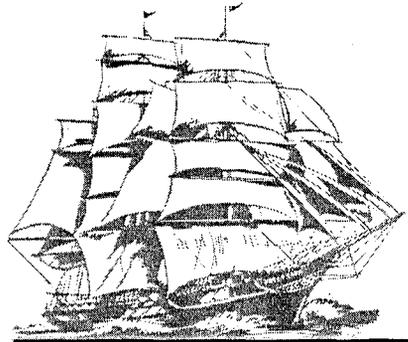
substantial impact on subsurface freshwater influx because it is contained within a pipe and discharged directly to the bay. We are not aware of any evidence of an "underground stream."

Comment:

19. What soil sampling has been done to ascertain any possible contaminants in the subsurface that could have detrimental effects on the restoration sites?

Response:

The City's consultants prepared a Sampling and Analysis Plan, which was implemented in February of 2000 and more than 40 soils samples were taken. A Site Characterization report and a Focused Feasibility Study (which were reviewed by the Trustees and the Department of Ecology) were prepared to evaluate the potential effects of the contamination found on the site. A Restoration / Cleanup Action Plan, outlining the contamination on site and the actions being taken to cleanup and restore the site, will be prepared and submitted for public review and comment in early 2001.



# Sperry Ocean Dock, Ltd.

15001 28th Ave. S.W.  
P.O. Box 349  
Seahurst, WA 98062-0349  
sperryocean@worldnet.att.net  
(206) 835-5694  
Fax: (206) 835-5695

December 6, 2000

DEC - 8 2000

Ms. Karie Hayashi, Build & Land Use  
Public Works Department  
747 Market St. Room 345  
Tacoma, WA 98402

Re. SH2000-00031, Tahoma Salt Marsh Restoration  
1741 North Schuster Parkway

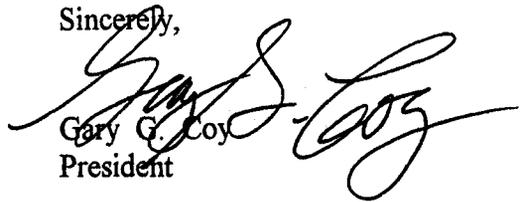
Dear Ms. Hayashi,

We have three concerns:

1. How far from our existing fence, on the west side of our parking lot will the excavation begin? Concern - erosion that could under cut our fence and parking area.
2. On the detail that was attached, it shows a berm "riparian" area on the waterside of our road, the road that parallels the R/R tracks. Will there be a fence placed along this area? Concern - attractive nuisance, there are walkers, and bicycles that will, and do go down the road. Will go over the berm "riparian" and into this "tidal channel area".
3. Our road way along side the R/R tracks, at times be comes a low point for rain run off. When there has been excessively heavy rain we have observed some water build up on the edge of our paving. The section A - A shows the berm "riparian" to be equal in size to our road area. How is the water on our side of the berm "riparian" going to be handled? Concern - just letting water build up on our road way, it would be trapped, waiting to evaporate, we do not think will work. It could jeopardize the security access to our property.

Our office on November 1 moved to the above shown address. The post office seemed to have taken a little more time than I would think necessary in forwarding. Could you have your records show this change for future mailings. Please still consider our concerns.

Sincerely,

  
Gary G. Coy  
President

Comment:

1. How far from our existing fence, on the west side of our parking lot will the excavation begin? Concern – erosion that could under cut our fence and parking area.

Response:

The excavation will end approximately 50 feet from the edge of the Sperry fence. This should provide ample buffer for protection of the adjacent property.

Comment:

2. On the detail that was attached, it shows a berm “riparian” area on the waterside of our road, the road that parallels the R/R tracks. Will there be a fence placed along this area? Concern - attractive nuisance, there are walkers, and bicycles that will, and do go down the road. Will go over the berm “riparian” area and into this “tidal channel area”.

Response:

We will investigate the feasibility of fence during project design. The presence of the berm and the planting of vegetation on it, including native roses, will provide a physical deterrent to the walkers and cyclists.

Comment:

3. Our road way along side the R/R tracks, at times becomes a low point for rain run off. When there has been excessively heavy rain we have observed some water build up on the edge of our paving. The section A-A shows the berm “riparian” to be equal in size to our road area. How is the water on our side of the berm “riparian” area going to be handled? Concern – just letting water build up on our road way, it would be trapped, waiting to evaporate, we do not think will work. It could jeopardize security access to our property.

Response:

The riparian berm will not be an impervious surface like the roadway. So this project is not likely to cause run off onto the roadway. However we will locally grade a low spot in the berm to prevent the accumulation of water from our site near the low spot on the road way.

Attachment K

DEC - 8 2000



CITIZENS FOR A HEALTHY BAY

December 6, 2000

917 Pacific Avenue  
Suite 406  
Tacoma, WA 98402  
Phone (253) 383-2429  
Fax (253) 383-2446  
chb@wa.net  
www.tacoma.net/~chb

Ms. Karie Hayashi  
Building and Land Use Services  
Public Works Department  
747 Market Street, Room 345  
Tacoma, WA 98402

Re: Tahoma Salt Marsh Project  
File Number SHR2000-00031

Dear Ms. Hayashi:

On behalf of Citizens for a Healthy Bay, (CHB), an organization representing over 900 members of the Commencement Bay community, thank you for the opportunity to review and comment on the above referenced permit application.

Citizens for a Healthy Bay has had an opportunity to review and comment on the Tahoma Salt Marsh draft feasibility study and strongly supports this project which will restore 1.95 acres of critical habitat to the Commencement Bay environs. Accordingly, we hope that construction of the Tahoma Salt Marsh will go as expeditiously as the permitting process will allow.

Sincerely:

  
Leslie Ann Rose  
Senior Policy Analyst

*Board of Directors*  
Linda Elliott  
Scott Hansen  
Kristi Lynett  
Lee Roussel  
Robert Stivers  
Sheri Tonn  
Allen Zulauf

A tax-exempt  
nonprofit organization with  
501(c)(3) status

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# HYDRAULIC PROJECT APPROVAL

RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

At the request of Desiree Pooley, City of Tacoma, on July 10, 2003, this Hydraulic Project Approval (HPA), which now supersedes all previous HPAs for this project, is a change of the original HPA issued May 19, 2003.

<u>PERMITTEE</u>	<u>AUTHORIZED AGENT OR CONTRACTOR</u>
City of Tacoma Public Works Department ATTENTION: Craig Sivley, P.E., Assistant Director 747 Market Street, Room 420 Tacoma, Washington 98402 (253) 591-5525 Fax: (253) 591-5097	City of Tacoma Environmental Services ATTENTION: Desiree' Pooley 2201 Portland Avenue Tacoma, Washington 98421 (253) 502-2126 Fax: (253) 502-2107

**DATA BASE PROJECT DESCRIPTION:** Remove 151 to 200 feet of manmade, concrete rubble bankline protection, and replace with 151 to 200 feet of natural earth, riprap ( $\geq 12$  inch average) bankline protection and cover with natural earth, sand/gravel; remove uplands and restore 1.95 acres of riparian vegetation and marine salt marsh composed of approximately  $\geq 500$  feet of natural earth riprap bankline protection ( $\geq 12$  inches and  $\leq 12$  inches) and rounded rock (6 to 8 inches) and cover with natural earth, sand/gravel, natural wood, raw (logs with rootball attached), and habitat, riparian, beach (salt marsh type).

**Simplified Project Description:** Enhance shoreline with large rock and supplement with Large Woody Debris (LWD) and beach sediment; create salt marsh estuary type habitat.

**PROJECT LOCATION:** 1741 North Schuster Parkway, Tacoma, WA 98403, N 47.27408', W 122.45783'

#	<u>WRIA</u>	<u>WATER BODY</u>	<u>TRIBUTARY TO</u>	<u>1/4 SEC.</u>	<u>SEC.</u>	<u>TOWNSHIP</u>	<u>RANGE</u>	<u>COUNTY</u>
1	12.9110	Commencement Bay	Dalco Passage	SW	29	21 North	03 East	Pierce

**NOTE:** This Hydraulic Project Approval pertains only to the provisions of the Washington State Fisheries and Wildlife Codes. It is the permittee's responsibility to apply for and obtain any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

### PROVISIONS

1. **TIMING LIMITATIONS:** The project may begin **Immediately** and shall be completed by **July 10, 2004**, provided:
  - a. Work below the ordinary high water line shall occur only from **August 1** through **February 14**, of any year. However, provided all contaminants sediments are kept from contact with waters of the state, work may also occur between **July 16** through **July 31**, of any year, under the following conditions:
    - i. In-water construction activity shall be permitted during daylight hours only (i.e., between 1 hour after sunrise and 1 hour before sunset), and no more than **5 days** in any **7 day** period.
2. **NOTIFICATION REQUIREMENT:** The permittee or contractor shall notify the Area Habitat Biologist (AHB) listed below of the project start date. Notification shall be received by the AHB at least seven working days prior to the



**HYDRAULIC PROJECT APPROVAL**  
RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

start of construction activities. The notification shall include the permittee's name, project location, starting date for work, and the control number for this Hydraulic Project Approval.

3. **NOTIFICATION REQUIREMENT:** The permittee or contractor shall notify WDFW Enforcement Officer Dustin Prater at (253) 209-2190 at least seven working days prior to the start of construction activities. Notification shall include the permittee's name, project location, starting date for work, and the control number for this Hydraulic Project Approval.
4. Work shall be accomplished per plans and specifications entitled, Tahoma Salt Marsh Natural Resources Restoration Project, dated March 1, 2001, and submitted to the Washington Department of Fish and Wildlife, except as modified by this Hydraulic Project Approval. These plans reflect design criteria per Chapter 220-110 WAC. These plans reflect mitigation procedures to significantly reduce or eliminate impacts to fish resources. A copy of these plans shall be available on site during construction.
5. All manmade debris on the beach shall be removed and disposed of upland such that it does not enter waters of the state. This includes any and all contaminated waste.
6. Inundation of excavated area by waters of the state shall not occur until any and all contaminated sediments have been removed and disposed of landward of the OHWL.
7. All portions of outer shorelines armoring (included that portion extending partially into the mouth of salt marsh) shall comply with the following size and specifications:
  - a. As per plans and specifications, concrete and manmade debris (rebar, Ruston Formation, etc.) should be removed to the extent practicable and disposed of upland.
  - b. Replacement armoring stone shall not exceed 2 feet in diameter.
  - c. Rock for shoreline armoring shall be composed of clean, angular material of a sufficient durability and size to prevent its being broken up or washed away by high water or wave action.
  - d. New rock shall be buried a minimum 18-inches below beach grade.
  - e. All shoreline rock shall be covered with 12-inches of sediment with the following sizes and specifications:
 

i. <u>Percent Less Than by Weight</u>	<u>Size</u>
100	2-in.
80-95	1.5-in.
50-80	3/4-in.
30-50	No.4 Sieve
0-8	No. 200 Sieve
  - ii. Gravel shall not contain silty or clay type soils.
  - iii. Gravel shall not be angular type rock.
  - iv. Graveling shall be conducted within 72 hours following bulkhead construction.



**HYDRAULIC PROJECT APPROVAL**  
**RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW**

State of Washington  
Department of Fish and Wildlife  
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48 Devonshire Road  
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DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

**Salt Marsh Armoring Specifications:**

8. The inner shoreline armoring of the salt marsh area shall comply with the following size and specifications:
  - a. Armoring shall be composed of 6 to 8 inch sized diameter clean, washed round cobble.
  - b. Cobble shall be buried a minimum of 18 inches below final grade;
  - c. All cobble shall be covered with 6-inch layer of sediment similar in size composition as indicated in HPA provision no. 7(e).
9. A one-foot layer of gravel shall be placed on the bed of the intertidal channel similar in sizes and specifications as noted below:
  - a. The bottom 8-inch layer shall be comprised of 6-inch minus and the top 4-inch layer shall be comprised of 2-inch minus, similar in grain size profile as noted in 7(e).
10. The salt marsh soil shall consist of a 2-foot layer of existing soil, or imported sandy material (<1/8 inch, clean, washed coarse sand) and amended with necessary organic and other soil supplements necessary to promote emergent salt marsh grass growth.
11. The salt marsh/riparian transition area shall be covered with a 12-inch layer of topsoil (as per specifications) and covered with an erosion control blanket composed of coconut mesh fiber, or other biodegradable organic, erosion control blanket.
12. All salt marsh vegetation shall be covered by a goose exclusion devices (GEDs) for a minimum of 5 years.
13. A minimum of 80 percent of vegetative plantings shall survive within the 5-year period that the GEDs are in place.
14. Six (6) to 8 inch rounded river rock shall be used as stormwater 'splash pads', where the stormwater outfall terminates into the salt marsh.
15. The surface area of the salt marsh swales shall be lined with a 6-inch layer of gravel, similar in size specifications as noted in HPA provision no. 7(e).
16. Large woody debris (LWD) sizes and specifications:
  - a. A minimum of 12 each LWD pieces shall be anchored between OHWL (~13.82 feet, MLLW) and mean higher high water line (MHHW, Commencement Bay = 13.82 ft, MLLW);
  - b. LWD shall be a minimum of 24-inches dbh (diameter-at-breast-height) and have a minimum 6 to 8 foot long trunk attached;
  - c. LWD shall be anchored to the bed using a manta ray type anchoring system, using minimum 1/2 inch diameter size chain;



**HYDRAULIC PROJECT APPROVAL**  
RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

- d. LWD shall be placed individually, or doubled up (2 pieces per location, rootball-to-log tip), but with equal on-center spacing along the periphery of shoreline within the salt marsh.
- 17. Project activities shall not occur when the project area, including the work corridor (excluding the area occupied by a grounded barge), is inundated by tidal waters.
- 18. Use of equipment on the beach shall be held to a minimum, confined to a single access point, and limited to a 50-foot work corridor waterward of the base rocks. Construction materials shall not touch the beach outside this work corridor.
- 19. Only suitable soils shall be used for backfilling that meet plan specifications and rock and or gravel with grain-size profiles as specified in HPA provision number 7.
- 20. Excavated materials containing silt, clay, or other fine grained soil shall not be stockpiled below the ordinary high water line.
- 21. If stockpiling of sand, gravel, and other coarse excavated material is conducted below the ordinary high water line, it shall be placed within a 25-foot work corridor waterward of the base rocks.
- 22. If sand, gravel, and other coarse excavated material is to be temporarily placed where it will come into contact with tidal waters, this material shall be covered with filter fabric and adequately secured to prevent erosion and/or potential entrainment of fish.
- 23. All excavated or stockpiled material shall be removed from the beach within 72 hours of bulkhead construction. Upon removal of the excavated material, the beach shall immediately be returned to the preproject natural grade.
- 24. All trenches, depressions, or holes created in the beach area shall be backfilled prior to inundation by tidal waters. Trenches excavated for base rocks may remain open during construction. However, fish shall be prevented from entering such trenches.
- 25. Disposal of excess dredged/excavated materials not used as backfill, or other project activities shall be deposited at an approved, designated Department of Natural Resources deep water disposal site, or to an approved upland disposal site.

SEPA: DNS by City of Tacoma final on June 20, 2001.

APPLICATION ACCEPTED: July 10, 2003

ENFORCEMENT OFFICER: Jackson 198 [P3]

David C. Molenaar (360) 902-8303  
Area Habitat Biologist

for Director  
WDFW

- cc: John Carlton
- Joyce Mercuri, Ecology
- Bob Clark, NOAA Restoration Program, Seattle
- Jennifer Steger, NOAA Restoration Program, Seattle



**HYDRAULIC PROJECT APPROVAL**  
RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

Ron Wilcox, USACE, Seattle  
Karie Hayashi, City of Tacoma Public Works Department  
John O'Loughlin, City of Tacoma Public Works Department

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**GENERAL PROVISIONS**

This Hydraulic Project Approval (HPA) pertains only to the provisions of the Fisheries Code (RCW 77.55 - formerly RCW 75.20). Additional authorization from other public agencies may be necessary for this project.

This HPA shall be available on the job site at all times and all its provisions followed by the permittee and operator(s) performing the work.

This HPA does not authorize trespass.

The person(s) to whom this HPA is issued may be held liable for any loss or damage to fish life or fish habitat which results from failure to comply with the provisions of this HPA.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All HPAs issued pursuant to RCW 77.55.100 or 77.55.200 are subject to additional restrictions, conditions or revocation if the Department of Fish and Wildlife determines that new biological or physical information indicates the need for such action. The permittee has the right pursuant to Chapter 34.04 RCW to appeal such decisions. All HPAs issued pursuant to RCW 77.55.110 may be modified by the Department of Fish and Wildlife due to changed conditions after consultation with the permittee: PROVIDED HOWEVER, that such modifications shall be subject to appeal to the Hydraulic Appeals Board established in RCW 77.55.170.

**APPEALS - GENERAL INFORMATION**

IF YOU WISH TO APPEAL A DENIAL OF OR CONDITIONS PROVIDED IN A HYDRAULIC PROJECT APPROVAL, THERE ARE INFORMAL AND FORMAL APPEAL PROCESSES AVAILABLE.

A. INFORMAL APPEALS (WAC 220-110-340) OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 77.55.100, 77.55.110, 77.55.140, 77.55.190, 77.55.200, and 77.55.290:

A person who is aggrieved or adversely affected by the following Department actions may request an informal review of:

- (A) The denial or issuance of a HPA, or the conditions or provisions made part of a HPA; or
- (B) An order imposing civil penalties.

It is recommended that an aggrieved party contact the Area Habitat Biologist and discuss the concerns. Most problems are resolved at this level, but if not, you may elevate your concerns to his/her supervisor. A request for an INFORMAL REVIEW shall be in WRITING to the Department of Fish and Wildlife, 600 Capitol Way North, Olympia, Washington 98501-1091 and shall be RECEIVED by the Department within 30-days of the denial or issuance of a HPA or receipt of an order imposing civil penalties. The 30-day time requirement may be stayed by the Department if negotiations are occurring between the aggrieved party and the Area Habitat Biologist and/or his/her supervisor. The Habitat Protection Services Division Manager or his/her designee shall conduct a review and recommend a decision to the Director or its designee. If you are not satisfied with the results of this informal appeal, a formal appeal may be filed.



**HYDRAULIC PROJECT APPROVAL**  
**RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW**

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

**B. FORMAL APPEALS (WAC 220-110-350) OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 77.55.100 OR 77.55.140:**

A person who is aggrieved or adversely affected by the following Department actions may request an formal review of:

- (A) The denial or issuance of a HPA, or the conditions or provisions made part of a HPA;
- (B) An order imposing civil penalties; or
- (C) Any other "agency action" for which an adjudicative proceeding is required under the Administrative Procedure Act, Chapter 34.05 RCW.

A request for a FORMAL APPEAL shall be in WRITING to the Department of Fish and Wildlife, 600 Capitol Way North, Olympia, Washington 98501-1091, shall be plainly labeled as "REQUEST FOR FORMAL APPEAL" and shall be RECEIVED DURING OFFICE HOURS by the Department within 30-days of the Department action that is being challenged. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, the deadline for requesting a formal appeal shall be within 30-days of the date of the Department's written decision in response to the informal appeal.

**C. FORMAL APPEALS OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 77.55.110, 77.55.200, 77.55.230, or 77.55.290:**

A person who is aggrieved or adversely affected by the denial or issuance of a HPA, or the conditions or provisions made part of a HPA may request a formal appeal. The request for FORMAL APPEAL shall be in WRITING to the Hydraulic Appeals Board per WAC 259-04 at Environmental Hearings Office, 4224 Sixth Avenue SE, Building Two - Rowe Six, Lacey, Washington 98504; telephone 360/459-6327.

**D. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS RESULTS IN FORFEITURE OF ALL APPEAL RIGHTS. IF THERE IS NO TIMELY REQUEST FOR AN APPEAL, THE DEPARTMENT ACTION SHALL BE FINAL AND UNAPPEALABLE.**



State of Washington  
**DEPARTMENT OF FISH AND WILDLIFE**

Region 6 Office: 48 Devonshire Road - Montesano, Washington 98563-9618 - (360) 249-4628

July 11, 2003

City of Tacoma Planning and Land Use  
ATTENTION: Karie Hayashi  
747 Market Street  
Tacoma, WA 98402

Dear Ms. Hayashi:

**SUBJECT: Request To Exempt Project From the Substantial Development Requirement, Tahoma Salt Marsh Project, 1741 North Schuster Parkway, Tacoma, WA 98403, N 47.27408', W 122.45783; Commencement Bay, Tributary to East Passage, SW 1/4, Section 2, Township 21 North, Range 03 East, Pierce County, WRIA 12.9110**

The Washington Department of Fish and Wildlife (WDFW) would like to take this opportunity to respond to a request by the City of Tacoma (City) on July 10, 2003, to exempt the Tahoma Salt Marsh project from the Substantial Development (SD) Permit Requirement.

Based on review of the project proposal WDFW has been determined that the request qualifies for exemption from the SD permit requirement according to WAC 173-27-040(p). Specifically, by this letter, WDFW has determined that the project is intended as an improvement to fish habitat and has been "appropriately designed and sited to accomplish the intended purpose" and has received a Hydraulic Project Approval (HPA) by our department (HPA Log Number ST-E9836-02). Finally, the local government (City) has indicated that the project is consistent with their local shoreline master program for this type of SD exemption.

Thank you for the opportunity to provide this information. If you have any questions, please contact me at (360) 249-1224.

Sincerely,

David C. Molenaar  
Area Habitat Biologist

DCM:dcm:GC.E9836.02

cc: Stephan Kalinowski  
Bob Burkle  
Jennifer Steger, NOAA Restoration Program, Seattle  
Ron Wilcox, USACE, Seattle  
Joyce Mercuri, Ecology  
Desiree' Pooley, City of Tacoma Environmental Services

43

Attachment m

Hayashi, Karie

**From:** Alford, Bart  
**Sent:** Tuesday, December 19, 2000 2:54 PM  
**To:** Hayashi, Karie  
**Subject:** Salt Water March project Ruston Way

the Salt water Marsh project will be adjacent to the proposed Chinese Reconciliation Park Project on Ruston Way. As the marsh project will be buffered and fenced from the Chinese Park Project, it should be compatible the park project.

Bart Alford  
Development Supervisor  
Tacoma Economic Development Department  
City of Tacoma Washington  
253-591-5393  
[balford@ci.tacoma.wa.us](mailto:balford@ci.tacoma.wa.us)  
**AMERICA'S # 1 WIRED CITY**

44

Attachment N

JUN 28 2001



Attachment D

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

June 26, 2001

Ms. Karie Hayashi  
Senior Lane Use Administration Planner  
Tacoma Public Works Department  
747 Market Street, Room 345  
Tacoma, WA 98402

Dear Ms. Hayashi

Thank you for the opportunity to comment on the determination of nonsignificance for the fill and grade of approximately 5,500 cubic yards of clean fill/top-soil media or similarly suitable material to restore 1.95 acres of upland, inter-tidal and sub-tidal lands for a fish habitat improvement project (Tahoma Salt Marsh Restoration/SEPA File No. SEP2000-00071) located along Schuster Parkway at 1741 Schuster Parkway as proposed by Craig Sivley, P.E., City of Tacoma Public Works Department. We reviewed the environmental checklist and regret that you will be receiving this comment after the comment deadline, but wanted to make sure you had the opportunity to consider it:

The City of Tacoma's permit should address floodplain management issues, that is the project should not increase base flood elevations by more than one-foot and should not create adverse flooding impacts on adjacent properties.

If you have any questions or would like to respond to this comment, please call **Mr. Dan Sokol (Floodplain Management)** at (360) 407-7253 or with any other questions regarding this proposal I can be reached at (360) 407-6787.

Sincerely,

Kari Rokstad  
SEPA Coordinator  
Southwest Regional Office

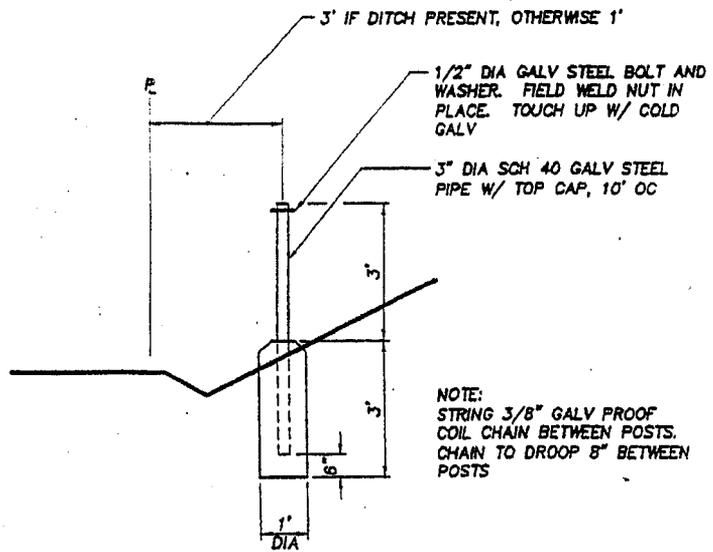
KR:aw (01-3708)

cc: Dan Sokol, SWRO/SEA

45



12" TOPSOIL  
 CLEAN SOIL FROM ON-SITE EXCAVATION, COMPACTED TO 90% MAX DENSITY, STANDARD PROCTOR



**BARRIER FENCE  
 DETAIL**

SCALE: 1" = 2'



2' CLEAN MATERIAL, TOTAL DEPTH. COULD INCLUDE CLEAN SOIL FROM ONSITE EXCAVATION, OR RIPRAP AS SPECIFIED ELSEWHERE.



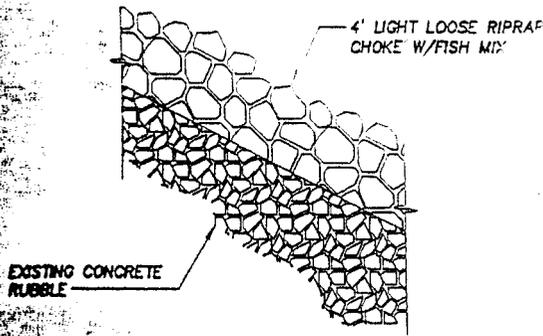
3' DEBRIS-FREE NATIVE SANDY SOIL, OR CLEAN SANDY SOIL EXCAVATED FROM ELSEWHERE ONSITE, AMENDED PER SPEC.



**NOT FOR CONSTRUCTION**

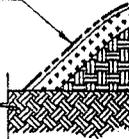
DATE	APPRO	DATE	APPRO	DATE	APPRO
		04/01	KF	AS NOTED	
			PMX	FILE NO: 15643608	

<b>CITY OF TACOMA          DEPARTMENT OF PUBLIC WORKS</b>	
TAHOMA SALT MARSH NATURAL RESOURCES RESTORATION PROJECT <b>DETAILS</b>	
TACOMA ENGINEER OF WORK	SHEET NO. <b>8 - 8</b>

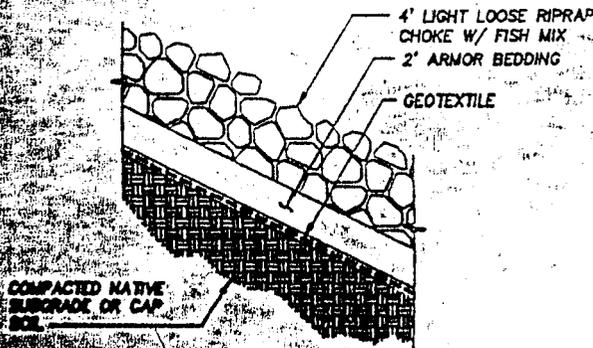


**SHORELINE STONE**  
**DETAIL**  $\frac{1}{6}$   
SCALE: 1" = 5'

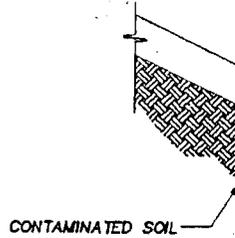
EROSION CONTROL MAT,  
ANCHORED TO SLOPE AT 4"  
OC. BOTH WAYS, W/  
FABRIC STAPLES.  
LAP JOINTS 6".



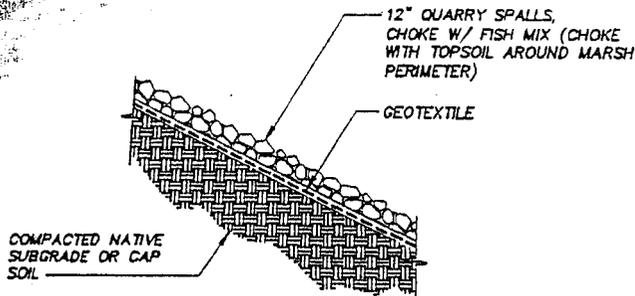
**RIPARIAN**  
**DE**  
SCALE



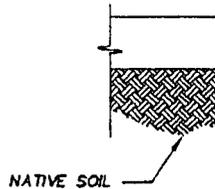
**ENTRANCE CHANNEL STONE**  
**DETAIL**  $\frac{2}{6}$   
SCALE: 1" = 5'



**CONTAMINATED**  
**DE**  
SCALE



**BASIN STONE**  
**DETAIL**  $\frac{3}{6}$   
SCALE: 1" = 5'



**MARSH**  
**DE**  
SCALE

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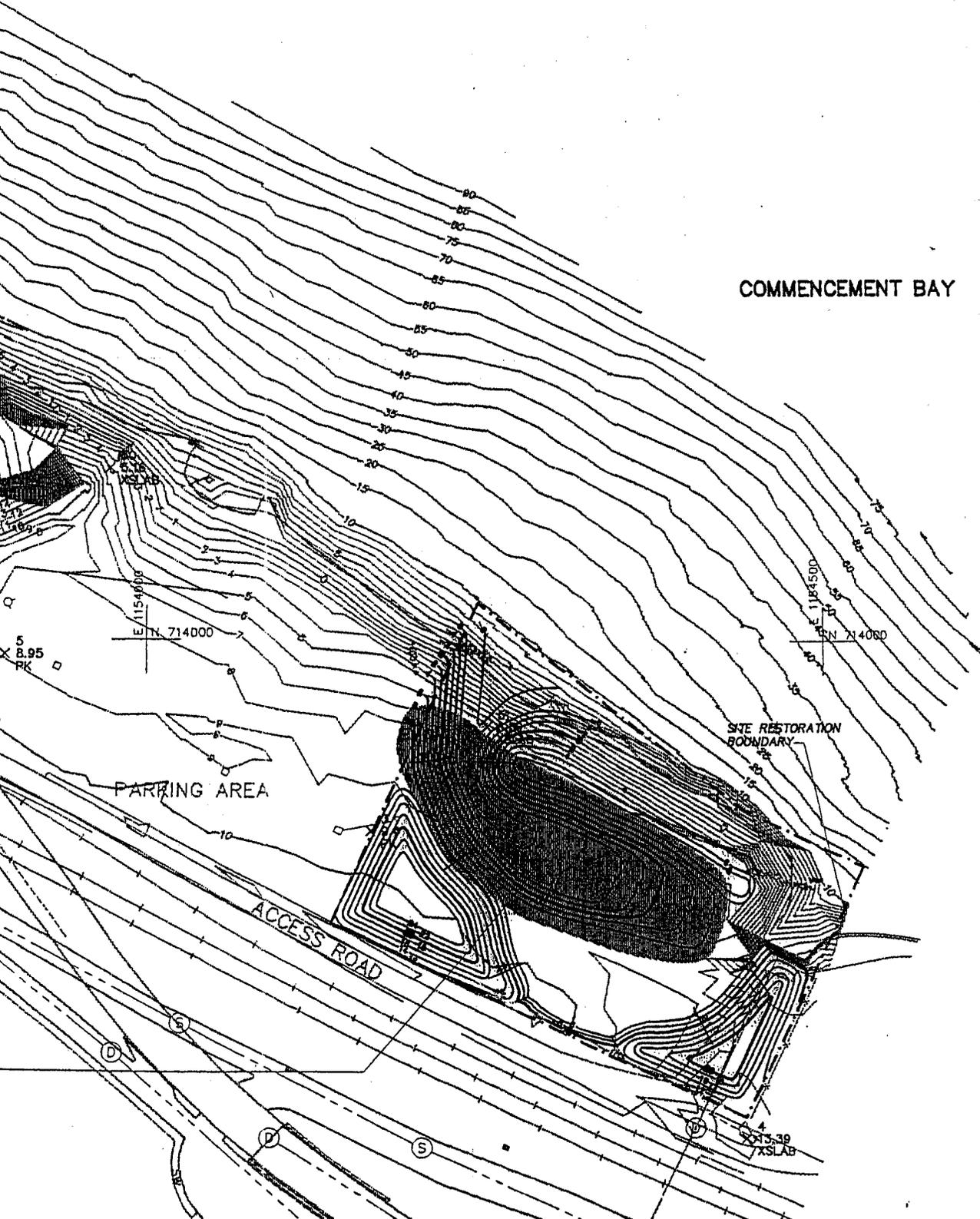
N 714500

**NOTES:**

1. OBTAIN APPROVAL FROM CITY PRIOR TO DISCHARGE. COMPLY WITH DISCHARGE REQUIREMENTS PER CITY OF TACOMA ORDINANCE 12.08. PAY APPLICABLE FEES.

E 1154500

N 714500



COMMENCEMENT BAY

NOT FOR CONSTRUCTION

FINAL DATE: 03/01 SCALE: 1"=50' BY: KF DATE: PMX FILE NAME: 15643606		CITY OF TACOMA DEPARTMENT OF PUBLIC WORKS TAHOMA SALT MARSH NATURAL RESOURCES RESTORATION PROJECT DEWATERING PLAN		SHEET NO. 7 OF 8
---	--	---	--	---------------------

E 1153000  
N 714500

E 1153500  
N 714500

DEWATERING EFFLUENT  
DISCHARGE LOCATION,  
SEE NOTE 1

TO BAY

SCHUSTER PARKWAY

BNRR

BAYSIDE

8  
X 18.51  
PK

99  
X 21.77  
SBM

ALTERNATE DEWATERING EFFLUENT  
DISCHARGE LOCATION (TO SANITARY SEWER)  
IF EFFLUENT CANNOT BE DISCHARGED TO  
STORM DRAIN DUE TO WATER QUALITY  
CONCERNS. SEE NOTE 1

DEWATERING AREA:  
INSTALL AND OPERATE  
POINT DEWATERING SYSTEM  
HABITAT BASIN CONSTRUCTION

**PLAN**

SCALE: 1" = 50'

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Fax: (253) 863-0946  
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Kirkland

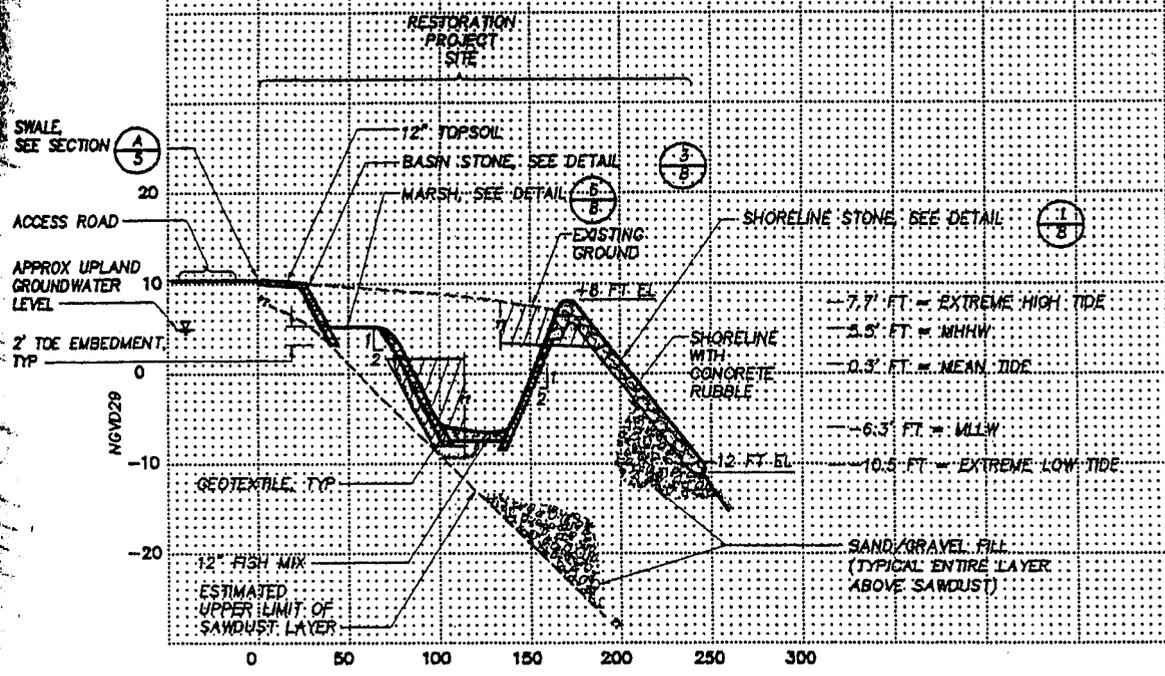
OREGON  
Portland

NO REVISION

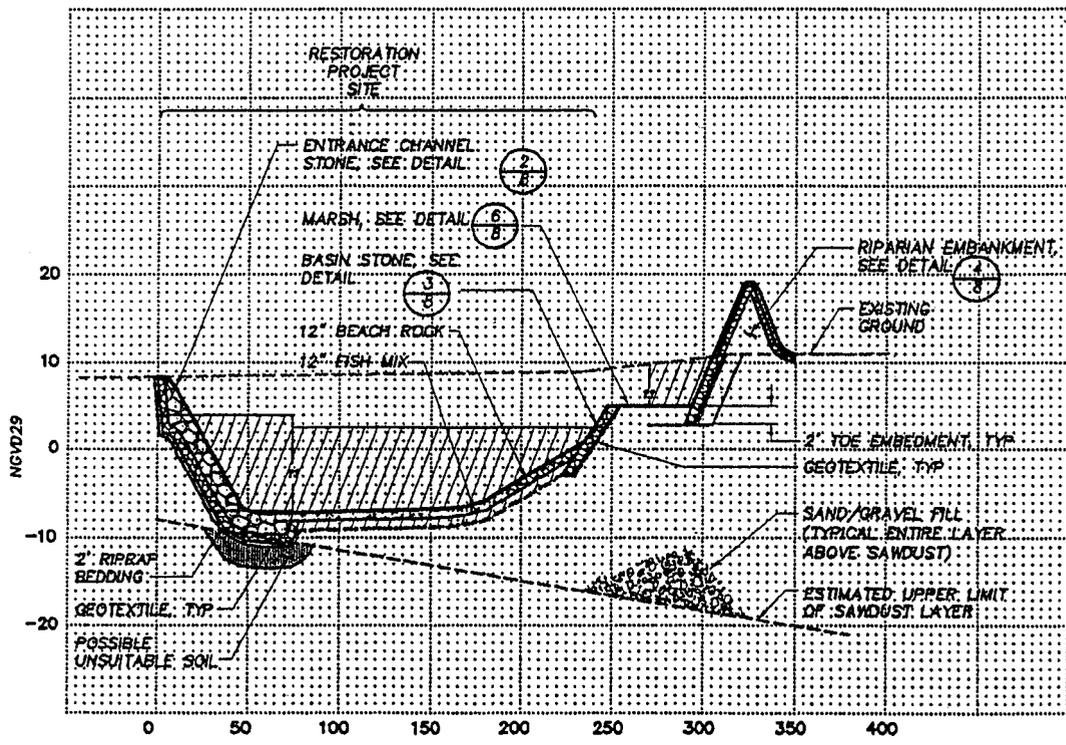
NOT FOR CONSTRUCTION

DATE 04/01	SCALE 1" = 50'	CITY OF TACOMA	
		DEPARTMENT OF PUBLIC WORKS	
BY KF	ENGINEER	TAHOMA SALT MARSH	
DATE PMX	FILE NO. 15643605	NATURAL RESOURCES RESTORATION PROJECT	
FIELD BOOK		CROSS-SECTIONS	6 8

ESTIMATED LIMITS OF CONTAMINATED SOIL



**GRADING PLAN SECTION A**  
 HORIZ: 1"=50'  
 VERT: 1"=10'



**GRADING PLAN SECTION B**  
 HORIZ: 1"=50'  
 VERT: 1"=10'

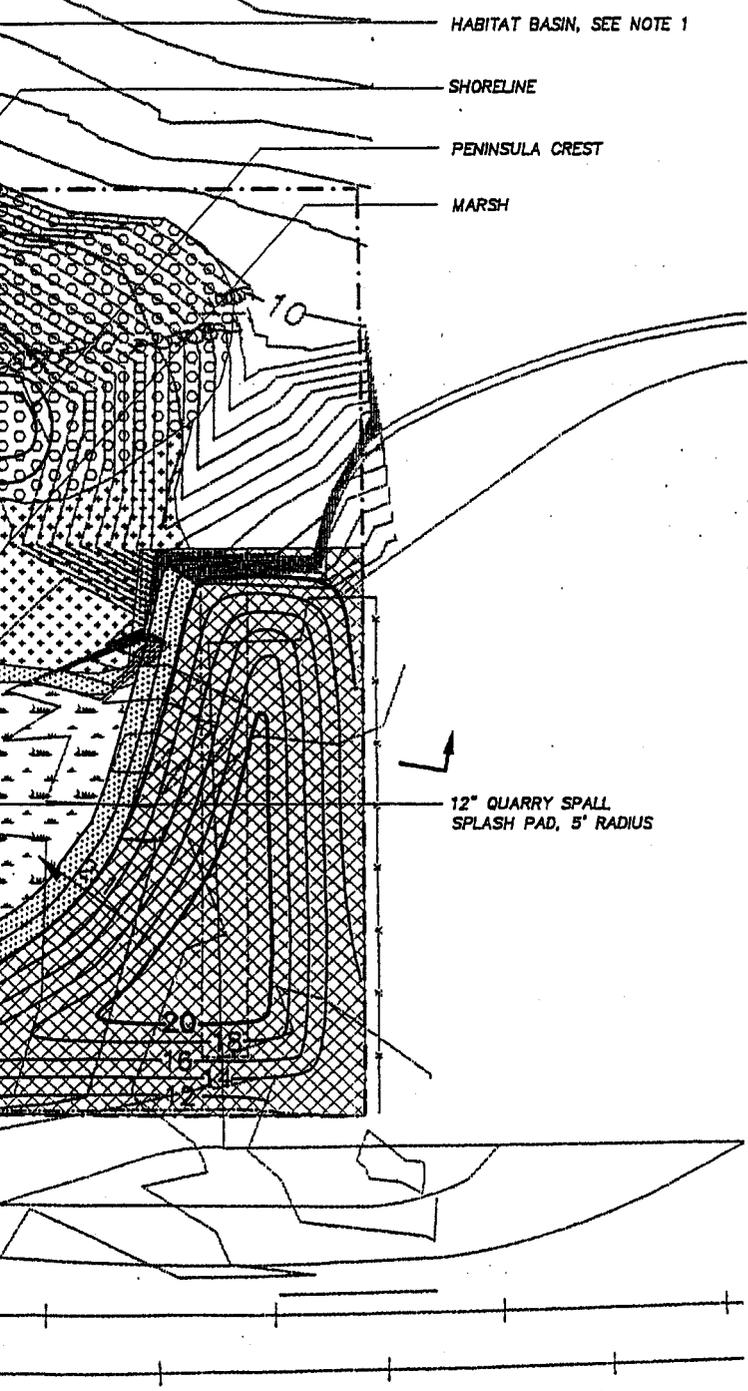
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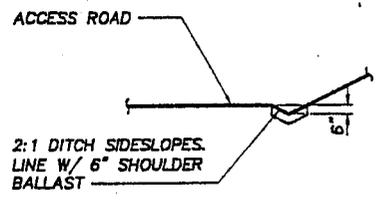
OREGON  
 Portland

-  RIPARIAN
-  BASIN SLOPES  
(STONE W/FISH MIX)
-  SHORELINE  
(LARGE STONE W/ FISH MIX)
-  MARSH
-  MUD FLAT/FISH MIX
-  BEACH
-  NO CHANGE
-  SWALE



**NOTES:**

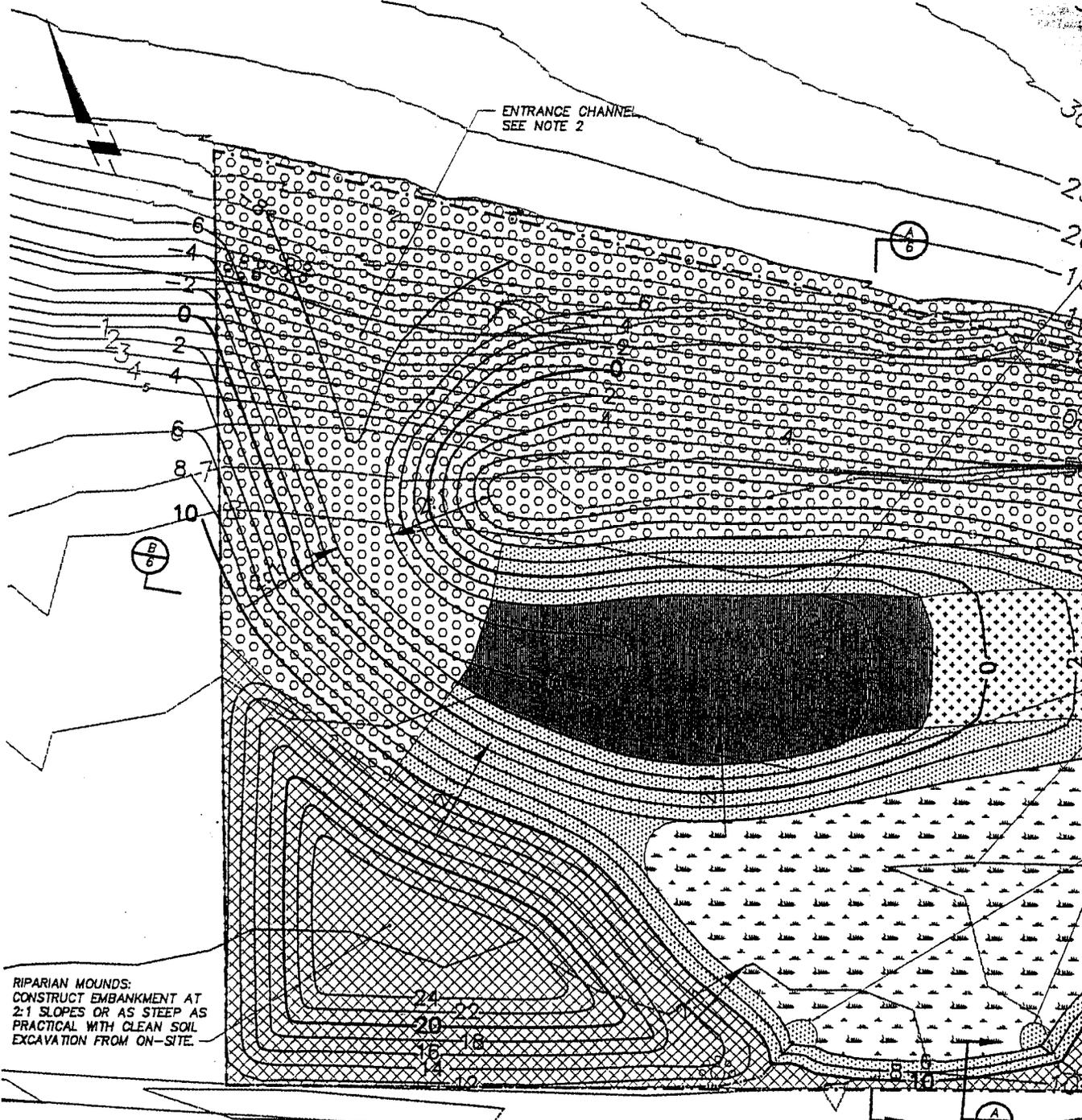
1. COMPLETE ALL EXCAVATION, CAPPING, AND ARMORING IN HABITAT BASIN PRIOR TO REMOVING DEWATERING SYSTEM AND EXCAVATING ENTRANCE CHANNEL.
2. PROTECT SIDESLOPES DURING EXCAVATION AND ARMOR PROMPTLY. COMPLETE EXCAVATION ABOVE 4 FT OUT OF WATER DURING LOW TIDES.



