



WASHINGTON STATE

Joint Aquatic Resources Permit Application (JARPA) Form^{1,2} [\[help\]](#)

USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.



US Army Corps of Engineers®
Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

Part 1—Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [\[help\]](#)

Shelton Harbor Interim Action Cleanup Project

Part 2—Applicant

The person and/or organization responsible for the project. [\[help\]](#)

2a. Name (Last, First, Middle)

McEntee, Dave

2b. Organization (If applicable)

Simpson Timber Company

2c. Mailing Address (Street or PO Box)

535 E. Dock Street, Suite 205

2d. City, State, Zip

Tacoma, Washington 98402

2e. Phone (1)

(360) 495-2088

2f. Phone (2)

2g. Fax

2h. E-mail

Dave.mcentee@simpson.com

¹Additional forms may be required for the following permits:

- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- If your project might affect species listed under the Endangered Species Act, you will need to fill out a Specific Project Information Form (SPIF) or prepare a Biological Evaluation. Forms can be found at <http://www.nws.usace.army.mil/Missions/CivilWorks/Regulatory/PermitGuidebook/EndangeredSpecies.aspx>.
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

²To access an online JARPA form with [\[help\]](#) screens, go to

http://www.epermitting.wa.gov/site/alias_resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx.

For other help, contact the Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.

Part 3—Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b of this application.) [\[help\]](#)

3a. Name (Last, First, Middle)			
Toney, Alicia			
3b. Organization (If applicable)			
Anchor QEA, LLC			
3c. Mailing Address (Street or PO Box)			
1605 Cornwall Avenue			
3d. City, State, Zip			
Bellingham, Washington 98225			
3e. Phone (1)	3f. Phone (2)	3g. Fax	3h. E-mail
(360) 715-2717	(206) 854-3314		atoney@anchorqea.com

Part 4—Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [\[help\]](#)

- Same as applicant. (Skip to Part 5.)
- Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)
- There are multiple upland property owners. Complete the section below and fill out [JARPA Attachment A](#) for each additional property owner.
- Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete [JARPA Attachment E](#) to apply for the Aquatic Use Authorization.

4a. Name (Last, First, Middle)			
Manke, Joel			
4b. Organization (If applicable)			
Manke Timber Company			
4c. Mailing Address (Street or PO Box)			
826 Fairmount Ave			
4d. City, State, Zip			
Shelton, Washington 98584			
4e. Phone (1)	4f. Phone (2)	4g. Fax	4h. E-mail

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [\[help\]](#)

- There are multiple project locations (e.g. linear projects). Complete the section below and use [JARPA Attachment B](#) for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]			
<input checked="" type="checkbox"/> Private <input type="checkbox"/> Federal <input type="checkbox"/> Publicly owned (state, county, city, special districts like schools, ports, etc.) <input type="checkbox"/> Tribal <input type="checkbox"/> Department of Natural Resources (DNR) – managed aquatic lands (Complete JARPA Attachment E)			
5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]			
100 North Front Street			
5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]			
Shelton, Washington 98584			
5d. County [help]			
Mason			
5e. Provide the section, township, and range for the project location. [help]			
¼ Section	Section	Township	Range
	20	20 North	3 West
5f. Provide the latitude and longitude of the project location. [help]			
<ul style="list-style-type: none"> Example: 47.03922 N lat. / -122.89142 W long. (Use decimal degrees - NAD 83) 			
47.2134 N lat / -123.0081 W long			
5g. List the tax parcel number(s) for the project location. [help]			
<ul style="list-style-type: none"> The local county assessor's office can provide this information. 			
320194100700, 320208888888, 320201200020, 320175102006, 320203200070			
5h. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]			
Name	Mailing Address	Tax Parcel # (if known)	
Puget Sound and Pacific Railroad	3220 State Street, Suite 200 Salem, Oregon 97301	320204100100, 320202160020	

5i. List all wetlands on or adjacent to the project location. [help]
Not applicable
5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [help]
Goldsborough and Shelton Creeks provide watershed inputs to Shelton Harbor, where the project is proposed. Shelton Harbor drains into Oakland Bay and Hammersley Inlet, which are adjacent to the project location.
5k. Is any part of the project area within a 100-year floodplain? [help]
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
5l. Briefly describe the vegetation and habitat conditions on the property. [help]
Terrestrial habitat in the upland portion of the project area is limited because the project is located along working industrial sites. The shorelines are highly modified, and vegetation is limited to within several feet of the shoreline due to parking, paved areas, and existing boat launch structures. Existing limited riparian vegetation is characterized by shrubs, deciduous trees, and invasive species (e.g. Himalayan blackberry). There is no aquatic vegetation documented within the project area (Anchor QEA 2018a).
5m. Describe how the property is currently used. [help]
The property is currently used as a working lumber yard with upland- and aquatic-based industrial activities.
5n. Describe how the adjacent properties are currently used. [help]
Adjacent property uses consist of a Yacht Club, railroad, and residential and commercial buildings associated with the City of Shelton.
5o. Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [help]
Existing structures on site consist of bulkheads, a log wall, boat launch, artificial railroad spit, creosote pilings, two creosote-treated wood structures, and facilities.
5p. Provide driving directions from the closest highway to the project location, and attach a map. [help]
From Olympia, take US-101 North, merge onto WA-3 N towards Shelton, turn right onto East Kneeland Street, and then right onto South Front Street. The majority of the project will occur in the water adjacent to the Simpson Timber Company (Simpson) lumber yard. See JARPA Sheets 1 and 2 (Attachment 1) for the general location of the project. Note: Because of the project's location in and adjacent to an industrial yard, please notify Dave McEntee (the contact for Simpson) at (360) 495-2088 before accessing the project location.

Part 6–Project Description

6a. Briefly summarize the overall project. You can provide more detail in 6b. [\[help\]](#)

As part of the Puget Sound Initiative for restoration and recovery of Puget Sound, the Washington State Department of Ecology (Ecology) identified the Oakland Bay and Shelton Harbor Sediments Cleanup Site as one of seven high-priority areas in Puget Sound for cleanup and restoration because of its important habitat and valuable natural resources. In 2017 Ecology delineated the Shelton Harbor Sediment Cleanup Unit (SCU) within the site (Attachment 1, Sheet 1), which is the subject of Agreed Order DE 14091 (Agreed Order) between Ecology and Simpson. The Shelton Harbor Interim Action Cleanup Project (Cleanup Project) will partially remediate the SCU under the Washington State Model Toxics Control Act (MTCA) regulation (Washington Administrative Code [WAC] 173-340-430). Remediation of contaminated sediments in Shelton Harbor as part of the Cleanup Project will be consistent with current MTCA and Sediment Management Standards (Chapters 173-340 and 173-204 WAC) regulatory requirements.

The Cleanup Project will include the following activities:

- Removal of approximately 260 creosote-treated pilings
- Capping of approximately 8.5 acres of intertidal and shallow subtidal area using clean sands, gravels, and cobbles from local upland quarries

Three Sediment Management Areas (SMAs) have been delineated for the Cleanup Project (Attachment 1, Sheet 2) with specific cleanup actions developed for each one (see Attachment 1 for Sheets):

- **SMA-1:** Approximately 4.4 acres in the Shelton Creek delta; see Attachment 1, Sheet 3
- **SMA-2:** Approximately 0.6 acre in the former marine railway; see Attachment 1, Sheet 4
- **SMA-3:** Approximately 3.5 acres in the southwestern harbor; see Attachment 1, Sheet 5

The extent of all three SMAs will be refined in spring 2018 by sampling surface sediments in these areas to inform final remedial design details. Material specifications will also be refined during design in coordination with permitting agency and stakeholder reviews to optimize habitat functions, but the material is expected to consist of a mixture of clean sand, gravel, and cobble up to approximately 8 inches in diameter, placed to a thickness of 18 to 36 inches, depending on the location. Up to three upland staging and transload facility locations may also be utilized during in-water construction, as depicted on Attachment 1, Sheet 2.

Concurrent with the Cleanup Project, the Squaxin Island Tribe, South Puget Sound Salmon Enhancement Group, Simpson, Port of Shelton, and other project partners are separately designing and permitting a complementary habitat Restoration Project (also referred to as the West Oakland Bay Restoration and Conservation project; approximately 45.9 acres) within the northern portion of Shelton Harbor. The Restoration Project is funded in part with federal grant funds awarded through the U.S. Fish and Wildlife Service's National Coastal Wetlands Conservation Grant Program. The Restoration Project overlaps with a portion of the Cleanup Project area as shown on Attachment 1, Sheet 2.

Sediment cleanup actions in northern Shelton Harbor (i.e., within SMAs 1 and 2) described in this JARPA will be designed to be compatible with the Restoration Project. Cleanup Project construction is also anticipated to be coordinated with the Restoration Project construction to the extent practicable. However, cleanup actions are not dependent on the Restoration Project and could be constructed during a separate timeframe pending permit issuance.

6b. Describe the purpose of the project and why you want or need to perform it. [\[help\]](#)

Simpson, along with other Potentially Liable Parties as appropriate, will implement the Cleanup Project in accordance with the Shelton Harbor Interim Action Plan, to satisfy a portion of the requirements of the Agreed Order. The Cleanup Project focuses on controlling exposure to hazardous substances by isolating contaminants with an engineered cap to protect human health and the environment. The outcome of the Cleanup Project will be a net positive effect on human health and the environment because chemical

concentrations of the surface sediment within the biologically active zone will be improved, thereby improving benthic habitat conditions in Shelton Harbor over current conditions. In addition, pilings will be removed from the project area which will also result in improved habitat conditions within Shelton Harbor.