**SWALE SECTION**  
SCALE: 1" = 5'

**NOT FOR CONSTRUCTION**

DATE		APPRO	FINAL DATE OF CONSTRUCTION 03/01 SCALE 1" = 50'		CITY OF TACOMA <b>DEPARTMENT OF PUBLIC WORKS</b> TAHOMA SALT MARSH NATURAL RESOURCES RESTORATION PROJECT <b>FINAL GRADING PLAN</b>	SHEET NO. <b>5</b> - 8
BY	DATE	CHECKED KF	FILE NUMBER 15643607			
DATE	APPRO	FIELD BOOKS	TRAFFIC ENGINEER/NOV BY DATE			



ENTRANCE CHANNEL  
SEE NOTE 2

RIPARIAN MOUNDS:  
CONSTRUCT EMBANKMENT AT  
2:1 SLOPES OR AS STEEP AS  
PRACTICAL WITH CLEAN SOIL  
EXCAVATION FROM ON-SITE.

ACCESS ROAD

GRADING (CONSTRUCTION STEP 4)

PLAN

SCALE: 1" = 20'

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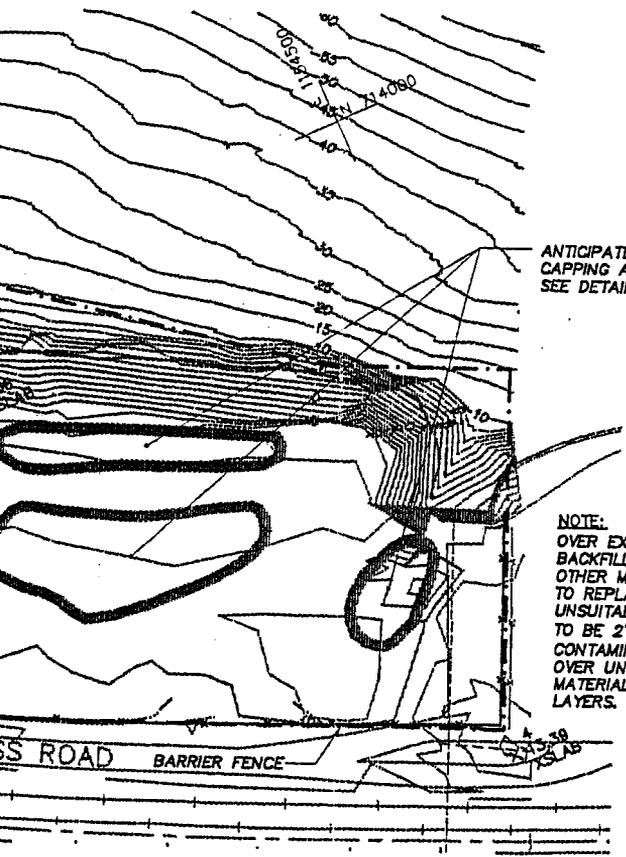
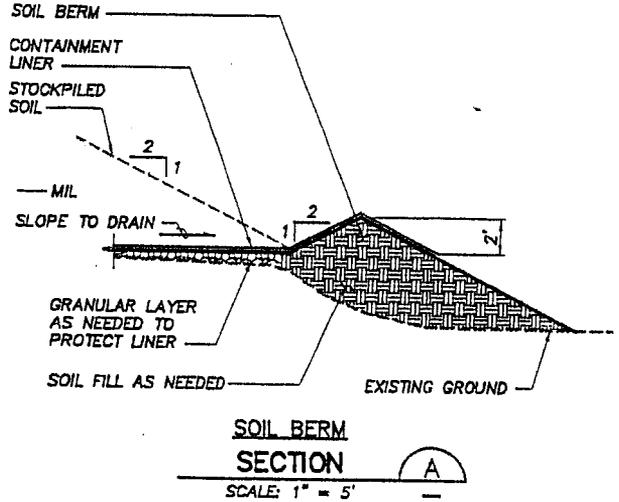
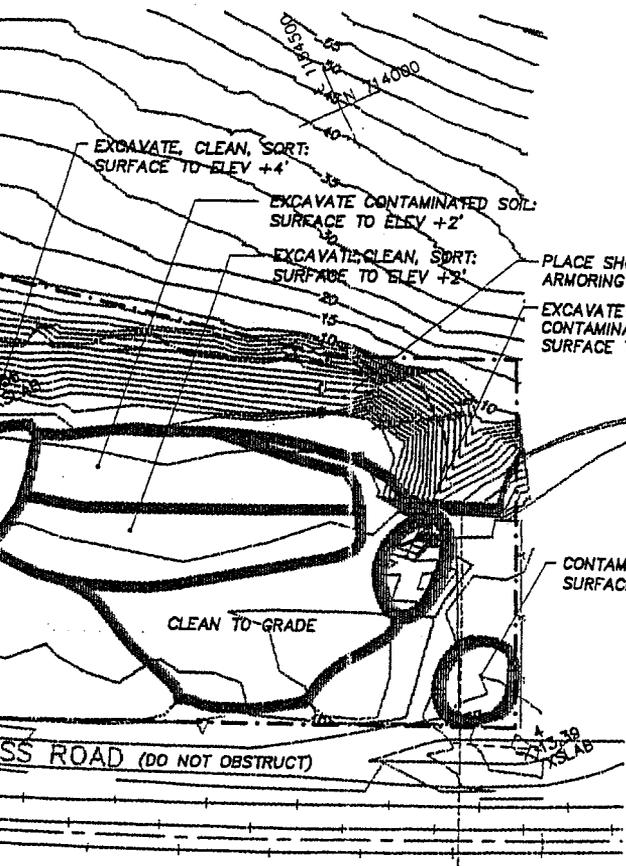
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Portland

**NOTES:**

1. LINE STOCKPILE AREAS WITH CONTAINMENT LINER
2. CONTRACTOR MAY PROPOSE ALTERNATE LAYOUT IN PROJECT WORK PLAN
3. INSTALL DEWATERING SYSTEM PRIOR TO BEGINNING EXCAVATION. SEE SHEET 6.
4. REMOVE STOCKPILE LINER AND RELATED IMPROVEMENTS AT END OF PROJECT. CLEAN SOILS MAY REMAIN.
5. STOCKPILE ALL EXCAVATED SOIL BY TYPE (CLEAN, CONTAMINATED, DEBRIS, OR UNSUITABLE). OWNER WILL SAMPLE AND PROVIDE CHEMICAL TEST RESULTS. SEE SPECIFICATION.



**CAPPING PLAN**

SCALE: 1" = 50'

**NOT FOR CONSTRUCTION**

DATE: 03/01		SCALE: 1" = 50'		CITY OF TACOMA DEPARTMENT OF PUBLIC WORKS		TAHOMA SALT MARSH NATURAL RESOURCES RESTORATION PROJECT CONTAINMENT/EXCAVATION/ CAPPING PLAN	SHEET NO. 4 . 8
BY: KF		DRAWN: PMX					
DATE:		FILE NO: 15043804		TYPIC SHOWN OTHERWISE ON EACH			
DATE	APP'D						



FOOTPRINT OF FORMER WAREHOUSE BUILDING (PREVIOUSLY DEMOLISHED), SOME STRUCTURES AND UTILITIES MAY REMAIN. REMOVE AS REQUIRED.

CLEAR AND STOCKPILE WOOD DEBRIS AND CONCRETE AND GRADE AS NECESSARY TO USE AREA

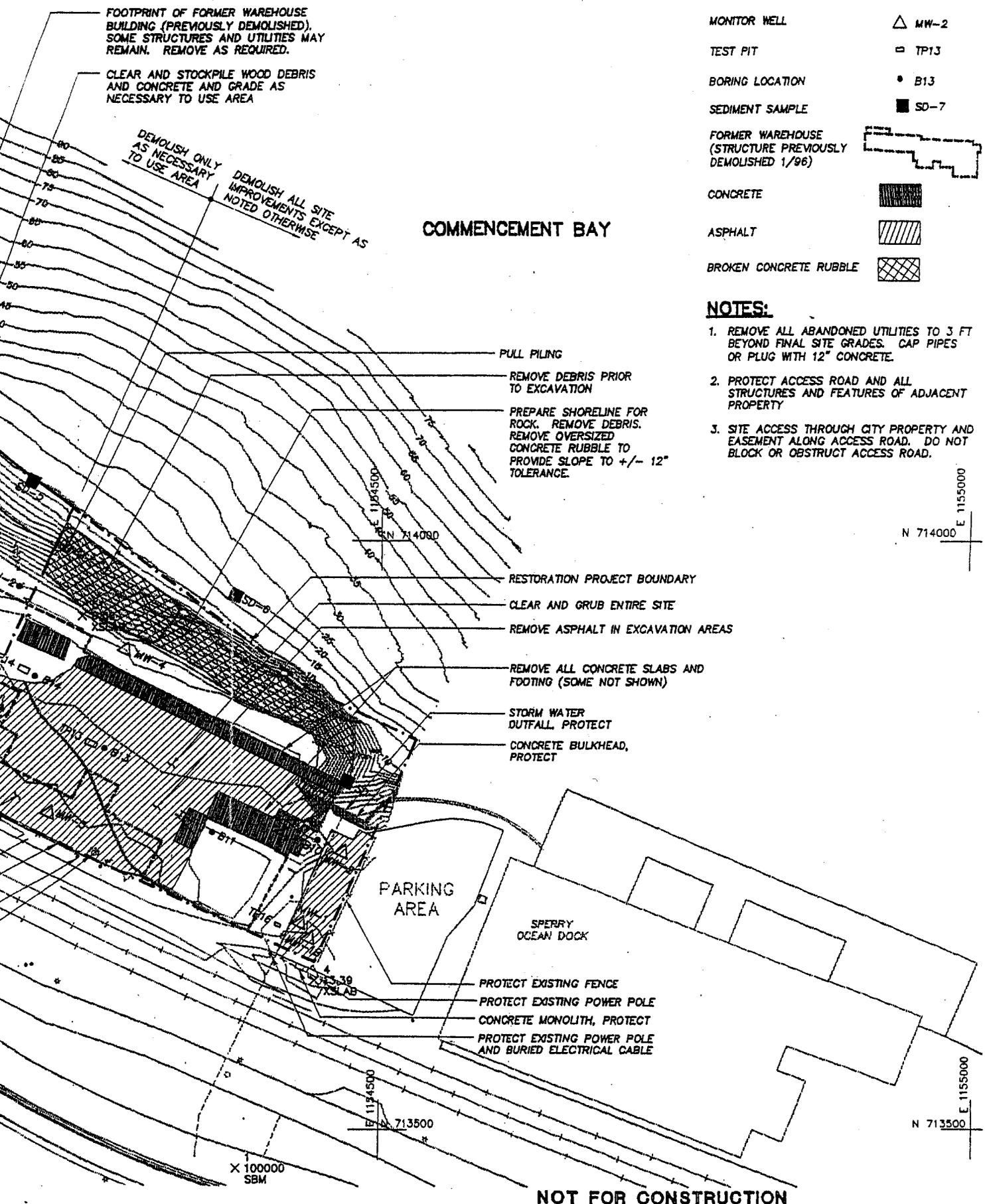
DEMOLISH ONLY AS NECESSARY TO USE AREA  
DEMOLISH ALL SITE IMPROVEMENTS EXCEPT AS NOTED OTHERWISE

### COMMENCEMENT BAY

- MONITOR WELL △ MW-2
- TEST PIT □ TP13
- BORING LOCATION ● B13
- SEDIMENT SAMPLE ■ SD-7
- FORMER WAREHOUSE (STRUCTURE PREVIOUSLY DEMOLISHED 1/96)
- CONCRETE [Hatched Box]
- ASPHALT [Diagonal Lines Box]
- BROKEN CONCRETE RUBBLE [Cross-hatched Box]

#### NOTES:

1. REMOVE ALL ABANDONED UTILITIES TO 3 FT BEYOND FINAL SITE GRADES. CAP PIPES OR PLUG WITH 12" CONCRETE.
2. PROTECT ACCESS ROAD AND ALL STRUCTURES AND FEATURES OF ADJACENT PROPERTY
3. SITE ACCESS THROUGH CITY PROPERTY AND EASEMENT ALONG ACCESS ROAD. DO NOT BLOCK OR OBSTRUCT ACCESS ROAD.



- PULL PILING
- REMOVE DEBRIS PRIOR TO EXCAVATION
- PREPARE SHORELINE FOR ROCK. REMOVE DEBRIS. REMOVE OVERSIZED CONCRETE RUBBLE TO PROVIDE SLOPE TO +/- 12" TOLERANCE.
- RESTORATION PROJECT BOUNDARY
- CLEAR AND GRUB ENTIRE SITE
- REMOVE ASPHALT IN EXCAVATION AREAS
- REMOVE ALL CONCRETE SLABS AND FOOTING (SOME NOT SHOWN)
- STORM WATER OUTFALL, PROTECT
- CONCRETE BULKHEAD, PROTECT
- PARKING AREA
- SPERRY OCEAN DOCK
- PROTECT EXISTING FENCE
- PROTECT EXISTING POWER POLE
- CONCRETE MONOLITH, PROTECT
- PROTECT EXISTING POWER POLE AND BURIED ELECTRICAL CABLE

× 100000  
SBM

**NOT FOR CONSTRUCTION**

		DATE 04/01	SCALE 1" = 50' CHECKED KF	<b>CITY OF TACOMA</b> <b>DEPARTMENT OF PUBLIC WORKS</b>		
		DRAWN PMX	FILE NAME 15643603	TAHOMA SALT MARSH NATURAL RESOURCES RESTORATION PROJECT <b>DEMOLITION PLAN</b>		
DATE	APPD			TRAFFIC ENGINEERING DIVISION		SHEET NO. 3 OF 8

CITY OF TACOMA PROPERTY  
(FUTURE CHINESE  
RECONCILIATION PARK)

SCHUSTER PARKWAY

8  
X 10.51  
PK

E 1153500

E N 714000

99  
X 21.77  
SBM

BNRR

±200'

5  
X 8.95  
PK

E 1154000

E N 714000

MW-6

CONTRACTOR  
MATERIAL EQUIPMENT  
STORAGE AREA

CATCH BASIN

PARKING AREA

UTILITY VA

CLEAR AND STOCKPILE DEBRIS  
AS NECESSARY TO USE AS  
CONTRACTOR STORAGE AREA

TO BURIED PIPE  
TYP

REMOVE FENCE AND STOCKPILE ON  
CITY PROPERTY

BAYSIDE DRIVE

ACCESS R

CATCH BASIN

PROTECT EXISTING  
POWER POLE

BREAK UP ASPHALT IN  
FILL AREAS

PROTECT TREE CLUMPS, TYP

REMOVE FENCE

PROTECT EXISTING POWER POLE

REMOVE INACTIVE GAS VENT PIPE AND  
BOLLARDS. CAP PIPE.

E 1154000

E N 713500

PL  
SCALE:

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WASHINGTON  
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Bremerton  
Kirkland

OREGON  
Portland

NO

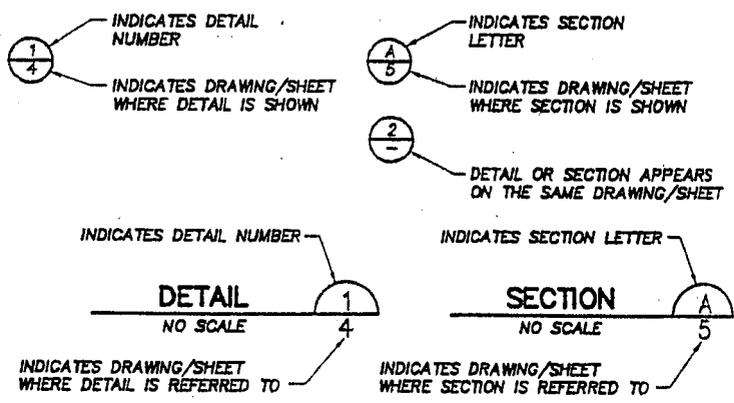
**OBJECT SITE LEGAL DESCRIPTION:**

County, according to plat filed  
 of Government Lot 1 in the  
 Township 21 North, Range 3 East,  
 more particularly described as follows:  
 corner of said Block 72 thence South  
 of the Inner Harbor Line to the  
 property conveyed to the City of Tacoma  
 thence continuing South 66°37'57" East,  
 Inner Harbor Line South 60°26'53" East,  
 Inner Harbor Line South 53°41'58" East,  
 beginning; thence continuing along the  
 line East, 234.06 feet;  
 Inner Harbor Line South 66°15'42" East,  
 of said Block 72; thence along said  
 line East, 208.88 feet to a non-tangent curve  
 East, 5866.65 feet; thence  
 East, 4.22 feet to the point of beginning.

**NOTES:**

1.

**DETAIL AND SECTION DESIGNATION**



**NOT FOR CONSTRUCTION**

		FINAL CONSTRUCTION DRAWING		DATE 03/01	SCALE AS NOTED	CITY OF TACOMA <b>DEPARTMENT OF PUBLIC WORKS</b>		TACOMA SALT MARSH NATURAL RESOURCES RESTORATION PROJECT		NOTES	
BY		DATE	DRWNR	FILE NAME							
			KF	15843602							
DATE	APPR	FIELD NOTES									

**SURVEY POINTS**

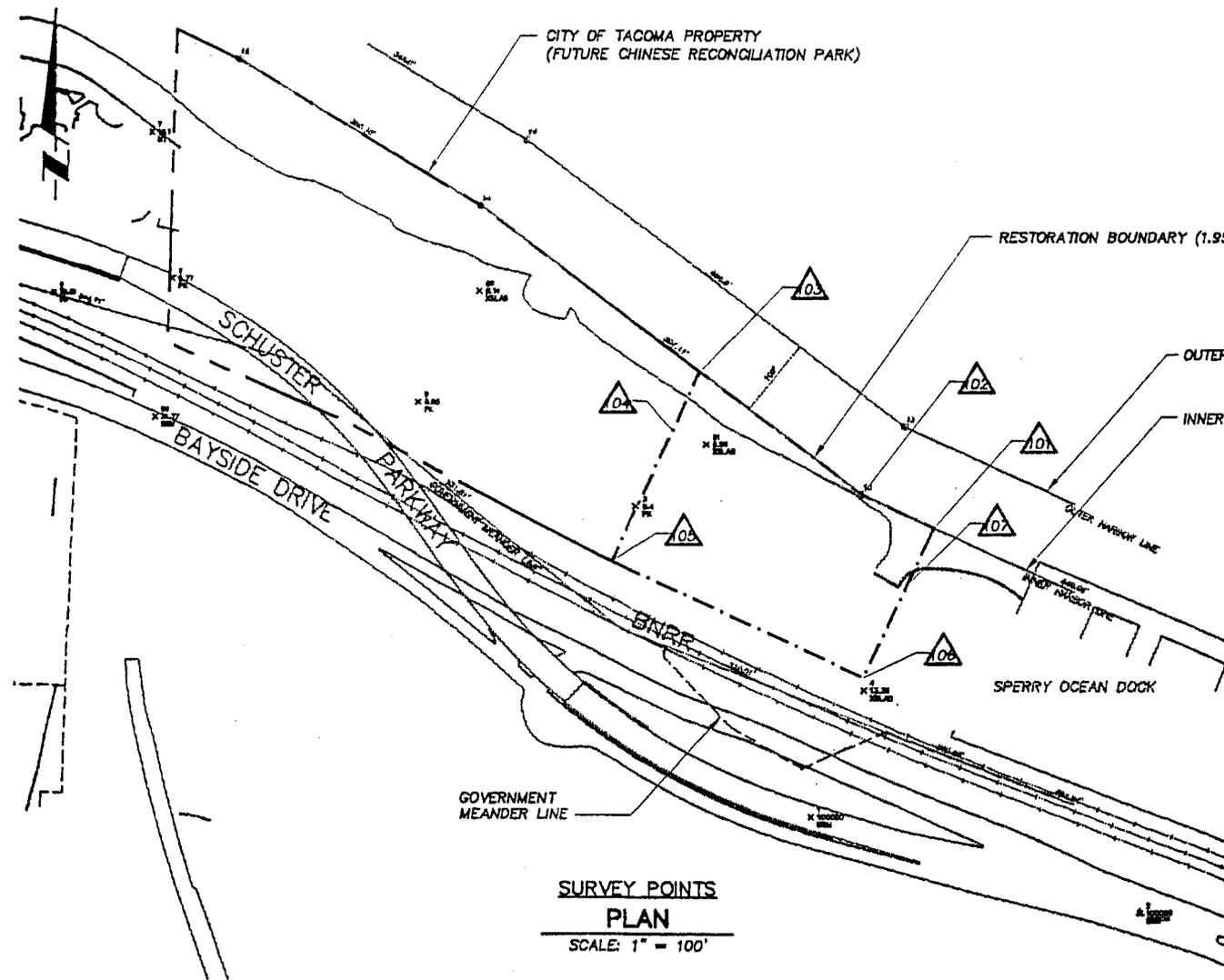
**RESTORATION**

Point	Northing (ft)	Easting (FT)	Elevation, FT, NGVD29	Description
1	713467.9000	1154382.0000	N/A	sbm
2	713346.8000	1154788.0000	N/A	sbm
3	713857.6000	1154186.0000	3.08	pk
4	713627.9000	1154446.0000	7.07	xslab
5	713989.4000	1153898.0000	2.63	pk
6	714143.5000	1153584.0000	3.45	pk
7	714327.3000	1153556.0000	3.78	ht
8	714126.5000	1153426.0000	4.19	pk
80	714128.4000	1153973.0000	-1.16	xslab
81	713936.4000	1154251.0000	0.24	xslab
89	713970.0000	1153563.0000	15.45	sbm
101	713832.2957	1154531.4187	N/A	PROPERTY CORNER
102	713874.0557	1154442.4555	N/A	PROPERTY CORNER
103	714028.2460	1154243.0320	N/A	PROPERTY CORNER
104	713952.9859	1154209.8699	N/A	PROPERTY CORNER
105	713788.9674	1154137.5979	N/A	CONTRACTOR TO LOCATE AND MARK
106	713643.9425	1154445.7069	N/A	PROPERTY CORNER: CONTRACTOR TO LOCATE AND MARK
107	713759.6052	1154498.3408	N/A	CONTRACTOR TO LOCATE AND MARK

Tide Land Appraiser  
September 14, 1895  
southwest quarter  
W.M., Pierce County

Commencing at the  
66°37'57" East, 306  
northeasterly corner  
under fee number 2  
77.98 feet;  
Thence continuing  
356.70 feet;  
Thence continuing  
337.05 feet to the  
Inner Harbor Line S  
thence continuing  
100.07 feet to the  
easterly line South  
which radius point  
westerly along said  
thence North 22°30'

SOURCE: CITY OF TACOMA (POINTS 1-99)



**SURVEY POINTS  
PLAN**  
SCALE: 1" = 100'

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E 7 M-4  
**SALT MARSH**  
**PROPOSED PROJECT**  
**ELEMENTS**

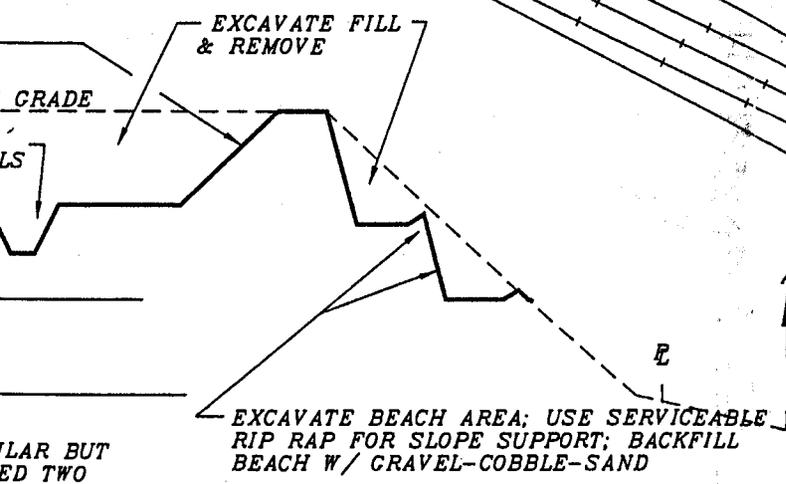
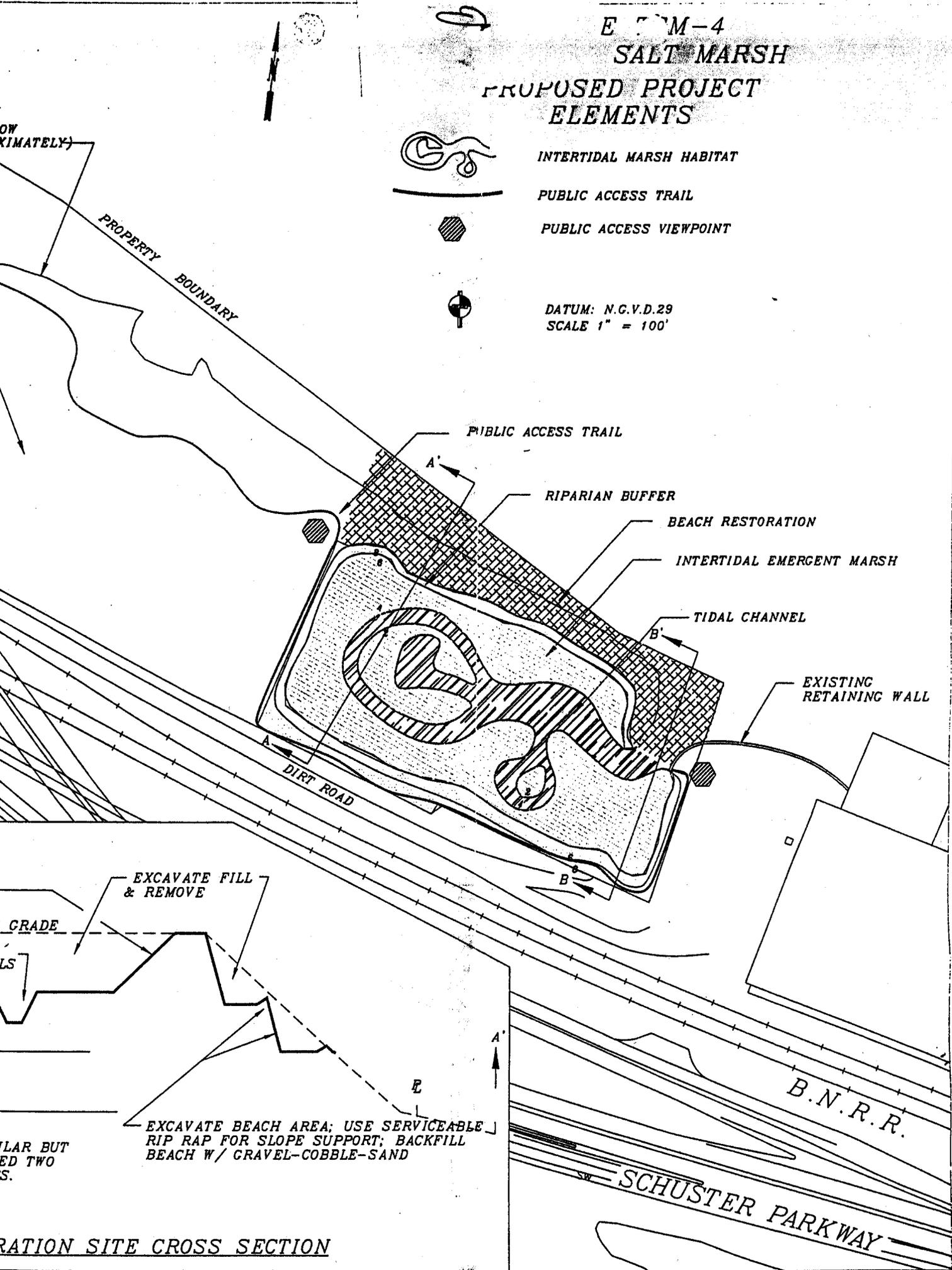
INTERTIDAL MARSH HABITAT

PUBLIC ACCESS TRAIL

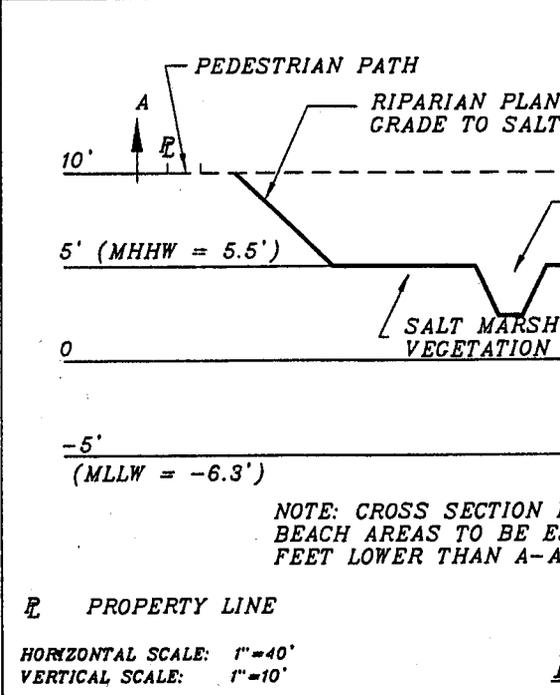
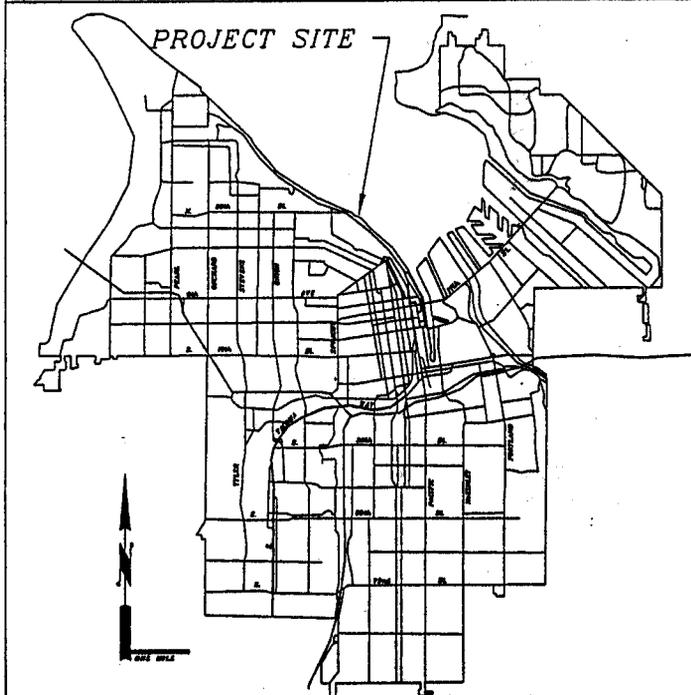
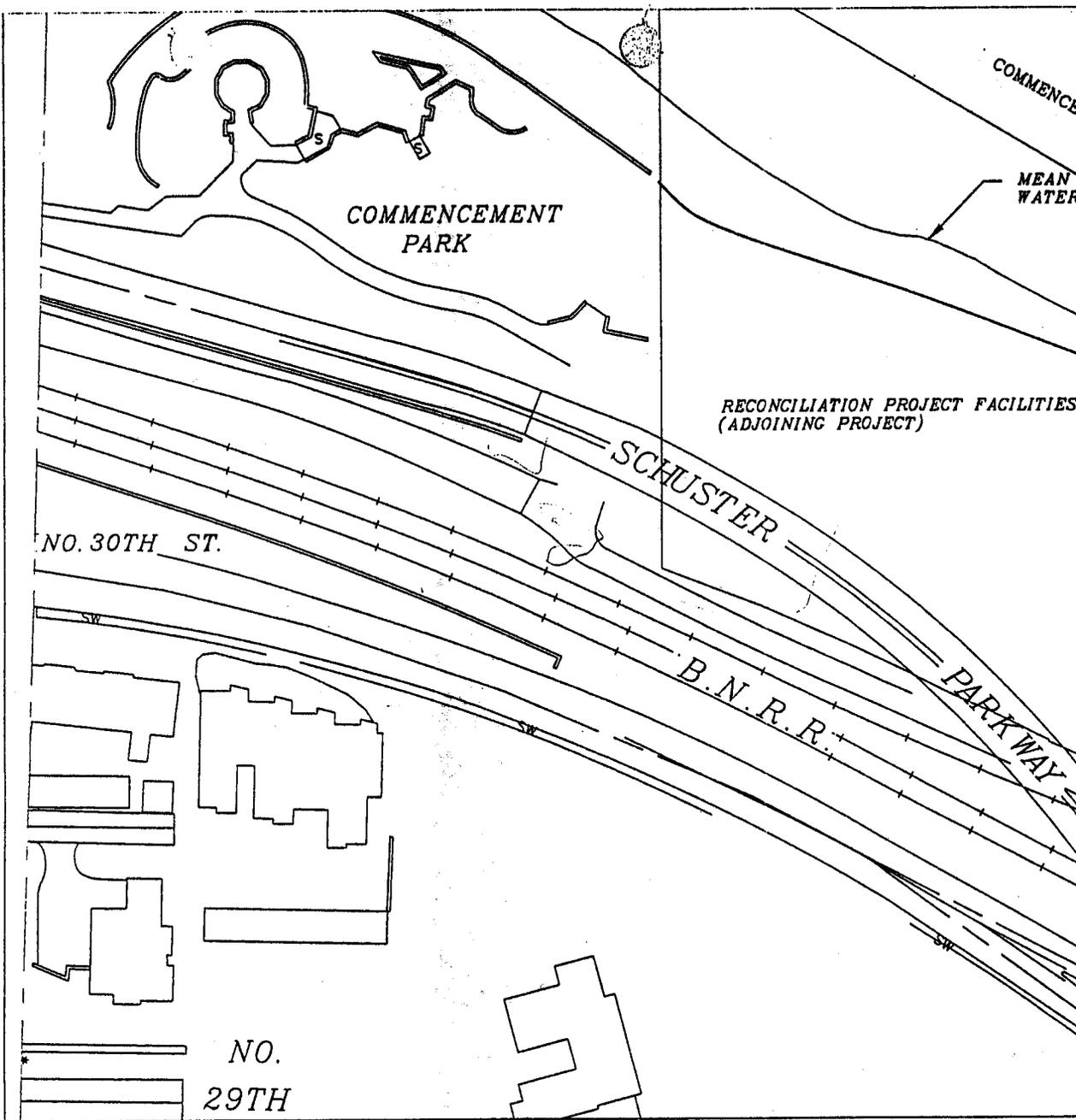
PUBLIC ACCESS VIEWPOINT

DATUM: N.G.V.D.29  
 SCALE 1" = 100'

PROPERTY BOUNDARY  
 (APPROXIMATELY)



EXCAVATION SITE CROSS SECTION





**HYDRAULIC PROJECT APPROVAL**  
RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

At the request of Desiree Pooley, City of Tacoma, on July 10, 2003, this Hydraulic Project Approval (HPA), which now supersedes all previous HPAs for this project, is a change of the original HPA issued May 19, 2003.

<u>PERMITTEE</u>	<u>AUTHORIZED AGENT OR CONTRACTOR</u>
City of Tacoma Public Works Department ATTENTION: Craig Sivley, P.E., Assistant Director 747 Market Street, Room 420 Tacoma, Washington 98402 (253) 591-5525 Fax: (253) 591-5097	City of Tacoma Environmental Services ATTENTION: Desiree' Pooley 2201 Portland Avenue Tacoma, Washington 98421 (253) 502-2126 Fax: (253) 502-2107

**DATA BASE PROJECT DESCRIPTION:** Remove 151 to 200 feet of manmade, concrete rubble bankline protection, and replace with 151 to 200 feet of natural earth, riprap ( $\geq$  12 inch average) bankline protection and cover with natural earth, sand/gravel; remove uplands and restore 1.95 acres of riparian vegetation and marine salt marsh composed of approximately  $\geq$  500 feet of natural earth riprap bankline protection ( $\geq$  12 inches and  $\leq$  12 inches) and rounded rock (6 to 8 inches) and cover with natural earth, sand/gravel, natural wood, raw (logs with rootball attached), and habitat, riparian, beach (salt marsh type).

**Simplified Project Description:** Enhance shoreline with large rock and supplement with Large Woody Debris (LWD) and beach sediment; create salt marsh estuary type habitat.

**PROJECT LOCATION:** 1741 North Schuster Parkway, Tacoma, WA 98403, N 47.27408', W 122.45783'

#	<u>WRIA</u>	<u>WATER BODY</u>	<u>TRIBUTARY TO</u>	<u>1/4 SEC.</u>	<u>SEC.</u>	<u>TOWNSHIP</u>	<u>RANGE</u>	<u>COUNTY</u>
1	12.9110	Commencement Bay	Dalco Passage	SW	29	21 North	03 East	Pierce

**NOTE:** This Hydraulic Project Approval pertains only to the provisions of the Washington State Fisheries and Wildlife Codes. It is the permittee's responsibility to apply for and obtain any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

**PROVISIONS**

1. **TIMING LIMITATIONS:** The project may begin **Immediately** and shall be completed by **July 10, 2004**, provided:
  - a. Work below the ordinary high water line shall occur only from **August 1** through **February 14**, of any year. However, provided all contaminants sediments are kept from contact with waters of the state, work may also occur between **July 16** through **July 31**, of any year, under the following conditions:
    - i. In-water construction activity shall be permitted during daylight hours only (i.e., between 1 hour after sunrise and 1 hour before sunset), and no more than **5 days** in any **7 day** period.
2. **NOTIFICATION REQUIREMENT:** The permittee or contractor shall notify the Area Habitat Biologist (AHB) listed below of the project start date. Notification shall be received by the AHB at least seven working days prior to the



**HYDRAULIC PROJECT APPROVAL**  
RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

start of construction activities. The notification shall include the permittee's name, project location, starting date for work, and the control number for this Hydraulic Project Approval.

3. NOTIFICATION REQUIREMENT: The permittee or contractor shall notify WDFW Enforcement Officer Dustin Prater at (253) 209-2190) at least seven working days prior to the start of construction activities. Notification shall include the permittee's name, project location, starting date for work, and the control number for this Hydraulic Project Approval.
4. Work shall be accomplished per plans and specifications entitled, Tahoma Salt Marsh Natural Resources Restoration Project, dated March 1, 2001, and submitted to the Washington Department of Fish and Wildlife, except as modified by this Hydraulic Project Approval. These plans reflect design criteria per Chapter 220-110 WAC. These plans reflect mitigation procedures to significantly reduce or eliminate impacts to fish resources. A copy of these plans shall be available on site during construction.
5. All manmade debris on the beach shall be removed and disposed of upland such that it does not enter waters of the state. This includes any and all contaminated waste.
6. Inundation of excavated area by waters of the state shall not occur until any and all contaminated sediments have been removed and disposed of landward of the OHWL.
7. All portions of outer shorelines armoring (included that portion extending partially into the mouth of salt marsh) shall comply with the following size and specifications:
  - a. As per plans and specifications, concrete and manmade debris (rebar, Ruston Formation, etc.) should be removed to the extent practicable and disposed of upland.
  - b. Replacement armoring stone shall not exceed 2 feet in diameter.
  - c. Rock for shoreline armoring shall be composed of clean, angular material of a sufficient durability and size to prevent its being broken up or washed away by high water or wave action.
  - d. New rock shall be buried a minimum 18-inches below beach grade.
  - e. All shoreline rock shall be covered with 12-inches of sediment with the following sizes and specifications:
 

<u>Percent Less Than by Weight</u>	<u>Size</u>
100	2-in.
80-95	1.5-in.
50-80	3/4-in.
30-50	No.4 Sieve
0-8	No. 200 Sieve
  - ii. Gravel shall not contain silty or clay type soils.
  - iii. Gravel shall not be angular type rock.



**HYDRAULIC PROJECT APPROVAL**  
**RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW**

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

iv. Graveling shall be conducted within 72 hours following bulkhead construction.

**Salt Marsh Armoring Specifications:**

8. The inner shoreline armoring of the salt marsh area shall comply with the following size and specifications:
  - a. Armoring shall be composed of 6 to 8 inch sized diameter clean, washed round cobble.
  - b. Cobble shall be buried a minimum of 18 inches below final grade;
  - c. All cobble shall be covered with 6-inch layer of sediment similar in size composition as indicated in HPA provision no. 7(e).
9. A one-foot layer of gravel shall be placed on the bed of the intertidal channel similar in sizes and specifications as noted below:
  - a. The bottom 8-inch layer shall be comprised of 6-inch minus and the top 4-inch layer shall be comprised of 2-inch minus, similar in grain size profile as noted in 7(e).
10. The salt marsh soil shall consist of a 2-foot layer of existing soil, or imported sandy material (<1/8 inch, clean, washed coarse sand) and amended with necessary organic and other soil supplements necessary to promote emergent salt marsh grass growth.
11. The salt marsh/riparian transition area shall be covered with a 12-inch layer of topsoil (as per specifications) and covered with an erosion control blanket composed of coconut mesh fiber, or other biodegradable organic, erosion control blanket.
12. All salt marsh vegetation shall be covered by a goose exclusion devices (GEDs) for a minimum of 5 years.
13. A minimum of 80 percent of vegetative plantings shall survive within the 5-year period that the GEDs are in place.
14. Six (6) to 8 inch rounded river rock shall be used as stormwater 'splash pads', where the stormwater outfall terminates into the salt marsh.
15. The surface area of the salt marsh swales shall be lined with a 6-inch layer of gravel, similar in size specifications as noted in HPA provision no. 7(e).
16. Large woody debris (LWD) sizes and specifications:
  - a. A minimum of 12 each LWD pieces shall be anchored between OHWL (~13.82 feet, MLLW) and mean higher high water line (MHHW, Commencement Bay = 13.82 ft, MLLW);
  - b. LWD shall be a minimum of 24-inches dbh (diameter-at-breast-height) and have a minimum 6 to 8 foot long trunk attached;
  - c. LWD shall be anchored to the bed using a manta ray type anchoring system, using minimum 1/2 inch diameter size chain;



**HYDRAULIC PROJECT APPROVAL**  
RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW

State of Washington  
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48 Devonshire Road  
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DATE OF ISSUE: July 10, 2003

LOG NUMBER: ST-E9836-02

- d. LWD shall be placed individually, or doubled up (2 pieces per location, rootball-to-log tip), but with equal on-center spacing along the periphery of shoreline within the salt marsh.
- 17. Project activities shall not occur when the project area, including the work corridor (excluding the area occupied by a grounded barge), is inundated by tidal waters.
- 18. Use of equipment on the beach shall be held to a minimum, confined to a single access point, and limited to a 50-foot work corridor waterward of the base rocks. Construction materials shall not touch the beach outside this work corridor.
- 19. Only suitable soils shall be used for backfilling that meet plan specifications and rock and or gravel with grain-size profiles as specified in HPA provision number 7.
- 20. Excavated materials containing silt, clay, or other fine grained soil shall not be stockpiled below the ordinary high water line.
- 21. If stockpiling of sand, gravel, and other coarse excavated material is conducted below the ordinary high water line, it shall be placed within a 25-foot work corridor waterward of the base rocks.
- 22. If sand, gravel, and other coarse excavated material is to be temporarily placed where it will come into contact with tidal waters, this material shall be covered with filter fabric and adequately secured to prevent erosion and/or potential entrainment of fish.
- 23. All excavated or stockpiled material shall be removed from the beach within 72 hours of bulkhead construction. Upon removal of the excavated material, the beach shall immediately be returned to the preproject natural grade.
- 24. All trenches, depressions, or holes created in the beach area shall be backfilled prior to inundation by tidal waters. Trenches excavated for base rocks may remain open during construction. However, fish shall be prevented from entering such trenches.
- 25. Disposal of excess dredged/excavated materials not used as backfill, or other project activities shall be deposited at an approved, designated Department of Natural Resources deep water disposal site, or to an approved upland disposal site.

SEPA: DNS by City of Tacoma final on June 20, 2001.

APPLICATION ACCEPTED: July 10, 2003

ENFORCEMENT OFFICER: Jackson 198 [P3]

David C. Molenaar (360) 902-8303  
Area Habitat Biologist

for Director  
WDFW

cc: John Carlton  
Joyce Mercuri, Ecology  
Bob Clark, NOAA Restoration Program, Seattle



**HYDRAULIC PROJECT APPROVAL**  
**RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW**

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

**DATE OF ISSUE: July 10, 2003**

**LOG NUMBER: ST-E9836-02**

Jennifer Steger, NOAA Restoration Program, Seattle  
Ron Wilcox, USACE, Seattle  
Karie Hayashi, City of Tacoma Public Works Department  
John O'Loughlin, City of Tacoma Public Works Department

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**GENERAL PROVISIONS**

This Hydraulic Project Approval (HPA) pertains only to the provisions of the Fisheries Code (RCW 77.55 - formerly RCW 75.20). Additional authorization from other public agencies may be necessary for this project.

This HPA shall be available on the job site at all times and all its provisions followed by the permittee and operator(s) performing the work.

This HPA does not authorize trespass.

The person(s) to whom this HPA is issued may be held liable for any loss or damage to fish life or fish habitat which results from failure to comply with the provisions of this HPA.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All HPAs issued pursuant to RCW 77.55.100 or 77.55.200 are subject to additional restrictions, conditions or revocation if the Department of Fish and Wildlife determines that new biological or physical information indicates the need for such action. The permittee has the right pursuant to Chapter 34.04 RCW to appeal such decisions. All HPAs issued pursuant to RCW 77.55.110 may be modified by the Department of Fish and Wildlife due to changed conditions after consultation with the permittee: PROVIDED HOWEVER, that such modifications shall be subject to appeal to the Hydraulic Appeals Board established in RCW 77.55.170.

**APPEALS - GENERAL INFORMATION**

IF YOU WISH TO APPEAL A DENIAL OF OR CONDITIONS PROVIDED IN A HYDRAULIC PROJECT APPROVAL, THERE ARE INFORMAL AND FORMAL APPEAL PROCESSES AVAILABLE.

**A. INFORMAL APPEALS (WAC 220-110-340) OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 77.55.100, 77.55.110, 77.55.140, 77.55.190, 77.55.200, and 77.55.290:**

A person who is aggrieved or adversely affected by the following Department actions may request an informal review of:

- (A) The denial or issuance of a HPA, or the conditions or provisions made part of a HPA; or
- (B) An order imposing civil penalties.

It is recommended that an aggrieved party contact the Area Habitat Biologist and discuss the concerns. Most problems are resolved at this level, but if not, you may elevate your concerns to his/her supervisor. A request for an INFORMAL REVIEW shall be in WRITING to the Department of Fish and Wildlife, 600 Capitol Way North, Olympia, Washington 98501-1091 and shall be RECEIVED by the Department within 30-days of the denial or issuance of a HPA or receipt of an order imposing civil penalties. The 30-day time requirement may be stayed by the Department if negotiations are occurring between the aggrieved party and the Area Habitat Biologist and/or his/her supervisor. The Habitat Protection Services Division Manager or his/her designee shall conduct a review and



**HYDRAULIC PROJECT APPROVAL**  
**RCW 77.55.100 - appeal pursuant to Chapter 34.05 RCW**

State of Washington  
Department of Fish and Wildlife  
Region 6 Office  
48 Devonshire Road  
Montesano, Washington 98563-9618

**DATE OF ISSUE: July 10, 2003**

**LOG NUMBER: ST-E9836-02**

recommend a decision to the Director or its designee. If you are not satisfied with the results of this informal appeal, a formal appeal may be filed.

**B. FORMAL APPEALS (WAC 220-110-350) OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 77.55.100 OR 77.55.140:**

A person who is aggrieved or adversely affected by the following Department actions may request an formal review of:

- (A) The denial or issuance of a HPA, or the conditions or provisions made part of a HPA;
- (B) An order imposing civil penalties; or
- (C) Any other "agency action" for which an adjudicative proceeding is required under the Administrative Procedure Act, Chapter 34.05 RCW.

A request for a FORMAL APPEAL shall be in WRITING to the Department of Fish and Wildlife, 600 Capitol Way North, Olympia, Washington 98501-1091, shall be plainly labeled as "REQUEST FOR FORMAL APPEAL" and shall be RECEIVED DURING OFFICE HOURS by the Department within 30-days of the Department action that is being challenged. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, the deadline for requesting a formal appeal shall be within 30-days of the date of the Department's written decision in response to the informal appeal.

**C. FORMAL APPEALS OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 77.55.110, 77.55.200, 77.55.230, or 77.55.290:**

A person who is aggrieved or adversely affected by the denial or issuance of a HPA, or the conditions or provisions made part of a HPA may request a formal appeal. The request for FORMAL APPEAL shall be in WRITING to the Hydraulic Appeals Board per WAC 259-04 at Environmental Hearings Office, 4224 Sixth Avenue SE, Building Two - Rowe Six, Lacey, Washington 98504; telephone 360/459-6327.

**D. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS RESULTS IN FORFEITURE OF ALL APPEAL RIGHTS. IF THERE IS NO TIMELY REQUEST FOR AN APPEAL, THE DEPARTMENT ACTION SHALL BE FINAL AND UNAPPEALABLE.**



*JTS*  
cc: John O  
Desiree

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

October 16, 2003

**CERTIFIED MAIL**

Mr. William L. Pugh, P.E.  
City of Tacoma Public Works Department  
747 Market St, Room 420  
Tacoma WA 98402

Dear Mr. Pugh:

RE: Order #200300203 / 03SEASR-5801 Water Quality Certification/Coastal Zone Consistency Determination for City of Tacoma Public Works Department for the Tahoma Salt Marsh Restoration

The request for certification for proposed work in and adjacent to Commencement Bay, Pierce County, Washington has been reviewed. On behalf of the State of Washington, we certify that the proposed work, as conditioned by the enclosed Order, will comply with applicable provisions of Sections 301, 302, 303, 306 and 307 of the Clean Water Act, as amended, and other appropriate requirements of State law. This letter also serves as the State response to the Corps of Engineers.

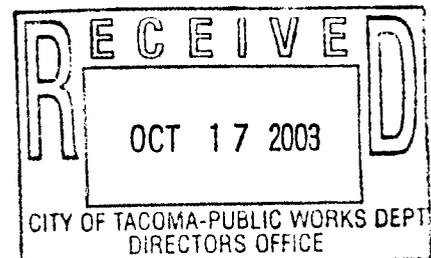
Pursuant to 16 U.S.C. 1456 et. seq. (Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended), Ecology concurs with the applicant's determination that this work will be consistent with the approved Washington State Coastal Zone Management Program. This concurrence is based upon the applicant's compliance with all applicable enforceable policies of the Coastal Zone Management Program, including Section 401 of the Federal Water Pollution Control Act.

This certification is subject to the conditions contained in the enclosed Order. If you have any questions, please contact Helen Pressley at (360) 407-6926. Written comments can be sent to her at the Department of Ecology, Southwest Regional Office, PO Box 47775, Olympia WA 98504-7775 or at [hpre461@ecy.wa.gov](mailto:hpre461@ecy.wa.gov). The enclosed Order may be appealed by following the procedures described in the Order.

Sincerely,

  
Perry J Lund  
Unit Supervisor  
Shorelands and Environmental  
Assistance Program

PL:hp:dn  
Enclosure



cc: Ron Wilcox, Corps of Engineers  
Yvonne Oliva, Ecology  
Linda Rankin, Ecology



**IN THE MATTER OF GRANTING )  
A WATER QUALITY )  
CERTIFICATION TO )  
City of Tacoma Public Works Dept. )  
in accordance with 33 U.S.C. 1341 )  
FWPCA § 401, RCW 90.48.260 )  
and WAC 173-201A )**

**ORDER #03SEASR-5801  
CORPS #200300203**  
Restoration and creation of intertidal  
and riparian habitat in waters of the state  
in Commencement Bay, Pierce County,  
Washington

TO: City of Tacoma Public Works Department  
747 Market St, Room 420  
Tacoma WA 98402

ATTN: Mr. William L. Pugh, P.E.

A Public Notice for issuance of a water quality certification from the State of Washington has been distributed for the above-referenced project pursuant to the provisions of 33 U.S.C. 1341 (FWPCA § 401). The proposed project involves restoration and creation of intertidal and riparian habitat in waters of the state in Commencement Bay, Pierce County, Washington

**AUTHORITIES:**

In exercising authority under 33 U.S.C. 1341 and RCW 90.48.260, Ecology has investigated this application pursuant to the following:

1. Conformance with applicable water quality-based, technology-based, and toxic or pretreatment effluent limitations as provided under 33 U.S.C. Sections 1311, 1312, 1313, 1316, and 1317 (FWPCA Sections 301, 302, 303, 306, and 307);
2. Conformance with the state water quality standards as provided for in Chapter 173-201A WAC authorized by 33 U.S.C. 1313 and by Chapter 90.48 RCW, and with other appropriate requirements of state law; and,
3. Conformance with the provision of using all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

**WATER QUALITY CERTIFICATION CONDITIONS:** In view of the foregoing and in accordance with 33 U.S.C. 1341, 90.48.260 RCW and Chapter 173-201A WAC, certification is granted to the City of Tacoma Public Works Department (Applicant) subject to the following conditions:

**A. No Further Impairment of Existing Water Quality:**

A1. Certification of this proposal does not authorize the Applicant to exceed applicable state water quality standards (173-201A WAC), including the state sediment quality standards (173-204 WAC). Furthermore, nothing in this certification shall absolve the Applicant from liability for contamination and any subsequent cleanup of surface waters or sediments occurring as a result of project construction or operations.

A2. Commencement Bay, (WRIA 10, Class B water of the state) is on the current 303(d) list of impaired water bodies for exceeding water quality standards for dieldrin, lead, mercury, total PCB's, and zinc. This project shall not result in further exceedances of those standards, and will be out of compliance with this certification if discharges from the project exceed limits for those contaminants identified in 173-201A-030(B) WAC and/or 173-201A-040 WAC.

**B. Temporary Modification of Water Quality Standards:**

B1. Project construction, operation, and maintenance shall be done in compliance with WAC 173-201A. **This certification does not authorize a modification of standards above those established in WAC 173-201A.**

**C. Mitigation, Monitoring, and Contingency Conditions:**

C1. The project shall be constructed and maintained as described in the “Tahoma Salt Marsh Natural Resources Restoration Project – Site Characterization Report” dated May, 2000 with the following additions and clarifications:

C2. Evidence shall be provided that the wetland site has been field inspected by a qualified wetland specialist during grading and planting operations, and after the planting has been completed.

C3. “As Built” and Monitoring Reports: a detailed “as built” report shall be prepared for construction. The “as-built” report shall show any variances from the final restoration plan. The “as-built” shall be the baseline document used for all future monitoring of the project. Contents of the “as-built” shall include but not be limited to:

- (a.) comments from a wetland specialist present on site during construction;
- (b.) final site plan topography (both site plan view and typical sections) which clearly indicates the site boundary;
- (c.) photographs of the area taken from permanent photo points;
- (d.) the installed planting scheme showing densities, sizes, and approximate locations of plants as well as plant sources and time of planting; and,
- (d.) an analysis of any changes to the plan that occurred during construction.

C4. Efforts shall be monitored by a qualified wetland specialist for compliance using the performance standards referenced in the plan. Within 60 days of each monitoring event, two copies of the monitoring report shall be prepared by the wetland specialist and submitted to Ecology’s Federal Permit Coordinator at the Southwest Regional Office, P. O. Box 47775, Olympia, WA 98504-7775. If the results of monitoring indicate that contingency measures are needed, the monitoring report shall include a detailed description of actions taken to rectify the deficiencies.

C5. The property will be preserved in a natural state in perpetuity. The primary purpose of a deed restriction is to protect, in perpetuity, the functions and values of the wetland mitigation site. Minimum acceptable mitigation shall consist of protection in perpetuity of the habitat and wetland functions and values associated with the wetland, along with the rights and restrictions necessary to ensure that habitat and wetland functions and values continue. The most common means for preserving a mitigation site involves a deed restriction or a conservation easement. Once finalized, the deed restriction shall be filed with the Pierce County assessor's office with a copy provided to the department, Attn: Southwest

Regional Office Federal Permit Coordinator at the above address. Enclosure 1, attached to this document, is a sample copy of a deed restriction.

C6. The property owner shall grant Ecology access to the mitigation areas for inspection during the 10 year monitoring period or until success has been achieved.

C7. Contingency measures and additional monitoring may be required by Ecology if wetland monitoring reveals that performance measures are not being met.

C8. Any changes to the plan or monitoring requirements must be approved by Ecology.

C9. Prior to clearing and grading in wetlands, the adjacent wetlands shall be protected from construction impacts. Construction fencing or flagging (using brightly colored tape at no less than twenty-five foot (25') intervals) of the existing wetlands and stream channels to be protected shall be completed prior to clearing. All project staff shall be trained to recognize construction fencing or flagging that identifies wetland boundaries. Equipment shall not be moved into or operated in wetlands or stream channels that are not authorized to be filled.

**D. Notification:**

D1. The Applicant shall submit an updated application to Ecology if the information contained in the project is altered by route modification or facility relocation submittals to the federal agency and/or state agencies. Within 30 days of receipt of an updated application Ecology will determine if a modification to this Order is required. All submittals shall be sent to SWRO Federal Permit Coordinator at the above address.

D2. Copies of all soil testing results shall be submitted to the SWRO Federal Permit Coordinator at the above address. Information on the disposal sites used shall also be provided.

**E. Construction Conditions:**

E1. Work in or near waters of the state shall be done so as to minimize turbidity, erosion, and other water quality impacts. Construction stormwater, sediment and erosion control Best Management Practices suitable to prevent exceedances of state water quality standards (e.g., hay bales, detention areas, filter fences, etc.), shall be in place before starting clearing, filling, and grading work at the impact sites.

E2. All construction debris shall be properly disposed of on land so that it cannot enter the waterway or cause water quality degradation to state waters.

E3. All excess excavated material shall be disposed of above the 100-year floodplain and shall be contained so as to prevent its re-entry into waters of the state.

E4. Erosion control devices (e.g., filter fences, hay bales, etc.) suitable to prevent exceedances of state water quality standards shall be in place before starting project construction and shall be maintained throughout construction.

E5. At the completion of construction, hydroseeding may be done to stabilize slopes and soils until other required planting is completed. Hydroseed mix shall consist of native, non-invasive, or annual plant species only.

E6. Wash water containing oils, grease, or other hazardous materials resulting from wash down of equipment or working areas shall not be discharged into state waters except as authorized by an NPDES or state waste discharge permit.

**F. Emergency/Contingency Measures:**

F1. Any in-water work that is out of compliance with the provisions of this Order, or any discharge of oil, fuel, or chemicals into state waters, including wetlands, or onto land with a potential for entry into state waters, is prohibited. If these occur, the operator shall immediately take the following actions:

- (a.) Cease operations.
- (b.) Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.
- (c.) In the event of a discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of any spilled material and used cleanup materials.

F2. Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately to Ecology's Southwest Regional Spill Response Office at (360) 407-6300.

F3. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters, including wetlands.

F4. Toxic conditions resulting in distressed or dying fish (including dissolved oxygen levels below 5.0 mg/L) are not allowed. If these conditions exist, construction shall cease immediately and the Applicant or the contractor shall contact Ecology's Southwest Regional Spill Response Office at (360) 407-6300.

F5. Construction monitoring: During and immediately after project construction, the Applicant or contractor shall visibly monitor the area for distressed or dying fish. If water quality exceedances are observed outside the dilution zone, in-water work shall cease immediately and the Applicant or the contractor shall contact Ecology's Southwest Regional Spill Response Office at (360) 407-6300.

**G. General Conditions:**

G1. This Order does not authorize direct, indirect, permanent, or temporary impacts to waters of the state or related aquatic resources, except as specifically provided for in conditions of this Order.

G2. This certification does not exempt and is conditioned upon compliance with other statutes and codes administered by federal, state, and local agencies.

G3. The Applicant shall construct and operate the project in a manner consistent with the project description contained in the Public Notice for certification, or as otherwise approved by Ecology.

G4. The Applicant shall reapply with an updated application for certification if five years elapse between the date of the issuance of this Order and the beginning of construction and/or discharge for which the federal license or permit is being sought.

G5. The Applicant shall reapply with an updated application if the information contained in the Public Notice is voided by subsequent submittals to the federal agency. Any future action at this project location, emergency or otherwise, that is not defined in the public notice, or has not been approved by

Ecology, is not authorized by this Order. All future actions shall be coordinated with Ecology for approval prior to implementation of such action.

G6. The Applicant shall provide access to the project site upon request by Ecology personnel for site inspections, monitoring, necessary data collection, or to ensure that conditions of this Order are being met.

G7. Copies of this Order and all related permits, approvals, and documents shall be kept on the project site and readily available for reference by the project managers, construction managers and foremen, other employees and contractors of the Applicant, and state agency personnel.

G8. The Applicant shall ensure that all appropriate supervisors and contractors at the project site and mitigation sites have read and understand relevant conditions of this Order and all permits, approvals, and documents referenced in this Order. The Applicant shall provide to Ecology a signed statement from each supervisor and contractor that they have read and understand the conditions of this Order and the above-referenced permits, plans, documents and approvals. These statements shall be provided to Ecology no less than 7 days before construction begins at the project or mitigation sites. The Applicant shall also provide a similar signed statement to Ecology from each new supervisor or contractor hired or assigned after the project begins within 30 days of hiring.

G9. Ecology retains continuing jurisdiction to make modifications hereto through supplemental Order, if it appears necessary to further protect the public interest.

Any person who fails to comply with any provision of this Order shall be liable for a penalty of up to ten thousand dollars (\$10,000) per violation for each day of continuing noncompliance.

Any person aggrieved by this Order may obtain review thereof by appeal. The Applicant can appeal up to 30 days after receipt of the permit, and all others can appeal up to 30 days from the postmarked date of the permit. The appeal must be sent to the Washington Pollution Control Hearings Board, P.O. Box 40903, Olympia, WA 98504-0903. Concurrently, a copy of the appeal must be sent to the Department of Ecology, Shorelands and Environmental Assistance Program, P.O. Box 47600, Olympia, WA 98504-7600. These procedures are consistent with the provisions of Chapter 43.21B RCW and the rules and regulations adopted thereunder.

Dated 10/16/03 at Lacey, Washington

  
\_\_\_\_\_  
Perry J. Lund, Unit Supervisor  
Shorelands and Environmental Assistance Program  
Department of Ecology – Southwest Regional Office

## ENCLOSURE 1

This enclosure provides a sample deed restriction that meets Ecology's requirements for use restriction of a mitigation site by a public entity.

### Sample Deed Restriction for Public Entity

#### Description of Property:

[legal description]

#### Mutual Terms, Conditions, and Restrictions:

- \* ) Purpose: The purpose of this deed restriction is to assure that the Property will be retained forever in its natural open space condition and to prevent any use of the Property that will significantly impair or interfere with the conservation values of the Property. Owners or assigns intend that this deed restriction will confine the use of the Property to such activities. A further purpose of this deed restriction is to provide wildlife habitat and wetland functions and values intrinsic to the Property.
  
- \* ) Prohibited Uses: Any activity on, or use of the Property inconsistent with the purpose of this deed restriction is prohibited. The following activities and uses are expressly prohibited:
  - a) Subdivision and residential development.
  - b) Commercial, industrial, or agricultural development and/or use.
  - c) Alteration of the land surface or water bodies.
  - d) Timber harvest or the removal of vegetation, except for cutting down hazard trees or limbs or the removal of non-native invasive species. Downed hazard trees and woody debris and standing woody debris shall be left on the property.
  - e) Mineral development.
  - f) Waste disposal.
  
- \* ) Reserved Rights: The Owners reserve unto themselves, and assigns, all rights accruing from their ownership of the Property, including the right to engage in or permit or invite others to engage in all uses of the Property that are not expressly prohibited herein and are not inconsistent with the purpose of this deed restriction.



REPLY TO  
ATTENTION OF

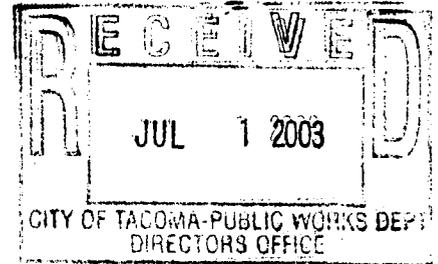
**DEPARTMENT OF THE ARMY**  
SEATTLE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 3755  
SEATTLE, WASHINGTON 98124-3755

JUN 27 2003

WLP  
JDS  
POOLEY  
Note the form  
needed @ completion

Regulatory Branch

City of Tacoma Public Works Department  
William L. Pugh, P.E.  
747 Market Street, Room 420  
Tacoma, Washington 98402



Reference: 200300203  
Tacoma Public Works

Ladies and Gentlemen:

Our regulatory program utilizes a series of nationwide permits (NWP) to authorize specific categories of work that have minimal impact on the aquatic environment when conducted in accordance with the permit conditions (*Federal Register*, January 15, 2002, Vol. 67, No. 10). Based on the information you provided to us, NWP 27, Stream and Wetland Restoration Activities, authorizes your proposal to restore and create intertidal and riparian habitat in waters of the United States as depicted on the enclosed drawings dated February 2003. The proposed project would occur in Commencement Bay at Tacoma, Washington.

In order for this NWP authorization to be valid, you must ensure that the work is performed in accordance with the enclosed *Nationwide Permit 27 Terms and Conditions* and the following special conditions that the District Engineer has added to ensure that this project would have no more than a minimal adverse impact on the aquatic environment:

a. You must implement the ESA requirements and/or agreements set forth in the BE for the Tahoma Salt Marsh dated March 2001, prepared by Parametrix for the City of Tacoma. The National Marine Fisheries Service (No. WSB-01-201) concurred with a finding of "may affect, not likely to adversely affect" for Chinook salmon, and a finding of "no effect" for Stellar sea lion based on this document on June 22, 2001. U.S. Fish and Wildlife Service (1-3-01-SP-1810), concurred with a finding of "no effect" for bald eagle, and a finding of "may affect, not likely to adversely affect" for bull trout based on this document on June 7, 2001. Both agencies will be informed of this permit issuance and will enforce any known violations of the commitments made in this document pursuant to the ESA.

b. The in-water work window (work allowed) for projects in this tidal reference area (Area 4, Commencement Bay) will be July 15th through February 15th for the protection of salmon and bull trout. Work will not be allowed February 16th through July 14th.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit* form to the address indicated on the form. Your signature on this form is our assurance that the completed work and any required

mitigation was conducted in accordance with the terms and conditions of this NWP, including any special conditions required by the District Engineer. Completing and returning the compliance certification form is a requirement of every NWP authorization (see NWP National General Condition 14).

In order for this NWP authorization to be valid, you must obtain and comply with the conditions of an individual Water Quality Certification (WQC) and Coastal Zone Management (CZM) consistency determination concurrence from the State of Washington prior to commencing any work, unless WQC is waived by the State. For further information on obtaining WQC and a CZM consistency determination response for your project, please contact:

Washington State Department of Ecology  
Southwest Regional Office  
Post Office Box 47600  
Olympia, Washington 98504-7600  
Telephone (360) 407-6926

If more than 180 days pass without the State responding to your individual WQC and/or CZM consistency determination concurrence request, your requirement to obtain an individual WQC and/or CZM consistency determination response becomes waived. You may then proceed to construction.

We have reviewed your project pursuant to the requirements of the Endangered Species Act (ESA). After consulting with the National Marine Fisheries Service and/or U.S. Fish and Wildlife Service, we have determined that this project meets the requirements of NWP National General Condition 11 provided you comply with special conditions "a" and "b" listed above. We have also reviewed your project pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 in regards to Essential Fish Habitat (EFH). We have determined that the proposed action will not adversely affect EFH for federally managed fisheries in Washington.

Our verification of this NWP authorization is valid for 2 years from the date of this letter unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date, please contact us to discuss the status of your authorization.

If this project complies with all terms and conditions of this authorization, you will need no further authorization from us for the above-described work. However, this authorization does not obviate your responsibility to obtain all additional authorizations, including State and local permits that are applicable to your project. Also, we remind you that failure to comply with all terms and conditions of this NWP authorization, including any above-listed special conditions invalidates your authorization and could result in a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.

Thank you for your cooperation during the permit process. Your efforts help us protect our nation's aquatic resources, including wetlands. Please remember to fill out and return the compliance certification form as soon as you complete the authorized work. A copy of this letter with drawings and conditions will be furnished to Mr. John F. O'Loughlin, 2201 Portland Avenue, Tacoma, Washington 98421-2711. If you have any questions about this letter or our regulatory program, please contact me at (206) 766-6439.

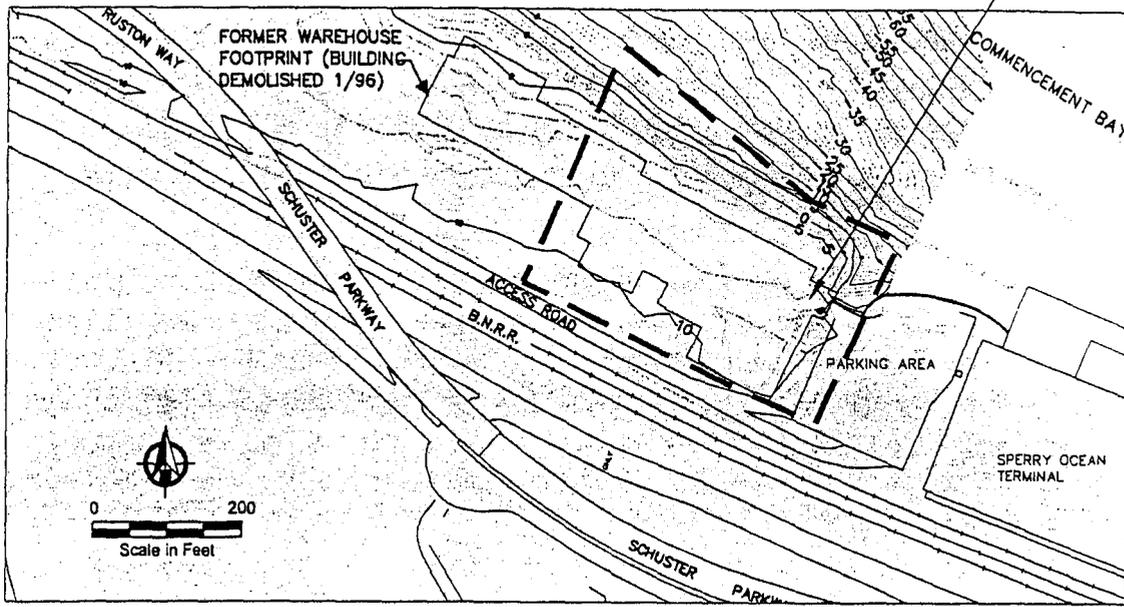
Sincerely,

A handwritten signature in cursive script, appearing to read "Ron Wilcox".

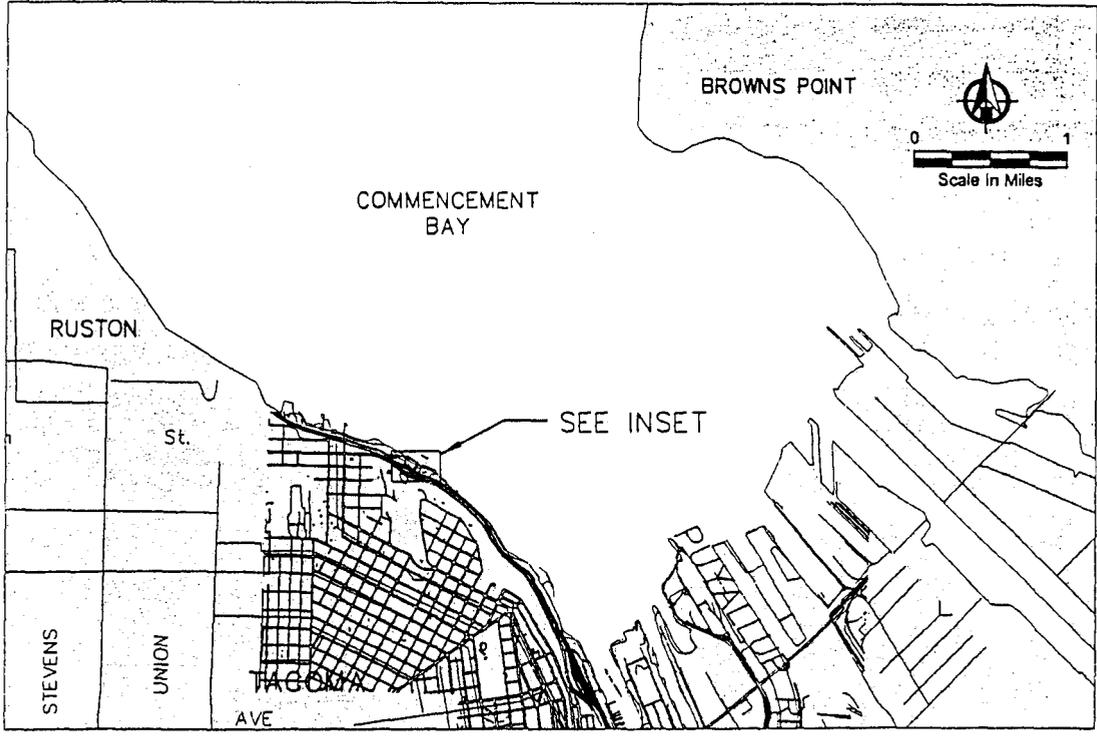
Ron Wilcox, Project Manager  
South Application Review Section

Enclosures

TAHOMA SALT MARSH  
PROJECT RESTORATION  
BOUNDARY  
LAT. 47°16'26"N  
LONG. 122°27'32"W  
DRIVING INSTRUCTIONS:  
1. I-705 N TO SCHUSTER  
PARKWAY.  
2. EXIT TO RUSTON WAY  
(LEFT LANE).  
3. AFTER OVERPASS &  
BEFORE TRAFFIC LIGHT AT  
McCARVER ST., TURN LEFT  
INTO PARKING LOT, DRIVE  
EAST ON ACCESS ROAD  
TO SITE.



INSET

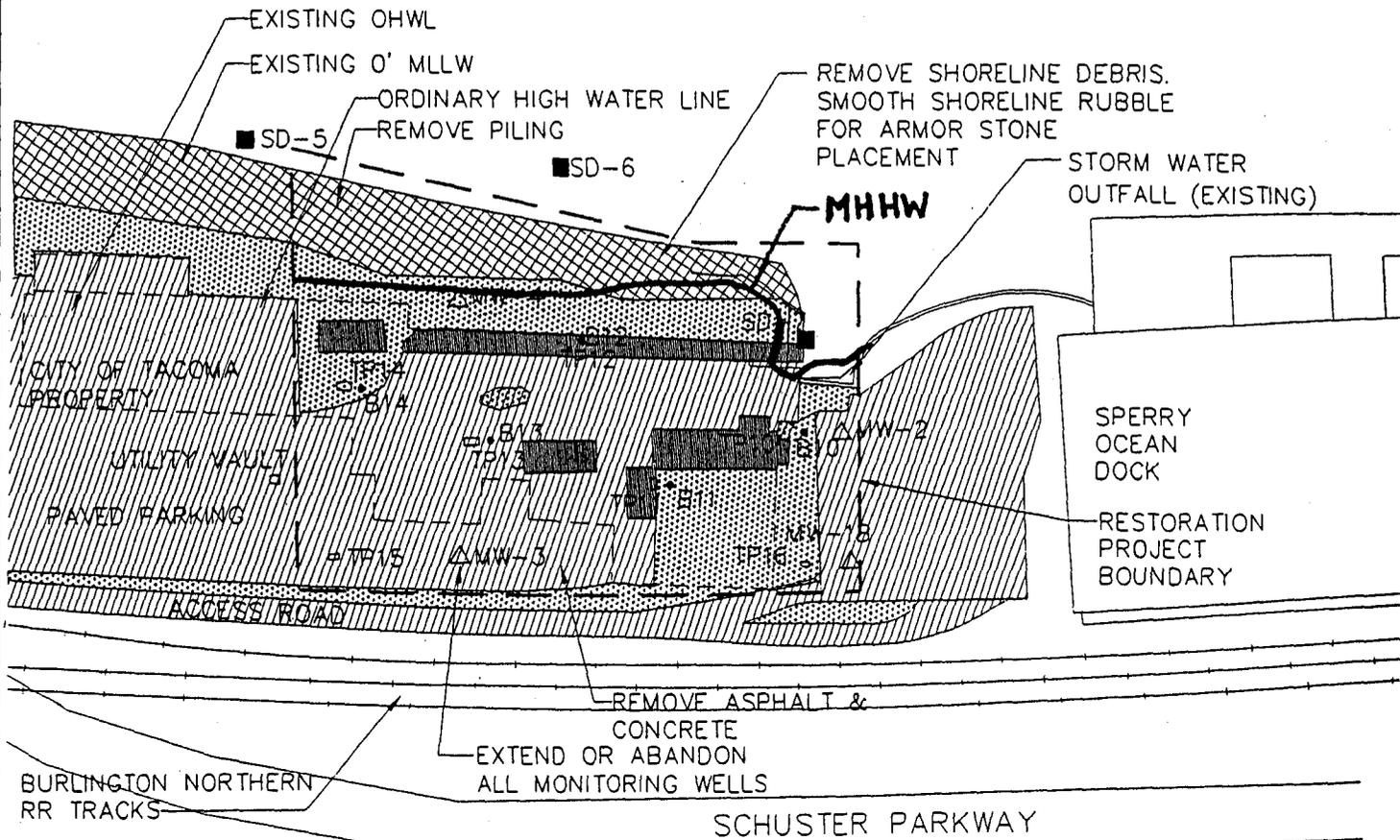


PURPOSE: SOIL CLEANUP & HABITAT RESTORATION  
Reference # 200300203  
DATUM: MLLW

VICINITY MAP  
  
SCALE: AS NOTED

TAHOMA SALT MARSH RESTORATION  
IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
COUNTY OF: PIERCE STATE OF: WA  
APPLICATION BY: CITY OF TACOMA  
SHEET 1 OF 12 FEBRUARY 2003

# COMMENCEMENT BAY



NOTES:  
 1. VEGETATION IS MINIMAL, WEEDS & NON-NATIVES.