6c. Indicate the project category. (Check all that apply) [\[help\]](#)

- Commercial Residential Institutional Transportation Recreational
 Maintenance Environmental Enhancement

6d. Indicate the major elements of your project. (Check all that apply) [\[help\]](#)

<input type="checkbox"/> Aquaculture	<input type="checkbox"/> Culvert	<input type="checkbox"/> Float	<input type="checkbox"/> Retaining Wall (upland)
<input type="checkbox"/> Bank Stabilization	<input type="checkbox"/> Dam / Weir	<input type="checkbox"/> Floating Home	<input type="checkbox"/> Road
<input type="checkbox"/> Boat House	<input type="checkbox"/> Dike / Levee / Jetty	<input type="checkbox"/> Geotechnical Survey	<input type="checkbox"/> Scientific Measurement Device
<input type="checkbox"/> Boat Launch	<input type="checkbox"/> Ditch	<input type="checkbox"/> Land Clearing	<input type="checkbox"/> Stairs
<input type="checkbox"/> Boat Lift	<input type="checkbox"/> Dock / Pier	<input type="checkbox"/> Marina / Moorage	<input type="checkbox"/> Stormwater facility
<input type="checkbox"/> Bridge	<input type="checkbox"/> Dredging	<input type="checkbox"/> Mining	<input type="checkbox"/> Swimming Pool
<input type="checkbox"/> Bulkhead	<input type="checkbox"/> Fence	<input type="checkbox"/> Outfall Structure	<input type="checkbox"/> Utility Line
<input type="checkbox"/> Buoy	<input type="checkbox"/> Ferry Terminal	<input checked="" type="checkbox"/> Piling/Dolphin	
<input type="checkbox"/> Channel Modification	<input type="checkbox"/> Fishway	<input type="checkbox"/> Raft	

Other: MTCA cleanup action (placement of an engineered cap)

6e. Describe how you plan to construct each project element checked in 6d. Include specific construction methods and equipment to be used. [\[help\]](#)

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year floodplain.

All proposed work will occur within Shelton Harbor, with the exception of the upland staging and transload areas, which are located within the 100-year floodplain.

Pile Removal

Approximately 260 creosote-treated piles will be removed in the areas of SMA-1 and SMA-2 to facilitate cap construction (Attachment 1, Sheet 2)—either as part of the Cleanup Project or as part of the separately permitted Restoration Project depending on timing. Pile removal will be performed using barge-mounted equipment for vibratory extraction to the extent practicable. If conditions do not allow for use of one of these two methods, Simpson or the selected contractor will consult with Ecology prior to employing other pile removal methods. Piles will be disposed of at an approved off-site upland disposal facility.

Capping

Approximately 23,000 cubic yards of capping material will be placed in SMAs 1 through 3. Using materials supplied from local upland quarries, cap material is expected to be placed either using barge-mounted mechanical placement equipment (i.e., mechanical clamshell or skip box), or with land-based equipment (i.e., amphibious excavators, dozers, or conveyor equipment).

Staging/Transload Areas

Three potential staging and transload sites areas have been identified in upland areas adjacent to the SMAs, as shown in Attachment 1, Sheet 2. Up to 20,000 cubic yards of clean sand and gravel could be temporarily stockpiled at the potential staging and transload sites. No grading is needed for upland staging areas, and only relatively minor grading (less than 1,000 cubic yards) is needed to facilitate safe access to adjacent

tideflats. Removed pilings may also be temporarily stockpiled in upland staging areas prior to disposal. If pilings will be staged in the upland area, the pilings will be contained to prevent contaminated material from entering Shelton Harbor. Stockpiling will occur in areas developed for industrial uses and no vegetation or habitat will be affected.

6f. What are the anticipated start and end dates for project construction? (Month/Year) [\[help\]](#)

- If the project will be constructed in phases or stages, use [JARPA Attachment D](#) to list the start and end dates of each phase or stage.

Start Date: Summer/Fall 2018

End Date: Fall/Winter 2018

See JARPA Attachment D

The Cleanup Project is expected to take up to 4 months of in-water work (1 month for piling removal and 3 months for capping). In-water construction will be timed to occur within approved work windows to prevent impacts to salmonids. Due to fisheries' protective restrictions, no in-water construction work can be performed in Shelton Harbor during February 16 through July 14 of any year unless otherwise modified by applicable regulatory agencies.

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [\[help\]](#)

Approximately \$1.9 million

6h. Will any portion of the project receive federal funding? [\[help\]](#)

- If **yes**, list each agency providing funds.

Yes No Don't know

Part 7–Wetlands: Impacts and Mitigation

- Check here if there are wetlands or wetland buffers on or adjacent to the project area.
(If there are none, skip to Part 8.) [\[help\]](#)

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [\[help\]](#)

Not applicable

7b. Will the project impact wetlands? [\[help\]](#)

Yes No Don't know

7c. Will the project impact wetland buffers? [\[help\]](#)

Yes No Don't know

7d. Has a wetland delineation report been prepared? [\[help\]](#)

- If **Yes**, submit the report, including data sheets, with the JARPA package.

Yes No

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [\[help\]](#)

- If **Yes**, submit the wetland rating forms and figures with the JARPA package.

Yes No Don't know

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [\[help\]](#)

- If **Yes**, submit the plan with the JARPA package and answer 7g.
- If **No, or Not applicable**, explain below why a mitigation plan should not be required.

Yes No Don't know

Not applicable.

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [\[help\]](#)

Not applicable.

7h. Use the table below to list the type and rating of each wetland impacted, the extent and duration of the impact, and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [\[help\]](#)

Activity (fill, drain, excavate, flood, etc.)	Wetland Name ¹	Wetland type and rating category ²	Impact area (sq. ft. or Acres)	Duration of impact ³	Proposed mitigation type ⁴	Wetland mitigation area (sq. ft. or acres)

¹ If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.
² Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.
³ Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.
⁴ Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)

Page number(s) for similar information in the mitigation plan, if available: _____

7i. For all filling activities identified in 7h, describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [\[help\]](#)

7j. For all excavating activities identified in 7h, describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [\[help\]](#)

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, "waterbodies" refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [\[help\]](#)

Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [\[help\]](#)

Not applicable

Contractor staging will occur on barges and in existing developed upland areas. Avoidance and minimization measures have been incorporated into the project design in order to minimize environmental effects and minimize the exposure of sensitive species to potential effects from sediment capping and piling removal. The following best management practices will be employed during construction:

- Work shall occur during the regulatory agency-approved in-water work windows, which may include a work window extension.
- All permit conditions issued by the regulatory agencies, as well as the substantive requirements of state and local laws that shall be integrated into the Ecology-approved final design of the Cleanup Project, shall be complied with for the sediment cleanup action.

- Turbidity and other water quality parameters shall be monitored to ensure construction activities are in compliance with Washington State Surface Water Quality Standards (173-201A WAC) and in accordance with the Ecology-issued Water Quality Certification and National Pollutant Discharge Elimination System construction stormwater general permit, if required.
- The contractor shall develop a Temporary Erosion and Sedimentation Control (TESC) plan in coordination with Ecology and other applicable agency requirements. The TESC plan shall be implemented before, during, and after construction activities so that any potential erosion from stockpiling activities shall be avoided or minimized to the maximum extent practicable.
- The contractor shall be responsible for the preparation of a Spill Prevention, Control, and Countermeasure Plan to be used for the duration of the Project to safeguard against an unintentional release of fuel, lubricants, or hydraulic fluid from construction equipment.
- Excess or waste materials shall not be disposed of or abandoned waterward of mean higher high water or allowed to enter waters of the State.
- Imported fill material shall be clean and obtained from approved sources. Material shall be characterized and tested in accordance with Ecology protocols to determine whether it is suitable for its intended use.
- The removal of creosote-treated piles and wood structures will be consistent with U.S. Environmental Protection Agency "Best Management Practices for Pile Removal and Disposal" (March 1, 2007). Piles and the creosote-treated wood structures will be disposed of at an approved off-site upland disposal facility.

8b. Will your project impact a waterbody or the area around a waterbody? [\[help\]](#)

Yes No

8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [\[help\]](#)

- **If Yes**, submit the plan with the JARPA package and answer 8d.
- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

Yes No Don't know

A mitigation plan has not been developed for this project. As discussed in Section 6b of this JARPA, the intent of the project is to control exposure to hazardous substances by isolating contaminants with engineered capping to protect human health and the environment. In the long-term, benthic habitat conditions will be improved in Shelton Harbor due to addressing the sediment contamination in the biologically active zone.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g you do not need to restate your answer here. [\[help\]](#)

Not applicable.

8e. Summarize impact(s) to each waterbody in the table below. [\[help\]](#)

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name ¹	Impact location ²	Duration of impact ³	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
Fill (sediment cap)	Shelton Harbor	In-water	Approximately 3 months	Approximately 23,000 cubic yards	Approximately 8 acres

¹ If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.

² Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.

³ Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

8f. For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [\[help\]](#)

The Cleanup Project will place up to approximately 23,000 cubic yards of clean sands, gravels, and cobbles in SMA-1 through SMA-3 (Attachment 1, Sheets 2 through 5) in Shelton Harbor. Using materials supplied from local upland quarries, cap material could be placed either using barge mounted mechanical placement equipment (i.e., mechanical clamshell or skip box), or with land-based equipment (i.e., amphibious excavators, dozers, or conveyer equipment).

8g. For all excavating or dredging activities identified in 8e, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [\[help\]](#)

Not applicable.

Part 9—Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [help]			
Agency Name	Contact Name	Phone	Most Recent Date of Contact
Ecology	Joyce Mercuri	(360) 407-6260	February 2018
U.S. Army Corps of Engineers	Jason Sweeney	(206) 764-3450	February 2018
Washington State Department of Fish and Wildlife	Margaret Bigelow	(360) 427-2179	January 2018
U.S. Fish and Wildlife Services	Rich Carlson	Via email	February 2018
9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA on the Washington Department of Ecology's 303(d) List? [help] <ul style="list-style-type: none"> If Yes, list the parameter(s) below. If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: http://www.ecy.wa.gov/programs/wq/303d/. 			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Waters in Shelton Harbor are categorized by Ecology as either Category 2, waters of concern, or Category 4a for Inner Shelton Harbor, with an EPA-approved TMDL in place (Anchor QEA 2018a). Inner Shelton Harbor has been placed on the federal 303(d) list (1996, 1998, and 2004) for not meeting state water quality standards for fecal coliform bacteria (Ecology 2004).			
9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help] <ul style="list-style-type: none"> Go to http://cfpub.epa.gov/surf/locate/index.cfm to help identify the HUC. 			
17110019 Puget Sound			
9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help] <ul style="list-style-type: none"> Go to http://www.ecy.wa.gov/water/wria/index.html to find the WRIA #. 			
WRIA 14			
9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help] <ul style="list-style-type: none"> Go to http://www.ecy.wa.gov/programs/wq/swqs/criteria.html for the standards. 			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable			
9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help] <ul style="list-style-type: none"> If you don't know, contact the local planning department. For more information, go to: http://www.ecy.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html. 			
<input type="checkbox"/> Urban <input type="checkbox"/> Natural <input type="checkbox"/> Aquatic <input type="checkbox"/> Conservancy <input checked="" type="checkbox"/> Other: Aquatic Harbor and Urban Industrial			

9g. What is the Washington Department of Natural Resources Water Type? [\[help\]](#)

- Go to <http://www.dnr.wa.gov/forest-practices-water-typing> for the Forest Practices Water Typing System.