LEGEND			
MONITOR WELL	△MW-2		SOIL/SAND/GRAVEL
TEST PIT	□TP13		CONCRETE
BORING LOCATION	• B13		ASPHALT
SEDIMENT SAMPLE	■SD-7		BROKEN CONCRETE RUBBLE
FORMER WAREHOUSE (DEMOLISHED 1/96)			

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

DATUM: MLLW

EXISTING CONDITIONS & DEMOLITION PLAN

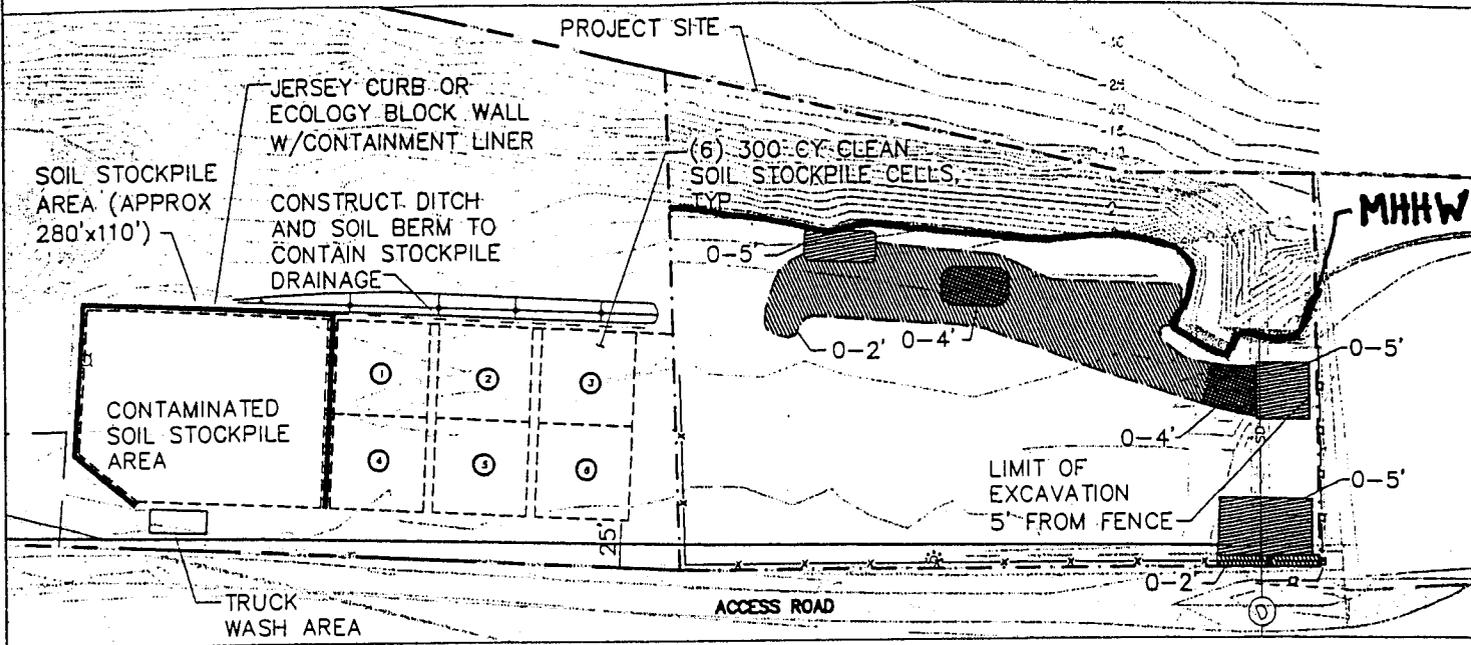
SCALE IN FEET

SCALE: 1" = 100'

TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 2 OF 12 FEBRUARY 2003

7/12/03 FILENAME 564036P01109F-02 WALLS AREL'S



**LEGEND**

EXPECTED ZONES OF EXCAVATION OF SOIL WITH CONTAMINANT CONCENTRATIONS EXCEEDING PROJECT CLEAN UP GOALS. DEPTHS APPLY FROM EXISTING GROUND SURFACES, INCLUDING CONCRETE AND ASPHALT SLABS AND PAVEMENT.

-  0-2 FT
-  0-4 FT
-  0-5 FT

**NOTES:**

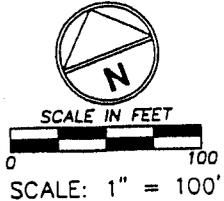
1. CONTAMINATED AREA EXCAVATION TO BE FIELD STAKED BY ENGINEER.
2. ADDITIONAL CONTAMINATED SOIL EXCAVATION OR CAP PLACEMENT AREAS TO BE DETERMINED FOLLOWING INITIAL EXCAVATION. COMPLETE AS DIRECTED BY ENGINEER IN FIELD.
3. EXCAVATE SITE IN 300 CY INCREMENTS AND STOCKPILE. OWNER WILL COMPLETE STOCKPILE AND EXCAVATION AREA SOIL SAMPLING AND ANALYSES. SEE SPECIFICATIONS.
4. ANTICIPATE STANDBY DAYS FOR OWNER SAMPLING AND TESTING. SEE SPECIFICATIONS.
5. CONTRACTOR TO DESIGN AND MANAGE STOCKPILE AREA AND DISPOSE OF RUNOFF AND DRAINAGE. SEE SPECIFICATIONS.

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

DATUM: FT. NGVD29

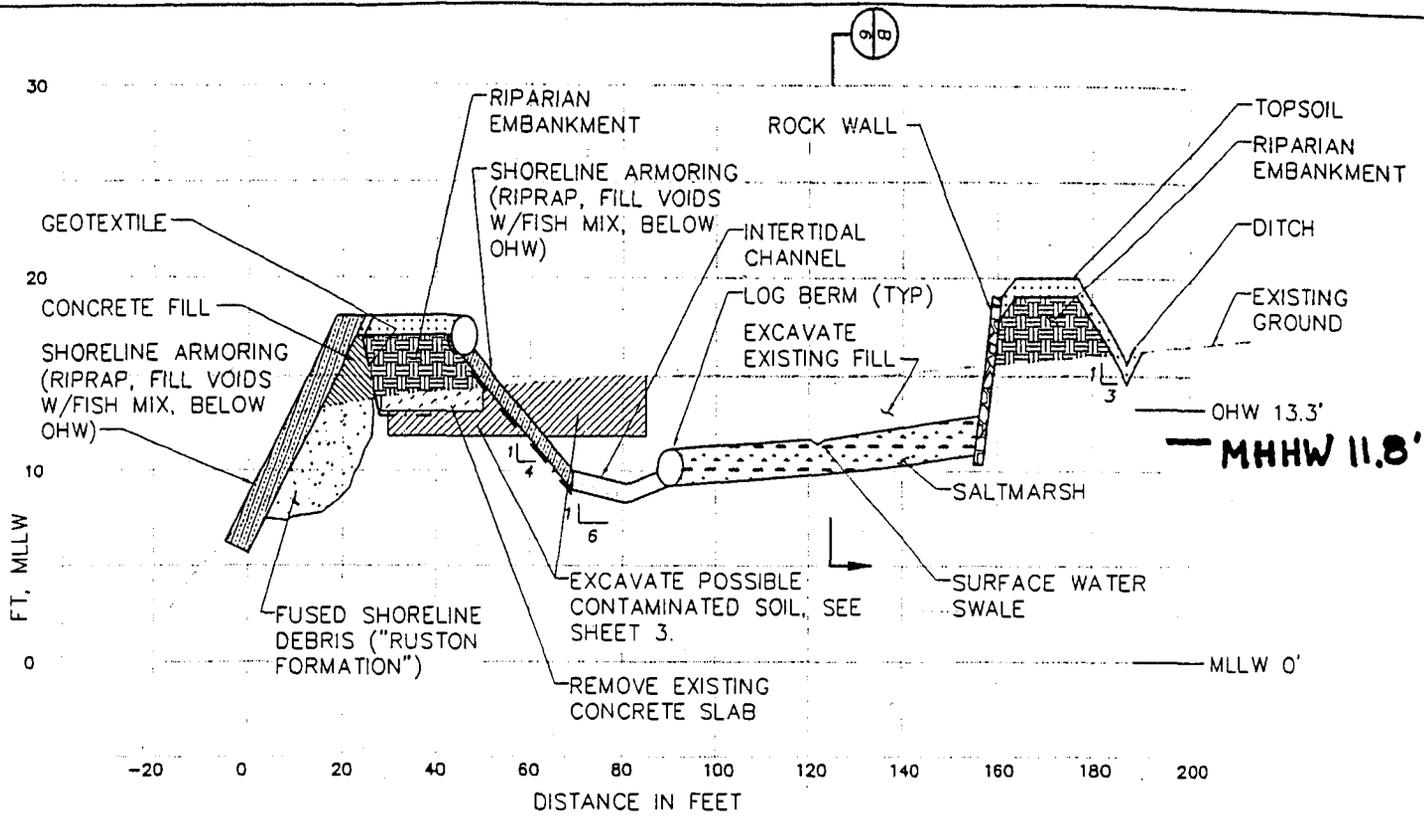
CONTAMINATED SOIL EXCAVATION



TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 3 OF 12 FEBRUARY 2003





SECTION A

LEGEND

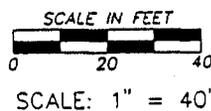
-  ESTIMATED LIMITS OF CONTAMINATED SOIL
-  WASTE CONCRETE FILL
-  RIPARIAN EMBANKMENT
-  SHORELINE ARMORING (RIPRAP W/FISH MIX)
-  SHORELINE ARMORING (RIPRAP)
-  SALTMARSH (SOIL AMENDED W/COMPOST)
-  TIDAL CHANNEL (FISH MIX)
-  SALTMARSH TRANSITION AREA (TOPSOIL W/EROSION CONTROL BLANKET)
-  TOPSOIL (W/EROSION CONTROL BLANKET)

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

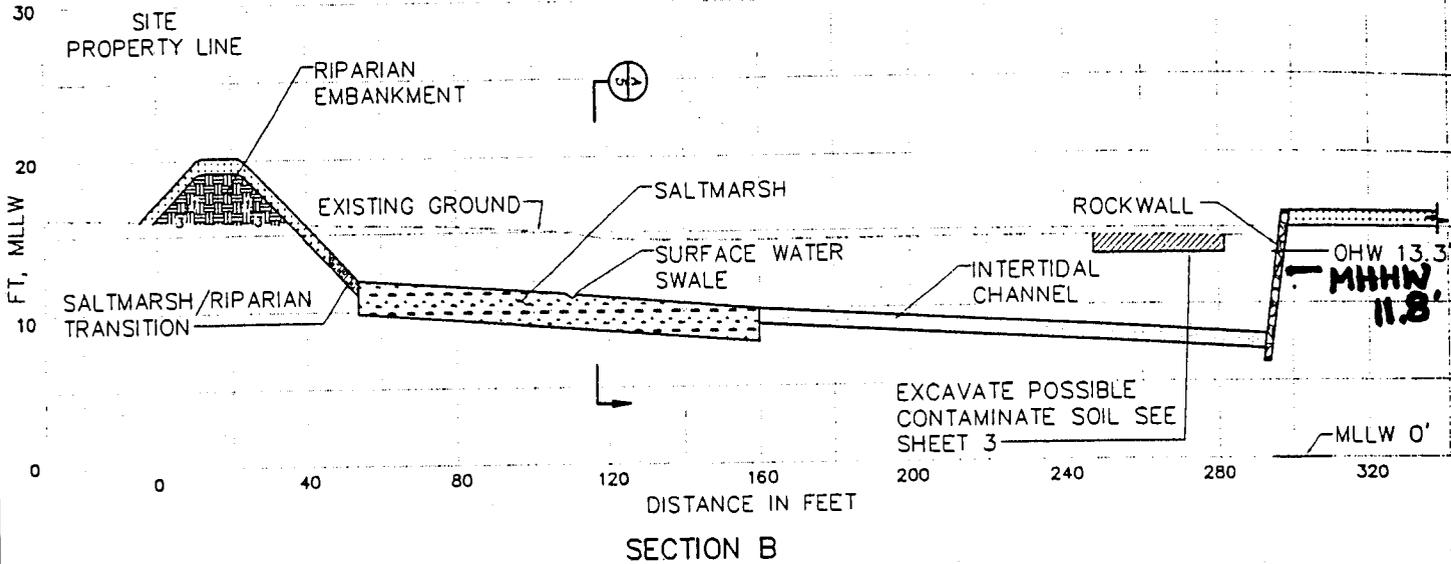
DATUM: MLLW

SECTION A



TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 5 OF 12  
 FEBRUARY 2003



**LEGEND**

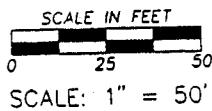
-  ESTIMATED LIMITS OF CONTAMINATED SOIL
-  WASTE CONCRETE FILL
-  RIPARIAN EMBANKMENT
-  SHORELINE ARMORING (RIPRAP W/FISH MIX)
-  SHORELINE ARMORING (RIPRAP)
-  SALTMARSH (SOIL AMENDED W/COMPOST)
-  TIDAL CHANNEL (FISH MIX)
-  SALTMARSH TRANSITION AREA (TOPSOIL W/EROSION CONTROL BLANKET)
-  TOPSOIL (W/EROSION CONTROL BLANKET)

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

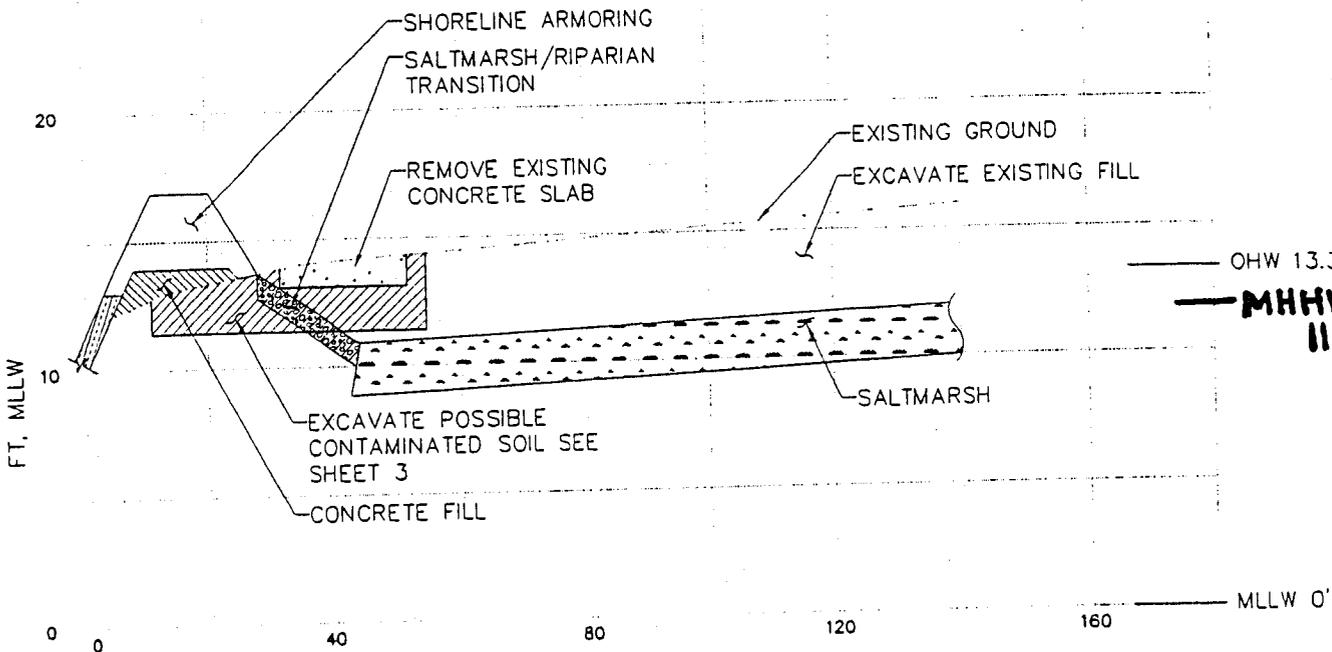
DATUM: MLLW

**SECTION B**



**TAHOMA SALT MARSH RESTORATION**

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 6 OF 12 FEBRUARY 2003



DISTANCE IN FEET  
SECTION C

**LEGEND**

-  ESTIMATED LIMITS OF CONTAMINATED SOIL
-  WASTE CONCRETE FILL
-  RIPARIAN EMBANKMENT
-  SHORELINE ARMORING (RIPRAP W/FISH MIX)
-  SHORELINE ARMORING (RIPRAP)
-  SALTMARSH (SOIL AMENDED W/COMPOST)
-  TIDAL CHANNEL (FISH MIX)
-  SALTMARSH TRANSITION AREA (TOPSOIL W/EROSION CONTROL BLANKET)
-  TOPSOIL (W/EROSION CONTROL BLANKET)

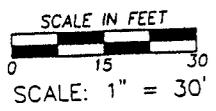
12/03 FILENAME: S1564036P0109F-05 XREF'S

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

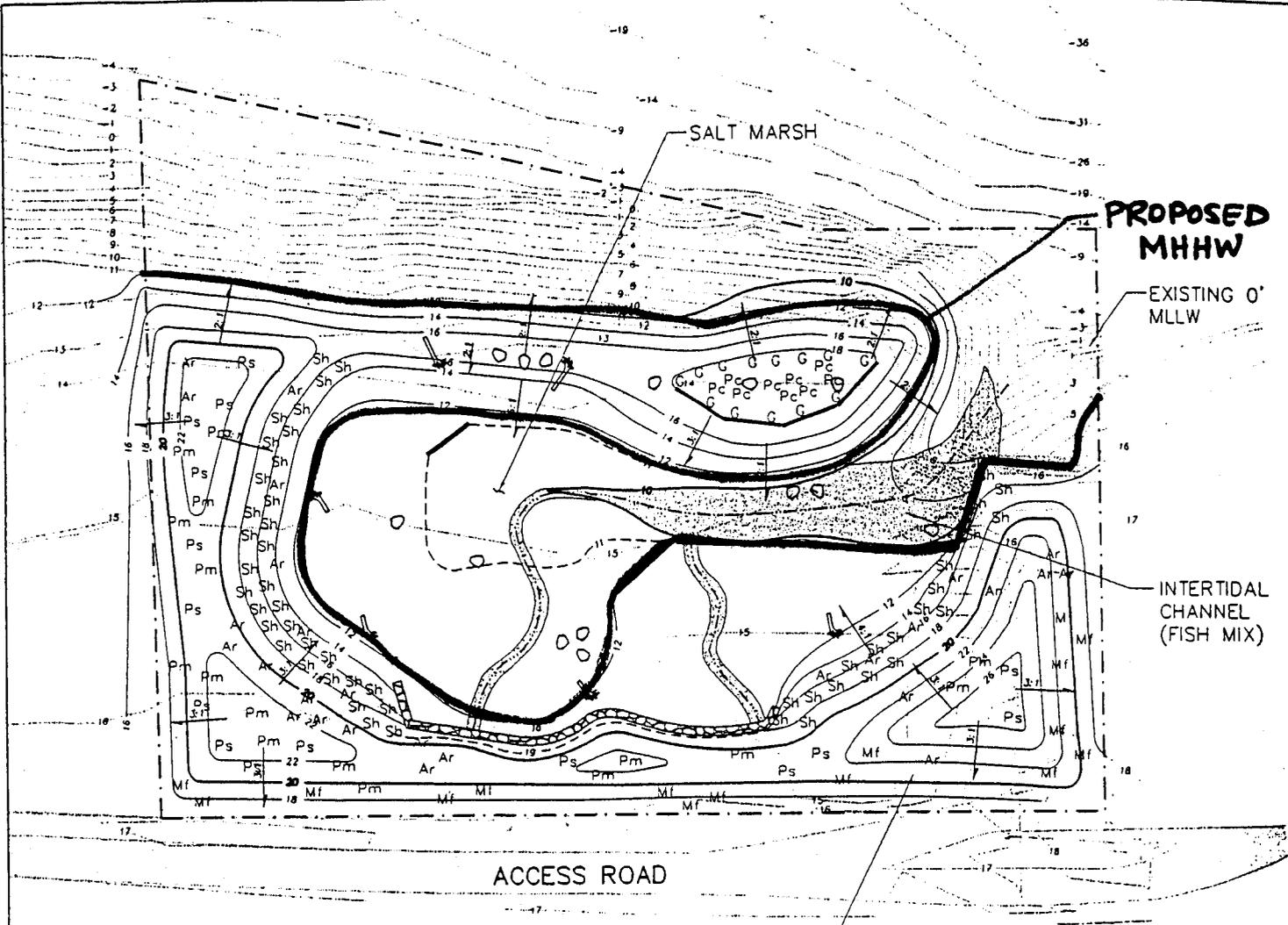
DATUM: MLLW

SECTION C



TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 7 OF 12 FEBRUARY 2000



ACCESS ROAD

HYDROSEED RIPARIAN  
MOUNDS W/NATIVE GRASSES.

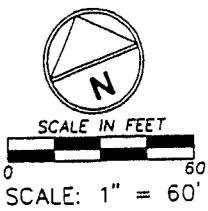
NOTE:  
SEE SHEET 9 FOR PLANT LIST.

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

DATUM: MLLW

PLANTING PLAN



TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 8 OF 12 FEBRUARY 2003

# UPLAND PLANTING ZONE SCHEDULE

## TREES & OTHERS

ABBREV.	SPECIES	COMMON NAME
Ar	ALNUS RUBRA	RED ALDER
Am	ARBUTUS MENZIESII	MADRONA
Mf	MALUS FUSCA	PACIFIC CRAB APPLE
Ps	PICEA SITCHENSIS	SITKA SPRUCE
Pc	PINUS CONTORTA 'CONTORTA'	SHORE PINE
Pm	PSEUDOTSUGA MENZIESII	DOUGLAS FIR
Sh	SALIX HOOKERIANA	HOOKERS WILLOW
G	GRINDELIA INTEGRIFOLIA	GUMWEED
	VAR. MACROPHYLLA	

## SHRUBS

NOTE: PLANT IN SINGLE SPECIES GROUPS OF 3 TO 12, IRREGULAR SPACING AND GROUPING

SPECIES	COMMON NAME
CEANOTHUS VELUTINUS	SNOWBRUSH
HOLIDISCUS DISCOLOR	OCEANSPRAY
MAHONIA AQUIFOLIUM	OREGON GRAPE
PHILADELPHUS LEWISII	MOCK ORANGE
RIBES SANGUINEUM	RED-FLOWERING CURRANT
ROSA GYMNOCARPA	BALDHIP ROSE
RUBUS PARVIFLORUS	THIMBLEBERRY

# EMERGENT/SALT MARSH PLANT ZONE SCHEDULE

NOTE: PLANT IN SINGLE SPECIES GROUPS OF 50 TO 200

SPECIES	COMMON NAME
CAREX LYNGBYEI	LYNGBY SEDGE
DISTICHLIS SPICATA	SALT GRASS
JUNCUS BALTICUS	BALTIC RUSH
SALICORNIA VIRGINICA	PICKLEWEED
TRIGLOCHIN MARITIMUM	SEASIDE ARROW GRASS
SCIRPUS ACUTIS *	HARDSTEM BULRUSH
SCIRPUS AMERICANUS *	AMERICAN THREE-SQUARE BULRUSH
JUNCUS GERARDII *	MUD RUSH
SCIRPUS MARITIMUS *	SEACOAST BULRUSH

\* PLANT AROUND EDGE OF SALT MARSH, BETWEEN ELEVATION +12 AND +15 FT. MLLW.

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

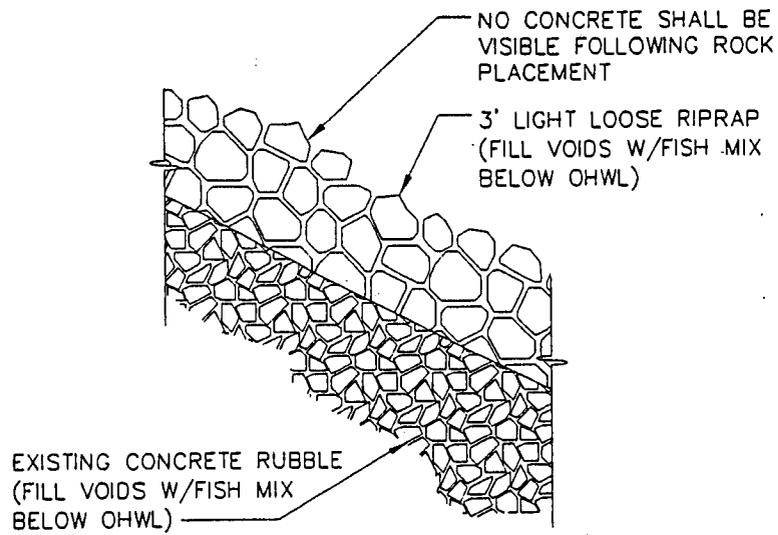
DATUM: MLLW

PLANT LIST

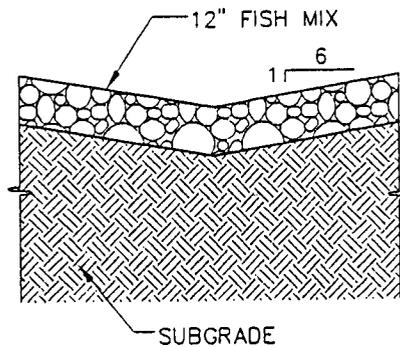
TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 9 OF 12 FEBRUARY 2003

12/12/03 FILENAME: S1564036P01109F-06 WACES: REF: S. S1564036P01109B0 | X31564036P01109B0 |



SHORELINE ARMORING



INTERTIDAL CHANNEL

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

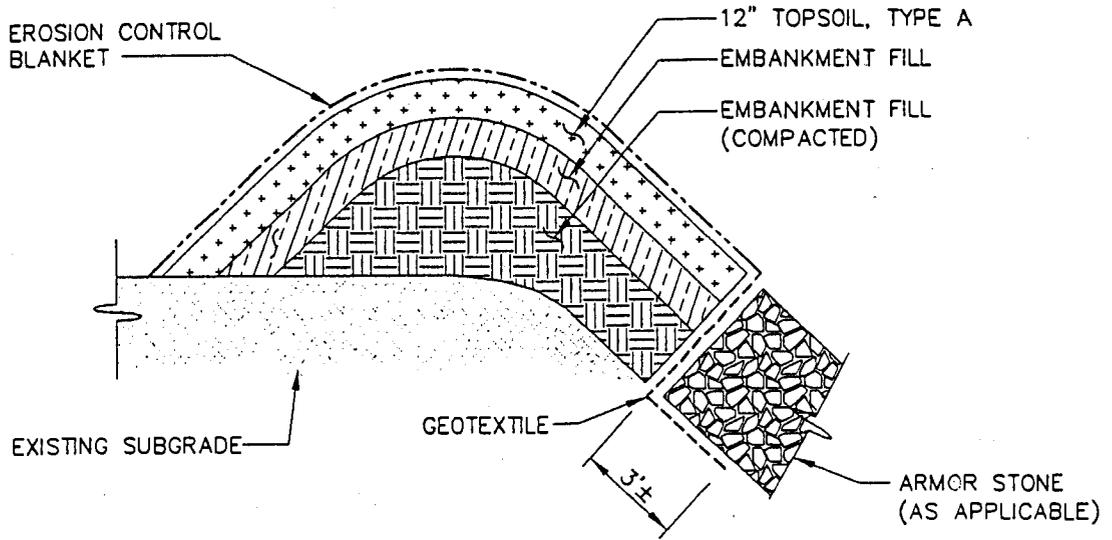
DATUM: MLLW

DETAILS

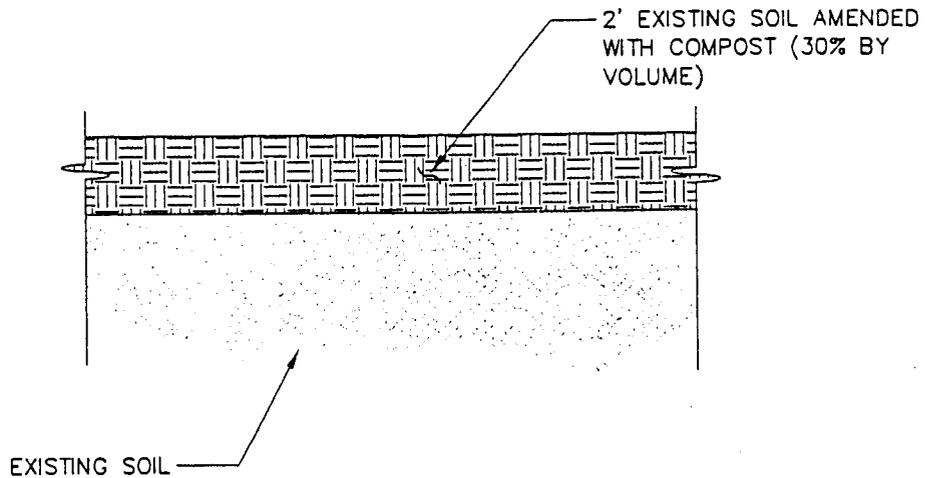
SCALE: NONE

TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 10 OF 12 FEBRUARY 2003



RIPARIAN EMBANKMENT



SALT MARSH SOIL

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

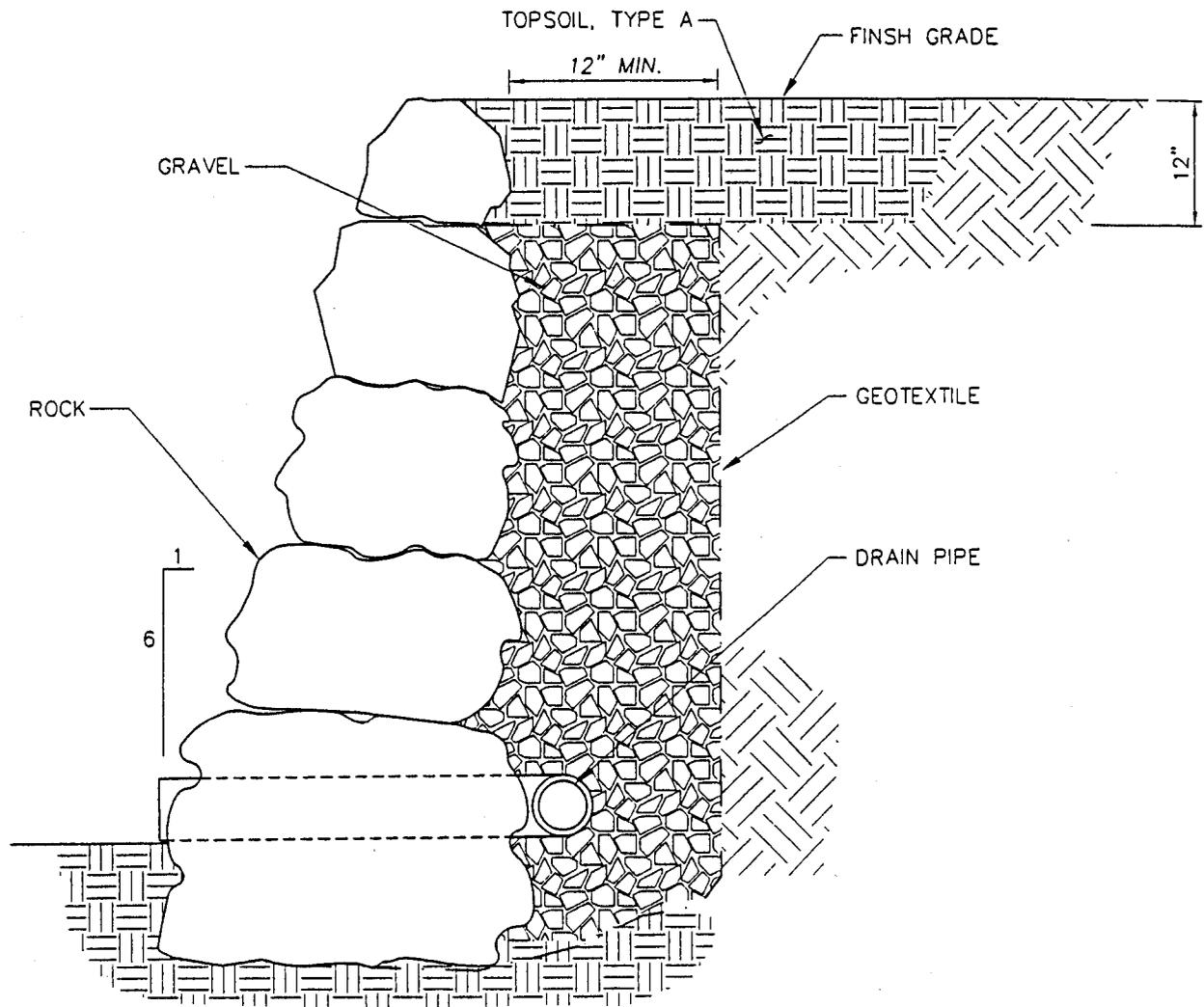
DATUM: MLLW

DETAILS

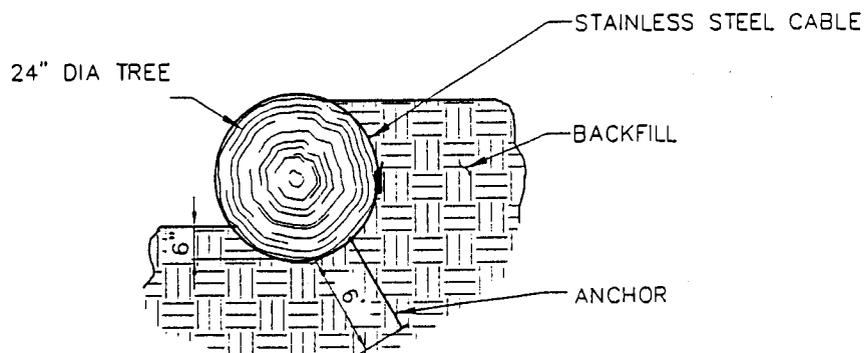
SCALE: NONE

TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 11 OF 12 FEBRUARY 2003



ROCKWALL



LOG BERM

PURPOSE: SOIL CLEANUP & HABITAT RESTORATION

Reference # 200300203

DATUM: MLLW

DETAILS

SCALE: NONE

TAHOMA SALT MARSH RESTORATION

IN: SECTION 29, TOWNSHIP 21N, RANGE 3E  
 COUNTY OF: PIERCE STATE OF: WA  
 APPLICATION BY: CITY OF TACOMA  
 SHEET 12 OF 12 FEBRUARY 2003



US Army Corps  
of Engineers  
Seattle District

# NATIONWIDE PERMIT 27

## Terms and Conditions

Effective Date: March 18, 2002



- 
- A. Description of Authorized Activities – page 1
  - B. Corps Regional Specific Conditions for this NWP – page 3
  - C. EPA, Puyallup Tribe and Chehalis Tribe WQC Conditions for this NWP – page 3
  - D. State WQC Conditions for this NWP – page 3
  - E. State CZM Consistency Determination Conditions for this NWP – page 4
  - F. Corps National General Conditions for all NWPs – page 5
  - G. Corps Regional General Conditions for all NWPs – page 12
  - H. Additional Limitations on the Use of NWPs – page 14
  - I. Further Information – page 14
- 

**In addition to any special condition that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit 27 authorization to be valid in Washington State.**

### **A. DESCRIPTION OF AUTHORIZED ACTIVITIES**

Activities in waters of the US associated with the restoration of former waters, the enhancement of degraded tidal and non-tidal wetlands and riparian areas, the creation of tidal and non-tidal wetlands and riparian areas, and the restoration and enhancement of non-tidal streams and non-tidal open water areas as follows:

- (a) The activity is conducted on:
  - (1) Non-Federal public lands and private lands, in accordance with the terms and conditions of a binding wetland enhancement, restoration, or creation agreement between the landowner and the U.S. Fish and Wildlife Service (FWS) or the Natural Resources Conservation Service (NRCS), the National Marine Fisheries Service, the National Ocean Service, or voluntary wetland restoration, enhancement, and creation actions documented by the NRCS pursuant to NRCS regulations; or

- (2) Reclaimed surface coal mine lands, in accordance with a Surface Mining Control and Reclamation Act permit issued by the OSM or the applicable state agency (the future reversion does not apply to streams or wetlands created, restored, or enhanced as mitigation for the mining impacts, nor naturally due to hydrologic or topographic features, nor for a mitigation bank); or
- (3) Any other public, private or tribal lands;
- (b) Notification: For activities on any public or private land that are not described by paragraphs (a)(1) or (a)(2) above, the permittee must notify the District Engineer in accordance with General Condition 13; and
- (c) Planting of only native species should occur on the site.

Activities authorized by this NWP include, to the extent that a Corps permit is required, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms; the installation of current deflectors; the enhancement, restoration, or creation of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or create stream meanders; the backfilling of artificial channels and drainage ditches; the removal of existing drainage structures; the construction of small nesting islands; the construction of open water areas; the construction of oyster habitat over unvegetated bottom in tidal waters; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; mechanized land clearing to remove non-native invasive, exotic or nuisance vegetation; and other related activities.

This NWP does not authorize the conversion of a stream to another aquatic use, such as the creation of an impoundment for waterfowl habitat. This NWP does not authorize stream channelization. This NWP does not authorize the conversion of natural wetlands to another aquatic use, such as creation of waterfowl impoundments where a forested wetland previously existed. However, this NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands, on the project site provided there are net gains in aquatic resource functions and values. For example, this NWP may authorize the creation of an open water impoundment in a non-tidal emergent wetland, provided the non-tidal emergent wetland is replaced by creating that wetland type on the project site. This NWP does not authorize the relocation of tidal waters or the conversion of tidal waters, including tidal wetlands, to other aquatic uses, such as the conversion of tidal wetlands into open water impoundments.

*Reversion.* For enhancement, restoration, and creation projects conducted under paragraphs (a)(3), this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion. For restoration, enhancement, and creation projects conducted under paragraphs (a)(1) and (a)(2), this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or creation activities). The reversion must occur within five years after expiration of a limited term wetland restoration or creation agreement or permit, even if the discharge occurs after this NWP expires. This NWP also authorizes the reversion of wetlands that were restored, enhanced, or created on prior-converted cropland that has not been abandoned, in accordance with a binding agreement between the landowner and NRCS or FWS (even though the restoration, enhancement, or creation activity did not require a Section 404 permit). The five-year reversion limit does not apply to agreements without time limits reached under paragraph (a)(1). The prior condition will be documented in the original agreement or permit, and the determination of return to prior conditions will be made by the Federal agency or appropriate state agency executing the agreement or permit. Before any reversion activity the permittee or the appropriate Federal or state agency must notify the District Engineer and include the documentation of the prior condition. Once an area has reverted to its prior physical condition, it will be subject to whatever the Corps Regulatory requirements will be at that future date. (Sections 10 and 404)

**Note:** Compensatory mitigation is not required for activities authorized by this NWP, provided the authorized work results in a net increase in aquatic resource functions and values in the project area. This NWP can be used to authorize compensatory mitigation projects, including mitigation banks, provided the permittee notifies the District Engineer in accordance with General Condition 13, and the project includes compensatory mitigation for impacts to waters of the US caused by the authorized work. However, this NWP does not authorize the reversion of an area used for a compensatory mitigation project to its prior condition. NWP 27 can be used to authorize impacts at a mitigation bank, but only in circumstances where it has been approved under the Interagency Federal Mitigation Bank Guidelines.

## **B. CORPS REGIONAL CONDITIONS FOR THIS NWP**

1. If the proposed work results in impacts to a special aquatic sites (e.g., wetlands or riffle and pool complexes), the "Notification" must include a statement of why the impacts are necessary, how the impacts have been minimized, and how the overall project is beneficial, despite these impacts.
2. The permittee must notify the District Engineer in accordance with General Condition 13 for proposed projects in stream or wetland restoration and enhancement areas previously authorized as mitigation by a Department of the Army permit.
3. The permittee must notify the District Engineer in accordance with General Condition 13 for a stream and wetland restoration projects occurring in a designated Federal Superfund site (Comprehensive Environmental Response, Compensation and Liability Act), hazardous waste clean-up site (Resource Conservation and Recovery Act), or State clean-up site (Model Toxics Control Act).

**NOTE:** The restoration of former waters can occur in either tidal or non-tidal waters. However, NWP 27 cannot be used for the enhancement or creation of tidal waters other than wetland and riparian areas. See the definition section for more information.

## **C. EPA, Puyallup Tribe and Chehalis Tribe WQC CONDITIONS FOR THIS NWP**

EPA, Puyallup Tribe and Chehalis Tribe water quality certification (WQC) has been denied without prejudice. An individual WQC is required for all Section 404 activities.

## **D. STATE WQC CONDITIONS FOR THIS NWP**

State WQC has been partially denied without prejudice for this permit. Written approval of the proposed mitigation plan for the project is required by Ecology for the activities and impacts listed below:

1. Any fill-related impacts to tidal waters or to non-tidal wetlands adjacent to tidal waters.
2. Any fill-related impacts greater than ½ acre.

An individual 401 certification, in addition to an approved mitigation plan, is required prior to starting work for the following:

- a. For the activities listed in 1. and 2. above where Ecology determines the mitigation proposed for the project is insufficient and written approval is not received;
- b. Any project impacting 1 acre or greater of wetlands

**NOTE:** Mitigation plans submitted for Ecology review and approval shall be based on the guidance provided in Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals (Ecology Publication 94-29 or as revised).

For projects proposing mitigation at an Ecology-approved mitigation bank, applicants shall provide a copy of the bank credit withdrawal transaction recorded at the county auditor's office.