Shoreline Fish Non-Fish Perennial Non-Fish Seasonal

9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [\[help\]](#)

- **If No**, provide the name of the manual your project is designed to meet.

Yes No

Name of manual: 2012 Stormwater Management Manual for Western Washington

9i. Does the project site have known contaminated sediment? [\[help\]](#)

- **If Yes**, please describe below.

Yes No

The following chemicals of concern have been identified within the Cleanup Project area (Anchor QEA 2018b):

- Toxicity from wood debris breakdown products
- Dioxins/furans
- Carcinogenic polycyclic aromatic hydrocarbons
- Copper
- Tributyltin

9j. If you know what the property was used for in the past, describe below. [\[help\]](#)

Industrial development in Shelton Harbor began in the late 1800s with sawmill operations, which continue to this day.

9k. Has a cultural resource (archaeological) survey been performed on the project area? [\[help\]](#)

- **If Yes**, attach it to your JARPA package.

Yes No

A Cultural Resource Memorandum meeting the requirements of Section 106 of the National Historic Preservation Act, and applicable regulations, has been prepared and is included as Attachment 2.

9l. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [\[help\]](#)

Table 1 provides information on federally listed species that may occur in the vicinity of Shelton Harbor. See Attachment 3, Biological Evaluation, for more information.

**Table 1
Shelton Harbor Potential Threatened or Endangered Species**

Species	Status	Agency	Critical Habitat
Puget Sound Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	Threatened (Puget Sound ESU)	NMFS	Designated
Puget Sound steelhead (<i>Oncorhynchus mykiss</i>)	Threatened (Puget Sound DPS)	NMFS	Designated
Bull trout (<i>Salvelinus confluentus</i>)	Threatened (Coastal-Puget Sound ESU)	USFWS	Designated Eastern Shorelines of Puget Sound (Does not include Shelton Harbor and Oakland Bay) Core foraging, migration and overwintering habitat.
Marbled murrelet (<i>Brachyramphus Marmoratus</i>)	Threatened	USFWS	Not designated
Killer whale (<i>Orcinus orca</i>)	Endangered (Southern Resident DPS)	NMFS	Designated
Bocaccio (<i>Sebastes paucispinus</i>)	Endangered (Georgia Basin DPS)	NMFS	None in Project area
Yelloweye rockfish (<i>Sebastes ruberrimus</i>)	Threatened (Georgia Basin DPS)	NMFS	None in Project area

Note:
Source: Anchor QEA 2018a
ESU = Evolutionarily Significant Unit
DPS = Distinct Population Segment

9m. Name each species or habitat on the Washington Department of Fish and Wildlife’s Priority Habitats and Species List that might be affected by the proposed work. [\[help\]](#)

WDFW Priority Habitat and Species maps identifies the following species being present on near the site in addition to ESA-listed species (see Table 1) (WDFW 2018):

- coho salmon (*Oncorhynchus kisutch*)
- cutthroat trout (*O. clarkii*)
- steelhead (*O. mykiss*)
- chum (*O. keta*)
- Chinook salmon (*O. tshawytscha*)
- purple martin (*P. subis*)
- surf smelt (*H. pretiosus*)
- hardshell clam
- oyster beds

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at <http://apps.oria.wa.gov/opas/>.
- Governor’s Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.
- For a list of addresses to send your JARPA to, click on [agency addresses for completed JARPA](#).

10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [\[help\]](#)

- For more information about SEPA, go to www.ecy.wa.gov/programs/sea/sepa/e-review.html.

A copy of the SEPA determination or letter of exemption is included with this application.

A SEPA determination is pending with Ecology (lead agency). The expected decision date is February 2018.

I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [\[help\]](#)

This project is exempt (choose type of exemption below).

Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?

Other:

SEPA is pre-empted by federal law.

10b. Indicate the permits you are applying for. (Check all that apply.) [\[help\]](#)

LOCAL GOVERNMENT

Local Government Shoreline permits:

Substantial Development Conditional Use Variance

Shoreline Exemption Type (explain): Exempted from Shoreline review – MTCA Cleanup Action (RCW 90.58.355[1]); however, substantive requirements will be met.

Other City/County permits:

Floodplain Development Permit Critical Areas Ordinance

STATE GOVERNMENT

Washington Department of Fish and Wildlife:

Hydraulic Project Approval (HPA) Fish Habitat Enhancement Exemption – [Attach Exemption Form](#)

Washington Department of Natural Resources:

Aquatic Use Authorization

Complete [JARPA Attachment E](#) and submit a check for \$25 payable to the Washington Department of Natural Resources.

Do not send cash.

Washington Department of Ecology:

Section 401 Water Quality Certification (certified as part of Nationwide Permit 38)

FEDERAL GOVERNMENT

United States Department of the Army permits (U.S. Army Corps of Engineers): (Nationwide Permit 38)

Section 404 (discharges into waters of the U.S.) Section 10 (work in navigable waters)

United States Coast Guard permits:

General Bridge Act Permit Private Aids to Navigation (for non-bridge projects)

Part 11—Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [\[help\]](#)

11a. Applicant Signature (required) [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. DM (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. DM (initial)

David McEntee  2/19/18
Applicant Printed Name Applicant Signature Date

11b. Authorized Agent Signature [\[help\]](#)


I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Alicia Toney  2/16/2018
Authorized Agent Printed Name Authorized Agent Signature Date

11c. Property Owner Signature (if not applicant) [\[help\]](#)

Not required if project is on existing rights-of-way or easements (provide copy of easement with JARPA).

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

David McEntee  2/15/18
Property Owner Printed Name Property Owner Signature Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-011 rev. 07/2017

References

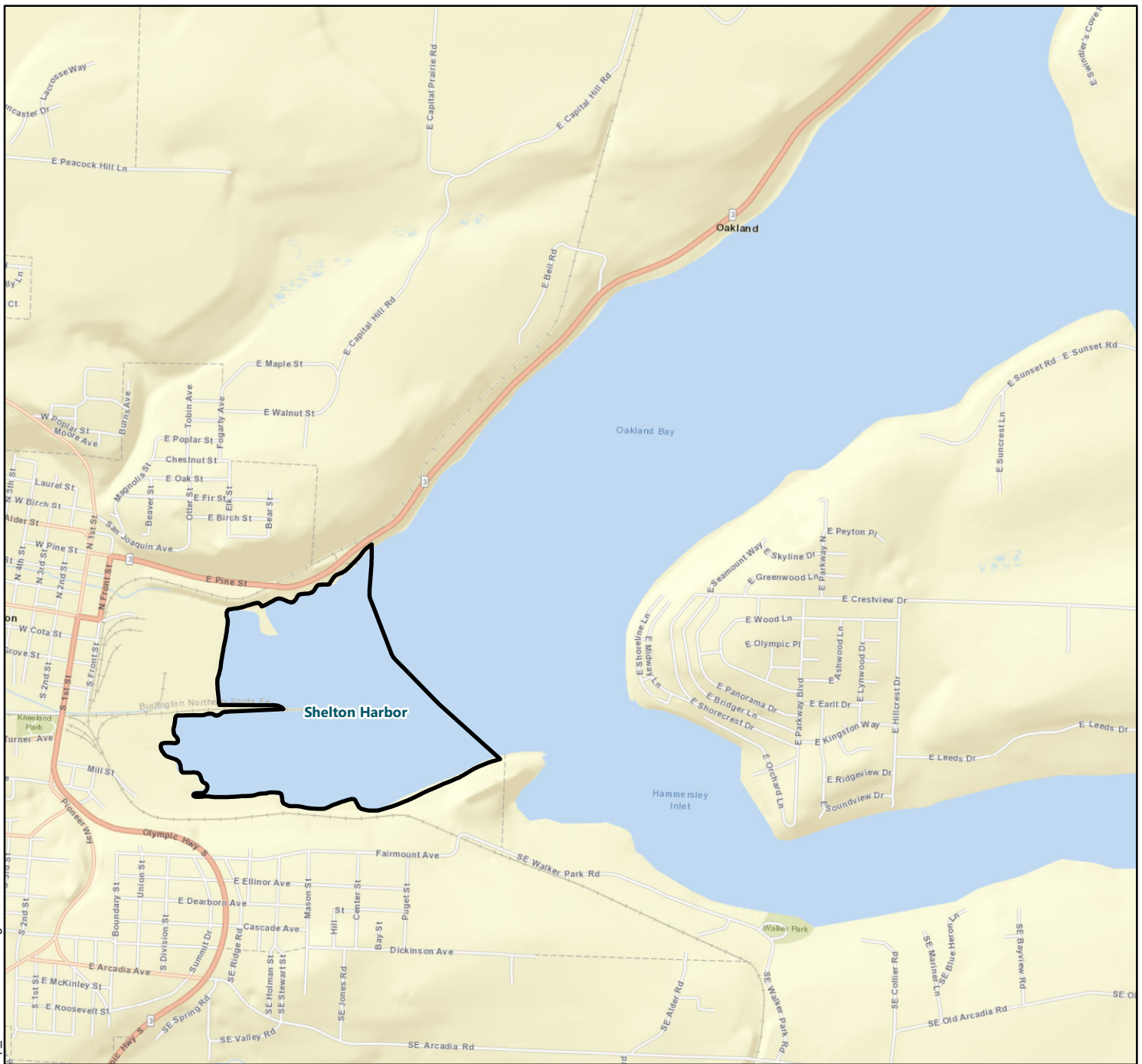
Anchor QEA, 2018a. *Biological Evaluation*. Shelton Harbor. Forthcoming.

Anchor QEA, 2018b. *Interim Action Plan*. Shelton Harbor. January 2018.

Ecology (Washington State Department of Ecology) 2004, *Fecal Coliform Bacteria TMDL for Oakland Bay-Hammersley Inlet and Tributaries*. Publication No. 04-03-111WDFW (Washington Department of Fish and Wildlife), 2018. *WDFW PHS on the web*. Available from: <http://wdfw.wa.gov/mapping/phs/>. Accessed on: January 18, 2018.

Attachment 1

JARPA Figures

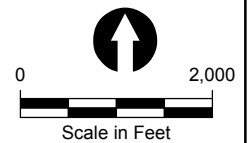


LEGEND

 SHELTON HARBOR



VICINITY MAP



PURPOSE: MTCA CLEANUP ACTION

DATUM: WA STATE PLANE S NAD83
 LATITUDE: 47° 12' 37.652"
 LONGITUDE: -123° 5' 11.897"
 S-T-R: S20 T20-N R3-W
 SIZE OF SITE IN ACRES: 199

SITE LOCATION ADDRESS: SHELTON,
 WASHINGTON

NAME: SHELTON HARBOR INTERIM ACTION CLEANUP

PARCELS: 320175102006, 320201200020, 320208888888,
 320194100700, 320203200070

ADJACENT PROPERTY OWNERS: PUGET SOUND AND
 PACIFIC RAILROAD

PROPOSED: CAP, REMOVE PILES

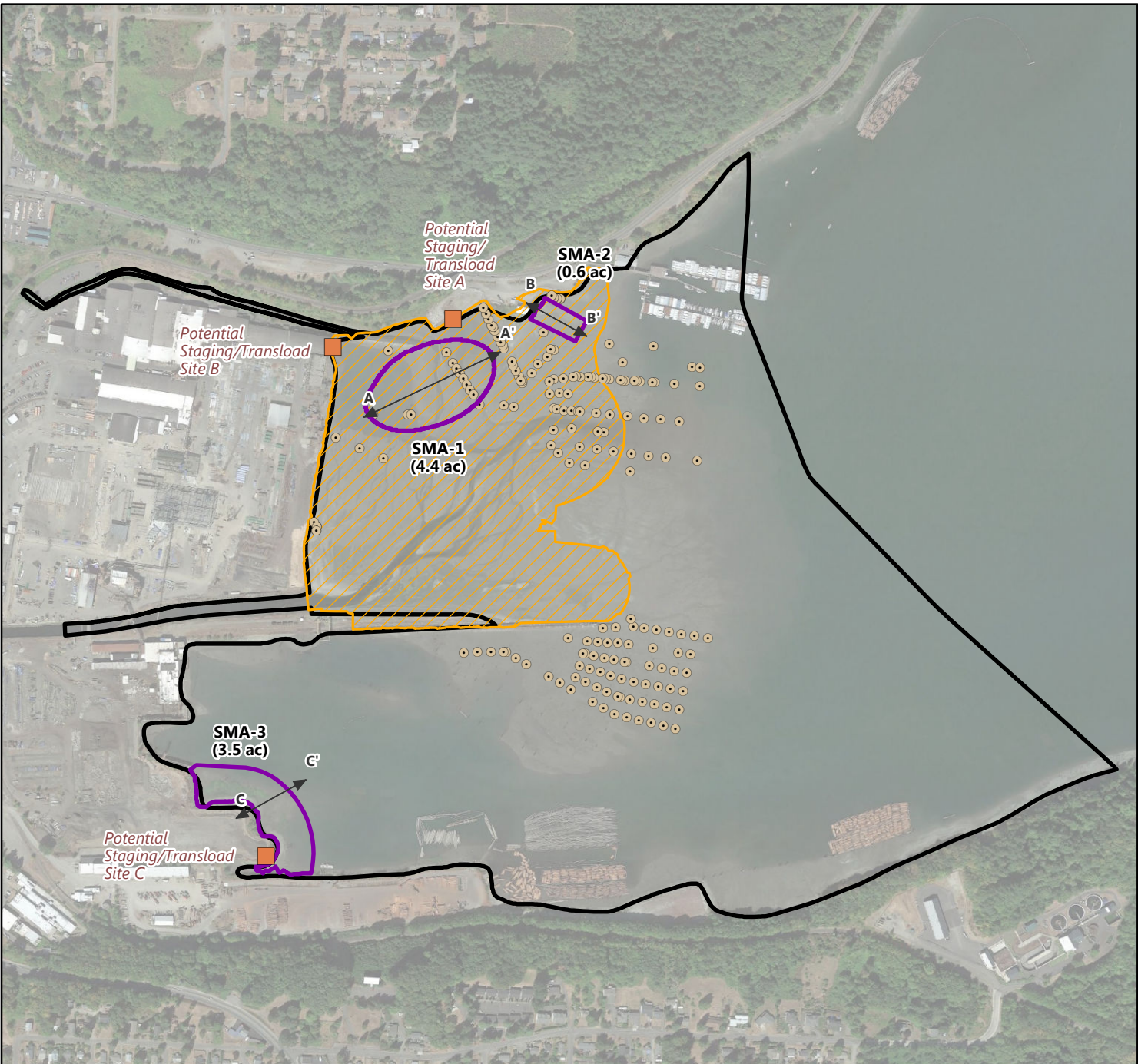
IN: SHELTON HARBOR
 NEAR/AT: SHELTON
 COUNTY OF: MASON
 IN: WASHINGTON

DATE: FEBRUARY 15, 2018


 720 Olive Way, Suite 1900
 Seattle, WA 98101
 206-287-9130

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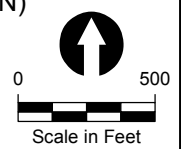
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LEGEND

- EXISTING PILE (APPROXIMATE)
- POTENTIAL STAGING/TRANSLOAD SITE
- EXTENT OF CROSS SECTION
- HABITAT RESTORATION AREA
- SEDIMENT CLEANUP UNIT BOUNDARY (CLEANUP PROJECT COMPLETED BY SIMPSON)

NOTES:
 The Restoration Project will be completed under a separate permit.



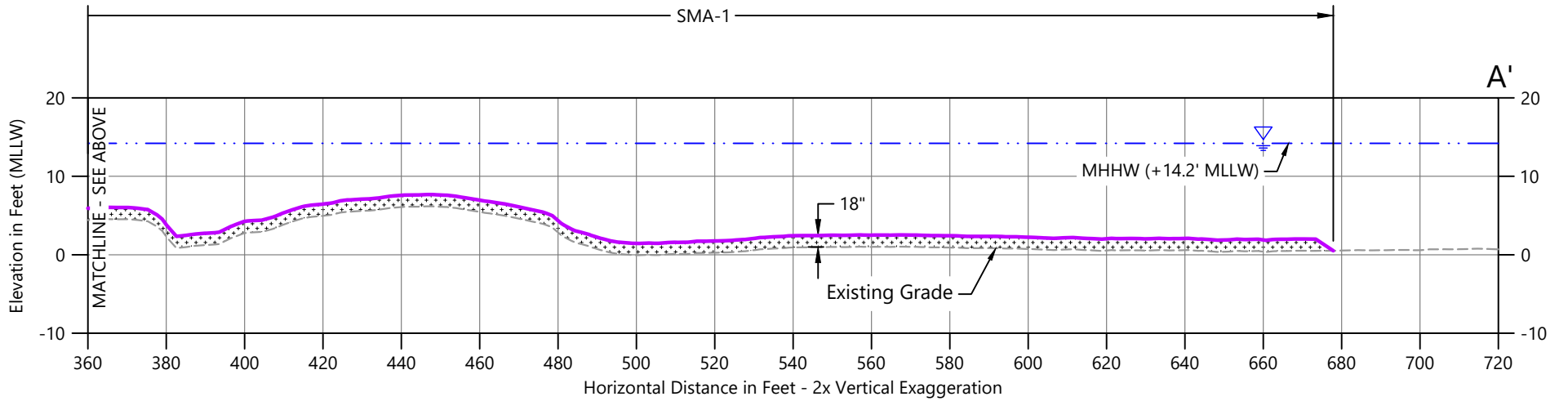
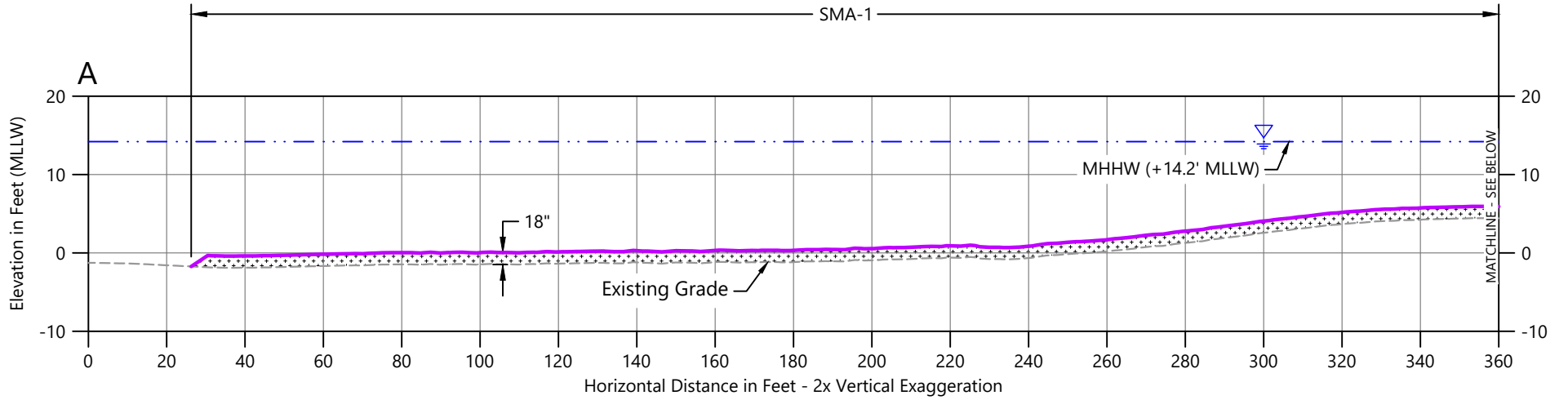
NORTHERN SHELTON HARBOR SEDIMENT MANAGEMENT AREAS

<p>PURPOSE: MTCA CLEANUP ACTION</p> <p>DATUM: WA STATE PLANE S NAD83 LATITUDE: 47° 12' 37.652" LONGITUDE: -123° 5' 11.897" S-T-R: S20 T20-N R3-W SIZE OF SITE IN ACRES: 199</p> <p>SITE LOCATION ADDRESS: SHELTON, WASHINGTON</p>	<p>NAME: SHELTON HARBOR INTERIM ACTION CLEANUP</p> <p>PARCELS: 320175102006, 320201200020, 320208888888, 320194100700, 320203200070</p> <p>ADJACENT PROPERTY OWNERS: PUGET SOUND AND PACIFIC RAILROAD</p>	<p>PROPOSED: CAP, REMOVE PILES</p> <p>IN: SHELTON HARBOR NEAR/AT: SHELTON COUNTY OF: MASON IN: WASHINGTON</p> <p>DATE: FEBRUARY 15, 2018</p>
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K:\Projects\0331-So. Puget Sound Salmon Enhancement Group\Oakland Bay\0331-RP-006-JARPA-XS.dwg 3 SMA-1 CROSS SECTION