An individual 401 Certification is required for projects or activities authorized under this NWP if the project/activity will likely result in any of the following adverse effects:

1. The project or activity will likely cause or contribute to an exceedance of a State water quality standard (WAC 173-201A) or sediment quality standard (WAC 173-204). The requirement to obtain an individual 401 certification shall not apply to projects or activities that are carried out in accordance with the following permits, approvals, or management practices. These projects are presumed to comply with state water quality standards including state sediment management standards:
  - a. Projects or activities where the discharges authorized under this NWP are explicitly authorized or covered by a National Pollutant Discharge Elimination System permit.
  - b. Projects, activities or portions of projects or activities designed, constructed and maintained in accordance with the stormwater standards and practices contained in the most current version of Ecology's Stormwater Manual or an Ecology approved equivalent.
2. For projects/activities not designed in accordance with either Ecology's stormwater manual or an Ecology approved equivalent, or for projects where there is credible site specific information which indicates that the permits, approvals, or management practices identified above will not be sufficient to meet state water quality standards, the applicant may provide documentation with the application that the project/activity will otherwise comply with state water quality standards. An individual 401 Certification is required for projects which are unable to provide documentation that the project/activity will otherwise comply with state water quality standards.
3. Projects or activities that cause or contribute to a discharge to a waterbody on the state's list of impaired waterbodies [i.e., the 303(d) list] and the discharge may result in further exceedances of a specific parameter the waterbody is listed for. The current list of 303(d)-listed waterbodies is available on Ecology's web site at [http://www.ecy.wa.gov/programs/wq/303d/1998/1998\\_by\\_wrias.html](http://www.ecy.wa.gov/programs/wq/303d/1998/1998_by_wrias.html) or by contacting Ecology's Federal Permits staff.

**NOTE:** An individual 401 Certification will not be required if the applicant provides documentation showing that the project or activity will either not result in a discharge containing the listed parameter or, if present, the parameter will not contribute to an increased impairment of the waterbody.

4. Projects that do not incorporate structures and/or modifications beneficial for fish or wildlife habitat (e.g., soil bioengineering, biotechnical design, rock barbs, etc.).

**NOTE:** An individual 401 certification will not be required if the project/activity is designed and constructed in accordance to guidelines developed by the Washington State Department of Fish and Wildlife.

## **E. STATE CZM CONSISTENCY DETERMINATION CONDITIONS FOR THIS NWP**

The Coastal Zone Management (CZM) Consistency Determination has been partially denied without prejudice subject to the 401 Certification conditions for this NWP. An individual CZM Consistency Response must be obtained for projects requiring individual 401 Certification and located within counties in the coastal zone.

## F. CORPS NATIONAL GENERAL CONDITIONS FOR ALL NWPs

1. **Navigation.** No activity may cause more than a minimal adverse effect on navigation.
2. **Proper Maintenance.** Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.
3. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.
4. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
5. **Equipment.** Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.
6. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state or tribe in its Section 401 Water Quality Certification and Coastal Zone Management Act consistency determination.
7. **Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).
8. **Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
9. **Water Quality.**
  - (a) In certain states and tribal lands an individual 401 Water Quality Certification must be obtained or waived (See 33 CFR 330.4(c)).
  - (b) For NWPs 12, 14, 17, 18, 32, 39, 40, 42, 43, and 44, where the state or tribal 401 certification (either generically or individually) does not require or approve water quality management measures, the permittee must provide water quality management measures that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality). An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs). This condition is only applicable to projects that have the potential to affect water quality. While appropriate measures must be taken, in most cases it is not necessary to conduct detailed studies to identify such measures or to require monitoring.

10. **Coastal Zone Management.** In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see 33 CFR 330.4(d)).

11. **Endangered Species.**

(a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS or NMFS the District Engineer may add species-specific regional endangered species conditions to the NWPs.

(b) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their world wide web pages at <http://www.fws.gov/r9endspp/endspp.html> and [http://www.nmfs.noaa.gov/prot\\_res/overview/es.html](http://www.nmfs.noaa.gov/prot_res/overview/es.html) respectively.

12. **Historic Properties.** No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

13. **Notification.**

(a) **Timing:** Where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the notification is complete within 30 days of the date of receipt and can request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the notification is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer; or

(2) If notified in writing by the District or Division Engineer that an Individual Permit is required; or

(3) Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) **Contents of Notification:** The notification must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), Regional General Permit(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) For NWPs 7, 12, 14, 18, 21, 34, 38, 39, 40, 41, 42, and 43, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f));

(5) For NWP 7 (Outfall Structures and Maintenance), the PCN must include information regarding the original design capacities and configurations of those areas of the facility where maintenance dredging or excavation is proposed;

(6) For NWP 14 (Linear Transportation Projects), the PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the US and a statement describing how temporary losses of waters of the US will be minimized to the maximum extent practicable;

(7) For NWP 21 (Surface Coal Mining Activities), the PCN must include an Office of Surface Mining (OSM) or state-approved mitigation plan, if applicable. To be authorized by this NWP, the District Engineer must determine that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are minimal both individually and cumulatively and must notify the project sponsor of this determination in writing;

(8) For NWP 27 (Stream and Wetland Restoration Activities), the PCN must include documentation of the prior condition of the site that will be reverted by the permittee;

(9) For NWP 29 (Single-Family Housing), the PCN must also include:

(i) Any past use of this NWP by the Individual Permittee and/or the permittee's spouse;

(ii) A statement that the single-family housing activity is for a personal residence of the permittee;

(iii) A description of the entire parcel, including its size, and a delineation of wetlands. For the purpose of this NWP, parcels of land measuring 1/4-acre or less will not require a formal on-site delineation. However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exists on the property. For parcels greater than 1/4-acre in size, formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f));

(iv) A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed;

(10) For NWP 31 (Maintenance of Existing Flood Control Facilities), the prospective permittee must either notify the District Engineer with a PCN prior to each maintenance activity or submit a five year (or less) maintenance plan. In addition, the PCN must include all of the following:

(i) Sufficient baseline information identifying the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided the approved flood control protection or drainage is not increased;

(ii) A delineation of any affected special aquatic sites, including wetlands; and,

(iii) Location of the dredged material disposal site;

(11) For NWP 33 (Temporary Construction, Access, and Dewatering), the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources;

(12) For NWPs 39, 43 and 44, the PCN must also include a written statement to the District Engineer explaining how avoidance and minimization for losses of waters of the US were achieved on the project site;

(13) For NWP 39 and NWP 42, the PCN must include a compensatory mitigation proposal to offset losses of waters of the US or justification explaining why compensatory mitigation should not be required. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

(14) For NWP 40 (Agricultural Activities), the PCN must include a compensatory mitigation proposal to offset losses of waters of the US. This NWP does not authorize the relocation of greater than 300 linear-feet of existing serviceable drainage ditches constructed in non-tidal streams unless, for drainage ditches constructed in intermittent non-tidal streams, the District Engineer waives this criterion in writing, and the District Engineer has determined that the project complies with all terms and conditions of this NWP, and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively;

(15) For NWP 43 (Stormwater Management Facilities), the PCN must include, for the construction of new stormwater management facilities, a maintenance plan (in accordance with state and local requirements, if applicable) and a compensatory mitigation proposal to offset losses of waters of the US. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

(16) For NWP 44 (Mining Activities), the PCN must include a description of all waters of the US adversely affected by the project, a description of measures taken to minimize adverse effects to waters of the US, a description of measures taken to comply with the criteria of the NWP, and a reclamation plan (for all aggregate mining activities in isolated waters and non-tidal wetlands adjacent to headwaters and any hard rock/mineral mining activities);

(17) For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work; and

(18) For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

(c) **Form of Notification:** The standard Individual Permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(18) of General Condition 13. A letter containing the requisite information may also be used.

(d) **District Engineer's Decision:** In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a

proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed compensatory mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP. If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an Individual Permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the District Engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitigation plan is required under item (2) above, no work in waters of the US will occur until the District Engineer has approved a specific mitigation plan.

(e) **Agency Coordination:** The District Engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. For activities requiring notification to the District Engineer that result in the loss of greater than 1/2-acre of waters of the US, the District Engineer will provide immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate Federal or state offices (USFWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the notification. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The District Engineer will indicate in the administrative record associated with each notification that the resource agencies' concerns were considered. As required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the District Engineer will provide a response to NMFS within 30 days of receipt of any Essential Fish Habitat conservation recommendations. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

(f) **Wetland Delineations:** Wetland delineations must be prepared in accordance with the current method required by the Corps (For NWP 29 see paragraph (b)(9)(iii) for parcels less than (1/4-acre in size). The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

14. **Compliance Certification.** Every permittee who has received NWP verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter and will include:

(a) A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions;

- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

15. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the US authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit (e.g. if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre).

16. **Water Supply Intakes.** No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

17. **Shellfish Beds.** No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

18. **Suitable Material.** No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may consist of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the CWA).

19. **Mitigation.** The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and practicable mitigation necessary to offset adverse effects on the aquatic environment that are more than minimal.

(a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the US to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring a PCN, unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

(d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, 1/4-acre of wetlands cannot be created to change a 3/4-acre loss of wetlands to a 1/2-acre loss associated with NWP 39 verification. However, 1/2-acre of created wetlands can be used to reduce the impacts of a 1/2-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWPs.

(e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferably in the same watershed.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., easements, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer will be 25 to 50 feet wide on each side of the stream, but the District Engineers may require slightly wider vegetated buffers to address documented water quality or

habitat loss concerns. Where both wetlands and open waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.

(g) Compensatory mitigation proposals submitted with the "notification" may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the US.

(h) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

**20. Spawning Areas.** Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., excavate, fill, or smother downstream by substantial turbidity) of an important spawning area are not authorized.

**21. Management of Water Flows.** To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelizing will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow. This condition is only applicable to projects that have the potential to affect waterflows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

**22. Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restricting its flow shall be minimized to the maximum extent practicable. This includes structures and work in navigable waters of the US, or discharges of dredged or fill material.

**23. Waterfowl Breeding Areas.** Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

**24. Removal of Temporary Fills.** Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

**25. Designated Critical Resource Waters.** Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Except as noted below, discharges of dredged or fill material into waters of the US are not authorized by NWP 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, and 44 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the US may be authorized by the above NWPs in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the USFWS or the NMFS has concurred in a determination of compliance with this condition.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with General Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

**26. Fills Within 100-Year Floodplains.** For purposes of this General Condition, 100-year floodplains will be identified through the existing Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or FEMA-approved local floodplain maps.

(a) **Discharges in Floodplain; Below Headwaters.** Discharges of dredged or fill material into waters of the US within the mapped 100-year floodplain, below headwaters (i.e., 5 cfs), resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, 43, and 44.

(b) **Discharges in Floodway; Above Headwaters.** Discharges of dredged or fill material into waters of the US within the FEMA or locally mapped floodway, resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, and 44.

(c) The permittee must comply with any applicable FEMA-approved state or local floodplain management requirements.

**27. Construction Period.** For activities that have not been verified by the Corps and the project was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12-months after such date (including any modification that affects the project). For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps. For projects that have been verified by the Corps, an extension of a Corps approved completion date may be requested. This request must be submitted at least one month before the previously approved completion date.

## **G. CORPS REGIONAL GENERAL CONDITIONS FOR ALL NWPs**

**1. Mature Forested and Bog and Bog-like Wetlands.** The use of NWPs is specifically prohibited in mature forested wetlands or bog and bog-like wetlands or just these components of a wetland system (as defined in the Definition section of this Public Notice), except for projects provided coverage under the following NWPs:

- NWP 3(i,ii) - Maintenance
- NWP 20 - Oil Spill Cleanup
- NWP 32 - Completed Enforcement Actions
- NWP 38 - Cleanup of Hazardous and Toxic Waste
- NWP 40(a) - USDA program participant

NOTE: NWP regulations do not allow the regional conditioning of NWP 40(a).

**2. Access.** You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being, or has been, accomplished in accordance with the terms and conditions of your permit.

3. **Commencement Bay.** An individual permit is required in the Commencement Bay Study Area (CBSA) for activities which would have qualified for the following NWP:

- NWP 12 – Utility Line Activities (substations and access roads)
- NWP 13 – Bank Stabilization
- NWP 14 – Linear Transportation Crossings
- NWP 23 – Approved Categorical Exclusions
- NWP 29 – Single-Family Housing
- NWP 39 – Residential, Commercial, and Institutional Developments
- NWP 40 – Agricultural Activities
- NWP 41 – Reshaping Existing Drainage Ditches
- NWP 42 – Recreational Facilities
- NWP 43 – Stormwater Management Facilities

The CBSA is located near the southern end of Puget Sound's main basin at Tacoma, Pierce County, Washington. The CBSA extends from Brown's Point around the bay to Point Defiance and includes the commercial waterways, wetlands, and any other jurisdictional waters. From Point Defiance, the line runs southeast to State Route 7 (Pacific Avenue), then south to the centerline of I-5; then east (northbound lanes) along I-5 to the Puyallup River. The boundary extends 200 feet on either side of the Puyallup River southeast to the Clark Creek Road (Melroy) Bridge. From the Puyallup River, the boundary extends east along I-5 to 70th Avenue E. The line then returns to Brown's Point to the northwest, following the 100-foot contour elevation above sea level located east of Hylebos Creek and Marine View Drive.

4. **Mill Creek Special Area Management Plan (SAMP).** Within the boundaries of the (SAMP), the following NWPs can be used only in those areas designated as "Developable Wetlands":

- NWP 14 – Linear Transportation Crossings
- NWP 23 – Approved Categorical Exclusions
- NWP 29 – Single-Family Housing
- NWP 33 – Temporary Construction, Access and Dewatering
- NWP 39 – Residential, Commercial, and Institutional Developments
- NWP 40 – Agricultural Activities
- NWP 41 – Reshaping Existing Drainage Ditches
- NWP 42 – Recreational Facilities
- NWP 43 – Stormwater Management Facilities

Until the SAMP is approved, the users of these NWPs listed above (except NWP 40a.) must notify the District Engineer in accordance with General Condition 13 for any acreage or volume proposed. Once the SAMP is approved, the "Notification" limits will be as specified in the individual NWPs.

Mitigation requirements for these projects must either be onsite or within the areas designated as "Preferred Mitigation Sites". Mitigation plans must comply with the requirements found within the Mill Creek Special Area Management Plan, King County, Washington, dated April 2000.

An individual permit is required for all proposals in "Developable Wetlands" that would have qualified for NWPs other than those listed above.

NWP 27, Stream Restoration and Enhancement Activities, can be used within the SAMP, but, must comply with the requirements found within the Mill Creek Special Area Management Plan, King County, Washington.

The Mill Creek SAMP applies to all areas and tributaries drained by Mill Creek (Auburn), Mullen Slough, Midway Creek, Auburn Creek, and the area bounded by 4th Street Northeast in Auburn on the south, and the Ordinary High Water mark of the Green River on the east and north.

5. **Prohibited Work Times for Bald Eagle Protection.** For compliance with National General Condition 11, the following construction activity prohibitions apply to protect bald eagles, listed as threatened under the Endangered Species Act:

(a) No construction activity authorized under a NWP shall occur within 1/4 mile of an occupied bald eagle nest, nocturnal roost site, or wintering concentration area, within the following seasonal work prohibition times.

(b) No construction activity authorized under a NWP shall occur within 1/2 mile BY LINE OF SIGHT of an occupied bald eagle nest or nocturnal roost site, within the following seasonal work prohibition times:

Work prohibition times:

- (1) Nesting between January 1 and August 15 each year.
- (2) Wintering areas between November 1 and March 31 each year.

Exceptions to these prohibited work times can be made by request to the Corps and approved by the U.S. Fish and Wildlife Service (USFWS).

Contact the USFWS to determine if a bald eagle nest, nocturnal roost, or wintering concentration occurs near your proposed project:

West of Cascades: Olympia Office – (360) 753-9440

East of Cascades: Ephrata – (509) 754-8580 or Spokane – (509) 893-8002

Mainstem of the Columbia River downstream from McNary Dam: Portland – (503) 231-6179

## H. ADDITIONAL LIMITATIONS ON THE USE OF NWPs

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other Federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.
6. If future operations by the United States require the removal, relocation, or other alteration of the work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, you will be required, upon due notice from the U. S Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

## I. FURTHER INFORMATION

Further information about the U.S. Army Corps of Engineers regulatory program, including nationwide permits, may also be accessed on our Internet page: <http://www.nws.usace.army.mil> (select “Regulatory/Permits”).

Clark.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
 NATIONAL MARINE FISHERIES SERVICE  
 Northwest Region  
 7600 Sand Point Way N.E., Bldg. 1  
 Seattle, WA 98115

June 22, 2001

Colonel Ralph H. Graves  
 Corps of Engineers  
 Seattle District  
 Post Office Box 37551  
 Seattle, Washington 98124-3755

Re: Section 7 Informal Consultation on the City of Tacoma's Tahoma Salt Marsh Natural Resources Restoration Project (NMFS No. WSB-01-201) and Essential Fish Habitat Consultation.

Dear Colonel Graves:

This correspondence is in response for consultation under the Endangered Species Act (ESA) so that a concurrence letter may be filed with the Joint Aquatic Resource Permit Application (JARPA). Additionally, this letter serves to meet the requirements for consultation under the Magnuson Stevens Fishery Conservation and Management Act (MSA).

### Endangered Species Act

The National Marine Fisheries Service (NMFS) has reviewed the March, 2001, Biological Assessment and the April, 2001, Engineering Design Report request for concurrence with your findings of "may affect, not likely to adversely affect" for the above referenced project, prepared by the City of Tacoma in partial fulfillment of their Natural Resources Damage Assessment (NRDA) settlement. Your findings were in regard to the listing of Puget Sound chinook salmon (*Oncorhynchus tshawytscha*) as Threatened under the ESA. This consultation will be included in the Section 404 permit portion of the JARPA with the United States Army Corps of Engineers (ACOE) and is conducted under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

The NMFS Habitat Conservation Branch staff has provided on-going oversight to the design of this living marine resources restoration project as a NRDA Trustee of record. The NMFS concurs with the findings of "may affect, not likely to adversely affect," to either the species or the designated critical habitat, because of the reasons provided in the Biological Assessment: 1) the work will be done during a time of the year when chinook salmon are not present; 2) most of the upland construction will take place "in the dry" with final connection to the aquatic environment during permissible periods; 3) the excavation of 2,400 square feet of fill, debris, and contaminated upland soils (+13 to +20 feet, MLLW) to provide for critical and essential habitat functions of newly-formed intertidal and shallow subtidal substrates (+11 to -3 feet, MLLW); 4) the conversion of existing hardened shoreline substrates (riprap, broken concrete, metal debris) to natural rock and fish-friendly fish mix (3-inch minus) substrates; and 5) the project will meet all



-4-

This concludes EFH consultation in accordance with the MSA and 50CFR600. The ACOE must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920(k)).

This concludes ESA and EFH consultations. If you have questions regarding either of these consultations, please contact Robert Clark at 206-526-4338.

Sincerely,



Donna Darm  
Acting Regional Administrator

-5-

Table 1. Species of fishes with designated EFH occurring in the action area..

<b>Groundfish</b> <b>Species</b>	redstripe rockfish <i>S. proriger</i>	Dover sole <i>Microstomus pacificus</i>
spiny dogfish <i>Squalus acanthias</i>	rosethorn rockfish <i>S. helvomaculatus</i>	English sole <i>Parophrys vetulus</i>
big skate <i>Raja binoculata</i>	rosy rockfish <i>S. rosaceus</i>	flathead sole <i>Hippoglossoides elassodon</i>
California skate <i>Raja inornata</i>	rougeye rockfish <i>S. aleutianus</i>	petrale sole <i>Eopsetta jordani</i>
longnose skate <i>Raja rhina</i>	sharpchin rockfish <i>S. zacentrus</i>	rex sole <i>Glyptocephalus zachirus</i>
ratfish <i>Hydrolagus colliei</i>	splitnose rockfish <i>S. diploproa</i>	rock sole <i>Lepidopsetta bilineata</i>
Pacific cod <i>Gadus macrocephalus</i>	striptail rockfish <i>S. saxicola</i>	sand sole <i>Psettichthys melanostictus</i>
Pacific whiting (hake) <i>Merluccius productus</i>	tiger rockfish <i>S. nigrocinctus</i>	starry flounder <i>Platichthys stellatus</i>
black rockfish <i>Sebastes melanops</i>	vermilion rockfish <i>S. miniatus</i>	arrowtooth flounder <i>Atheresthes stomias</i>
bocaccio <i>S. paucispinis</i>	yelloweye rockfish <i>S. ruberrimus</i>	
brown rockfish <i>S. auriculatus</i>	yellowtail rockfish <i>S. flavidus</i>	<b>Coastal Pelagic</b> <b>Species</b>
canary rockfish <i>S. pinniger</i>	shortspine thornyhead <i>Sebastolobus alascanus</i>	anchovy <i>Engraulis mordax</i>
China rockfish <i>S. nebulosus</i>	cabezon <i>Scorpaenichthys marmoratus</i>	Pacific sardine <i>Sardinops sagax</i>
copper rockfish <i>S. caurinus</i>	lingcod <i>Ophiodon elongatus</i>	Pacific mackerel <i>Scomber japonicus</i>
darkblotch rockfish <i>S. crameri</i>	kelp greenling <i>Hexagrammos decagrammus</i>	market squid <i>Loligo opalescens</i>
greenstriped rockfish <i>S. elongatus</i>	sablefish <i>Anoplopoma fimbria</i>	<b>Pacific Salmon</b> <b>Species</b>
Pacific ocean perch <i>S. alutus</i>	Pacific sanddab <i>Citharichthys sordidus</i>	chinook salmon <i>Oncorhynchus tshawytscha</i>
quillback rockfish <i>S. maliger</i>	butter sole <i>Isopsetta isolepis</i>	coho salmon <i>O. kisutch</i>
redbanded rockfish <i>S. babcocki</i>	curlfin sole <i>Pleuronichthys decurrens</i>	Puget Sound pink salmon <i>O. gorbuscha</i>

bc: F/NWR - Cunningham  
F/PR3 - Chief of Endangered Species  
WSHB - File Copy  
F/NWR4 - Berwick  
F/NWR - Clark  
GCNW

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM  
FWS Reference: 1-3-01-SP-1810

Originating Person: Judy Lantor  
Telephone Number: (360) 753-6056  
Date: June 7, 2001

- I. Region: Region 1
- E. Service Activity (Program): Contaminants;  
Natural Resource Damage Assessment (NRDA),  
Tahoma Salt Marsh/COT  
Estuarine habitat restoration
- III. A. Listed species and/or their designated critical habitat within the action area:
1. Within the action area that will or may be affected:
- Species: Bull trout (*Salvelinus confluentus*)  
Puget Sound, distinct population segment (DPS)  
Habitat: Schuster Parkway Shoreline of Commencement Bay
2. Within the action area that will not be affected:
- Species: Wintering Bald eagle (*Haliaeetus leucocephalus*)  
Habitat: Commencement Bay shoreline
- Species: Foraging Marbled murrelets (*Brachyramphus marmoratus*)  
Habitat: Open water
- B. Proposed species and/or proposed critical habitat within the action area: none
- C. Candidate species within the action area: none
- IV. Geographic area or station name and action:  
Commencement Bay, Tacoma, Washington,  
Schuster Parkway Shoreline

Through the NRDA program, the U.S. Fish and Wildlife Service is cooperating with the other Commencement Bay Natural Resource Trustees including, the National Oceanic and Atmospheric Administration, State of Washington Departments of Ecology, Natural Resources and Fish & Wildlife, the Puyallup Tribe of Indians, and the Muckleshoot Indian Tribe (Trustees) to implement habitat restoration for Commencement Bay injured natural resources. The trustees settled with the City of Tacoma for their natural resource damages liability. Under that settlement, the City, in cooperation with the trustees, has agreed to collaborate in developing and implementing five marine and freshwater restoration projects, beginning in 2000. The schedule has been delayed and it is hoped that two projects can be implemented in the year 2001. If permits are granted in sufficient time, the Tahoma Salt Marsh project would be constructed in the fall of 2001. If permits are delayed the project would be constructed in the summer of 2002.

V. Location (attach map, see Figure 1):

- A. County and State: Pierce, Washington
- B. Section, township, and range (or latitude and longitude):  
T21N, R03E, SW1/4S29
- C. Distance (miles) and direction to nearest town:  
At the northeast end of Schuster Parkway, approximately 1 mile northwest along the shoreline from downtown Tacoma
- D. Include species/habitat occurrence on a map, if possible.  
See attached

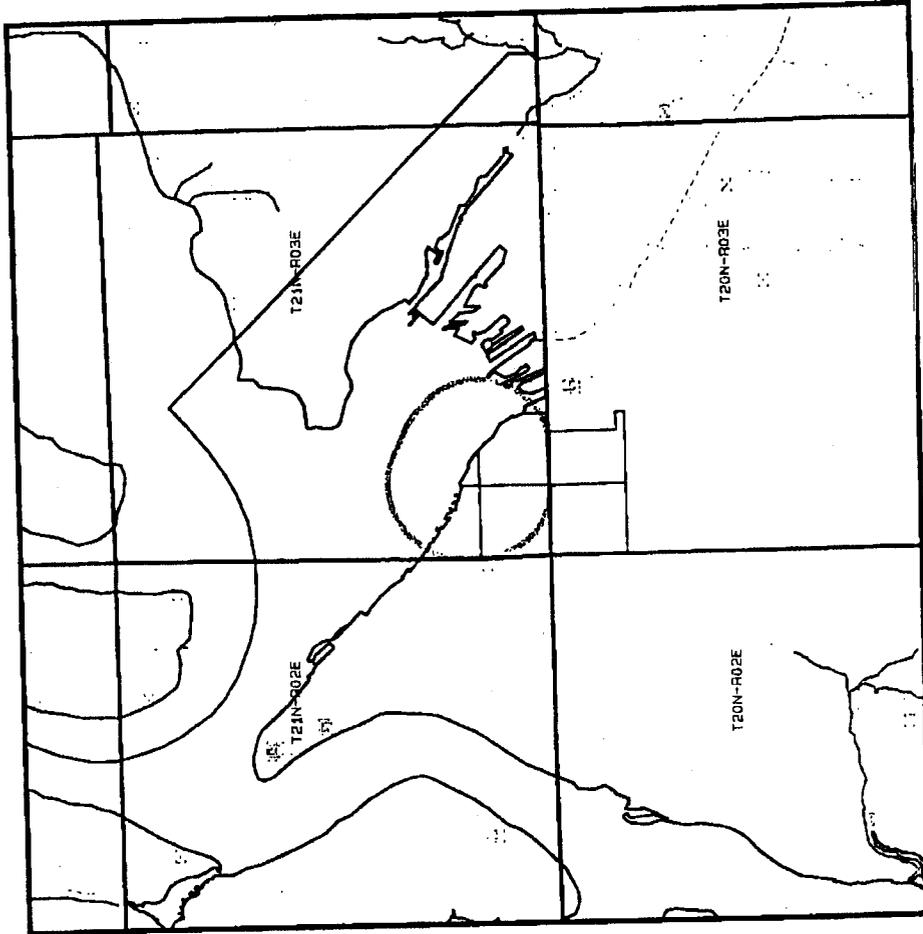
VI. Description of proposed action (attach additional pages as needed):

The project is located on the southwest shoreline of Commencement Bay within the City of Tacoma, on the former Washington State Military Department (National Guard) property at the northwest end of Schuster Parkway (before it divides into Ruston Way or North 30<sup>th</sup> Street) (see Figure 2). The proposed action will modify 1.95 acres of the southeast end of the former National Guard property to construct intertidal estuarine and riparian habitats.

The site's shoreline was filled at an undetermined time during the past 100 years. The former industrial site is primarily upland with a steep intertidal shoreline having a hardened substrate of primarily man made materials (concrete, metals, etc.). Schuster Parkway and railroad tracks separate the southwestern side of the site from the adjoining uplands. Prior to execution of the property transfer, the National Guard performed a cleanup action in three isolated locations of the property and demolished an old warehouse.

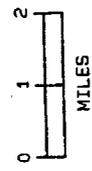
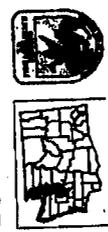
Project construction is depicted in Figure 3, and a cross section of the excavation in Figure 4. The design elements of the proposed restoration and cleanup includes, establishment of intertidal salt marsh and mudflat habitats in the central portion of the project area; restoration of the

Figure 1



### Species List

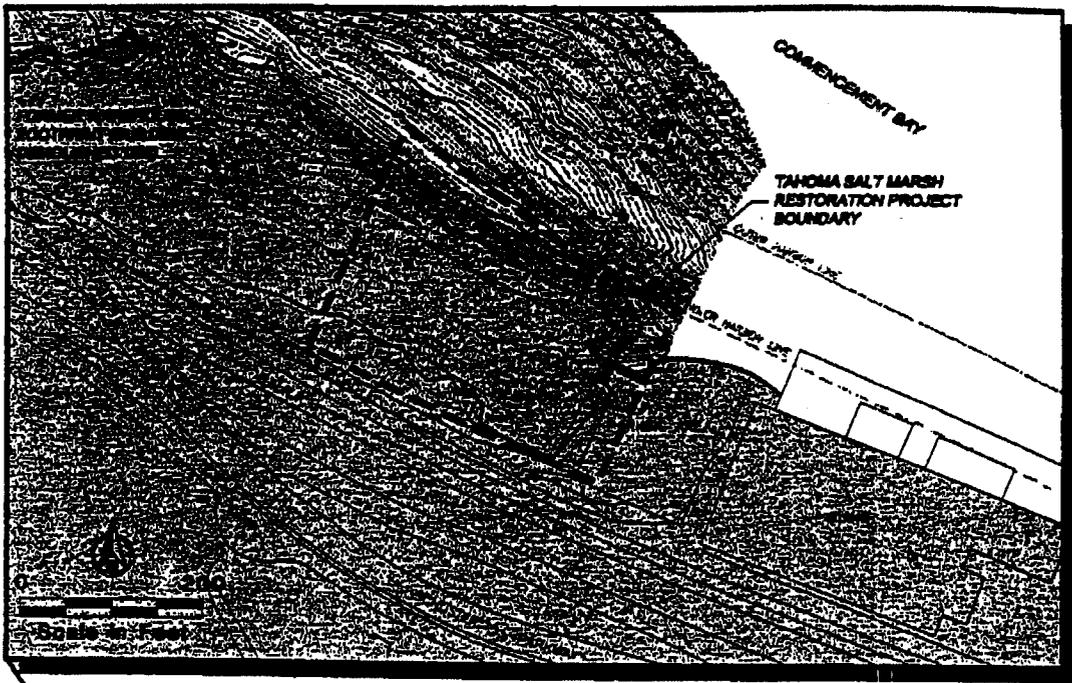
Project: JUDY  
Date: 01-06-12



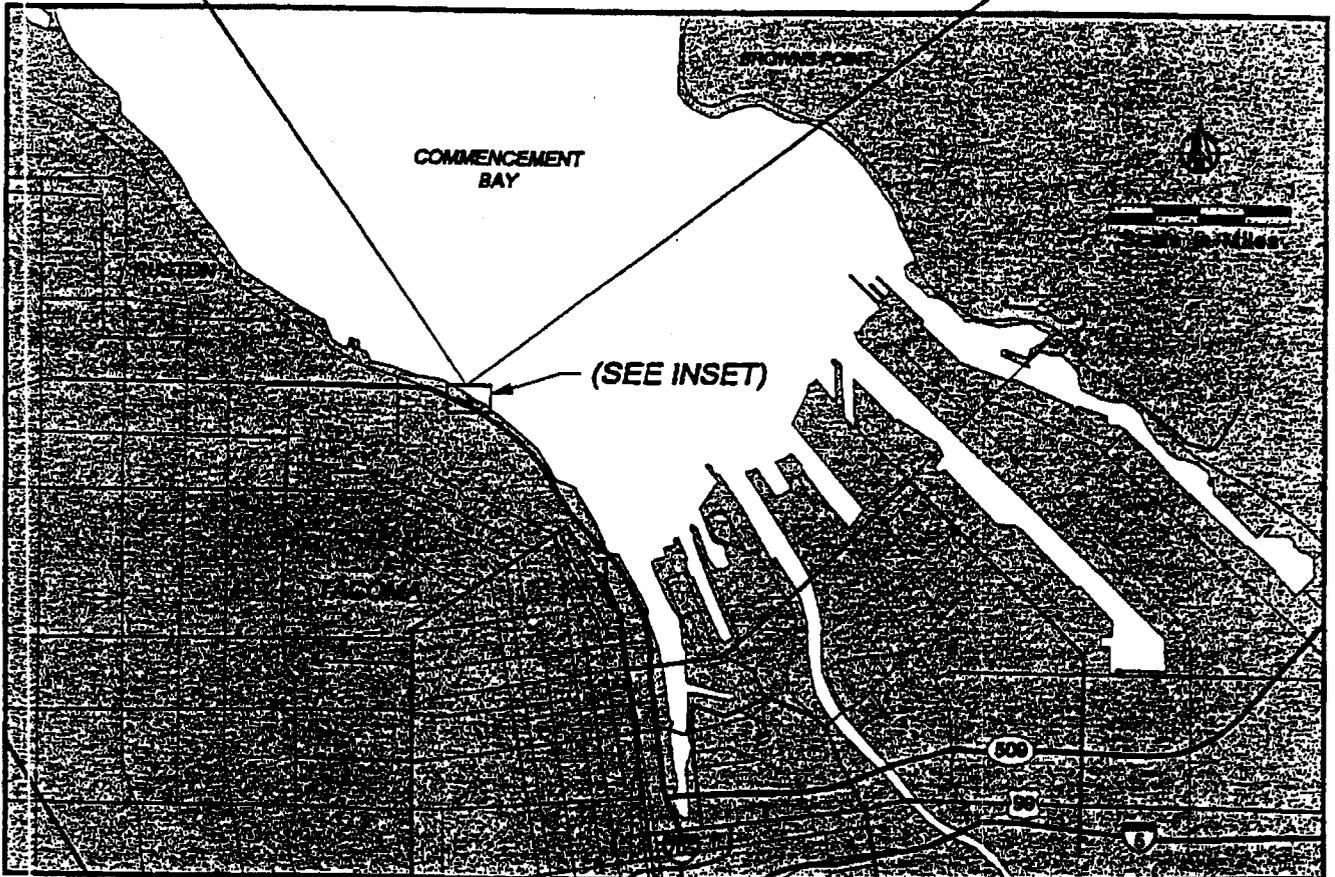
- Northern Spotted Owl CHUS
- Marbled Murrelet CHUS
- WDFW Heritage (0)\*\*
- Wildlife Occurrences
- WA DNR Heritage (0)\*\*
- Plant Occurrences
- WDFW Spotted Owl (0)\*\*
- Site Centers
- WDFW Marbled Murrelet
- Detections (0)\*\*
- Northern Spotted Owl Buffer
- Project Boundary (1 mile buffer)
- Township/Range/Section (Sections within 1 mile buffer)
- County Boundaries
- Rivers
- Anadromous Fish Presence
- Bull Trout Presence

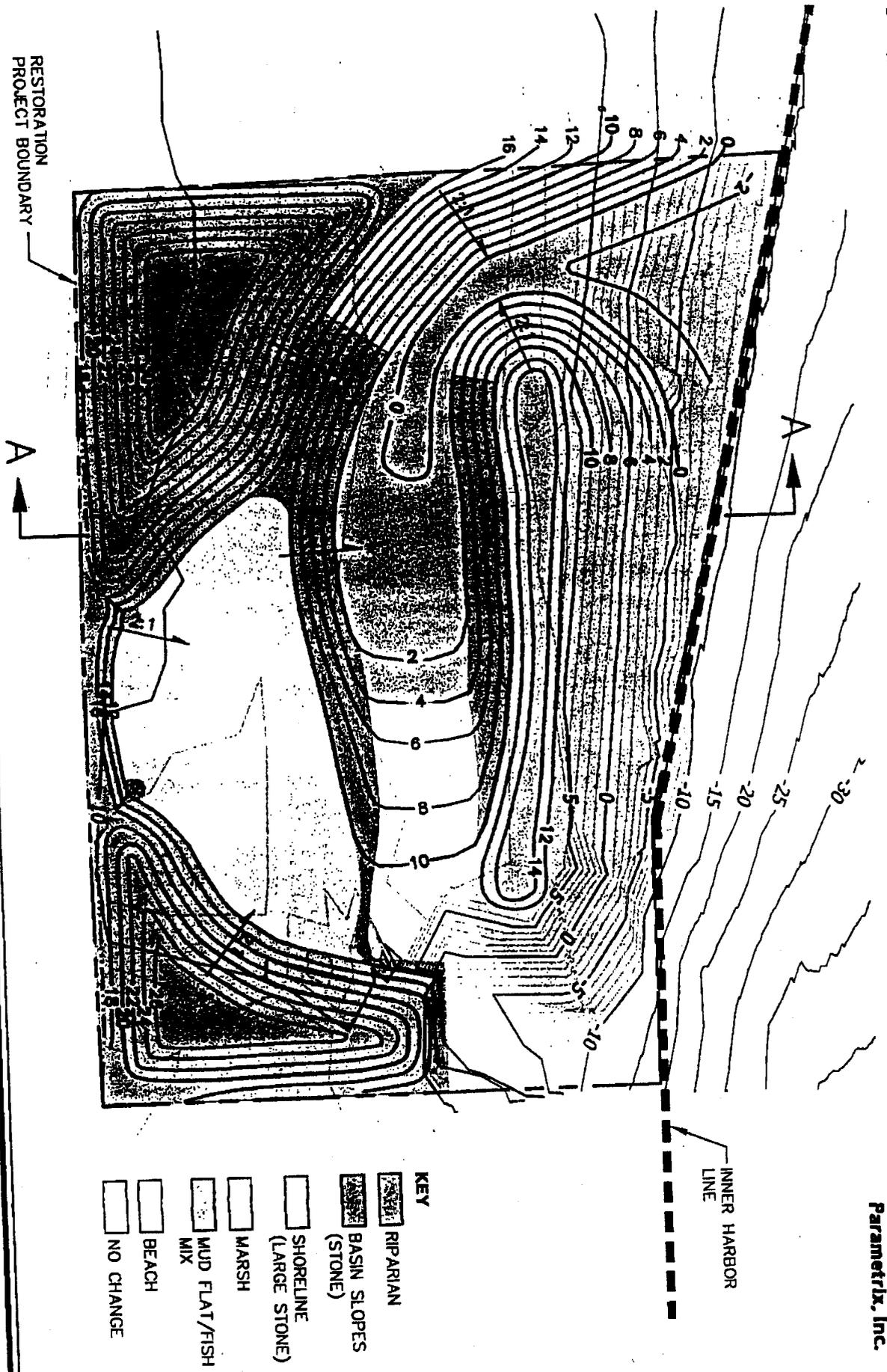
\*\* (numbers) reflect occurrences within the project boundary  
Only Federal Status Species are listed

USFWS use only: data subject to WDFW & WDA NR sensitive data policies



INSET





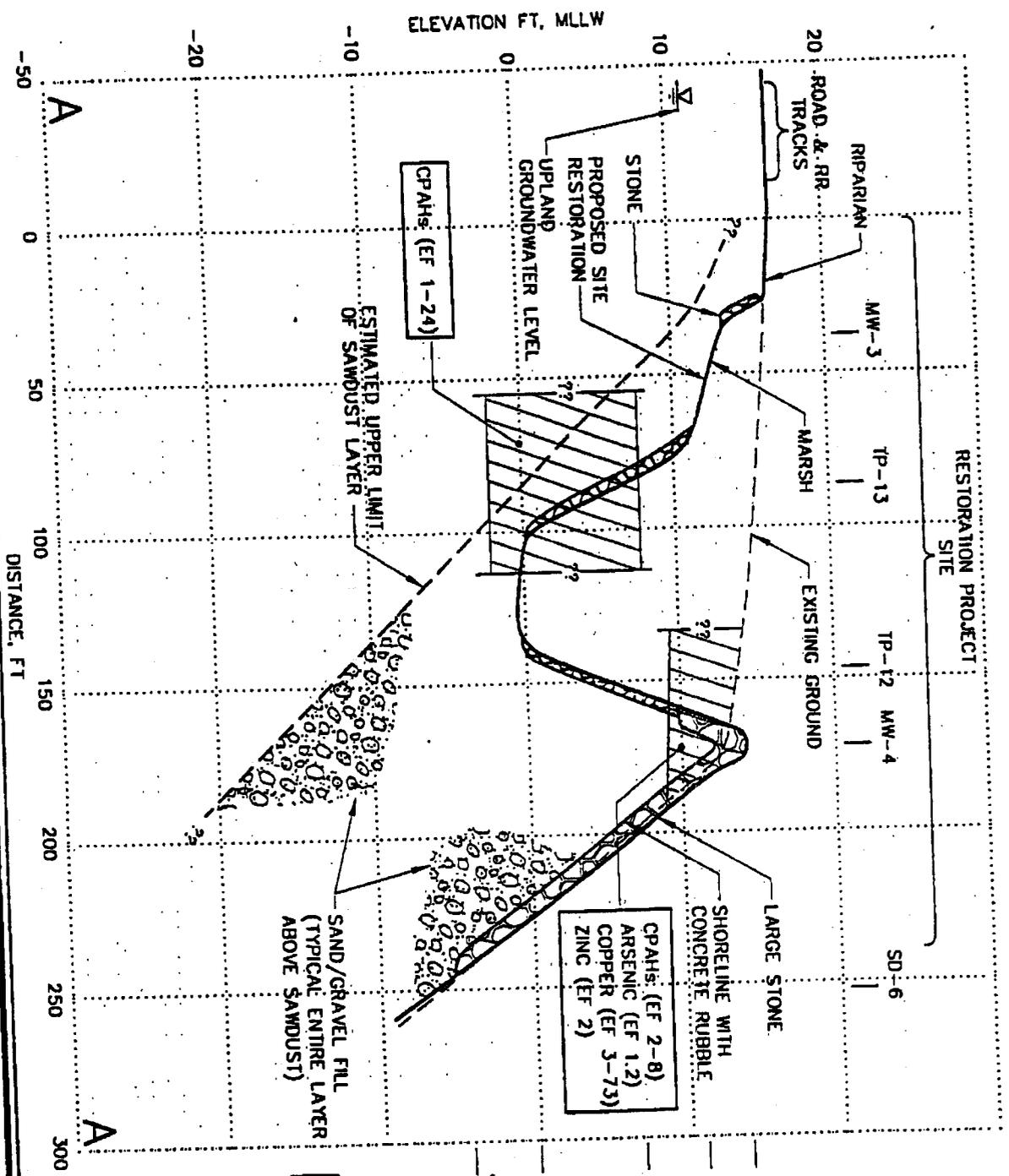
FILE: 04-03071  
DATE: 04/25/01



SOURCE: CITY OF TACOMA FIELD SURVEY 3/15/00  
NEW ELEVATIONS IN FEET MILLW DATUM  
BASEMAP ELEVATIONS IN FEET, NAD83 DATUM  
MCM29 + 6.3 = MILLW

- KEY**
- RIPARIAN
  - BASIN SLOPES (STONE)
  - SHORELINE (LARGE STONE)
  - MARSH
  - MUD FLAT/FISH MIX
  - BEACH
  - NO CHANGE

**Figure 3**  
**Alternative A Site Plan**  
**Tatoma Salt Marsh**



**KEY**  
 [CPAHs (EF 1-24)]  
 SOIL CONTAMINANT EXCEEDANCE FACTOR COMPARED TO SEDIMENT RESTORATION GOALS. AREAS EXCEEDING MTCA STANDARDS ARE SIMILAR.