Feb 14, 2018 12:00pm tgriga



SMA-1 CROSS SECTION

PURPOSE: MTCA CLEANUP ACTION

DATUM: WA STATE PLAN S NAD 83
 LATITUDE: 47° 12' 37.652"
 LONGITUDE: -123° 5' 11.897"
 S-T-R: T20-0N R3-0W S20
 SIZE OF SITE IN ACRES: 199

SITE LOCATION ADDRESS:
 SHELTON, WASHINGTON

NAME: SHELTON HARBOR INTERIM ACTION CLEANUP

PARCELS: 320175102006, 320201200020, 320208888888, 320194100700, 320203200070

ADJACENT PROPERTY OWNERS: PUGET SOUND AND PACIFIC RAILROAD

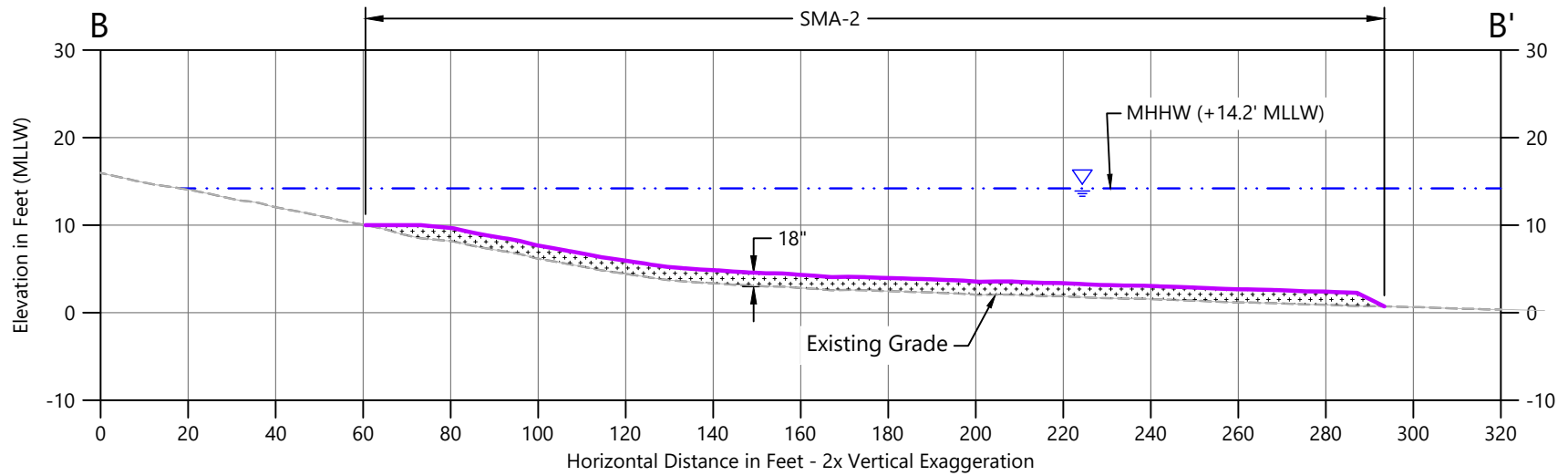
PROPOSED: CAP, REMOVE PILES

IN: SHELTON HARBOR
 NEAR/AT: SHELTON
 COUNTY OF: MASON
 STATE: WASHINGTON

DATE: FEBRUARY 15, 2018



720 Olive Way, Suite 1900
 Seattle, WA 98101
 206-287-9130



SMA-2 CROSS SECTION

PURPOSE: MTCA CLEANUP ACTION

DATUM: WA STATE PLAN S NAD 83
 LATITUDE: 47° 12' 37.652"
 LONGITUDE: -123° 5' 11.897"
 S-T-R: T20-0N R3-0W S20
 SIZE OF SITE IN ACRES: 199

SITE LOCATION ADDRESS:
 SHELTON, WASHINGTON

NAME: SHELTON HARBOR INTERIM ACTION CLEANUP

PARCELS: 320175102006, 320201200020, 320208888888, 320194100700,
 320203200070

ADJACENT PROPERTY OWNERS: PUGET SOUND AND PACIFIC RAILROAD

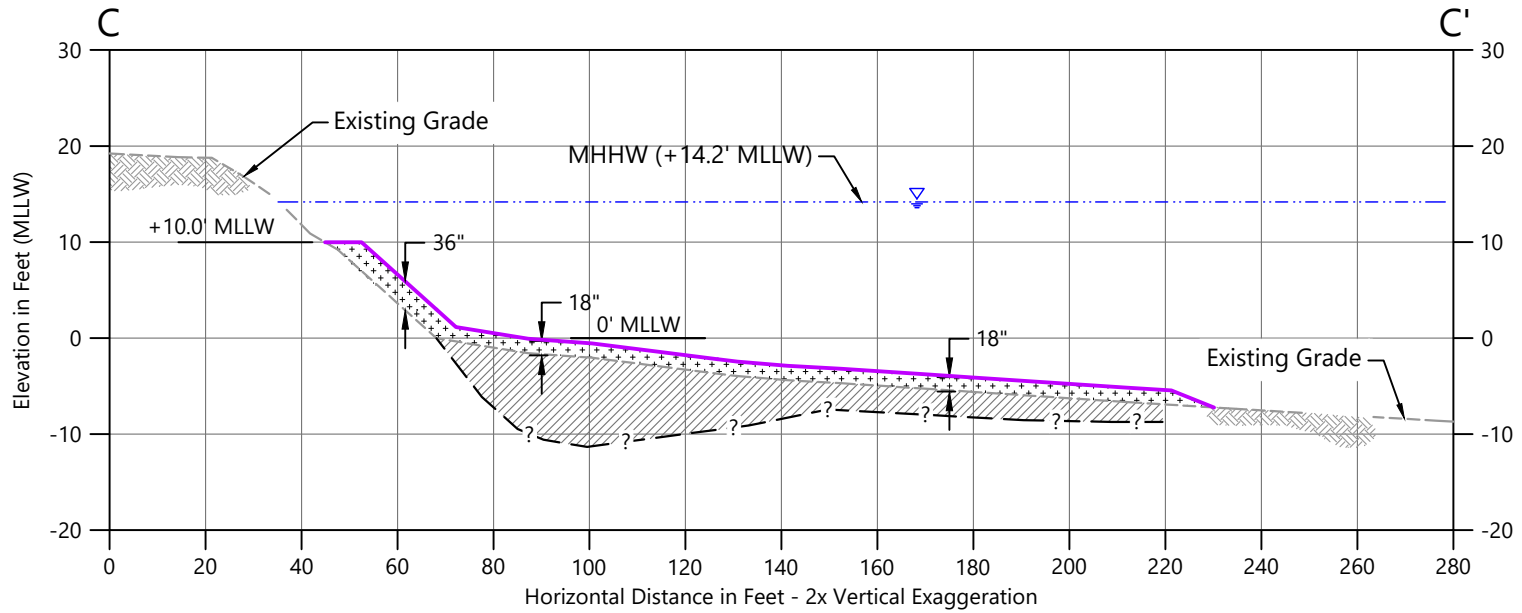
PROPOSED: CAP, REMOVE PILES

IN: SHELTON HARBOR
 NEAR/AT: SHELTON
 COUNTY OF: MASON
 STATE: WASHINGTON

DATE: FEBRUARY 15, 2018



720 Olive Way, Suite 1900
 Seattle, WA 98101
 206-287-9130



SMA-3 CROSS SECTION

PURPOSE: MTCA CLEANUP ACTION

NAME: SHELTON HARBOR INTERIM ACTION CLEANUP

PROPOSED: CAP, REMOVE PILES

DATUM: WA STATE PLAN S NAD 83
 LATITUDE: 47° 12' 37.652"
 LONGITUDE: -123° 5' 11.897"
 S-T-R: T20-0N R3-0W S20
 SIZE OF SITE IN ACRES: 199

PARCELS: 320175102006, 320201200020, 320208888888, 320194100700, 320203200070

ADJACENT PROPERTY OWNERS: PUGET SOUND AND PACIFIC RAILROAD

IN: SHELTON HARBOR
 NEAR/AT: SHELTON
 COUNTY OF: MASON
 STATE: WASHINGTON



720 Olive Way, Suite 1900
 Seattle, WA 98101
 206-287-9130

SITE LOCATION ADDRESS:
 SHELTON, WASHINGTON

DATE: FEBRUARY 15, 2018

SHEET: 5 of 5

Attachment 2

Cultural Resources Assessment

Memorandum

February 15, 2018

To: Dave McEntee, Simpson Timber Company
From: Barbara Bundy, Anchor QEA, LLC
cc: Heather Page and Clay Patmont, Anchor QEA, LLC

Re: Cultural Resources Assessment, Shelton Harbor Interim Action Cleanup Project

Introduction

As part of the Puget Sound Initiative for restoration and recovery of Puget Sound, the Washington State Department of Ecology (Ecology) identified the Oakland Bay and Shelton Harbor Sediments Cleanup Site as one of seven high priority areas in Puget Sound for cleanup and restoration because of its important habitat and valuable natural resources. In 2017, Ecology designated the Shelton Harbor Cleanup Unit (SCU) within the site (Figure 1). The Shelton Harbor SCU is the subject of Agreed Order DE 14091 between Ecology and the Simpson Timber Company (Simpson). The Shelton Harbor Interim Action Cleanup Project (Cleanup Project) will partially remediate the SCU under the Washington State Model Toxics Control Act regulation (Washington Administrative Code 173-340-430).

Activities to be performed for the Cleanup Project include creosote-treated pile removal and intertidal and subtidal capping using clean sand and gravels from local upland quarries. The Cleanup Project requires a permit from the U.S. Army Corps of Engineers (USACE), and USACE must comply with Section 106 of the National Historic Preservation Act. This memorandum assists USACE in fulfilling the requirements of Section 106.

Concurrent with the Cleanup Project, the Squaxin Island Tribe, South Puget Sound Salmon Enhancement Group (SPSSEG), Simpson, Port of Shelton, and other project partners are separately designing and permitting a complementary habitat restoration project (Restoration Project). The Restoration Project, also referred to as the West Oakland Bay Restoration and Conservation project, covers approximately 45.9 acres within the northern portion of Shelton Harbor. It is funded in part with federal grant funds awarded through the U.S. Fish and Wildlife Service's National Coastal Wetlands Conservation Grant Program. The Restoration Project overlaps with a portion of the Cleanup Project area as shown on Figure 2.

Sediment cleanup actions in northern Shelton Harbor (i.e., within Sediment Management Areas [SMAs] 1 and 2) described in this Cultural Resources Assessment will be designed to be compatible with the Restoration Project. Cleanup Project construction is also anticipated to be coordinated with

the Restoration Project construction to the extent practicable. However, cleanup actions are not interdependent on or interrelated to the Restoration Project and could be constructed during a separate timeframe pending permit issuance.

Project Description

Three SMAs have been delineated for the Cleanup Project (Figure 2) with specific cleanup actions developed for each one:

- SMA-1: Approximately 4.4 acres in the Shelton Creek delta (within the footprint of the Restoration Project)
- SMA-2: Approximately 0.6 acre in the former marine railway area (also within the footprint of the Restoration Project)
- SMA-3: Approximately 3.5 acres in the southwestern harbor (outside of the footprint of the Restoration Project)

The extent of all three SMAs will be refined in spring 2018 by sampling surface sediments in these areas to inform final remedial design details.

Approximately 23,000 cubic yards of capping material will be placed in SMAs 1 through 3. Using materials supplied from local upland quarries, cap material is expected to be placed either using barge mounted mechanical placement equipment, or with land-based equipment. The cap will be approximately 18-to 36-inches thick, depending on the location. Material specifications will be refined during design in coordination with permitting agency and stakeholder reviews to optimize habitat functions, but the material is expected to consist of a mixture of clean sand, gravel, and cobble up to approximately 8 inches in diameter, depending on the location.

Approximately 260 creosote-treated piles will be removed in the areas of SMA-1 and SMA-2 to facilitate cap construction (Figure 2)—either as part of the Cleanup Project or as part of the Restoration Project depending on timing. Pile removal will be performed using barge-mounted equipment for vibratory extraction to the extent practicable.

Up to three upland staging and transload facility locations may also be used during in-water construction, as depicted on Figure 2. Up to 20,000 cubic yards of clean sand and gravel could be temporarily stockpiled at the potential staging and transload sites. Removed pilings may also be temporarily stockpiled in upland staging areas prior to disposal. If pilings will be staged in the upland area, the pilings will be contained to prevent contaminated material from entering Shelton Harbor. Stockpiling will occur in areas developed for industrial uses and no vegetation or habitat will be affected.

Regulatory Context

Under Section 106 and its implementing regulations at 36 Code of Federal Regulations (CFR) 800, USACE is required to consider the effects of the permitted activity on historic properties. A historic property is “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places” (NRHP) (36 CFR 800.16(l)(1)). Traditional Cultural Properties may also be historic properties. Under the Section 106 process, USACE must consult with interested and affected Indian Tribes and the State Historic Preservation Officer (SHPO) on potential impacts to cultural and historic resources.

To be eligible for inclusion in the NRHP, a historic property must have significance and retain integrity. Significant properties meet one or more of the following criteria:

- A. They have an association with events that have made a significant contribution to the broad patterns of our history
- B. They have an association with the lives of significant persons in our past
- C. They embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- D. They have yielded or may be likely to yield information important in history or prehistory

“Integrity” is defined as an historic property’s ability to convey its historic significance, in other words, its historic appearance, association, and setting.

This report assists USACE with fulfilling the requirements of Section 106 and 36 CFR 800 by recommending the following:

- The Area of Potential Effects (APE)
- Whether there are NRHP-eligible historic properties in the APE
- Whether the undertaking will adversely affect any NRHP-eligible historic properties.

Area of Potential Effects

The APE for a project is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties” (36 CFR 800.16(d)). USACE will determine the APE for the project. The recommended APE for the Cleanup Project is the entire SCU boundary because this area includes the full extent of potential cultural resources that are partially within the SCU (Figure 3).

Environmental and Cultural Context

The Cleanup Project is located in Shelton Harbor. Shelton Harbor drains into Oakland Bay and Hammersley Inlet, which are adjacent to the project location. The area is in the Puget Trough physiographic province, a valley system that extends from Puget Sound south through the

Willamette Valley, and which separates the Olympic Mountains from the Western Cascades (Franklin and Dyrness 1973:16). The ridge-and-trough system was formed as glaciers retreated after the last glacial maximum about 14,000 years ago (Booth et al. 2005; Porter and Swanson 1998). The maximum extent of the Puget Lobe of the Cordilleran Ice Sheet was just north of Centralia, about 45 miles south of the Cleanup Project area.

Post-glacial sea levels in Puget Sound are complex, because they are “the integrated result of eustasy, isostasy, and tectonism” (Booth et al. 2005:30). However, the southern Puget Sound in general experienced mostly eustatic changes, which caused relative sea level rise. The history of sea level rise and tectonic activity means that previous shorelines in the area could be submerged and archaeological materials could be preserved.

At the time of Euroamerican contact, the Cleanup Project area was offshore of a low-lying wetland area at the mouth of Goldsborough and Shelton Creeks, which drain into Shelton Bay. An 1856 General Land Office map shows the tideflats, with the early development of the City of Shelton (Figure 4). The area would have been an estuarine halocline, supporting a wide variety of fish including all five Pacific salmon species, forage fish, and shellfish. Nearby uplands would have hosted a variety of terrestrial mammals, birds, and freshwater fish.

The earliest recorded archaeological sites in the Puget Sound area date to the late Pleistocene (Ames and Maschner 1999). These sites are typically sparse stone tool assemblages found in upland areas. By the mid-Holocene, larger populations began to organize in complex ways to exploit a wide range of terrestrial and littoral resources including salmon and shellfish; land mammals; and plant resources such as berries, roots, and bulbs. Cultures around Puget Sound and northward show “an unequivocal adaptation to coastal resources,” though classic Northwest coast developments such as sizeable longhouses and large-scale storage are still absent (Matson and Coupland 1995:97).

Over time, populations grew and began to reside in large semi-sedentary cedar plank house villages located at river mouths and confluences and on protected shorelines. The artifact tool kits became increasingly complex and specialized, allowing for large takes of resources, which were processed and stored for year-long consumption (Ames and Maschner 1999). These late-Holocene cultures correlate with ethnographically described Southern Coast Salish peoples.

The Cleanup Project area is in the traditional territory of the Sahewamish, a Southern Coast Salish group who spoke the Southern Lushootseed language and whose descendants are now members of the Squaxin Island Tribe, Nisqually Tribe, and Skokomish Tribe (Smith 1940, Henderson et al. 2002, Carpenter et al. 2008). Historically, Southern Coast Salish villages were occupied part of the year, largely in winter, and residents made seasonal journeys to camps near resource gathering areas. Coastal villages relied on fish (Suttles and Lane 1990), which they caught with various weirs and traps, as well as shellfish and sea mammals (Smith 1940; Ruby and Brown 1986). These food sources were

supplemented by various berries, roots, and bulbs (Suttles and Lane 1990; Ruby and Brown 1986:166).

Southern Coast Salish place names have been recorded in the Cleanup Project vicinity. In the early 20th century, the ethnographer T.T. Waterman recorded three place names in the area: *Q!pa'lqo* for where Goldsborough Creek enters the bay, *Peoq^w!E'ldx* for Shelton Creek, and *Siqwa'bts* for "a promontory at the present site of the Shelton docks (Hilbert et al. 2001:276). In historic times, Hammersley Inlet was known as "Big Skookum." As Euroamerican presence in the area grew in the mid-1800s, tribes were pressured to sign treaties. The Treaty of Medicine Creek, which assigned the Squaxin Island and Nisqually people (among others) to their respective reservations, was signed in 1854 and renegotiated several times until 1873 (Ruby and Brown 1986).

The first Euroamerican exploration of the Puget Sound region was Captain George Vancouver's 1792 expedition. Hudson's Bay Company established Fort Nisqually in 1833. South Puget Sound was not mapped in detail until the Wilkes expedition in 1841 (Morgan 1979, Wilma 2003). Shortly thereafter, settlers began to trickle into the area, encouraged by the Donation Land Act of 1850 (Kirk and Alexander 1990). Founded by David and Frances Shelton on their Donation Land Claims in 1853 (Angle and Welsh 1940), Shelton was initially a small farming community in Thurston County. An 1891 map shows only two small structures on the Shelton claim (see Figure 4). Sawamish County was carved out the next year, and 10 years later in 1864 was renamed Mason County (Becker 2010). Shelton became the county seat in 1888.

The first lumber mill (and associated railroad) in Shelton was constructed in the 1880s by a group of Seattle investors, on land that the Sheltons subdivided and sold. It spurred development of the small town of Shelton on the former homestead. Although their Satsop logging railroad and mill went bankrupt in 1901, the Simpson Timber Company (formed in 1895) quickly took prominence in the town (Fredson 1982, Becker 2010). The Simpson Timber Company's Shelton interest flourished after 1910. Rainier Pulp and Papers was founded in Shelton in 1925, and became a national leader in pulp technologies within two decades (Rayonier 2018). A 1934 map of Shelton shows the industrial and residential growth of the early twentieth century (see Figure 4).

Mark Reed, a founder of the Simpson Timber Company, state legislator, and prominent local figure, oversaw the development of the town from frontier outpost for "work and sin" (Fredson 1993:69) to a settled community with churches, a Masonic Temple, and a hospital. Many of the twentieth century's great struggles were present in microcosm in Shelton, from the labor movement organizing in the mills, to the effects of World War II on the community and industry (Becker 2010). Timber and milling have remained important industries, along with Christmas tree farming and shellfish cultivation.

Previous Research

Built Environment

Two historic structures have been identified in the APE: a segment of the former Simpson Timber Company railroad and associated log pullout crane; and a group of pilings that were once part of log raft tethers (Switzer and Robison-Mathes 2018). The rail and crane were determined NRHP-eligible. Although they are within the APE, no project work will occur in the vicinity that would affect the structure. The pilings clusters were determined not NRHP-eligible.

A number of NRHP-eligible historic structures are present within a mile of the Cleanup Project area, including the Shelton Public Library, Mason County Courthouse, and Goldsborough Creek Bridge. Other potentially historic structures (older than 50 years but unevaluated), including the Simpson Timber Company buildings and a number of commercial and residential buildings, are located within a mile of the Cleanup Project. None of these buildings could potentially be affected by the Cleanup Project.