14 FT = EXTREME HIGH TIDE  
 11.8 FT = MHHW  
 6.9 FT = MEAN TIDE  
 0 FT = MLLW  
 -4.2 FT = EXTREME LOW TIDE

FILE: 36403076  
 DATE: 03/14/03



SOURCE: CITY OF TACOMA FIELD SURVEY 3/15/00  
 NEW ELEVATIONS IN FEET MLLW DATUM  
 BASEMAP ELEVATIONS IN FEET, NGVD29 DATUM  
 NGVD29 + 6.3 = MLLW

**Figure 4**  
**Alternative A**  
**Cross Section A-A**  
**Tahoma Salt Marsh**

shoreline through debris removal (remnants of the Ruston formation and other anthropogenic materials) and covering with natural stone; creation of a tidal channel to connect the basin to the bay; planting a riparian buffer; and provision for public access around the landward perimeter of the site (Parametrix 2001).

Site construction will require excavation of 10,600 cy of soil. Soils that meet the site cleanup levels may be reused on the site for construction of the riparian buffer. Materials that do not meet site cleanup levels will be disposed of at appropriate facilities. All upland and surface debris will be demolished and removed from the site. Shoreline debris will be removed as necessary to provide a good base for placement of natural rock for shoreline protection. Construction of the salt marsh habitat will incorporate appropriate erosion and sediment control practices as identified in the Pierce County and City of Tacoma Stormwater Management Manual.

All in-water construction will occur outside the designated fish closure period, currently February 15 to July 15. Construction is currently planned to occur between August 15 and October 2001. Construction related water quality impacts will be controlled and limited by proper sequencing of the work, and through best management practices to prevent erosion and control runoff. The construction sequence provides for completing excavation of the habitat basin under dry conditions by using a dewatering system. The dewatering system will either be approved by the Department of Ecology's permit program, or discharged to the City sanitary sewer system for treatment at the wastewater treatment plant. The habitat basin entrance channel will be excavated only after completion of the habitat basin construction. Soil excavation will be limited to above the tide level to the extent possible by coordinating construction activities with tidal conditions. During construction of the entrance channel, a silt curtain will be installed to limit releases of turbid water. The habitat basin entrance will be covered with stone as soon as practical following excavation to minimize the potential for erosion due to wave action.

## VII. Determination of effects:

### A. Explanation of effects of the action on listed species:

The Puget Sound distinct population segment of bull trout occurs within the Puyallup River system. Bull trout/Dolly Varden are native to the Puyallup-White river basin and have been identified as a distinct stock based on their geographic distribution (WDFW 1998). Life histories are unknown, but habitat is available for anadromous, fluvial and resident forms. Data from the adult fish trap at the Puget Sound Energy diversion dam at Buckley (White River mile 31.3) from 1987 to 1998 show bull trout/Dolly Varden (believed to be anadromous) in the counts, with an average annual count of 23 adults since 1987. In 1998, 44 bull trout/Dolly Varden were in the escapement count at the Buckley site.

The use of Commencement Bay aquatic habitats by anadromous trout species (including bull trout/Dolly Varden) has been documented in four extensive beach seine studies and three townet investigations (Pacific International Engineering 1999). The Puyallup Indian Tribe has conducted the most comprehensive beach seining study to date in Commencement Bay. The

Tribe began their juvenile salmonid beach seine study in 1980 and concluded their work in 1995. During the period of the study, only three bull trout/Dolly Varden trout were captured. All three were adult trout and were captured in the northern portion of the Bay.

The marine and estuarine residency period for bull trout is poorly understood. Thorpe's (1994) review of salmonid estuarine use found that anadromous Dolly Varden have an affinity to the shoreline. He also found clear evidence of a trophic advantage to estuarine residency due to abundant prey. Aitkin (1998) reviewed the estuarine habitat of anadromous salmon, including native char, and found that Dolly Varden pass through estuaries while migrating (like steelhead) and inhabit coastal neritic waters (like cutthroat trout). Kraemer (1994) speculated that the distribution of native char in marine waters may be closely timed to the distribution of bait fish and coincident with their spawning beaches. Anadromous bull trout subpopulations in the coastal-Puget Sound DPS feed heavily on marine species such as surf smelt, Pacific herring, Pacific sand lance, pink salmon and chum salmon (WDFW 1997b).

The area potentially influenced by the project is along the Schuster Parkway shoreline of Commencement Bay. The action area is the nearshore portion of Commencement Bay extending from Thea Foss Waterway to Commencement Park and about 50 meters offshore. All detectable impacts from construction of the habitat are anticipated to occur within this area. The current site provides very little aquatic habitat, as the area is formerly industrial with steep intertidal slopes and a hardened shoreline. The construction process will minimize impacts to the intertidal shoreline by conducting most construction without a connection to the Bay (Parametrix 2001).

Construction of the connection to Commencement Bay and the shoreline protection will produce small amounts of turbidity in the immediate vicinity of construction (< 100 ft.). Silt curtains will be deployed to restrict turbidity to the construction site. This turbidity is not expected to have sufficient oxygen demand to produce a detectable change in water column dissolved oxygen levels. These impacts will dissipate within hours. The resulting turbidity is not likely to be sufficient to produce biological effects (Parametrix 2001).

Due to the fact that few bull trout have been observed in the area and construction is planned to occur from August 15 to October 2001, the conclusion reached is bull trout may be affected, but they are not likely to be adversely affected. Only 3 records of native char are known in the vicinity of the project. Bull trout are most likely to be found offshore of the site or north of the site along the Ruston shoreline where potential forage fish habitat is present. Bull trout also feed on juvenile salmonids, which would not be expected in the area during the proposed construction time period.

**B. Explanation of actions to be implemented to avoid, minimize, or reduce adverse effects:**

All conditions of the Hydraulic Project Approval will be followed.

All elements of the erosion, dewatering and sediment control plan would be followed.

The project is viewed as having a long term beneficial effect on the Commencement Bay environment.

A. Explanation of effects of the action on species:

Eagles from the nearby Point Defiance nesting territory are expected to occasionally forage in the vicinity of the project site, although the nearest nest site is more than three miles from the site. Over wintering bald eagles might also be found in the project vicinity, but not during the summer and autumn construction periods. Bald eagles occupy large feeding territories and it is doubtful that they use Commencement Bay exclusively over other feeding areas. Given the small size of the site and the temporary nature of construction disturbances, the project is not expected to impair foraging opportunities for eagles.

Heavy equipment will be employed during project construction. However, the project site is located adjacent to the industrial portion of the Schuster Parkway shoreline. Project construction will occur more than three miles from the closest nest site. When such construction activities occur at this distance from a nest site or foraging area, no conservation measures are required under the Service's *Programmatic Biological Assessment for Service Habitat Restoration Activities* (USFWS 1999). The conclusion reached is that the project should have no effect on bald eagles.

B. Explanation of actions to be implemented to avoid, minimize, or reduce adverse effects:

Since construction activities are not expected to be more disturbing than ambient conditions and over wintering bald eagles would not be found in the project vicinity during the proposed construction period, no actions are proposed to reduce project effects on eagles.

A. Explanation of effects of the action on species:

The Washington, Oregon, and California marbled murrelet populations were listed as threatened by USFWS in 1992. Critical habitat was designated for the species in May 1996. Six geographic zones for marbled murrelets were identified in the Marbled Murrelet Recovery Plan. Two of these zones, Puget Sound (Zone 1) and Western Washington Coast Range (Zone 2), are in Washington. Marbled murrelets are semi-colonial seabirds and are dependent upon old-growth forests, or forests with an older tree component for nesting habitat. Marbled murrelets forage predominately within 2 km of shore, although the species can be found further offshore. Speich and Wahl (1995) observed that murrelets tend to be most abundant over eelgrass-sand substrate, on shorelines with broad shelves, and along shorelines with narrow shelves where kelp is present in the Strait of Juan de Fuca and Puget Sound. Murrelets feed primarily on fish and invertebrates (USFWS 1999).

The types of habitats that marbled murrelets are typically associated with are not found within the

project vicinity. Murrelets are more commonly seen north of the project site and further offshore. Given the small size of the site, the temporary nature of construction disturbances, and the lack of habitats utilized by marbled murrelets in the project vicinity, the conclusion reached is that the project should have no effect on marbled murrelets.

B. Explanation of actions to be implemented to avoid, minimize, or reduce adverse effects:

When such construction activities occur after August 5 and prior to April 1, no conservation measures are required under the Service's *Programmatic Biological Assessment for Service Habitat Restoration Activities* (USFWS 1999). Since construction activities are not expected to be more disturbing than ambient conditions, no actions are proposed to reduce project effects on marbled murrelets.

VIII. Effect determination(s) and response(s) requested: [\*optional]

A. Listed species/designated critical habitat:

Determination

Response requested

NO EFFECT

(species:     Bald eagle (*Haliaeetus leucocephalus*))  
(critical habitat: \_\_\_\_\_)

  X\_ \*Concurrence  
    \*Concurrence

NO EFFECT

(species:     Marbled murrelets (*Brachyramphus marmoratus*))  
(critical habitat: \_\_\_\_\_)

  X\_ \*Concurrence  
    \*Concurrence

IS NOT LIKELY TO ADVERSELY AFFECT

(species:    Bull trout (*Salvelinus confluentus*))  
  
(critical habitat: \_\_\_\_\_)

  X\_ Concurrence  
    \*Formal Consultation  
  
    Concurrence  
    \*Formal Consultation

IX. Signature Page

Initiating Officer Dennis L Baker Date 7-9-2001

Concur  Do Not Concur

Comments:

Endangered Species Supervisor John G. Kelly, Acting Date 7-11-01

Concur  Do Not Concur

Comments:

**REFERENCES:**

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**BIOLOGICAL ASSESSMENT  
TAHOMA SALT MARSH**

**DRAFT**

Prepared for

**CITY OF TACOMA**  
Public Works Department  
2201 Portland Avenue  
Tacoma, Washington 98421-2711

Prepared by

**PARAMETRIX, INC.**  
5808 Lake Washington Blvd. NE  
Kirkland, Washington 98033

March, 2001



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## SUMMARY

### PROJECT DESCRIPTION

The Tahoma Salt Marsh proposal is an effort by the City of Tacoma to restore natural shoreline habitat and provide a public amenity on a parcel of City property along the southwestern shoreline of Commencement Bay. This action will convert a former industrial site into intertidal and riparian habitat. This biological assessment deals with the shoreline portions of the site and upland portions that will be converted to shoreline or riparian habitat.

The action area extends from Thea Foss Waterway along the southwestern shoreline of Commencement Bay to Commencement Park. All detectable effects of the proposed action are anticipated to occur within this area.

### PROJECT AREA DESCRIPTION

Most of the existing salt marsh site is modified uplands, above the extreme high tide elevation. The uplands were previously modified for industrial uses. The shoreline portions of the salt marsh and park sites do not currently provide desirable habitat for young salmon or other listed species. Most of the habitat restoration area's shoreline and the park's shoreline have steep intertidal slopes with hardened substrates, commonly of man made materials (concrete, metals, piles, etc.). The majority of the habitat site is upland, previously modified by the prior industrial use of the site. The shoreline protection and channel opening involve intertidal depths (+12 to -3 MLLW), including those where juvenile salmon are most likely to migrate and feed (+6 to -6 ft MLLW). Young salmon may migrate over the shallower portions of the shoreline during their spring migration. Construction activities will not occur during the spring migration period when young salmon are likely to be present in this vicinity. All in-water disruptions will cease prior to the juvenile salmon migration period.

### LISTED SPECIES

Action impacts to listed, proposed, candidate, or declining fish and wildlife species for Puget Sound were assessed. These species included chinook salmon (*Oncorhynchus tshawytscha*),

coho salmon (*O. kisutch*), anadromous bull trout (*Salvelinus confluentus*), coastal cutthroat trout (*O. clarki clarki*), and sea-run steelhead (*O. mykiss*), as well as bald eagles (*Haliaeetus leucocephalus*), humpback whales (*Megaptera novaeangliae*), and Steller sea lions (*Eumetopias jubatus*). Significant use of the existing shoreline is not expected by any of the above species, although some migrating juvenile chinook are likely to travel and feed along the existing shoreline during the spring migration period. No use of the site's shoreline is expected during the construction period, which will occur outside the fish closure period of February 15 to July 15. Other anadromous salmonids are expected to migrate past the site in the deeper nearshore waters of Commencement Bay. Eagles from the nearby Point Defiance nesting territory are expected to occasionally forage in the vicinity of the site, although the nearest nest site is more than three miles from the site. Over wintering bald eagles might also be found in the project vicinity, but not during the summer and autumn construction periods. Humpback whales and Steller sea lions are not expected to be found in Commencement Bay, except on very rare occasions.

Young salmon migrate along the intertidal portions of the shoreline during their spring migration, but are not expected to use the steep, hardened substrate other than for incidental feeding and as a migration path. The small moderately sloped beach with cobble substrate near the center of the site may provide some feeding opportunities for migrating juvenile salmon, but the beach is exposed providing no refuge from wave energy.

## **ANALYSIS OF EFFECTS**

Construction activities will not occur during the spring migration period when young salmon are likely to be present in this vicinity. All in-water construction will occur between late July and early February when juvenile salmon are not expected to be present. Construction of the shoreline will occur during a three-month period in the autumn of 2001. The action will result in destruction of some sessile invertebrates and algae. However, with the construction of suitable habitat, sessile organisms are expected to rapidly repopulate the remediated area, greatly exceeding pre-construction population diversity due to the considerable increase in quantity and quality of intertidal habitat produced by the action.

Recent measurements of the benthic faunal population of a new substrate provided by the shallow subtidal cap plots at the nearby Asarco site have shown replacement of species diversity and individual abundance occurs within a year of construction (Parametrix 2000a). At two years the diversity and abundance of the cap plots exceeded that of both the pre-construction site and reference areas. Benthic biota are expected to populate the new intertidal habitat at similar rates. Establishment of marsh vegetation is anticipated to take several years.

## CONCLUSIONS

The determinations for each listed species and the effect on critical habitat are summarized below.

### Listed species and determination of effects for each species and its critical habitat.

LISTED SPECIES	EFFECT ON SPECIES	EFFECT ON CRITICAL HABITAT
chinook salmon ( <i>Oncorhynchus tshawytscha</i> ) Threatened	not likely to adversely affect	Not likely to adversely affect
bull trout ( <i>Salvelinus confluentus</i> ) Threatened	not likely to adversely affect	None designated or proposed
coho salmon ( <i>Oncorhynchus kisutch</i> ) Candidate only	no determination	None designated or proposed
bald eagle ( <i>Haliaeetus leucocephalus</i> ) Threatened	not likely to adversely affect	None designated or proposed
humpback whale ( <i>Megaptera novaeangliae</i> ) Threatened	no effect	None designated or proposed
Steller sea lion ( <i>Eumetopias jubatus</i> ) Threatened	no effect	None designated or proposed

This Biological Assessment therefore concludes that the Tahoma Salt Marsh habitat restoration is “not likely to adversely affect” chinook salmon, bald eagles, and bull trout. The assessment further concludes that the project will have “no effect” on other salmonids, humpback whales, and Steller sea lions. The majority of the action is being undertaken to benefit all species by restoring marsh habitat and providing refuge habitat along an exposed shoreline of Commencement Bay.

The following is a summary of the project effects based on a pathways and indicators analysis commonly requested by National Marine Fisheries Services. The habitat restoration action will occur in an area that does not currently provide habitat directly used by listed species and their prey organisms, or poor quality habitat.

**Project Effects for Changes to the Tahoma Salt Marsh site, Commencement Bay.**

Pathways Indicators	Environmental Baseline		
	Restore	Maintain	Degrade
<b>Water Quality</b>			
Turbidity		X	
Dissolved Oxygen		X	
Water Contamination/Nutrients		X	
Sediment Contamination	X		
<b>Physical Habitat Elements</b>			
Substrate/Armoring	X		
Depth/Slope	X		
Tideland Condition	X		
Marsh Prevalence/Complexity	X		
Refugia	X		
Physical barriers (piers)		X	
Current Patterns		X	
Salt/Fresh Water Mixing Patterns		X	
<b>Biological Habitat Elements</b>			
Benthic Prey Availability	X		
Forage Fish Prey Availability		X	
Aquatic Vegetation	X		

The indirect effects of the proposed intertidal restoration will be to increase the quantity and improve the quality of habitat available to young salmon and other estuarine biota in Commencement Bay. It will convert uplands to marsh and intertidal area available to young salmon at moderate to high tides. This small protected marsh and intertidal beach is valuable because it is located in a portion of Commencement Bay where the shoreline is predominantly steep, hard substrate exposed to considerable wave energy and tidal currents. It will provide protected habitat in the shallow water zone where young salmon are likely to be present.

## PROJECT DESCRIPTION

The proposed project is the result of a Natural Resource Damage settlement agreement reached between the City of Tacoma and the Natural Resource Trustees. The agreement included the Tahoma Salt Marsh site (and other sites) to provide restoration of lost estuarine habitat within Commencement Bay. The Natural Resource Damage settlement agreement requires the City of Tacoma to design and construct intertidal salt marsh and tideflat habitat within the upland portion of the site connected to Commencement Bay by a tidal channel.

The environmental baseline of many areas of Commencement Bay has been degraded relative to historical conditions. The Site's shoreline has been filled and modified in the past for use as an industrial site. This site retains essentially no natural habitat features. Concrete, asphalt paving, or gravel covers the southern half of the upland portion of the site. The northern half of the uplands has been filled and is covered by a variety of exotic and native vegetation.

## PROJECT LOCATION

The Tahoma Salt Marsh site is located on the southwestern shoreline of Commencement Bay in the City of Tacoma (Figure 1). The former industrial site is primarily upland with a steep intertidal shoreline having a hardened substrate of primarily man made materials (concrete, metals, piles, etc.). This biological assessment deals with the proposed construction of new habitat and reconstruction of the shoreline. This location has been used as an industrial site since the late 1800s. Originally it was used as a lumber mill and shipping site. Later it was used for fabrication and finally as the location of a machine shop.

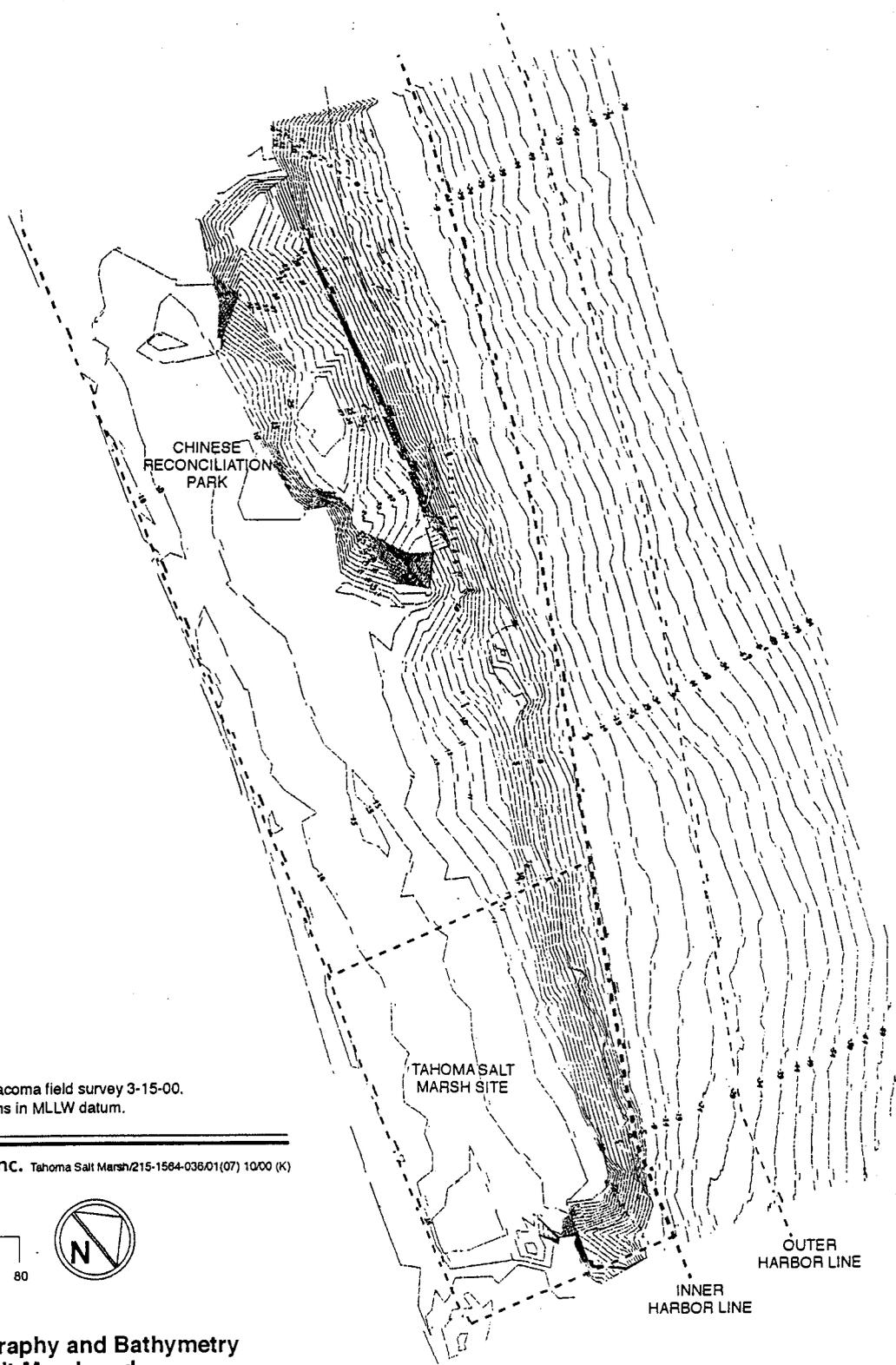
The project location is shown on Figure 1 on the southwest shoreline of Commencement Bay within the City of Tacoma. The Tacoma Salt Marsh site extends from the Sperry Ocean Dock site along the shoreline to Commencement Park. Schuster Parkway and railroad tracks separate the southwestern side of the sites from the adjoining uplands.

The site footprint within this action area includes the southern uplands and the shoreline of the project site (Figure 2).

The site's shoreline was filled at an undetermined time during the past 100 years. This fill formed a flat industrial site extending over the original steep shoreline to shallow subtidal depths in Commencement Bay.

The legal description for the Site is provided in Appendix A.





Source: City of Tacoma field survey 3-15-00.  
 Note: Elevations in MLLW datum.

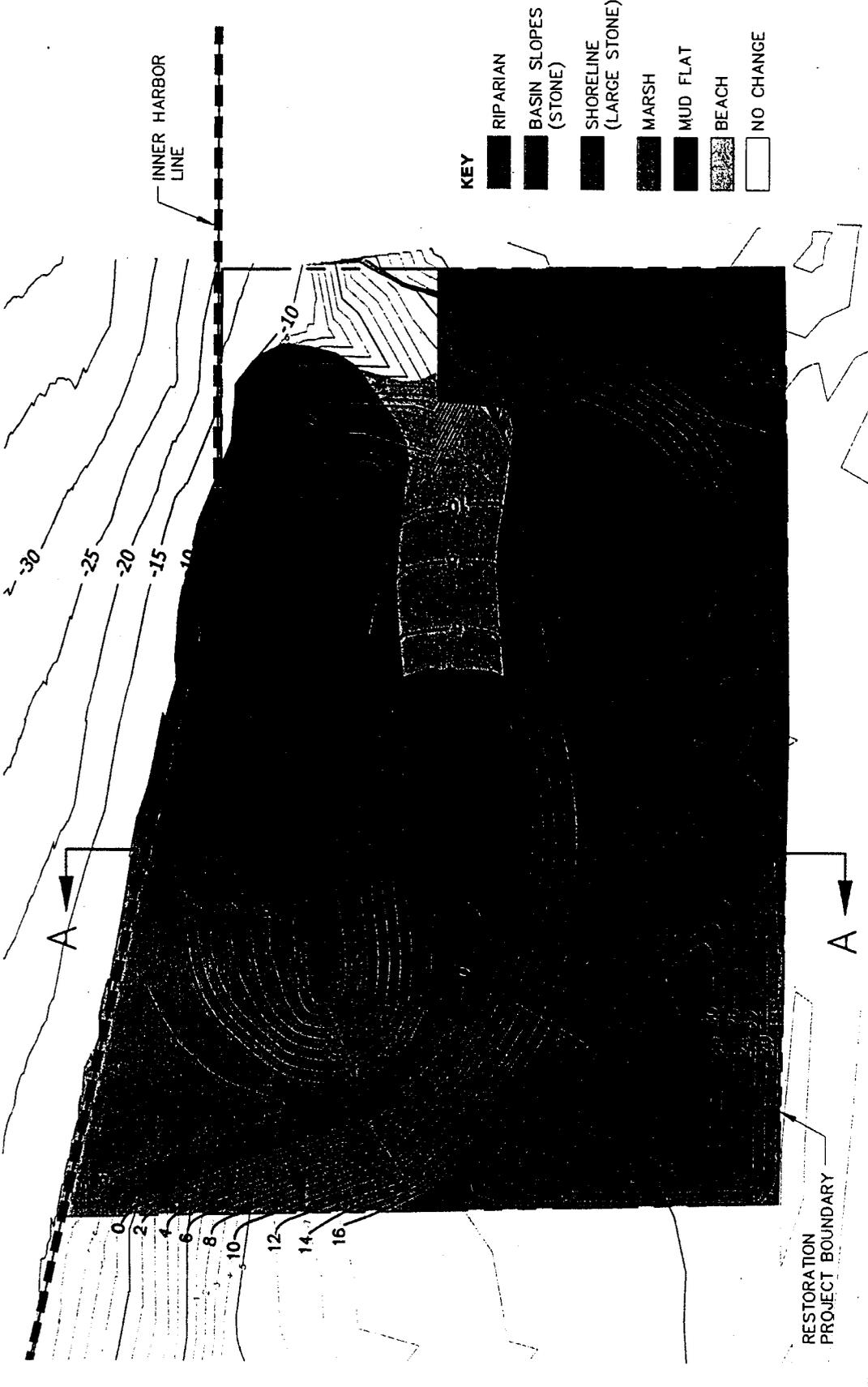
Parametrix, Inc. Tahoma Salt Marsh/215-1584-036/01(07) 1000 (K)

SCALE IN FEET



**Figure 2**  
**Site Topography and Bathymetry**  
**Tahoma Salt Marsh and**  
**Chinese Reconciliation Park**

**Figure 2**  
**Alternative A Site Plan**  
**Tahoma Salt Marsh**



**KEY**

	RIPARIAN
	BASIN SLOPES (STONE)
	SHORELINE (LARGE STONE)
	MARSH
	MUD FLAT
	BEACH
	NO CHANGE

RESTORATION PROJECT BOUNDARY

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SCALE IN FEET  
 0 25 50  
 Contours in Feet MLLW

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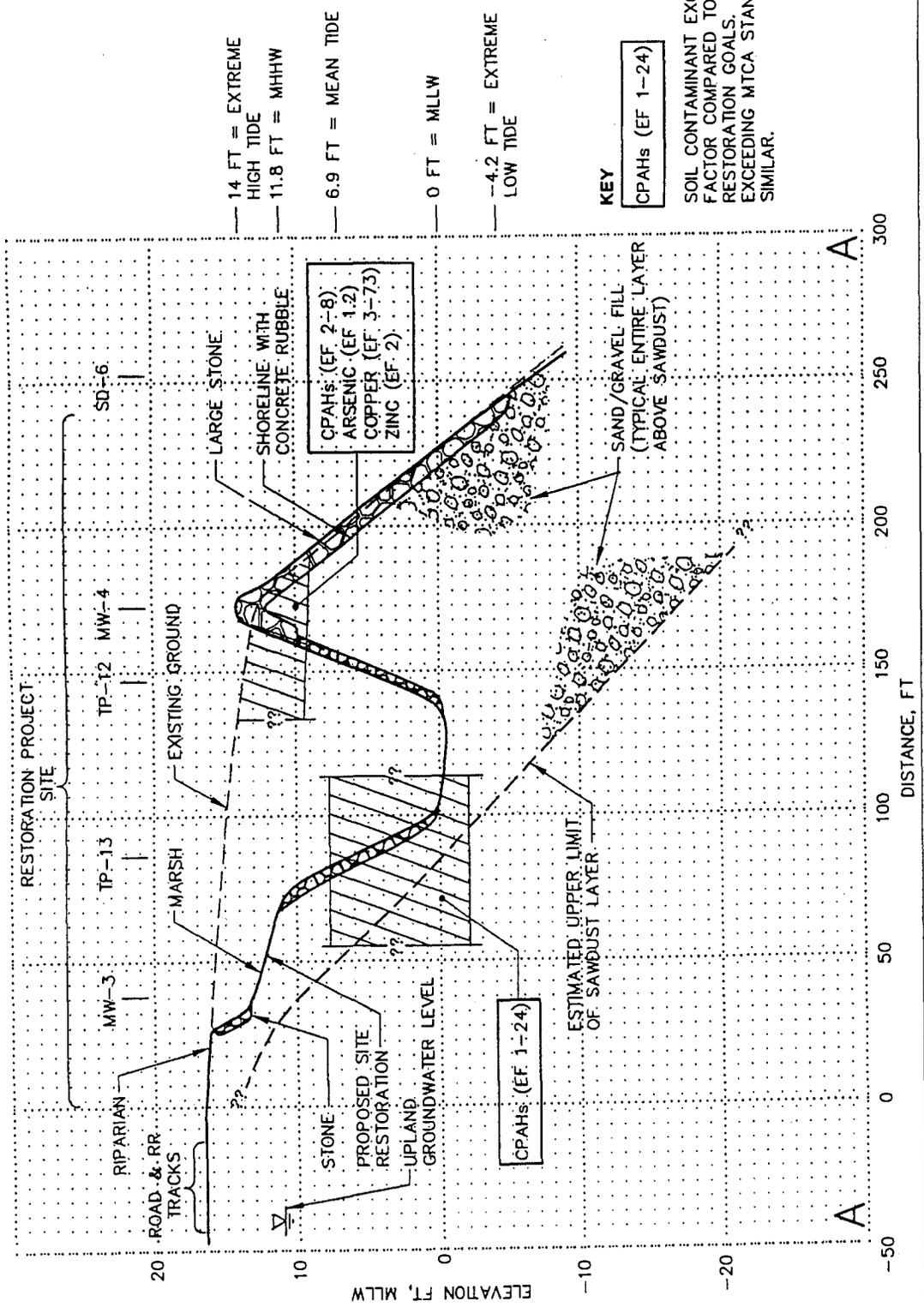
## DESCRIPTION OF ACTION

This project involves construction of new intertidal habitat and shoreline protection to ensure long-term existence of both the new habitat and park. The general objective of the Tahoma Salt Marsh action is to restore natural intertidal and riparian habitat to Commencement Bay. The proposed action is intended to improve the quantity and quality of habitat supporting all species (including listed species) inhabiting or using the intertidal shorelines of Commencement Bay. The City of Tacoma is undertaking the salt marsh action specifically to provide new habitat that will support listed species, and the park action to provide recreation opportunities for the public. The action will have a beneficial impact on all species inhabiting Commencement Bay. The action will:

- Produce new intertidal, salt marsh, and riparian habitat supporting listed and other species.
- Restore existing intertidal shorelines by removing or covering man-made materials.
- Provide a habitat linkage between the mouth of the Puyallup River and shoreline habitat to the northwest of the site.
- Provide public education opportunities along the Schuster Parkway shoreline to increase awareness of the importance of this habitat to the Commencement Bay ecosystem.

The proposed action will modify a site of 1.95 acres to construct intertidal estuarine habitat (Figure 3). Existing uplands will be excavated to produce salt marsh and intertidal habitat. Figure 4 provides a cross section of the salt marsh site showing exaggerated slopes for the habitat.

Final design of the habitat and shoreline reconstruction has not yet occurred. Final designs (plans and specifications) of the Tahoma Salt Marsh are expected to be completed in May 2001. Preliminary engineering has been initiated for this action. Construction of the habitat is scheduled for autumn 2001. All in-water construction will be conducted in August –October, outside of the fish closure period of February 15 to July 15. The substantive requirements of the Clean Water Action Section 404 are being incorporated as part of the design process. Planting of riparian and salt marsh areas will occur following construction.



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**Figure 3**  
**Alternative A**  
**Cross Section A-A**  
**Tahoma Salt Marsh**

Table 1 provides a summary of restoration acreages for the project. Riparian area will be constructed using clean soils excavated from elsewhere on-site. The upper shoreline bank will be constructed of armor stone material, with voids in the armor stone filled with topsoil to aid plant growth. The marsh area will be constructed by excavating the existing soils and amending exposed soils with organic materials. The intertidal basin will be excavated to approximately 0 ft MLLW. The basin sideslopes will be covered with stone for erosion protection, and this stone and the basin side slopes and bottom will then be covered with fish mix (a mixture of sand and gravel less than 3 inches in diameter). The terminal end of the basin will provide a gently sloping beach covered with fish mix and rounded cobbles up to 8 inches in diameter. In the shoreline and peninsula crest areas (including the entrance channel to the basin), existing concrete rubble will be stabilized or removed, followed by placement of several feet of large armor stone for erosion protection (required due to the high-energy wave environment at the site). Voids in the armor stone will be covered with fish mix. A small existing intertidal beach located in the northeast corner of the site will be retained and covered with a 1 foot layer of fish mix. The subtidal zone in the extreme northeast corner of the site will not be altered.

**Table 1. Summary of sediment remediation measures to be constructed at the Tahoma Salt Marsh Site, Commencement Bay, Puget Sound.**

<b>HABITAT TYPE</b>	<b>AREA (acres / hectares)</b>	
Riparian (>+15 ft MLLW)	0.50	0.20
Upper Shoreline Bank (12 to 15 ft MLLW)	0.14	0.06
Marsh (10 to 12 ft MLLW)	0.25	0.10
Intertidal Basin (< 10 ft MLLW)	0.32	0.13
Shoreline and Peninsula Crest	0.63	0.26
Intertidal Beach (adjacent to outfall)	0.05	0.02
Subtidal Bay Shoreline (<-4 ft MLLW)	0.06	0.02
<b>Total Site Area</b>	<b>1.95</b>	<b>0.79</b>

## **DESIGN OBJECTIVES**

Design of the Tahoma Salt Marsh action will be guided by the agreement between the City of Tacoma and the Natural Resource Trustees. Performance standards for this project will be developed and included in design documents. The performance standards are the parameters by which the success of design, construction, and operational compliance will be measured.

The key design objectives include:

1. Design protected intertidal habitat for a portion of the exposed shoreline of western Commencement Bay.
2. Provide substrate and intertidal elevations appropriate to support salt marsh vegetation over as large a portion of the site as practical.
3. Include a lower intertidal channel feature that will provide habitat for young salmon and marine fishes during most tidal conditions.
4. Provide shoreline protection for the new habitat that uses the minimum amount of area practical.

## **CONSTRUCTION ACTIVITIES**

Designs of the salt marsh action are not complete. Designs and scheduling of construction activities will be completed during late 2000 and early 2001.

The upland of the site will be constructed without connection to Commencement Bay, allowing work to be conducted at any time of the year. The connecting channel to Commencement Bay and the shoreline protection portions of the action will be conducted outside the fish closure period of February 15 to July 15.

### **Structures and Debris to be Removed or Retained**

Construction of the habitat will require removal of soils, concrete, asphalt, and debris from the surface of the site and the portions of the site to be excavated for habitat. Suitable materials will be reused on the site for fill and construction of berms, and possibly a mound within the adjacent Chinese Reconciliation Park area.

### **Construction Techniques**

All in-water construction will occur outside the designated fish closure period, currently February 15 to July 15 (see Table 1). Work within the upland area that does not require in-water operations may occur during the designated fish closure period of each year. The following descriptions of construction techniques are general because final design details have not yet been developed. They will occur in the areas shown above in Figure 3. Design details and construction techniques will be developed during spring 2001.

Shoreline work will be accomplished using standard excavation and placement procedures from the shoreline. Construction of the saltmarsh and tideflat habitat will be conducted with land-based equipment prior to constructing the tidal channel to Commencement Bay, providing isolation of the site during most of the construction. The intertidal channel connecting the marsh habitat to Commencement Bay at the northwest corner of the Salt Marsh site will be excavated using land-based equipment (bulldozer or track hoe). A barge and clam shell may be used to construct the entrance channel. Silt curtains will be deployed across the mouth of the channel area to control the dispersion of disrupted fine material during excavation. Construction of the salt marsh habitat will incorporate appropriate erosion and sediment control practices as identified in the Pierce County and City of Tacoma Stormwater Management Manual. Water drained from excavated material will be returned to the bay. Excavation of the habitat basin may require dewatering of site soils with extracted water discharged to a nearby storm sewer. Excavated sediment will be de-watered on site and either relocated onsite or transported to an approved disposal site. Clean sediment/soils either excavated from the site or imported will be used to re-grade the marsh and channel slopes.

No construction activities are anticipated that would produce more noise than common upland excavation.

## **ACTION AREA**

The action area shown above on Figure 1 is along the southwest shoreline of Commencement Bay within the City of Tacoma. The area potentially influenced by Tacoma Salt Marsh is along the Schuster Parkway shoreline of Commencement Bay. This action area includes the salt marsh and park shorelines, adjacent shorelines, and the adjoining shallow water portions of Commencement Bay. The action area is the nearshore portion of Commencement Bay extending from Thea Foss Waterway to Commencement Park and about 50 m (150 ft) offshore. All detectable impacts from construction of the habitat are anticipated to occur within this area.

Fill at the upper intertidal elevations has previously modified most of the Commencement Bay shoreline in this action area. These modifications extend from Thea Foss Waterway to well northwest of the action area. Nearly all of the shoreline in this area has been used in the past for industrial activities.

## LISTED SPECIES AND HABITAT

Listed species occurring in Commencement Bay in the vicinity of the action area include the Puget Sound stock of chinook salmon (*Oncorhynchus tshawytscha*) and bull trout (*Salvelinus confluentus*) which are threatened, and candidate species, the Puget Sound stock of coho salmon (*O. kisutch*). Recently the USFWS determined sea-run cutthroat (*O. clarki clarki*) to not be an evolutionarily significant unit warranted for listing. Although the steelhead (*O. mykiss*) has no listed, proposed, or candidate status for Puget Sound, it is addressed in this BA because many populations are declining. In addition, NMFS identified two species of listed wildlife potentially occurring in Puget Sound: the endangered humpback whale (*Megaptera novaeangliae*) and the threatened Steller sea lion (*Eumetopias jubatus*).

The USFWS identified both breeding and wintering bald eagles (*Haliaeetus leucocephalus*), a threatened species as potentially occurring in the vicinity. (Although this species has been petitioned for delisting, the delisting process is not yet final).

Information used in preparing this BA was developed from available scientific literature and data bases, interviews with persons knowledgeable about the target species and the Commencement Bay shoreline, and site inspection by Parametrix biologists.

### SPECIES AND HABITAT INFORMATION

The existing environmental condition of the two sites provides very little aquatic habitat because most of the area is formerly industrial uplands with steep intertidal slopes (1:1.8 to 1:6) having a hardened shoreline. The shoreline portion of the sites provide some low quality habitat whose value is determined primarily by the steep, hard, artificial substrate of the intertidal area, together with the moderately high energy environment of the shoreline. The uplands of the salt marsh site are currently vacant and generally flat. The upland portion of the site lies mostly between 8 to 11 ft National Geodetic Vertical Datum of 1929 (NGVD29) (+14 to +17 ft MLLW). Asphalt

and concrete cover most of the site with some areas of gravel, and uncultivated grass, shrubs, and small trees.

in very shallow shoreline areas. The upland portion of the site is contains patches of a variety of exotic vegetation including, grasses, Scott's broom (*Cytisus scoparius*), and blackberry (*Rubus discolor*), as well as small red alder (*Alnus rubra*). The general habitat types present on the site are shown above in Figure 3.

### **SUBSTRATE DESCRIPTION**

The existing substrate of the site is highly variable with location on the site. A substantial sawdust layer underlies the site. This sawdust layer is mostly located at elevations that are generally below the likely excavation elevations for construction of project intertidal habitat. The surface of the sawdust layer lies at a deeper elevation on the shoreline side and eastern end of the site, rising landward and westward. In the middle of the site where deep excavation is likely, the upper limit of the sawdust is about -7 ft NGVD29 (-1 ft MLLW).

The northern edge of the site is the Commencement Bay shoreline. The intertidal shoreline is completely covered with rock rip rap, broken concrete, and other similar debris, such as brick, metal, and Ruston Formation (a fused metal material). The concrete and other debris on the shoreline appears functionally adequate as protection for erosion control, since no significant areas of erosion are evident. Ruston Formation is most prominent in the upper intertidal zone at the eastern end of the shoreline where concrete is sparse. The formation is visible primarily in the upper intertidal zone. No significant quantities of wood debris or logs are present in the intertidal zone. A few logs are present along the shoreline above the mean higher high water (MHHW) line. Approximately 5 wooden pilings are present along the shoreline, mostly located in the lower intertidal zone. Most of the pilings are encased in mortar with wire reinforcing.

A site characterization was conducted to determine chemical levels in the site's soils. Chemical analytical results are presented in the Site Characterization Report (SCR; Anchor and Parametrix 2000) and summarized in the Focused Feasibility Study. Chemical levels in some soils and nearshore sediments exceeded applicable MTCA B levels for soils or Sediment Management Standards (SMS) for arsenic, cadmium, copper, lead, zinc, several polycyclic aromatic hydrocarbon (PAH) compounds, total carcinogenic PAHs and total PAHs. Some groundwater and surface water samples exceeded applicable State surface water criteria for cadmium, chromium, copper, lead, and zinc.

Most of the site has very flat uplands, with a steep intertidal area along the shoreline. The majority of the site is above the extreme high water elevation of Commencement Bay. The existing slope of the intertidal shoreline on the salt marsh site is about 1:2 to 1:3 in the upper and middle intertidal zones flattening to about 1:5 in the lower intertidal zone. These slopes will be maintained except for the channel entrance to the tideflat and marsh habitat. Slopes along the park site are similar to the salt marsh site except for a small portion of the upper intertidal about 50 ft wide that has a slope of about 1:5.

The southwestern shoreline of Commencement Bay in the vicinity of the site is exposed to a moderate energy environment. Tidally generated currents tend to be moderate along this shoreline. Open water of several miles from the north through the east allows substantial storm waves under some conditions that could move substrate on the shoreline. However, storm conditions are most likely to come from the landward side of the site.

#### **DISTRIBUTION OF MACROALGAE AND EELGRASS**

The intertidal and shallow subtidal slopes at the site are steep providing little opportunity for aquatic vegetation. Some of the upper intertidal substrate have *Fucus* (attached marine algae). Eelgrass does not occur within any portion of the action area due to the steep slopes of this shoreline.

## **SPAWNING AREAS FOR FORAGE FISH**

There is no habitat suitable to support spawning by forage fish in the nearshore remediation areas along the site's shoreline. The steep slopes and hard substrate of the upper intertidal elevations at the site are not suitable spawning habitat for surf smelt or sand lance. The absence of eelgrass and the sparse macroalgae eliminates the potential for spawning by Pacific herring.

## **SPECIES AND DISTRIBUTION OF RIPARIAN VEGETATION**

Most of the upland portion of the Tahoma Salt Marsh portion of the site has no riparian vegetation because of the prior industrial use of this location. Some of the area has Himalayan black berries and other exotic vegetation. This portion of the Commencement Bay shoreline has been previously filled, paved, and covered by buildings. Although the site has been cleared of all buildings and industrial activity, the site retains its industrial character. No natural habitat currently exists on the upland portion of the site.

## LISTED SPECIES BIOLOGY

The following is a description of the biology of listed and potentially listed species that may use the affected habitat at some time in their life. This section includes a list of species identified by the Services, and references to inventories and other information on the species within the action area and general vicinity. Most of the site does not have a direct or indirect affect on listed species because it is upland and a former industrial site with few natural attributes. The intertidal shoreline habitat may be used briefly by young salmon during their migration out of Commencement Bay. Some young chinook salmon from the Puyallup River are likely to migrate along this shoreline although none have been specifically identified at the site. Pelagic fishes such as sand lance and herring are likely to pass through the water adjacent to the site.

There are a few listed, proposed, or candidate species that may use the shoreline adjacent to the Tahoma Salt Marsh site for short periods of time. These include several salmonids, bald eagles, and Steller sea lions. The salmonids include two listed species, Puget Sound chinook and bull trout, and two candidate species, coho salmon and sea-run cutthroat trout (plus steelhead, a species with locally declining populations). Humpback whales and leatherback sea turtles occasionally occur in Puget Sound, and might, in very rare cases, inhabit Commencement Bay. The likely use of the site by these species and potential impacts to these species are addressed below.

### Chinook Salmon

NMFS (Myers et al. 1998) reviewed the status of chinook salmon (*Oncorhynchus tshawytscha*) in the Pacific Northwest. They identified several naturally spawning runs of spring, summer and fall chinook within Puget Sound that are likely to become endangered. The abundance of chinook within Puget Sound has substantially declined from historic levels (NMFS 1998a). As a result Puget Sound chinook were listed as threatened (NMFS 1999)

Chinook salmon potentially use the shoreline adjacent to the remediation areas as juveniles during their outmigration. Following entry into Commencement Bay from the Puyallup River, the juveniles rear along the bay's shorelines for days to weeks, prior to migrating into deeper

waters. During this brief shoreline-rearing period, some young chinook may reach the Site's shoreline prior to moving into deeper offshore waters. Shoreline habitat, such as occurs near the shoreline edges of the remediation areas, is included in the estuarine area that is specified in the NMFS ruling as critical habitat for chinook salmon (Federal Register Feb. 16, 2000). Within the yacht basin it is likely young chinook use the intertidal beach in the northwestern portion of the basin. Young salmon (chum and/or chinook) have been observed in the shallow water along the edge of this beach (Don Weitkamp, personal communication, June 2000).

Juvenile chinook rearing in estuaries feed on a variety of epibenthic and pelagic food sources as they move along the shorelines. Generally they tend to prey on the small crustaceans, known as epibenthos, as they first enter the estuaries. As they quickly grow, they tend to shift more to pelagic prey as their food source. Along the Site shoreline, both epibenthic and pelagic prey are likely to be present. Epibenthic prey would be present on the intertidal sand to gravel size slag areas, as well as on the algae that attach to the larger bolder size slag. Pelagic prey are present in the water column throughout Commencement Bay, including along the Site shoreline.

Adult chinook also pass through Commencement Bay as they return to the Puyallup River to spawn. However, adult chinook do not commonly pass directly along the shorelines and are not known to use subtidal habitat.

Three runs of chinook salmon inhabit the Puyallup River Basin including a spring run in the White River, a summer/fall run in the White River, and a fall run in the Puyallup River (WDF et al. 1993). Puyallup River fall run chinook salmon were listed as a stock of special concern by Nehlsen et al. (1991) and spring chinook are considered to be nearing extinction (Salo and Jagielo 1983). The Washington Department of Fish and Wildlife (WDFW) recently listed the status of the White River summer/fall run chinook salmon as unknown due to inconsistent spawner survey data (WDF et al. 1993). Chinook salmon of the Puyallup River basin exhibit primarily ocean-type life history strategies. Their smolts migrate to the ocean during their first year, they mature at ages 3 and 4, and have coastal-oriented ocean migration patterns (Myers et

al. 1998). Sampling in the Puyallup River estuary indicated that chinook smolts are present near the mouth of the Puyallup River from mid-April to June (Shreffler et al. 1990).

Adult White River spring chinook are unique among south Puget Sound chinook stocks due to their early river entry. Spring chinook enter the Puyallup River from late May through mid-October, and spawn in the White River primarily in September. White River chinook arriving at the adult fish trap at Buckley on or before August 15 are considered spring chinook, while those arriving later are considered summer/fall chinook. Juvenile spring chinook migrate as stream type fish, leaving the river during their second year of life.

Spawning by chinook in the basin occurs primarily in the Puyallup River tributaries. Major spawning and holding areas for spring chinook include the lower White River, lower Clearwater River, lower Greenwater River, West Fork White River, and Huckleberry Creek (Warren 1994, WDF et al. 1993). Although supplementation occurs at the Muckleshoot Fish Hatchery, the stocked fish are of native origin and spring chinook are considered a native run (WDF et al. 1993). Current efforts by the U.S. Forest Service, Tribes, and WDFW are focused on rebuilding the population and providing acclimation sites throughout the upper White River watershed. Adults returning to the hydropower facility at Buckley are transported above Mud Mountain Dam to maintain a natural spawning population in the upper White River watershed. Recent escapements of spring chinook to the White River have been chronically depressed, averaging about 100 fish annually (ranged from 10 to 500 between 1978 and 1991; WDF et al. 1993).

The summer/fall run of chinook salmon in the White River is distinct from the spring run based upon run timing, and distinct from the fall run based upon the geographic distribution of spawners. Summer-fall run chinook are captured in the Buckley trap from August through October, peaking in late August and early-September (Salo and Jagielo 1983). Spawning occurs from late-September through October in the lower White River, lower Clearwater River, and lower Greenwater River (WDFW et al. 1993). Juvenile outmigration occurs within the first year, and juveniles are found in the Puyallup River estuary from April through June (Shreffler et al.

1990). The summer/fall chinook stock is considered wild, and the stock status is unknown due to inconsistent spawner counts (WDF et al. 1993).

Puyallup River fall chinook salmon are distinct from other chinook runs based on their run timing and spawning distribution, which occurs in the Puyallup River upstream of Sumner, and in tributaries including the Carbon River, South Prairie Creek, Wilkeson Creek, Voight Creek, and Clarks Creek (WDF et al. 1993). Fall chinook spawn primarily from September through October, with most natural production occurring in South Prairie Creek. Non-native chinook releases into the Puyallup River have been made, mostly with Green River stock, since the late 1960s. Status of the fall run chinook in the Puyallup River is unknown due to inconsistent spawner survey data (WDF et al. 1993). Fall chinook migrate downstream during the first year, and are common estuarine residents of the Lincoln Avenue wetland, located near the mouth of the Puyallup River. Juveniles may spend several days to 43 days in this upper portion of the estuary from April through June (Shreffler et al. 1990).

### **Chinook Critical Habitat**

The NMFS recently designated critical habitat for the Puget Sound chinook ESU (NMFS 2000a). Critical habitat for Puget Sound chinook includes all marine, estuarine, and river reaches accessible to listed chinook salmon within the Puget Sound region. This includes the marine areas of the Puget Sound (South Sound, Hood Canal, and North Sound<sup>1</sup>). Major river basins identified by NMFS as known to support the chinook ESU include the Puyallup, Nisqually, Green/Duwamish, Cedar, Snohomish, Nooksack, Skagit, Stillaguamish, Skokomish, Dungeness, and Elwha Rivers. Estuarine/marine areas at and adjacent to the mouths of these streams providing critical habitat to this ESU include South Puget Sound, Elliott Bay, Possession Sound, Admiralty Inlet, Skagit Bay, Saratoga Passage, Hood Canal, Rosario Strait, Strait of Georgia, Haro Strait, and the Strait of Juan De Fuca.

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<sup>1</sup>NMFS has identified the limits of the North Sound as extending to the international boundary at the outer extent of the Strait of Georgia, Haro Strait, and the Strait of Juan De Fuca to a straight line extending north from the west end of Freshwater Bay, inclusive (NMFS 2000).

NMFS (2000a) description of critical habitat includes the following habitat types essential to chinook:

- juvenile rearing areas,
- juvenile migration corridors,
- areas for growth and development to adulthood,
- adult migration corridors, and
- spawning areas.

Within these areas, essential features of critical habitat include adequate: substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, and safe passage conditions.

Rearing and migration in estuarine habitats is an important stage in the life cycle of chinook salmon. Chinook fry and small subyearlings use a variety of shallow estuarine habitats, typically remaining in very shallow water within a few feet of the shoreline most of the time. Ocean-type chinook remain in the estuarine areas for days to weeks before migrating to the offshore waters of Puget Sound. Migrating fry commonly are present within the estuaries into June, with a few remaining into July. In estuaries, chinook typically feed on epibenthic and pelagic crustaceans and insects. As they grow chinook tend to eat more larval and juvenile fishes, including herring, anchovies, pilchard, and rockfish (Wydoski and Whitney 1979, Healey 1991).

There are no streams in the immediate project area. The Puyallup River is the nearest probable source of chinook fry likely to use the site's shoreline. Existing suitable chinook habitat is limited to the shoreline migration corridor.

### **Bull Trout**

The U.S. Fish and Wildlife Service (USFWS 1998a) identified five distinct population segments (DPSs) of bull trout (*Salvelinus confluentus*) in the conterminous U.S. The Coastal-Puget Sound bull trout DPS is composed of 35 sub-populations (USFWS 1998b). On November 1, 1999, the USFWS listed bull trout in the Coastal-Puget Sound DPS as threatened under the ESA. As a species, bull trout exhibit primarily freshwater phases, including resident and potadromous

(migratory) life cycles. However, anadromous bull trout are also present in Puget Sound. The Coastal-Puget Sound bull trout, which includes the Puyallup River basin, is unique because it is thought to contain the only anadromous forms of bull trout within the conterminous U.S. (USFWS 1998a). However, collections of young salmonids within Commencement Bay have apparently only contained single bull trout on two occasions (Scott Craig, USF&WS, personal communication 2/2/00). No bull trout have been collected or observed near the site shoreline. This assessment assumes bull trout are present in Commencement Bay.

In fresh water bull trout commonly occur in patchy distributions, and are associated with cool water, complex habitats, including headwater reaches of streams (USFWS 1998b, Rieman and McIntyre 1993). Bull trout have been extirpated from many of the large rivers within their historic range and exist primarily in headwater streams as isolated populations. The decline of bull trout has been attributed to habitat degradation, blockage of migratory corridors by dams, poor water quality, the introduction of non-native species, and past fisheries management practices that targeted removal of Dolly Varden prior to recognition of bull trout as a separate species (USFWS 1998a).

Historically, bull trout were distributed throughout the Puyallup River basin (Mongillo 1993). In a recent statewide evaluation of bull trout populations<sup>2</sup> (Mongillo 1993), the Puyallup, Carbon, and White rivers' bull trout populations were categorized as 'not at immediate risk' of extirpation. Life history strategies of bull trout in all three rivers included both resident and anadromous life cycles. Recent distribution information indicates bull trout are present in the Greenwater River, Huckleberry Creek, Viola Creek, and West Fork White River (Goetz, 1994). No suppressing factors to bull trout populations were identified in the Carbon River. Factors ocean in April through early June. In marine waters their primary prey are surf smelt, along with Pacific herring and Pacific sand lance and young salmon.

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<sup>2</sup> For purposes of fisheries management, the WDW did not differentiate between Dolly Varden and bull trout, and where necessary for the purposes of ESA, considers the State's native char populations to be predominantly bull trout.

potentially suppressing bull trout in the Puyallup River were stream flow, forest management, and hydropower. In the White River, habitat, forest management, and potential entrainment of bull trout into Lake Tapps were identified as possible suppressing factors (Mongillo, 1993).

Bull trout spawn in upper stream reaches from August through November, and embryos incubate over winter. Hatching occurs in late winter or spring and fry emergence occurs from early April through May (Rieman and McIntyre, 1993). Bull trout fry are often found in shallow, backwater areas of streams that contain woody debris. Bull trout fry are bottom dwellers, and may occupy interstitial spaces in the streambed (Brown, 1992). Resident forms of bull trout spend their entire lives in small streams, while potadromous forms live in tributary streams for several years before migrating to larger rivers (fluvial form) or lakes (adfluvial form). Upon moving into larger water bodies, migratory bull trout exhibit greater feeding and growth than resident forms (Rieman and McIntyre, 1993). The progeny of individual bull trout populations are not necessarily relegated to the life history strategy of their parents, and shifting between resident and migratory life forms may occur, depending on environmental conditions. For example, resident forms may increase within a population when survival of migratory forms is low (Rieman and McIntyre, 1993). Char are generally longer-lived than salmon, and bull trout up to 12 years old have been identified in Washington (Brown, 1992).

Although information regarding anadromous forms of bull trout in the Puyallup River basin is scant, the White, Carbon, and Puyallup rivers historically contained both resident and anadromous forms of bull trout (Mongillo, 1993). Sea-run bull trout are also known to occur in the Green River, the former outlet to Puget Sound for the White River earlier this century (Grette and Salo, 1986). Sea-run bull trout adults typically enter rivers in late summer and fall to spawn in upper-tributaries. Juveniles remain in cold water streams for two or three years before migrating to salt water in spring (Wydoski and Whitney, 1979). The diet of bull trout becomes increasingly piscivorous with increased length. Upon entering marine waters, anadromous char in Puget Sound feed mainly on fish including smelt, herring, and juvenile salmonids (Brown, 1992). Kraemer (1994) describes anadromous bull trout in north Puget Sound as being associated with areas where herring and surf smelt are known to spawn. These adult bull trout migrate to their natal streams in the late summer and autumn.

### **Bull Trout Critical Habitat**

There is little information available describing bull trout life histories and habitat requirements in the Puyallup River basin, and few specific data regarding use of Commencement Bay by bull trout have been found. For this analysis, we examined the potential bull trout life history strategies and associated habitat requirements that might exist in the Puyallup River basin including resident and migratory forms, as well as anadromous life cycles. For this assessment we assume bull trout do exist in Commencement Bay.

Resident and migratory forms of bull trout are not expected to use the lower portion of the mainstem Puyallup River. Spawning, incubation, and rearing of bull trout in the Puyallup River basin would occur in tributaries and headwater reaches. The lower Puyallup River is channelized and does not meet bull trout requirements that include complex habitats with abundant instream cover. Although migratory bull trout juveniles move into larger river reaches for growth and maturation, they are still dependent upon habitat features such as woody debris, bank undercuts, and instream structure, making them unlikely to use channelized, urban portions of the lower Puyallup River.

No use of the site's shoreline by anadromous bull trout is expected. Anadromous bull trout use of Commencement Bay near the project is likely to occur only during smolt and adult salmon migrations, if bull trout occur in Commencement Bay. Fish collection records indicate bull trout are rare in the shoreline areas of Commencement Bay (PIE 2000a). Anadromous bull trout are expected to move quickly through the lower Puyallup River during both smolt out migrations and adult spawning migrations, due to lack of habitat complexity and instream cover. Salmonid sampling efforts in Commencement Bay over a 20 year period have collected a total of four adult and no juvenile bull trout (Dolly Varden) in Commencement Bay (PIE 2000a). No information is available indicating holding, feeding, or other extended use of the Commencement Bay shorelines by migrating bull trout spawners. Anadromous bull trout most likely feed near shorelines where forage fish are present, but not near the bottom in subtidal areas nor near the shorelines that do not provide habitat for forage fish. Bull trout (Dolly Varden) are absent from most shoreline collections of young salmon in Commencement Bay and central Puget Sound.

Since bull trout in Puget Sound apparently are found in areas where Pacific herring, surf smelt and Pacific sand lance spawn it is unlikely they are found along the site's shoreline. This shoreline does not provide habitat types likely to attract these species.

Because bull trout are a relatively long-lived iteroparous species (spawn multiple times); the potential exists for them to make several outmigration and spawning runs in the general vicinity of the project site. Upstream migrations of bull trout spawners typically occur in early summer (late June and July) when water temperatures are relatively cool (Rieman and McIntyre, 1993), but most likely offshore from the construction activities. Bull trout are not known to utilize shoreline habitat in Commencement Bay. Past collections of juvenile salmonids from Commencement Bay shorelines have not shown bull trout juveniles or adults to be present along the southeastern shoreline.

### **Coho Salmon**

A status review of coho salmon was recently completed by NMFS in response to petitions seeking to list several Pacific Northwest populations as threatened or endangered (Weitkamp et al. 1995). Coho (*Oncorhynchus kisutch*) are currently designated as a candidate species for listing in Puget Sound.

Based on genetic, life history, biogeographic, geologic, and environmental information, six Ecological Significant Units (ESUs) were defined for coho salmon in Washington, Oregon, and California. Despite recent stable trends in population abundance near historic levels, the status of the Puget Sound/Strait of Georgia ESU was determined to warrant further consideration for listing due to concerns over current genetic, environmental, and habitat conditions. Risk factors identified as potentially deleterious to Puget Sound coho salmon stocks included high harvest rates, extensive habitat degradation, unfavorable ocean conditions, and declines in adult size (Weitkamp et al. 1995). The genetic fitness of Puget Sound coho stocks has been altered by widespread and intensive artificial propagation that includes interbasin transfers of broodstock, and by natural spawning between wild and hatchery origin fish. Hatchery supplementation in South Puget Sound, including the Puyallup River, has been particularly extensive with 2-4

million coho salmon smolts released annually from hatcheries on the Puyallup and White rivers (Weitkamp et al. 1995). Two coho salmon populations have been identified within the Puyallup River basin based on geographic differences in spawning locations; the Puyallup River stock is considered depressed while the White River stock is considered healthy (WDF et al. 1993).

Coho fry in the Puyallup River basin are dependent on availability of quality river habitat for growth, and typically use side channels, wetlands, and off-channel sloughs for over-wintering and rearing (Sandercock 1991, Grette and Salo 1986). Young-of-the-year coho occur almost exclusively in pools of side-channel habitats of the upper Puyallup River basin (Weigand 1991). Juveniles migrate out during spring freshets, usually in May, after rearing in freshwater for about 18 months. Outmigration in Minter Creek occurred between April 15 and June 1, with peak activity in May (Sandercock 1991). Smolts mature in the marine environment for another 18 months before returning to spawn as three-year-old fish (Weitkamp et al. 1995).

Adult coho enter the Puyallup River from mid-August through December, with peak migration activity in November. Passage of coho above Mud Mountain Dam peaks in September, and spawning occurs from mid-October through mid-January (WDF et al. 1993, Salo and Jagielo 1983). White River coho are of mixed origin with natural and hatchery reproduction occurring in the basin. Supplementation of the White River stock using various sources that included Green, Issaquah, Puyallup, and Skykomish rivers broodstock occurred from the 1950s through the mid-1970s. Since 1976, efforts have been made to plant Puyallup origin coho as much as possible (WDF et al. 1993). Counts of adult coho passing Mud Mountain Dam indicate generally stable to increasing production since the mid-1970s (WDF et al. 1993).

Spawning of coho in the Puyallup River basin occurs from mid-October through December (WDF et al. 1993, Salo and Jagielo 1983). White River coho salmon are distributed throughout all accessible reaches of the White River basin including the mainstem White, West Fork White, Clearwater, and Greenwater rivers (WDF et al. 1993, Salo and Jagielo 1983). Coho spawn throughout the accessible length of the Puyallup River and in tributaries including South Prairie Creek, Wilkeson Creek, Fennel Creek, the Carbon River, lower Voight Creek, Kapowsin Creek,

and Clarks Creek (WDF et al. 1993, Salo and Jagielo 1983). Puyallup River coho have been supplemented since the early 1950s using primarily Green River stocks, although a variety of western Washington coho were also introduced (WDF et al. 1993). Recent trends in Puyallup River coho escapement indicate a short-term severe decline since the early 1980s, despite hatchery basin-wide supplementation that averaged over 2.65 million coho annually from 1982 to 1991. Escapement during the period ranged from 391 to 4,381 fish (WDF et al. 1993).

### **Sea-Run Cutthroat Trout**

Cutthroat trout (*Oncorhynchus clarki*) in Puget Sound are not currently listed by the U.S. Fish and Wildlife Service. They were proposed for listing, but listing was determined to not be warranted. They are included in this BA because of public concern and their potential for future listing. Juvenile cutthroat migrate to Puget Sound in the spring, during their second or third year of life at a size of about 120-170 mm (Behnke 1979, Hickman and Raleigh 1982). Although sea-run cutthroat tend to remain in bays and estuaries, they apparently enter shallow water only when feeding on salmon and other small fishes. Both juvenile and adult cutthroat are predacious on fish, including other salmonids and larger invertebrates such as shrimp (Giger 1972).

Sea-run cutthroat trout do not over winter in marine waters and remain close to the coast before returning to spawn (Johnson et al. 1994). Spawning migrations may begin after as few as eight months in the marine environment (Grette and Salo 1986). Spawning migrations of adults probably occur from late summer through mid winter. In the Green River basin of Puget Sound, adults begin spawning migrations from July to January, with peak in October and November (Grette and Salo 1986). In Minter Creek, peak returns occur in December and January, and continue through March (Johnson et al. 1994). Spawning occurs between December and May in small, low-gradient tributary streams (Trotter 1989). Some sea-run cutthroat trout remain in freshwater after spawning, but most return to Puget Sound.

The status and life history of cutthroat trout in Puyallup River basin is not well documented, and available information often does not distinguish between anadromous and resident forms. Cummins (1980) compiled the most complete evaluation of sea-run cutthroat trout population

status in the Puyallup River basin, based on a combination of personal knowledge, anecdotal information, and WDFW data files. He found that historic cutthroat trout populations in the Puyallup River basin were probably smaller than in other western Washington basins. The fast-flowing glacial waters of the Puyallup, Carbon, and White Rivers are considered fair to poor spawning habitat for sea-run cutthroat. Cummins (1980) estimated that South Prairie Creek was excellent cutthroat habitat, while Clarks, Fennel, Canyon Falls, Voight, Wilkeson, Fiske, Kapowsin, and Fox creeks provided good habitat.

### **Steelhead**

Steelhead (*Oncorhynchus mykiss*) are not currently listed or proposed for listing in Puget Sound. Steelhead are included in this BA because of public interest in this species. The status of steelhead populations from Washington, Oregon, Idaho, and California was recently reviewed by NMFS (1998b). Fifteen Ecological Significant Units (ESU) were identified for west coast steelhead, 12 coastal populations and three inland populations. The Puget Sound ESU is not presently in significant danger of becoming extinct or endangered, although the abundance of steelhead in the Puget Sound ESU is generally decreasing (Busby et al. 1996).

This Puget Sound ESU is dominated by winter run steelhead, which typically smolt at age 2 years (Busby et al. 1996). Ocean residency continues for another two years for about 70% of the Puyallup River basin steelhead, while 30% mature after three marine years (Busby et al. 1996). Although steelhead are capable of spawning in multiple years, an estimated 90% of Puyallup River basin steelhead make only a single spawning migration. Total run size of steelhead in the Puyallup River basin was estimated to be 3,300 fish, with an escapement of 2,000 fish (Busby et al. 1996). Winter steelhead of the Puyallup River basin are primarily ocean maturing, that is adults enter freshwater with mature gonads (Busby et al. 1996). In the Puyallup River basin, three native winter run steelhead stocks have been identified in the Puyallup, White, and Carbon rivers. Distinction between the stocks is based upon geographic isolation of spawners. Despite hatchery supplementation, each stock is considered to be wild because spawn timing segregates hatchery and wild fish. The status of all three stocks was considered healthy (WDF et al. 1993);

however, total escapement of steelhead to the Puyallup River basin is estimated to be declining at a rate of 5.2% annually (Busby et al. 1996).

Steelhead smolts migrate from the Puyallup and other Puget Sound streams during the spring migration period of March through May. Since they commonly migrate during their second or third year of life, they are much larger than the chinook and chum migrants. Steelhead smolts generally do not migrate in shallow shoreline areas, but use the deeper nearshore waters.

Puyallup River wild steelhead adults enter the river from December through May, and spawn from early-March to mid-June. Peak spawning activity occurs during April and May (Busby et al. 1996). Hatchery steelhead that spawn in the Puyallup River originated from Chambers Creek and Quinault River stocks and have been planted annually as smolts (WDF et al. 1993). Earlier spawn timing and higher exploitation rates have kept hatchery fish isolated from wild spawners. Escapement counts in the mainstem Puyallup River are difficult because glacial turbidity obscures visibility. However, counts in tributary index reaches indicated healthy stock status during the late 1980s. More recent counts suggested short-term declines in ocean survival as experienced by other steelhead stocks throughout the region (WDF et al. 1993).

Steelhead historically spawned throughout the White River basin where suitable habitat existed, including the mainstems of the White, Clearwater, and Greenwater rivers. Run timing is generally from December through May with spawning from March to mid-June (WDF et al. 1993). Abundance of winter steelhead in the White River has declined from an estimated 3,500 in the 1930s to an average of about 1,500 in the 1940s. Spawner counts averaged less than 500 adults from 1954 to the early 1980s (Salo and Jagielo 1983). Hatchery steelhead from Chambers Creek stock were introduced into the White River until 1982, however, the wild stock has remained isolated. Recent escapement during the late 1980s and early 1990s has ranged from 594 to 1,566 fish (WDF et al. 1993). Winter steelhead in the Carbon River, Voight Creek, South Prairie Creek, and their tributaries are a distinct native stock that enter the river from December through May and spawn from early-March to mid-June. Hatchery smolts of Chambers Creek origin have been introduced in the same areas. Escapement of wild adults to South Prairie Creek

range from 596 to 1,262 and met or exceeded maximum harvest production potential from 1985-1992 (WDF et al. 1993).

### **Bald Eagle**

Two bald eagle (*Haliaeetus leucocephalus*) nesting territories were identified by the USFWS as occurring in the vicinity of the project, although according to WDFW's Priority Habitats and Species database, there are actually three territories close to the project site. The Point Defiance nesting territory is the nearest, occurring approximately ½ mile west of the project. The nearest known nest site associated with this territory is over a mile away, well beyond the 0.25 to 0.4 mile distances within which researchers have found nesting eagles to react to potentially disturbing human activities (Fraser et al. 1985, Anthony and Isaacs 1989, Grubb and King 1991, Parson 1994). All the nest sites (eagles will alternate between several sites over the years) occurring within Point Defiance territory are associated with mature Douglas-fir found within the Point Defiance Park. Douglas fir is the preferred nesting tree for bald eagles in west side habitats of the Pacific Northwest (Anthony and Isaacs 1989). There are no potential nest trees occurring closer than 1 mile from the site.

Two additional territories, Point Dalco and Neill Point, occur across Dalco Passage from the Site approximately 1½ miles to the north, with nest sites nearly 2 miles away. Although the territorial boundary lines identified on the Priority Habitats and Species maps imply most eagle use during the breeding season occurs away from the Breakwater Peninsula, bald eagles have been observed (by Parametrix researchers) on the peninsula (and flying over) during the breeding season, suggesting at least occasional use by breeding eagles. The wooden pilings and plastic-covered dirt piles (the dirt will eventually be used to cap the Site) provide marginal perching habitat for foraging bald eagles, and eagles have been observed perching on the piles. However, these are not the natural perches generally preferred by bald eagles (Stalmaster 1987), and are likely not as preferable as the numerous snag perches found along the perimeter of Point Defiance Park where human disturbance is lower. The Breakwater Peninsula receives substantial human disturbance associated with cleanup activities, the breakwater marina, and the ferry terminal.

Knowledge of the diets of breeding bald eagles foraging in Puget Sound is limited. During seven years of monitoring the Discovery Park, Seattle bald eagle nesting territory, Parametrix (1996) found prey items of the breeding pair to be at least 75% marine fish, with the remainder primarily birds. Few of the prey items were identified to species, but most fish were of herring size, and grebes and waterfowl appeared to be the predominant bird prey. These are prey that may be found along the site's shoreline.

Wintering bald eagle use specific to the Breakwater Peninsula is unknown, other than eagles are expected at least on an occasional basis. However, it is more likely that most regional wintering bald eagles would be found where waterfowl or spawning salmon are known to concentrate (Stalmaster 1987), especially in the headwaters of the Puyallup River, or near the mouth of the Steilacoom River.

### **Humpback Whale**

Humpback whales (*Megaptera novaeangliae*) are a common seasonal inhabitant of the oceanic waters of Washington (Green et al. 1991). On occasion, however, these large plankton feeders will enter Puget Sound (Osborne et al. 1988). On average, humpback whales enter Puget Sound approximately once every two years, and usually as single animals (J. Calambokidis, personal communication, 1998). An exception occurred in 1988 when two single juvenile whales were reported in south Puget Sound, including Commencement Bay (Calambokidis and Steiger 1990). Most sightings appear to be of wandering juveniles looking for a passageway back out of the Sound (J. Calambokidis, personal communication). Consequently, while humpback whales have been reported in the project vicinity in the past, this use is considered to be rare and very short-term. Most humpback whales entering Puget Sound spend less than a week in these waters (J. Calambokidis, personal communication, 1998).

### **Steller Sea Lion**

The Steller sea lion (*Eumetopias jubatus*) was recently listed as threatened because of large-scale population declines in Alaska. Populations south of Alaska appear stable, although the numbers

of animals that hauled out on the outer coast rocks of Washington in the early 1900s were much higher than today (Osborne et al. 1988). This marine mammal does not breed in Washington, but breeding colonies can be found nearby in Oregon and British Columbia (Osborne et al. 1988). Most Washington Steller sea lions are still found at traditional haul out sites on the outer coast. A few of these sea lions used to haul out on Navy floats near Fox Island (Osborne et al. 1988), south of the Tacoma Narrows. However, since the Navy modified their floats to discourage this behavior in the early 1990s, Steller sea lions have only occasionally been sighted in southern Puget Sound (J. Calambokidis, personal communication). Two to six sea lions are occasionally seen on buoys off Toliva Shoals south of Steilacoom, and 1-3 at buoys off McNeil and Eagle islands (P. Gearin, personal communication to Greg Green, 1998). California sea lions (*Zalophus californianus*), however, are commonly observed in the project vicinity. Several haul out on a buoy in Dalco Passage approximately 2 miles northeast of the project site. Steller sea lions can occasionally be found at this buoy, but are not known to use Commencement Bay proper (P. Gearin, personal communication to Greg Green, 1998).

Steller sea lions feed largely on flatfish, rockfish, cod, squid, and octopus. Salmon, although taken, are not a major part of the diet of this sea lion (Osborne et al. 1988).

## **EXISTING ENVIRONMENTAL CONDITIONS**

The Tahoma Salt Marsh site is a highly modified shoreline area devoid of natural characteristics of the outer Commencement Bay western shoreline. The existing site was constructed by filling the riparian zone and shallow intertidal portion of Commencement Bay apparently early in the 1900's. The shoreline was filled with soil and man-made materials above the high tide elevation as described above in the ENVIRONMENTAL BASELINE section.

The parameters to which existing conditions were compared are summarized in Table 2. The evaluation using the pathways and indicators approach indicates that existing conditions are not properly functioning for many of the indicators, even though there is no evidence these conditions are adversely influencing salmon or bull trout populations.

### **TURBIDITY**

The existing sediments most likely have no effect on turbidity within Commencement Bay or at the site. The hardened shorelines of the site reduce natural erosion and subsequent natural turbidity produced at the site. Turbidity at this location and throughout Commencement Bay is primarily due to the high-suspended sediment load of the Puyallup River together with biological production in Puget Sound. Turbidity is properly functioning.

### **DISSOLVED OXYGEN**

Dissolved oxygen along the site shoreline is not influenced by the condition of the shoreline. The relatively small amount of algal photosynthesis is not adequate to have a measurable effect on Commencement Bay waters. Thus, there is no substantial source of oxygen demand, and no characteristics that would reduce dissolved oxygen at this location. Dissolved oxygen is considered properly functioning.

### **WATER CONTAMINATION/NUTRIENTS**

The site does contain some metal debris, organic contaminants, and creosote treated piles in the upland soils and shoreline sediment. These materials are not sufficient to produce identified

concentrations in the shoreline water. Chemical contamination of water adjacent to the site is currently properly functioning. Contaminated upland soils exposed by habitat construction will be removed. Existing contaminant conditions in water adjacent to the site is properly functioning.

### **SOIL/SEDIMENT CONTAMINATION**

Soils of the Tahoma Salt Marsh site include fill material that contains metals and organic contaminants. Thus, sediment contamination is currently not properly functioning.

### **SUBSTRATE**

The substrate of the site's shoreline is composed of a combination of man-made materials (concrete, metals, piles, etc.) and natural rock. The steep and exposed nature of the site prevents settlement of fine grain sediment that would occur in protected and flat sloped shorelines. The proposed action will alter the shoreline by replacing the man-made materials with natural rock and producing protected intertidal habitat with more gradual slopes. Water depths along the shoreline will remain essentially the same except for the entrance channel to the salt marsh habitat. New water area will be produced where uplands currently exist.

### **DEPTH / SLOPE**

The intertidal and shallow subtidal portions of the site have been filled at some unidentified time in the past to support shoreline industrial activities. The existing slopes of the site are man made. The proposed action will maintain a portion of these slopes while producing new more natural intertidal slopes and depths within the upland portion of the site.

### **TIDELAND CONDITION / FILLING OF TIDELANDS**

The site's shoreline most likely had a relatively steep intertidal beach similar to that of the unaltered Browns Point area prior to the filling during the past century. The shoreline has become steeper and hardened as the result of past filling for industrial uses. The tidelands are currently a small portion of the site. Construction of the habitat will provide properly functioning tidelands.

## **REFUGIA**

The site has an exposed open water shoreline that does not provide known refugia for any species. However the original shoreline of the site most likely was relatively steep and exposed to wave energy. Refugia is currently properly functioning in that no less protected habitat occurs today than would exist at the site with the shoreline's natural condition. Construction of the new habitat will increase refugia function at the site.

## **PHYSICAL BARRIERS**

A small number of treated timber piles exist along the site's shoreline. These structures do not provide potential obstructions that interfere with the migration of young salmon. The condition of physical barriers is currently properly functioning in that none exist along the shoreline that would delay migrations of salmon or other fishes.

## **CURRENT PATTERNS**

The existing sediment remediation areas have no influence on current patterns within Commencement Bay. This condition will not be changed by the proposed sediment actions. Current patterns are currently properly functioning, and will not change with the proposed action.

## **SALT / FRESH WATER MIXING**

There is a storm drain that discharges at the southern edge of the Tahoma Salt Marsh site. The amount and location of this discharge will not be altered by the proposed actions. No substantial surface streams enter Commencement Bay in the vicinity of the site. This condition is properly functioning. The existing condition will not change with the proposed actions.

## **SALMON PREY AVAILABILITY**

Only the steep hardened shorelines of the site provide any potential for salmon prey production. Epibenthic prey are likely produced on the intertidal substrate. The action will change this condition by greatly increasing the intertidal habitat at this location. This change will provide

substantially more intertidal habitat that will increase epibenthic prey production at the site. Salmon prey is currently not as great with the shoreline steeper and hardened in comparison to the historic shoreline condition. The previous fill has altered the quantity and quality of habitat that produces epibenthic prey. However, some epibenthic prey are likely produced on the hard shoreline substrate. The pelagic prey commonly used by young chinook in such areas are likely available, but in undesirable habitat.

### **FORAGE FISH COMMUNITY**

No forage fish spawning habitat currently exists at this shoreline. All substrate in the upper intertidal zone (+8 to +10 ft MLLW) is steep and hard, not suitable for sand lance or surf smelt spawning. No eelgrass occurs along the shoreline. Few macrophytes grow on the steep intertidal and shallow subtidal bottom of the site. Most of this area is too steep and hard to be used as spawning habitat for herring. No herring spawning has been reported at or near the site. Juvenile and adult forage fish are likely to be common in the shoreline waters, as they are at most locations within Commencement Bay. These conditions will remain unchanged with the proposed sediment actions. The abundance and diversity of forage fish adjacent to the site areas appears to be the same as for adjacent natural shorelines. The forage fish community is naturally functioning.

### **AQUATIC VEGETATION**

Aquatic vegetation is sparse along the shoreline of the site. The upper intertidal elevations support sparse growths of *Fucus* sp. The middle and lower intertidal elevations of the site have little aquatic vegetation. Shallower portions of the steep offshore area have scattered algae of a variety of species.

## EFFECTS OF SALT MARSH CONSTRUCTION

The proposed actions to construct salt marsh and provide shoreline protection for the new habitat will substantially improve the physical and biological characteristics as well as the amount of habitat provided by the site. The construction process will minimize impacts to the intertidal shoreline of the site by conducting most activities without a connection to the bay. The City's goal is to minimize the impact to the extent practical. Shoreline construction is being undertaken only where necessary to connect the habitat to Commencement Bay and to provide protection of the shoreline from wave energy.

Excavation will expose natural substrate underlying the filled site or fill that meets chemical criteria. The habitat will be excavated using land-based equipment (bulldozer or track hoe). Excavation of the habitat will result in the conversion of about 70 m<sup>2</sup> (2,400 ft<sup>2</sup>) of upland elevations (+13 to +20 MLLW) to intertidal elevations (+11 to -3 MLLW). Removal of fill, debris, and contaminated soils will occur behind the existing shoreline. Shoreline construction to connect the habitat to the bay and protect the shoreline will occur outside the salmon migration seasons allowing diatom and epibenthic prey production to return prior to the following spring migration.

The shoreline protection material will be natural rock from an upland source. The surface material will be have a major component of at least 0.3 m (1 ft) diameter to provide protection from wave energy. Exact size of the rock and the extent of the toe of this protection will be determined during final design of the action.

These physical changes to the shoreline will be minor. The existing hard substrate that includes substantial quantities of concrete and other man made materials will be replaced with natural rock. These changes should result in increased production along the shoreline.

Construction of the connection to Commencement Bay and the shoreline protection will produce small amounts of turbidity in the immediate vicinity of construction (<100 ft). Silt curtains will

be deployed to restrict turbidity to the construction site. This turbidity is not expected to have sufficient oxygen demand to produce a detectable change in water column dissolved oxygen levels. These impacts will dissipate within hours. The resulting turbidity is not likely to be sufficient to produce biological effects.

The project will produce short-term construction effects on the intertidal habitat. The primary biological impact will be to destroy most of the small invertebrates living on and among the hard substrate. It will also remove the scattered algae growing at the upper intertidal elevations. Construction will produce small amounts of local turbidity during in-water construction.

Silt curtains deployed along the shoreline during construction will restrict turbidity from excavation of the connecting channel and shoreline reconstruction. Turbidity resulting from excavation of upland soils will be retained within the site prior to excavation of the connecting channel. Turbidity produced during construction is not expected to have sufficient oxygen demand to produce a detectable change in water column dissolved oxygen levels. In-water construction will be limited to a small portion of the Site at any given time. These impacts will dissipate within hours. The resulting turbidity is not likely to be sufficient to produce detectable biological effects.

The project will produce short-term construction effects on the intertidal and shallow subtidal sediment habitat. The primary biological impact will be to destroy most of the sessile invertebrates living within the sediment, and the scattered algae attached to the larger particles on the sediment surface. These organisms will be lost through either excavation or covering of their substrate by new material. This alteration will cause a short-term loss of productivity from the existing shoreline.

Human activity and construction noise will likely deter birds and mammals from using the immediate vicinity of the sediment action under construction. The anticipated affect of this is minor because of the highly modified condition of the site.