Archaeological Sites

No archaeological sites have been identified in the APE. Three recorded sites are located within a mile of the APE: a historic roadway (45MS234), a historic debris scatter (45MS185), and David Shelton's pear orchard (45MS162). None of these sites could potentially be affected by the Cleanup Project.

As part of Section 106 consultation for the Restoration Project that is coordinated with the Cleanup Project, consultation between SPSSEG, USFWS, and the Squaxin Island revealed that the tribe is aware of an as-yet undocumented archaeological site, not identified during the pedestrian survey, that may be located in the area. No work for the Cleanup Project is planned for the general vicinity where the archaeological site is thought to be located. Additional archaeological investigations to identify and delineate the site, led by the Squaxin Island Tribe, will occur prior construction of the Cleanup Project to verify this expectation.

Previous Surveys

A 2017 cultural resources survey that included SMA-1 and SMA-2 was conducted for the Restoration Project that is coordinated with the Cleanup Project (Switzer and Robison-Mathes 2018). The survey identified and evaluated the log pullout crane and log raft tethers. Pedestrian survey was conducted in parts of SMA-1 and SMA-2 that are safety accessible at low tides. Eight other surveys have been conducted within a mile of the APE (Table 1).

Table 1
Cultural Resources Surveys within a Mile of the APE

Author and Date	Title	Distance from the APE	Relevant Findings
Trautman and de Boer 2009	Cultural Resources Survey, SR 3 Entryway Corridor Improvements Project	0.05 mile north	Pedestrian survey documented the Shelton Pear Orchard (45NMS162)
Tangent + Abrahams Architects 1996	An Inventory of Cultural Resource in the City of Shelton	0.25 mile west	Identified a number of potentially NRHP-eligible structures and groups of structures
Eysamen and Co. 2000	Historical Inventory Summary Report: The Hillcrest Neighborhood, Shelton	0.26 mile south	59 structures in the Hillcrest neighborhood are potentially NRHP-eligible
Pickrell and Beckner 2015	Archaeological and Architectural Inventory for the Pioneer Way/Lake Boulevard Reconstruction	0.35 mile west	Subsurface testing revealed historic Pioneer Way (45MS234)
Hawes and Croes 2011	City of Shelton Fire Station Renovation Project III: Cultural Resources Survey Field Summary	0.46 mile west	Subsurface testing revealed a historic debris scatter (45MS185)
Hawes and Ness 2008	City of Shelton Fire Station Renovation Project: Cultural Resources Survey	0.46 mile west	Further archaeological testing recommended
Baldwin 2006	Letter to Dr. Allyson Brooks Regarding the Northcliff Road Improvement Project, City of Shelton	0.73 mile northwest	Desktop review concluded that there was minimal archaeological potential
Ryan 2012	Assessment of Properties Adjacent to Former Shelton Armory Property	0.75 mile west	Architectural survey only; no NRHP-eligible properties identified

Methods, Results, and Recommendations

Methods

Historic maps and literature, previous survey results, Cleanup Project documentation, and aerial photos were consulted to determine whether the Cleanup Project has the potential to affect archaeological resources. In particular, the 2017 pedestrian survey results were analyzed for applicability to the Cleanup Project (Switzer and Robison-Mathes 2018). Potential historic properties were analyzed using the NRHP criteria and implementation guidelines provided by the National Register program.

Results

SMA-1 and SMA-2

The previous cultural resources survey for the habitat restoration project covered both SMA-1 and SMA-2, and did not record any NRHP-eligible cultural resources in either SMA (the log crane and rail

line are outside the SMAs; Switzer and Robison-Mathes 2018). Potential historic properties that could be affected by cap placement could include sunken vessels, fish weirs, or other historic items that could be crushed or rendered inaccessible. No such resources were recorded during the pedestrian survey. Pilings associated with the former log raft tether will be removed, but those have been evaluated and determined not NRHP-eligible.

SMA-3

Aerial photos and maps, as well as surveys conducted for the Cleanup Project, show SMA-3. A 2006 oblique photograph was taken at low tide and much of SMA-3 is exposed (Figure 5). This and other photos do not show any potentially historic structures or vessels in SMA-3. Remedial investigations at the site have found 2-10 feet of sediments containing wood debris, indicating that deposition has occurred through the historic and modern periods during timber operations (Anchor QEA 2017). While the possibility that historic or precontact artifacts could exist under the wood-waste-containing sediments cannot be ruled out, these would not be affected by the placement of 18 to 36 inches of clean sediment caps.

No pilings will be removed in SMA-3, and there is no evidence of cultural resources that could be affected by the placement of capping material.

Recommendations

Removal of pilings will not affect any historic properties, because the pilings clusters have been determined not NRHP-eligible. Survey and examination of aerial photos did not reveal any historic properties that could potentially be impacted by placement of cap material. Therefore, it is recommended that USACE determine that the Cleanup Project will have no adverse effects to historic properties.

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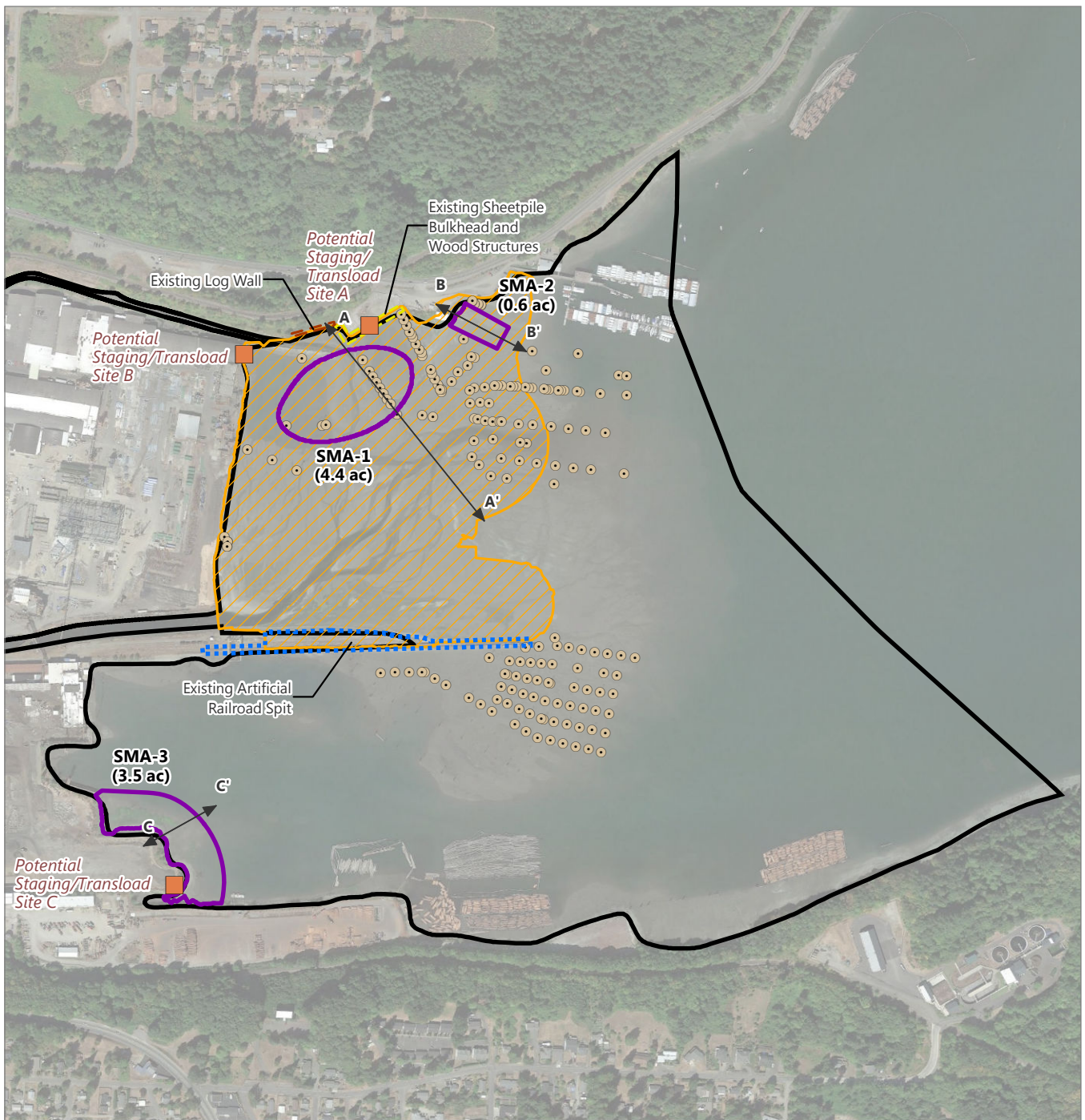
Figures



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Figure 1
Project Location
 Cultural Resources Assessment
 Shelton Harbor Interim Action Cleanup Project

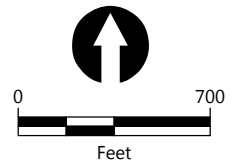


LEGEND:

- Existing Pile (Approximate)
- ▤ Existing Artificial Railroad Spit
- ▭ Existing Log Wall
- ▭ Existing Sheetpile Bulkhead and Wood Structures
- Potential Staging/Transload Site
- ↔ Extent of Cross Section

- ▭ Sediment Management Areas (SMAs)
- ▨ Habitat Restoration Area
- ▭ Sediment Cleanup Unit Boundary (Cleanup Project completed by Simpson)

NOTE(S):
The Restoration Project will be completed by South Puget Sound Salmon Enhancement Group.