The process of re-population of the shoreline and new intertidal substrate can be expected to begin immediately after construction, and will continue over several years. Mobile organisms will move into the constructed sediment from adjacent unaffected areas. Larvae of sessile organisms will begin to settle immediately. Populations of organisms such as polychaetes, crustaceans, and algae are likely to reach or exceed pre-construction abundance and diversity within the first year. Biomass will likely reach pre-construction levels over several years. The existing shoreline currently has relatively little existing fauna within the sediment. The fauna on the hard substrate is predominantly barnacles and associated invertebrates.

Biota inhabiting the substrate will be similar to existing biota following construction of the habitat, and will include additional species because of the increased quality and variety of habitat. The shoreline is likely to have assemblages of invertebrates similar to those of adjacent areas not altered by the proposed action.

#### **EFFECTS OF THE PROPOSED ACTION ON SUBSTRATE**

The substrate characteristics will improve considerably with the proposed habitat restoration. The Tahoma Salt Marsh will provide a considerable increase in the quantity of gently sloping fine-grain intertidal habitat within the action area. This increase in fine-grain intertidal habitat within a protected embayment will provide feeding and refuge habitat for juvenile chinook in an area where none currently exists. This change will benefit epibenthic biota, which provide a food source for juvenile salmon. The increase in marsh habitat will provide additional insect food sources as well as detrital material that will support the general Commencement Bay food web.

#### **IMPACTS OF SEDIMENT ACTION ON LISTED SPECIES**

The proposed sediment action will increase the quantity and quality of intertidal and riparian habitat supporting all species inhabiting Commencement Bay. The purpose of this action is to produce new intertidal habitat in a sheltered environment that provides feeding and refuge functions along a portion of Commencement Bay's shoreline where these functions are not

currently supported. The Natural Resource Trustees entered into the Natural Resource Damage settlement agreement with the City of Tacoma specifically to accomplish this improvement in Commencement Bay's habitat conditions.

The construction process avoids most impacts to the existing Commencement Bay habitat by constructing the marsh habitat and intertidal embayment from uplands prior to connecting the new habitat to Commencement Bay. Construction of the connecting channel will have minor impacts to Commencement Bay habitat. Reconstruction of the intertidal shoreline of the Tahoma Salt Marsh will have short-term impacts to the existing intertidal shoreline habitat. Construction impacts to intertidal habitat are expected to be beneficial. Short-term impacts will occur to the existing sessile biota. All sessile biota will be removed by excavation or filling. Some of the motile biota will be destroyed and some will avoid impacts of the shoreline construction by movement out of the small area involved in construction at any specific time. Based on monitoring of the pilot cap plots at the nearby Asarco site on Commencement Bay, repopulation by benthic infauna will reach existing abundance and diversity within approximately one year (Parametrix 1999). By the end of the second year abundance and diversity is likely to exceed that of reference areas as well as pre-construction site conditions.

The construction activities will avoid the fish migration period, currently from February 15 to July 15, when young **chinook salmon** are most likely to be present along the adjacent shoreline. Most aspects of the action are unlikely to have any direct effects on chinook salmon. The results of the action will lead to increased diversity and increased production of estuarine organisms that will directly benefit chinook. Construction on the intertidal embayment will occur during the summer or autumn allowing substantial immigration of intertidal organisms and their larvae to establish populations prior to the following year's migration period. The short-term loss of production of invertebrates and algae along the existing shoreline prior to the migration period is not expected to result in an impact to that portion of the chinook salmon population migrating along this side of Commencement Bay during the year following construction. Algae, diatoms, epibenthic invertebrates, and motile invertebrates will begin repopulating the new substrate as soon as the habitat is reconstructed. The epibenthic prey that

young salmon consume have short life cycles that are completed in weeks to months providing a rapid means for populating new substrates.

**Bull trout** are unlikely to be affected by construction activities for the Tahoma Salt Marsh site actions. If bull trout do occur in the vicinity of the site they are most likely offshore or north of the site along the Ruston shoreline where potential forage fish habitat is present (eelgrass, sand beaches at some locations in the upper intertidal zone).

**Coho** are unlikely to be affected by the habitat restoration and shoreline reconstruction. Coho do migrate relatively near the surface over the offshore waters where they prey on young forage fish and possibly other juvenile salmonids. The shoreline construction will occur when few or no coho are present. The actions are not likely to have an effect on juvenile coho.

**Cutthroat trout** are not likely to be affected by proposed habitat restoration and shoreline reconstruction. No life stage of sea-run cutthroat are likely to use the existing habitat of the site. Other fish preyed on by the cutthroat are likely to continue to be present in unaltered numbers. The biological production of the Site is not likely to provide the food supply of the forage fish that provide potential prey for cutthroat, coho, or steelhead. The Site does not provide any other habitat function for cutthroat trout, coho, or **steelhead**, although individual juveniles of these species may migrate in the nearshore waters along the site at times during the spring. A few adult fish might migrate in Commencement Bay near the site during the construction period.

Construction will produce noise similar to routine upland construction activities. This noise is likely to cause birds (including **bald eagles**) and mammals to avoid the immediate vicinity of the construction activities during actual construction. The noise of excavation and filling is not likely to be of sufficient magnitude to have an effect on fish present in the construction vicinity.

Fish potentially providing food for bald eagles are likely to continue to be present during and following construction. Eagles may tend to avoid those portions of the adjacent shoreline near active construction. However, the Site does not appear important to local breeding pairs.

Seasonal limitations on constructions are such that construction is likely to be complete before arrival of wintering bald eagles. Potential use of the Site by **Steller sea lions**, and **humpback whales** is not expected. Potential food supplies for these species will be unaffected.

## **AVOIDANCE/MINIMIZATION OF EFFECTS**

Avoiding construction during the smolt outmigration period in spring is a conservation measure to avoid impacts to proposed and currently listed threatened and endangered species. Conducting shoreline construction during only a portion of the year, primarily during the late summer to winter, will avoid the spring period when listed anadromous fish are likely to occur along the shoreline adjacent to the remediation area. It will also minimize the potential to impact the young chinook's food supply by allowing a prolonged period of population development prior to the fishes' appearance along the shoreline the following spring.

Minimization of impacts to the exiting intertidal shoreline will be accomplished by construction from the uplands during low tides to avoid in-water work. The beach surface will be replaced with natural rock, reconstructing most of the beach at the existing slopes and elevation. This construction will occur during extreme low tides of the summer and early autumn.

The construction activity will occur after July 15 following the critical early periods of the bald eagle nesting season, and before the arrival of the bulk of the wintering bald eagle population.

The constructed habitat is expected to surpass the functional equivalent of the existing shoreline. In accomplishing this, the most significant factor will be the time it takes for species recruitment to the new substrate. Based on monitoring of the pilot cap project at Asarco, the new substrate will be populated by a wide variety of species and considerable number of individuals within one year. Because of increases in the quality and quantity of habitat the constructed site will have much greater production than the existing site.

## EVALUATION ON PATHWAYS AND INDICATORS

The following sections include an evaluation of the pathways and indicators applicable to the Commencement Bay habitat in the Tahoma Salt Marsh action area. Anticipated general changes to the indicators with the proposed action are discussed in the first few sections. The later sections present the Pathways and Indicators analysis approach. The pathway conditions are defined first, followed by the indicators used to compare existing and post-remediation conditions for each parameter.

The approach is modified to reflect that nearly all the action will take place either within upland areas, or on a highly modified intertidal shoreline. The altered shoreline habitat of the site is quite different than the natural shorelines commonly found in most of Puget Sound. The steep shoreline has been filled and covered with various materials to form a steep hardened shoreline. The habitat characteristics of this shoreline are very different from the gently sloping, fine grained substrates of most Puget Sound beaches.

### Water Quality

Short term, local increases in **turbidity** will occur during reconstruction of the shoreline habitat and the connecting channel. Observations of the habitat construction on the Asarco shoreline indicate turbidity increases will be transitory and reach low levels that are not likely to influence biological production or survival (personal observations Don Weitkamp June, 2000). Natural turbidity at the site can vary over a wide range due to the influence of the Puyallup River plume that commonly reaches this portion of Commencement Bay. Properly functioning turbidity will remain within the range of natural turbidity of Commencement Bay outside the immediate construction area, which fluctuates widely with time and location.

Long term, water quality parameters that are most likely to influence young salmon as they migrate along this shoreline will not be altered by the sediment remediation. **Temperature, dissolved oxygen, and chemical concentrations** in Commencement Bay water in the action area

will not be changed by the sediment action. Habitat construction will be undertaken outside the spring migration window when young salmon are unlikely to be present near the shoreline of this vicinity. Properly functioning temperature will remain within the natural range of temperatures within Commencement Bay during and following concern. The small quantity of water within the embayment will naturally become warmer than adjacent Commencement Bay water during warm spring and summer days. This will be a natural effect similar to that of natural tideflat habitat throughout Puget Sound. Because temperatures vary widely by season and location within Commencement Bay it is not practical to formulate a specific criterion. Dissolved oxygen levels are considered properly functioning if they remain above 6 mg/L. Dissolved oxygen levels are unlikely to be altered by the constructed habitat. Properly functioning conditions for chemical parameters are those that remain within current water quality criteria for the chemicals of concern. The constructed habitat will not alter these conditions.

### **Habitat Access**

The constructed habitat will increase **habitat access** for listed species. These actions will provide new protected habitat of a critical nature at a location along a juvenile salmon migration route where no such habitat currently exists.

### **Habitat Elements**

Excavating the uplands of the Tahoma Salt Marsh site to construct intertidal and riparian habitat will produce new **habitat elements** supporting listed species and their food web. The habitat restoration is being undertaken to reconstruct some of the important intertidal habitat elements previously lost from Commencement Bay. The action will produce new protected intertidal habitat where none currently exists. This new habitat will provide prey production and refuge for young salmon. The salt marsh will provide direct habitat values to a variety of fauna, as well as nutrient supply to Commencement Bay. These changes will produce properly functioning habitat at a location that is currently not properly functioning habitat.

## **Pathways And Indicators Analysis**

The Tahoma Salt Marsh Reconciliation Park site shorelines is part of the shallow water migratory pathway for young salmon leaving Commencement Bay. This section describes a modified version of the Pathways and Indicators approach suggested by National Marine Fisheries Service for evaluation of chinook use of estuarine habitats. The following descriptions provide information on the categories included in the Pathways and Indicators analysis included as Table 2. The pathways and indicators approach identifies a number of habitat characteristics listed in the first column of the matrix presented in Table 3. In this matrix, the habitat characteristics are determined to be either "Properly Functioning", "At Risk", or "Not Properly Functioning". The site's existing shorelines have no features that interrupt salmon migration and most likely provide diatom and epibenthic production providing food for young salmon. The shoreline is considered "Properly Functioning" in that it provides a migratory corridor similar to other steep shorelines of Puget Sound, although it does not provide a direct habitat functions for chinook salmon that will be provided by the new habitat.

## **Turbidity**

The surface waters of Commencement Bay are commonly highly turbid due primarily to the high-suspended mineral particles contained in the Puyallup River discharge. Suspended mineral matter also originates from resuspension of beach sediments by wave action. Natural organic debris and plankton also produce considerable turbidity during much of the year in the more saline waters of Commencement Bay. This turbidity is a natural part of the habitat to which the young salmon have adapted over prolonged periods. Chinook as well as coho, chum and sockeye salmon populations are produced in extremely turbid river systems and estuaries such as the Taku River in Southeastern Alaska. In the Taku River, estuarine turbidities are commonly 400 NTU (Murphy et al. 1989). Although there are many investigations of the effects of turbidity on young salmon, the majority deal with freshwater conditions rather than estuarine or higher salinity conditions, and few deal with chinook. LeGore and DesVoigne (1973) exposed young coho salmon to high levels (28.8 g/L) of Duwamish estuary sediments in bioassay tanks without observable effects in 96 hours. Smith (1978), Newcombe and MacDonald (1991) reviewed literature describing effects of suspended sediments on aquatic ecosystems. They identified

records showing lethal effects (LC<sub>50</sub>) of suspended sediments at concentrations of 488 to 39,400 mg/l for exposure periods of 36-96 hours. Noggle (1978) measured LC<sub>50</sub> values varying over time from 4,000 mg/l in May to a low of 2,000 mg/l in July and highs of 16, -36,000 mg/l in September to November. In his review of turbidity data, Lloyd (1987) concluded turbidity increases should not exceed 25 NTU above natural conditions

Turbidity can have sublethal effects that are both positive and negative. Turbidities up to 108 NTU, such as occur in the Fraser River (Gregory and Levings 1998) can reduce predation on young chinook and other salmon. Gregory (1994) found young chinook had reduced foraging rates in turbidity above 150 NTU, but continued to feed at turbidities as high as 850 NTU. Noggle (1978) found young coho stopped feeding at turbidities greater than 300 mg/l.

It is likely natural turbidity in Commencement Bay will not exceed 100 NTU at any time during the construction period, although the Puyallup River does produce a high turbidity surface layer in Commencement Bay during high runoff periods. This high turbidity is due in large part to the high natural turbidity of the glacial flour carried by the White River. Placement of cap material over the remediation area is unlikely to produce turbidity increases exceeding 50 NTUs higher than background within 100 m of the cap boundary. These increases will be transitory in nature lasting less than one hour. Monitoring at the Tacoma Kraft Mill in 1988 showed turbidity remained below 25 NTU at 150 ft (50 m) from the site when material dredged from an outfall alignment was bottom dumped from a barge in shallow water within a silt curtain (Parametrix 1988). Reconstruction of the site's shoreline is unlikely to exceed the natural turbidity levels. Turbidity levels at the site are and will remain "Properly Functioning".

### **Dissolved Oxygen**

Dissolved oxygen concentrations in open waters of our estuaries are commonly determined by oceanographic processes driven by tidal generated currents and wind forces. Generally these forces cause sufficient movement of surface water to maintain oxygen concentrations above 6 mg/l. Washington State defines the dissolved oxygen criterion for Class A marine waters (estuaries) as 6 mg/l. At dissolved oxygen concentrations lower than 6 mg/l salmonids may show

behavioral effects. Generally dissolved oxygen concentrations in the range of 2 mg/l and less are lethal to salmonids within periods of hours to days. Dissolved oxygen levels at the site are determined by general Commencement Bay conditions are "Properly Functioning".

### **Chemical Contamination/Nutrients**

Washington State has promulgated water quality criteria for a wide range of potential chemical contaminants and nutrients that may occur in estuarine and more saline waters of Puget Sound. Degraded habitat is defined as any waters that have chemical/nutrient concentrations exceeding one or more of these water quality criteria. Most estuarine waters of Puget Sound exceed one or more of the water quality criteria at some time. These waters that exceed one criterion are determined to be at risk under the NMFS pathways and indicators approach. Exceedence of multiple water quality criteria places the waters in the category of "not properly functioning". The proposed action will not alter the existing condition of chemical/nutrient concentrations in Commencement Bay.

### **Sediment Contamination**

Washington State has promulgated sediment management standards that include sediment quality standards (SQS) and cleanup screening levels for estuarine and marine waters of the State. The pathways and indicators approach classifies sediments having multiple exceedences of the SQS as "at risk". Sediments having multiple exceedences of the CSL criteria are "not properly functioning" substrates.

### **Substrate/Armoring**

Shoreline habitats available to young salmon in Puget Sound are commonly gently sloping beaches of fine grain substrates (mud-sand-gravel). However, a few Puget Sound beaches are cobble or steep exposed rock faces. Although young salmon have been commonly found along beaches having these fine substrates, they have also been found in large numbers along protected armored shorelines such as in marinas (Heiser and Finn 1970, Pentilla and Aquero 1978, Cardwell et al. 1980, Weitkamp et al. 1981, Weitkamp and Schadt 1981, Parametrix, Inc. 1984, Parametrix, Inc. 1985, Ratte 1985). Shorelines armored with riprap have been found to produce

substantial quantities and variety of the epibenthic prey consumed by young chinook and other salmon (Meyer et al. 1985, Williams and Weitkamp 1991). The site currently has a predominantly armored shoreline with both man-made materials and natural rock.

### **Depth / Slope**

Most estuarine shorelines in Puget Sound have relatively gentle slopes, while highly modified shorelines commonly have steep slopes. Because most estuarine areas where young salmon emerge from rivers have relatively gentle slopes it is commonly assumed they require these habitats. However, salmon are also produced in estuaries that have little or no gently sloping intertidal habitat (Kask and Parker 1972, Allen 1974, Healey 1982a). The site has a steep shoreline that is the result of historic filling of Commencement Bay shorelines.

### **Tideland Condition**

The site does not contain tideflats and apparently did not prior to alteration. Commencement Bay's outer shorelines are typical of Puget Sound beaches with silt to cobble substrates at moderate slopes. Tideflats are common in the inner estuarine areas at the mouths of rivers and streams in Puget Sound. These are the shallow water areas that young chinook commonly first encounter in unmodified estuaries. However, much of Puget Sound's shorelines naturally have steep bluffs in the foreshore with moderately steep intertidal beaches that are not tideflats. Although tideflats have been assumed by some to provide refugia for young salmon, this is far from a proven case. Thorpe (1994) concluded estuaries provide foraging habitat for young salmon, but there is equivocal support for this habitat providing refuge from predators. The numerous bird predators that prey on young salmon in shallow waters of estuarine habitats include: pigeon guillemots, marbled murrelets, grebes, cormorants, herons, Caspian terns, gulls, mergansers, and bald eagles (Allen 1974, MacDonald et al. 1987).

### **Refugia**

There is a common belief that estuaries provide refugia for young salmon. Tidal channels and protected portions of estuaries may provide refugia from river and tidal currents and wave energy. Since young salmon commonly use shallow shoreline areas, they most likely find it

easier to rear in protected areas as opposed to beaches having strong wave forces. However, these same young salmon are commonly found rearing along Puget Sound beaches where wave and tidal current energy is relatively high. As discussed by Thorpe (1994) the role of estuarine habitats as refuge from predation is far from clear. The site is typical of much of the outer shoreline of Commencement Bay with steep intertidal habitat that naturally does not provide a refuge function for young salmon.

### **Physical Barriers**

The analysis assumes bridges, seawalls, piers, floating structures, and culverts are barriers to migration of young salmon. The effect of these structures appears to vary considerably depending on their individual characteristics. Bridges are commonly not found in estuarine areas or are generally sufficiently elevated above the water surface to provide a shadow that does not have a high light contrast during daylight hours. Culverts are not a common feature of estuarine shorelines. Although salmon are often reluctant to use culverts, it is obvious that salmon populations exist in streams that require both young and adult salmon to migrate through large culverts. The site currently has no structures that could provide a barrier to migrations of young salmon.

Piers provide altered shorelines that young salmon must migrate under or around. It is clear that young salmon migrate both under and along the edge of piers (Kask and Parker 1972, Meyer et al. 1980, Weitkamp and Schadt 1981, Parametrix Inc. 1984, 1985, Ratte 1985). Juvenile salmon have been found migrating under concrete pile-supported pier aprons that provide more open area and higher light levels than dense woodpile-supported piers. In port areas young salmon are found distributed among beach areas that require the fish to migrate around piers and breakwaters. A number of studies have found young salmon apparently congregating inside marina basins where they have migrated around breakwater structures (Pentellia and Aquero 1978, Cardwell et al 1980, Weitkamp et al. 1981, Thom et al 1989).

### **Current Patterns**

Current patterns within estuarine habitats are determined by river and tidal currents, along with the interaction of wind forces. Filling, dredging, and in-water structures can modify these current patterns. These changes can produce or reduce low velocity and protected areas that may be preferred by young salmon. In general the changes have reduced the low velocity, protected areas within estuaries, most likely resulting in less desirable habitat. The site has no influence on current patterns in Commencement Bay.

### **Salt / Fresh Water Mixing Patterns and Locations**

The dredging and filling of estuaries along with channelization of rivers can alter the patterns and locations of salt / fresh water mixing within estuaries. Although portions of the young chinook and other salmon populations appear to prefer the low salinity portions of estuaries, other portions move directly into the higher salinity portions of the estuaries (Tyler 1962, Healey 1980). Chinook fry can tolerate high salinity water at a very early age (Ellis 1957, Clark and Shelbourn 1985). It is not clear that alteration of the patterns and locations of salt / fresh water mixing is influencing the survival of young chinook. However, the site does not influence the mixing of salt and fresh water in Commencement Bay.

### **Epibenthic Prey Availability**

Young chinook are opportunistic predators that prey on epibenthic and planktonic prey at different locations and times (Healey 1982b). In some estuaries they begin feeding on epibenthic prey while in others they begin feeding on planktonic prey. Chironomid larvae appear to be one of the most common prey items of young chinook when they first enter estuaries (Dunford 1975, Craddock et al. 1976, Meyer et al. 1980, Kjelson et al. 1982, Levings 1982, Pearce et al. 1982, MacDonald et al. 1986, Shreffler et al. 1992a). Although epibenthic prey are common food for young chinook when they enter estuaries so are pelagic prey. Epibenthos commonly feed on diatoms that grow rapidly in the spring on intertidal surfaces. Epibenthos are most abundant at tidal levels in the range of +2 to -2 ft MLLW. The abundance of this prey is highly variable over time and location with abundances fluctuating by orders of magnitude within weeks.

The site most likely produces epibenthic prey within the existing intertidal habitat, and has planktonic prey available in the Commencement Bay water passing along the site.

### **Forage Fish Community**

Forage fish (herring, sand lance, and surf smelt) are common prey of chinook after the chinook have moved out of estuarine habitats into open waters of Puget Sound and marine waters. Sand lance and surf smelt use upper intertidal (+8 to +10 ft MLLW) sandy beaches for reproduction. Herring use lower intertidal and shallow subtidal eelgrass and algae as spawning substrate. Alteration of beaches having these characteristics may reduce or eliminate spawning substrate for these forage fish.

Juvenile and adult forage fish are commonly present throughout shoreline and offshore waters of Puget Sound. Their pelagic life style causes them to be only periodically present at any given location. Schools of forage fish are commonly observed in the water along Commencement Bay shorelines. The site's existing shoreline does not provide reproductive habitat for forage fish and is not likely to provide reproductive habitat following construction.

### **Aquatic Vegetation**

Aquatic vegetation occurs along intertidal and shallow intertidal areas of Puget Sound shorelines on a variety of substrates. Eelgrass generally grows at lower intertidal and shallow subtidal elevations in silty sand to gravel substrates. Hard substrate algae (macrophytes) grow on rock, wood, metal and concrete substrates at middle intertidal to shallow subtidal elevations under a variety of salinity and energy conditions. No eelgrass grows along the site's shoreline or in the immediate vicinity of the site. Small amounts of hard substrate algae are present along the lower intertidal and shallow subtidal portions of the site. These algae will again occur on the site following shoreline reconstruction.

## ANALYSIS OF EFFECTS

### DIRECT EFFECTS

The proposed habitat construction at the Site on Commencement Bay is not likely to adversely effect listed or candidate species. The action is being undertaken specifically to benefit young chinook. The action will produce more habitat of a higher quality than currently exists at the site and within the action area. Although young chinook may be present along the shoreline in the spring, the avoidance of construction during their migration period will avoid the potential of adverse effects. Construction will occur during the summer, fall and winter when young salmon are not likely to be present. The majority of the construction activity will take place within the uplands, separate from the shoreline.

Excavation and re-grading of the intertidal habitat within the salt marsh area and the shoreline reconstruction will be conducted during the late summer and autumn. This reconstruction will allow sufficient time for repopulation of the new habitat by epibenthic invertebrates that provide a potential prey source for young salmon prior to the following spring migration period. Turbidity that may result from shoreline reconstruction will be confined by silt curtains that will prevent its spread away from the shoreline.

Repopulation of the shoreline by epibenthic and benthic invertebrates, and algae is likely to be rapid. Monitoring of pilot cap plots at the Asarco site demonstrated that the number of infaunal species and individual abundance 12 months following construction was greater than 90% of reference areas (Parametrix 2000a). The reconstructed shoreline and new habitat will provide greater biological production of potential food sources for Commencement Bay biota than existing site. Following construction, the new habitat will provide high quality feeding and refuge habitat for young chinook, with considerably greater food production than currently exists.

Resident forms of bull trout spend their entire lives in tributary reaches of rivers, and are not potentially affected by the Tahoma Salt Marsh action. Neither adult nor juvenile bull trout are

likely to be found at the site using the intertidal shorelines, although they may pass through this vicinity. Based on their life history characteristics, together with the location of the project, we conclude that construction of the sediment action will pose no jeopardy to bull trout in Commencement Bay and will not affect their habitat in the Puyallup River basin. In a recent review of available data for a 20-year period there were only four char (potentially bull trout) identified in the total catch (Grette 2000).

Bull trout spawning and embryo incubation are life stages that occur in tributaries or headwater reaches of freshwater streams, and initial juvenile rearing occurs in close proximity to spawning beds (Rieman and McIntyre 1993). Therefore, we conclude that construction of the habitat outside the Puyallup River basin will pose no jeopardy to the spawning, embryonic, and rearing stages of anadromous forms of bull trout that inhabit the Puyallup River basin. The record of only four bull trout being observed by juvenile salmonid investigations within Commencement Bay (Grette 2000) indicates they are rare visitors to Commencement Bay shorelines. Bull trout were observed only along the eastern shoreline of Commencement Bay. Smolts and adults of anadromous bull trout could pass the site during their respective out migrations and upstream migrations. However, shoreline reconstruction will occur at times when the bull trout are unlikely to be present.

Shoreline reconstruction will occur only outside the juvenile salmonid migration window. Construction will begin after July 15 and end prior to February 15, encompassing a period when smolts are not expected to be migrating past the Site. The absence of eelgrass habitat that would potentially attract juvenile bull trout to the Site, together with the construction window, provides adequate protection of anadromous bull trout and their habitats from indirect effects that might occur during project construction. No habitat known or likely to be used by bull trout will be altered by the sediment remediation actions. Therefore, we conclude that the proposed sediment actions will pose no jeopardy to smolts or migratory adults of anadromous bull trout that may pass through Commencement Bay. We conclude that the project will pose no jeopardy to bull trout. Because bull trout rarely use the nearshore habitat within the Action Area the action is "Not likely to adversely affect" their survival.

Coho, steelhead, and sea-run cutthroat trout are not likely to be adversely affected by the shoreline reconstruction. These species are relatively large when present in areas such as Commencement Bay and do not migrate near the subtidal sediments. If present in the area, they are likely to be offshore in the water well above the sediment. They are also not likely to be present in this area during the construction period.

Breeding bald eagles will most likely avoid the immediate vicinity of the construction activity. The project is too far from any of the local nest/roost sites to disturb nesting eagles or potentially nesting falcons. Also, the project will have no negative long-term effect on eagle or falcon food supply. Humpback whales and Steller sea lions are too rare in the Commencement Bay to be expected to occur in the project vicinity during the shoreline construction. The project is not expected to have any effect on local quantities of food supplies for these species.

#### **INDIRECT EFFECTS**

The indirect effects of habitat restoration will be to improve the amount and quality of shoreline habitat producing detritus, benthic infauna and epifauna supporting the estuarine food web of Commencement Bay.

#### **CUMULATIVE EFFECTS**

The cumulative effects of habitat restoration will be to provide more and higher quality habitat supporting listed species within Commencement Bay. The Tahoma Salt Marsh is one of several related actions being undertaken by the City of Tacoma to restore critical habitat to various locations within Commencement Bay.

No additional federal or non-federal actions are anticipated as a result of the Tahoma Salt Marsh action.

## MANAGEMENT ACTIONS RELATED TO SPECIES

The proposed action is primarily a management action being undertaken to support survival and recovery of listed species. Construction of the Tahoma salt marsh habitat is designed to provide refuge and feeding habitat for juvenile Puget Sound chinook and other salmonids as they migrate along the corridor provided by Commencement Bay's shoreline. The only purpose of this management action is to provide habitat supporting listed and other species.

## CONCLUSIONS

We have determined that the habitat restoration is likely to affect, but is “not likely to adversely affect” chinook salmon, bull trout, bald eagles, and peregrine falcons and will have “no effect” on humpback whales, and Steller sea lions. Chinook critical habitat in this area includes intertidal beaches along the Commencement Bay shorelines. This action will increase the quantity and quality of intertidal shoreline habitat critical to young chinook salmon. Although coho salmon, cutthroat trout, and steelhead are not listed, the project will have no effect on, and may benefit these species. The action will not adversely affect forage fish. The action may have a slight positive benefit to resident marine species, and a slight benefit to most wildlife using Commencement Bay. The determinations for each listed species are summarized below in Table 2.

**Table 2. Listed species and determination of effects for each species and its critical habitat.**

LISTED SPECIES	EFFECT ON SPECIES	EFFECT ON CRITICAL HABITAT
chinook salmon ( <i>Oncorhynchus tshawytscha</i> ) Threatened	not likely to adversely affect	will produce new critical habitat
bull trout ( <i>Salvelinus confluentus</i> ) Threatened	not likely to adversely affect	none designated or proposed
coho salmon ( <i>Oncorhynchus kisutch</i> ) candidate	not likely to adversely affect	none designated or proposed
bald eagle ( <i>Haliaeetus leucocephalus</i> ) Threatened	not likely to adversely affect	none designated or proposed
humpback whale ( <i>Megaptera novaeangliae</i> ) Threatened	no effect	none designated or proposed
Steller sea lion ( <i>Eumetopias jubatus</i> ) Threatened	no effect	none designated or proposed

The habitat reconstruction generally deals with uplands that do not provide habitat for listed species. These action focus on restoration of habitat to improve both the quantity and quality of desirable habitat.

## ANALYSIS OF EFFECTS

Table 3 presents a summary of the project impact on the baseline conditions for the pathways and indicators. Most indicators will either improve or remain in their current condition with the

proposed habitat restoration. Turbidity will be temporarily increased in small localized portions of the shoreline, with no long-term changes. Depth will be altered by excavation of uplands to produce new estuarine habitat. Intertidal slopes, tideland condition, and refugia will be improved. Physical barriers, current patterns, and salt/fresh water mixing patterns and locations will be maintained. Epibenthic and benthic prey availability will be improved. The amount of area supporting marsh and aquatic vegetation will be increased. The availability of forage fish as prey to listed salmonids or other species will not be altered by the action.

**Table 3. Project Effects for changes to the Tahoma Salt Marsh site, Commencement Bay.**

Pathways Indicators	Environmental Baseline		
	Restore	Maintain	Degrade
<b>Water Quality</b>			
Turbidity		X	
Dissolved Oxygen		X	
Water Contamination/Nutrients	X		
Sediment Contamination	X		
<b>Physical Habitat Elements</b>			
Substrate	X		
Depth/Slope	X		
Tideland Condition/Filling of Tidelands	X		
Marsh Prevalence/Complexity	X		
Refugia	X		
Physical barriers (bridges, seawalls, diers)		X	
Current Patterns		X	
Salt/Fresh Water Mixing Patterns		X	
<b>Biological Habitat Elements</b>			
Benthic Prey Availability	X		
Forage Fish Prey Availability		X	
Aquatic Vegetation	X		

### ESSENTIAL FISH HABITAT

A number of commercially managed species covered by the Magnuson-Stevens Act could be affected by the proposed action. The Magnuson-Stevens Act requires the evaluation of potential impacts to habitat of commercially managed fish populations for proposed actions having a federal nexus (NMFSb). Under the Act essential fish habitat (EFH) is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (NMFS 2000a). This definition includes:

- “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish where appropriate;
- “Substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities;
- “Necessary” means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem; and
- “Spawning, breeding, feeding, or growth to maturity” covers the full life cycle of a species.

Three groups of coastal pelagic species (CPS) fishery, West Coast groundfish, and Pacific coast salmon are considered for the Action Area.

### **Coastal Pelagic Species Fishery**

The CPS fishery includes four finfish [Pacific sardine (*Sardinops sagax*), Pacific (chub) mackerel (*Scomber japonicus*), northern anchovy (*Engraulis mordax*), and jack mackerel (*Trachurus symmetricus*)] and the invertebrate, market squid (*Loligo opalescens*) (NMFS 2000a). CPS finfish are pelagic (in the water column near the surface and thus not associated with particular substrate), because they generally occur above the thermocline in the upper mixed layer. In defining essential fish habitat (EFH), NMFS treats the four CPS finfish as a single species complex, because of similarities in their life histories and similarities in their habitat requirements (NMFS 2000). Market squid are included in this complex because they are similarly fished at spawning aggregations.

NMFS (2000) defines the east-west geographic boundary of EFH for each individual CPS finfish and market squid as all marine and estuarine waters from the shoreline along the coasts of California, Oregon, and Washington offshore to the limits of the exclusive economic zone and above the thermocline where sea surface temperatures range between 10°C to 26°C. The southern extent of EFH for CPS finfish is the United States-Mexico maritime boundary. The northern boundary of the range of CPS finfish is more dynamic and variable due to the seasonal

cooling of the sea surface temperature. The northern EFH boundary is, therefore, the position of the 10°C isotherm, which varies both seasonally and annually.

Three of the four vertebrates (Northern anchovy, Pacific sardine, and Pacific (chub) mackerel) are present primarily in the coastal areas of Washington State, but have been observed in Puget Sound, thus potentially have some EFH in the action area (DeLacey et al. 1972) (Table 2). Jack mackerel have not been reported in the Puget Sound, and therefore do not have any EFH in the action area (DeLacey et al. 1972) (Table 2). Potential EFH for these species in the Action area (Northern anchovy, Pacific sardine, and Pacific (chub) mackerel, and market squid) will include water and substrate necessary to the life cycle of these species.

**Table 4. Summary of distribution and essential fish habitat for Pacific CPS in the coastal waters of Washington State and in the Action Area (adapted from NMFS 1998).**

Common		Present in Coastal Waters of Washington State	Present in Action Area <sup>1</sup>
Name	Life Stage		
Northern anchovy	Eggs/Larvae/Juveniles	Yes	Unlikely
	Adults	Yes	Possibly
Pacific sardine	Eggs/Larvae/Juveniles	Yes (restricted to seasonally warm temperatures)	Unlikely
	Adults	Yes (restricted to seasonally warm temperatures)	Possibly
Pacific (chub) mackerel	Eggs/Larvae/Juveniles	Yes (restricted to seasonally warm temperatures)	Unlikely
	Adults	Yes (restricted to seasonally warm temperatures)	Possibly
Jack mackerel	Eggs/Larvae/Juveniles	No	No
	Adults	Yes	No
Market squid	Eggs/Larvae/Juveniles	Yes	Yes
	Adults	Yes	Yes

<sup>1</sup> As determined from DeLacey et al. 1972

## **West Coast Groundfish**

The West Coast groundfish include a diverse set of species. West Coast groundfish that could have EFH in the Action area were identified by comparing NMFS' review of West Coast groundfish (Casillas et al. 1998) with the distribution of these fish as presented in Hart (1973) and DeLacey et al. (1972) (Table 3).

These species may have essential fish habitat at least in the general vicinity of the Action Area (Commencement Bay shorelines and mouth of Puyallup River) that include water and substrate supporting the life cycle of these species.

**Table 5. West Coast groundfish present in Puget Sound and potentially present in the Action Area (taken from Casillas et al. 1998 and Hart 1973).**

spiny dogfish	black rockfish	redbanded rockfish	Dover sole
big skate	blue rockfish	redstripe rockfish	English sole
California skate	bocaccio	rosy rockfish	flathead sole
longnose skate	brown rockfish	sharpchin rockfish	Pacific sanddab
ratfish	canary rockfish	splitnose rockfish	petrale sole
lingcod	china rockfish	stripetail rockfish	rex sole
cabezon	copper rockfish	tiger rockfish	rock sole
kelp greenling	dark blotched rockfish	yelloweye rockfish	sand sole
Pacific cod	Pacific ocean perch	yellowtail rockfish	starry flounder
Pacific whiting (hake)	greenstriped rockfish	arrowtooth flounder	
sablefish	quillback rockfish	butter sole	

### **Pacific Coast Salmon**

NMFS has recently proposed EFH for Pacific Coast salmonids, including chinook, within Amendment 14 to the Pacific Coast Salmon Plan (NMFS 2000c). The important elements of chinook salmon marine EFH are estuarine rearing, early ocean rearing, and juvenile and adult migration. Important features of estuarine and marine habitat are 1) adequate water quality; 2) adequate temperature; 3) adequate prey species and forage food; and 4) adequate depth, cover, marine vegetation, and algae in estuarine and near-shore habitats. While limited information exists on chinook salmon habitat use in marine waters, it is clear that those habitats utilized during early-ocean entry are the very important. The geographic extent of essential marine habitat for chinook salmon includes all waters from mean high water to 60 km (35 miles) offshore north of Point Conception, California ( NMFS 2000c).

Estuarine habitat used by juvenile chinook is expected to include beaches, bays, and inland passages during spring, summer and fall, over all bottom types, with preferred forage of

copepods, euphausiids, and amphipods. Dissolved oxygen is lethal at  $< 2.0$  mg/L, and is optimum at saturation. Temperature may range from 0 to 26° C, but 12-14° C is optimum (NMFS 2000c).

Among numerous types of non-fishing activities that may affect EFH, those applicable to the project area include those that would alter:

- sediment delivery location and quantity in streams and estuaries;
- water flow, quantity, timing, temperature, or chemistry;
- the amount or types of nutrients or prey;
- estuarine habitat (including water quality, eelgrass beds, tide flats, channels, marshes); or
- discharge pollutants, nutrients, or contaminants.

Section III.D.5 of Amendment 14 addresses Construction, and Section III.D.8 addresses Estuarine Alteration. In light of these guidelines, nature of the altered habitat affected and the new habitat produced by the Tahoma Salt Marsh action, no significant adverse impact to EFH for chinook salmon is anticipated.

### **Bull Trout**

Essential Fish Habitat has not been defined or established for bull trout. No habitat likely to be used by bull trout will be affected by the action.

## **DETERMINATION OF EFFECTS ON ESSENTIAL FISH HABITAT**

Pursuant to section 305(b)(2) of the Magnuson-Stevens Act the following is an evaluation of the effects of habitat construction and shoreline protection on EFH. Under the act, federal agencies are required to consult with NMFS regarding any of their actions authorized, funded, or undertaken that may "adversely affect" EFH. "Adverse effect" is any impact which reduces the quality and/or quantity of EFH, which can include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Cumulative impacts are incremental impacts, occurring within a watershed or marine ecosystem that may result from individually minor but collectively significant actions. The assessment of cumulative impacts is intended to examine actions occurring within the watershed or marine ecosystem that have adverse affects to the general ecological structure or function of EFH. The assessment should specifically consider the habitat variables that control or limit a managed species' use of a habitat. It should also consider the effects of all impacts that affect either the quantity or quality of EFH.

For any Federal action that may adversely affect EFH (except those activities covered by a General Concurrence) Federal agencies must provide NMFS with a written assessment of the effects of that action on EFH. Federal agencies may incorporate an EFH Assessment into documents prepared for other purposes such as Section 7 Biological Assessments.

An EFH assessment contains:

- A description of the proposed action;
- An analysis of the effects, including cumulative effects, of the proposed action on EFH, the managed species, and associated species, such as major prey species, including affected life history stages;
- The Federal agency's views regarding the effects of the action on EFH; and
- Proposed mitigation, if applicable.

The earlier chapters of this biological assessment present a detailed description of the proposed action and the relevant environmental impacts associated with the MPU projects. The following sections present the analysis of effects and a determination of these effects on EFH identified under the Magnuson-Stevens Act.

### **Direct Effects**

Essential fish habitat for the CPS fishery and West Coast groundfish is known to be present at the site for several included species. Market squid, copper rockfish, kelp greenling, sand sole, and English sole along with other species are likely to be present adjacent to the site.

The proposed action is being implemented to improve habitat conditions for all species using the shallow water habitat of Commencement Bay. The action will improve EFH within the Action Area by providing additional natural habitat including tideflat and marsh habitat within a protected embayment. There will be a short-term impact to a very small portion of the existing shoreline where the entrance channel will be constructed. The action will not adversely impact use of EFH by these commercially managed fish. Construction and operation of the project is likely to benefit and is not likely to directly have an adverse affect on EFH in the Action Area.

### **Cumulative and Indirect Effects**

The Tahoma Salt Marsh action will have beneficial indirect impacts to ESA listed species. These will include:

- Increased invertebrate prey production of the EFH within the site.
- Increased protected habitat that will provide refuge and feeding habitat for young salmonids and marine fishes.
- Marsh habitat to support detrital production along the shoreline.

Cumulative effects associated with the project are likely to beneficially affect EFH. Any cumulative or indirect impacts associated with other projects planned in the action area will comply with existing or emerging development standards required to protect habitat for fish species. These standards will protect sediment quality, water quality, and prey resources.

**Determination**

Based on consideration of the essential fish habitat requirements of coastal pelagic species and West Coast groundfish, the potential direct, indirect, and cumulative effects of the construction and operation of the Tahoma Salt Marsh project is "not likely to adversely affect" any identified EFH within the action area.

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## APPENDIX A

### LEGAL SITE DESCRIPTION

The Tahoma Salt Marsh Site consists of the parcels itemized under the following legal descriptions.

#### TAHOMA SALT MARSH

Tide Land Appraisers for Pierce County, according to plat filed September 14, 1895, and a portion of Government Lot 1 in the southwest quarter of Section 29, Township 21 North, Range 3 East, W.M., Pierce County, Washington more particularly described as follows:

Commencing at the northwest corner of said Block 72 thence South  $66^{\circ}37'57''$  East, 306.62 feet along the Inner Harbor Line to the northeasterly corner of that property conveyed to the City of Tacoma under fee number 2706733; thence continuing South  $66^{\circ}37'57''$  East, 77.98 feet; Thence continuing along the Inner Harbor Line South  $60^{\circ}26'53''$  East, 356.70 feet; Thence continuing along the Inner Harbor Line South  $53^{\circ}41'58''$  East, 337.05 feet to the point of beginning; thence continuing along the Inner Harbor Line South  $53^{\circ}41'58''$  East, 254.06 feet; thence continuing along the Inner Harbor Line South  $66^{\circ}15'42''$  East, 100.07 feet to the easterly line of said Block 72; thence along said easterly line South  $22^{\circ}57'47''$  West, 208.86 feet to a non-tangent curve which radius point bears North  $2^{\circ}59'00''$  East, 5666.65 feet; thence westerly along said curve 345.22 feet; thence North  $22^{\circ}30'00''$  East, 264.22 feet to the point of beginning.