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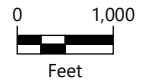


Figure 2
Project Plan View
Cultural Resources Assessment
Shelton Harbor Interim Action Cleanup Project



 Recommended Area of Potential Effects

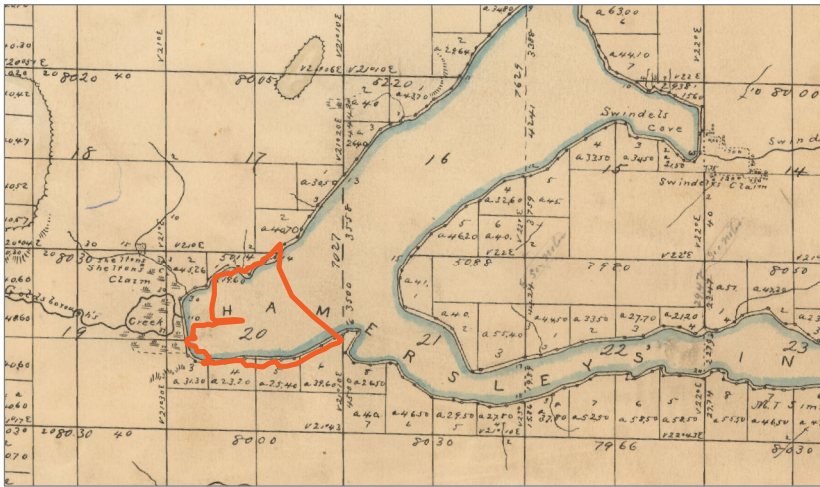
USGS 7.5' Quadrangle, Shelton



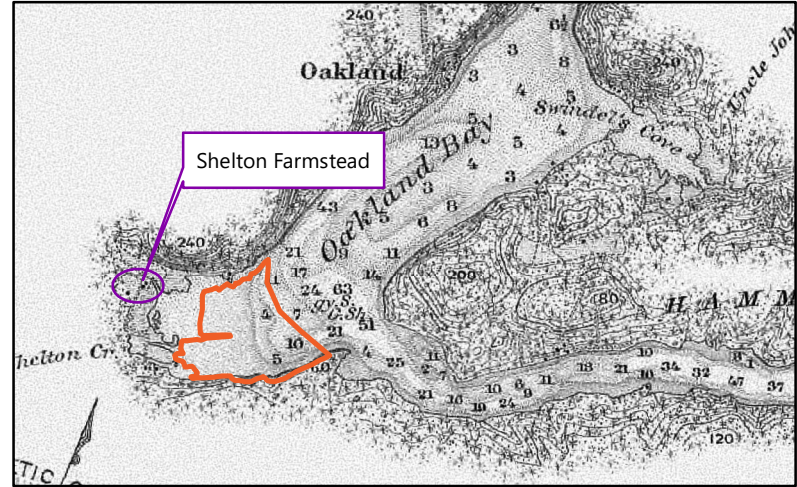
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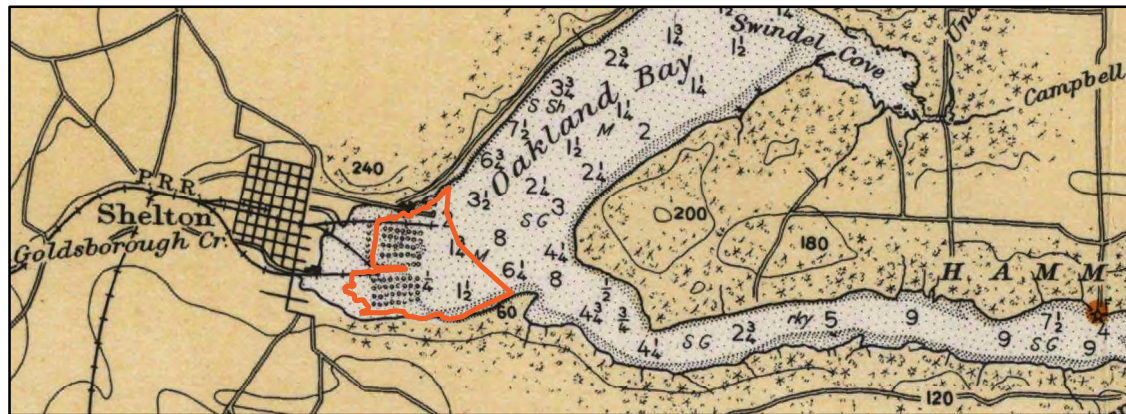
Figure 3
Recommended Area of Potential Effects
 Cultural Resources Assessment
 Shelton Harbor Interim Action Cleanup Project




1856 General Land Office Map



1891 U.S. Coast and Geodetic Survey Chart



1934 U.S. Coast and Geodetic Survey Chart

 Recommended Area of Potential Effects





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Figure 5
2006 Oblique Aerial Photograph
Cultural Resources Assessment
Shelton Harbor Interim Action Cleanup Project

Attachment 3

Biological Evaluation



US Army Corps
of Engineers ®
Seattle District

**BIOLOGICAL EVALUATION
FOR INFORMAL ESA CONSULTATION**
For: _____ (Corps Reference Number)
Version: May 2012



**** This form is for projects that have insignificant or discountable impacts on listed species. It contains all the information required for a biological evaluation, but in abbreviated form and with minimal instructions on how to fill it out. For more detailed instructions, a format for development of a biological assessment or biological evaluation can be found on the Seattle District Corps website (www.nws.usace.army.mil – click on regulatory and then on endangered species, BA Template). You may also contact the Corps at 206-764-3495 for further information.**

Drawings and Photographs - Drawings and photographs must be submitted. Photographs must be submitted showing local area, shoreline conditions, existing overwater structures, and location of the proposed project. Drawings must include a vicinity map; plan, profile, and cross-section drawings of the proposed structures; and over- and in-water structures on adjacent properties. (For assistance with the preparation of the drawings, please refer to our *Drawing Checklist* located on our website at www.nws.usace.army.mil Select Regulatory – Regulatory/Permits – Forms.) Submit the information to: U.S. Army Corps of Engineers, Regulatory Branch, P.O. Box 3755, Seattle, Washington 98124-3755.

Date: February 15, 2018

SECTION A - General Information			
1. Applicant name: McEntee, Dave, Simpson Timber Company			
Mailing address: 535 E. Dock Street, Suite 205, Tacoma WA, 98402			
Work phone: (360) 495-2088	Home phone:	Email: dave.mcentee@simpson.com	Fax:
2. Joint-use applicant name (if applicable):			
Mailing address:			
Work phone:	Home phone:	Email:	Fax:
3. Authorized agent name: Toney, Alicia, Anchor QEA, LLC			
Mailing address: 1605 Cornwall Ave, Bellingham, WA 98225			
Work phone: (360) 715-2717	Home phone: (206) 854-3314	Email: atoney@anchorqea.com	Fax:
4. Location where proposed work will occur			
Address (street address, city, county): 100 North Front Street, Shelton, WA, 98584			
Location of joint-use property (street address, city, county):			
Waterbody: Shelton Harbor			
¼ Section:	Section: 20	Township: 20 North	Range: 3 West
Latitude: 47.2126 N		Longitude: -123.0989 W	

5. Description of Work:

Include project drawings and site photographs.

Describe the proposed project in detail. Please describe any mitigation that is being proposed for impacts from your project. Attach a mitigation plan as an appendix, if appropriate.

As part of the Puget Sound Initiative for restoration and recovery of Puget Sound, the Washington State Department of Ecology (Ecology) identified the Oakland Bay and Shelton Harbor Sediments Cleanup Site as one of seven high-priority areas in Puget Sound for cleanup and restoration because of its important habitat and valuable natural resources. In 2017, Ecology delineated the Shelton Harbor Sediment Cleanup Unit (SCU) within the site (Figure 1), which is the subject of Agreed Order DE 14091 (Agreed Order) between Ecology and Simpson.

Industrial development in Shelton Harbor began in the late 1800s with sawmill operations, which continue to this day (Figure 2). The non-Native American economy in the Shelton area was built around the forest products industry and paper manufacturing, farming, dairying, and ranching as well as shellfish aquaculture, including oyster cultivation. Modern uses of the shoreline have caused a reduction in aquatic habitat in areas historically influenced by creek flow and ocean tides.

The Shelton Harbor Interim Action Cleanup Project (Cleanup Project) will partially remediate the SCU under the Washington State Model Toxics Control Act (MTCA) regulation (Washington Administrative Code [WAC] 173-340-430) and the Agreed Order. Remediation of contaminated sediments in Shelton Harbor as part of the Cleanup Project will be consistent with current MTCA and, per Ecology, Sediment Management Standards (Chapters 173-340 and 173-204 WAC) regulatory requirements.

Simpson, along with other Potentially Liable Parties as appropriate, will implement the Cleanup Project per Ecology in accordance with the Shelton Harbor Interim Action Plan, to satisfy a portion of the requirements of the Agreed Order. The Cleanup Project focuses on controlling exposure to hazardous substances by isolating contaminants with an engineered cap to protect human health and the environment. The outcome of the Cleanup Project will be a net positive effect on human health and the environment because chemical concentrations of the surface sediment within the biologically active zone will be improved, thereby improving benthic habitat conditions in Shelton Harbor over current conditions. In addition, pilings will be removed from the project area, which will also result in improved habitat conditions within Shelton Harbor.

Concurrent with the Cleanup Project, the Squaxin Island Tribe, South Puget Sound Salmon Enhancement Group, Simpson, Port of Shelton, and other project partners are separately designing and permitting a complementary habitat restoration project (also referred to as the West Oakland Bay Restoration and Conservation project; approximately 45.9 acres) within the northern portion of Shelton Harbor. The Restoration Project is funded in part with federal grant funds awarded through the U.S. Fish and Wildlife Service's National Coastal Wetlands Conservation Grant Program. The Restoration Project overlaps with a portion of the Cleanup Project area as shown on Figure 3.

The Cleanup Project will include the following activities:

- Removal of approximately 260 creosote-treated pilings
- Capping of approximately 8.5 acres of intertidal and shallow subtidal area using clean sands and gravels from local upland quarries

Three sediment management areas (SMAs) have been delineated within Shelton Harbor that will be addressed by the Cleanup Project as shown on Figures 3, 4, 5 and 6. The specific cleanup actions developed for each SMA are summarized below:

- SMA-1: Approximately 4.4 acres in the Shelton Creek delta (within the footprint of the Restoration Project); see Figure 3
- SMA-2: Approximately 0.6 acre in the former marine railway area (also within the footprint of the Restoration Project); see Figure 4
- SMA-3: Approximately 3.5 acres in the southwestern harbor (outside of the footprint of the Restoration Project); see Figure 5

The extent of all three SMAs will be refined in spring 2018 by sampling surface sediments in these areas to inform final remedial design details. Material specifications will also be refined during design in coordination with permitting agency and stakeholder reviews to optimize habitat functions, but the material is expected to consist of a mixture of clean sand, gravel, and cobble up to approximately 8 inches in diameter, and approximately 18- to 36-inches-thick, depending on the location. Up to three upland staging and transload facility locations may also be utilized during in-water construction, as depicted on Figure 3.

Conservation measures and best management practices (BMPs) will be implemented to avoid and minimize environmental impacts during the Project, as described in Section 11.

Sediment cleanup actions in northern Shelton Harbor (i.e., within SMAs 1 and 2) described in this Biological Evaluation (BE) will be designed to be compatible with the Restoration Project. Cleanup Project construction is also anticipated to be coordinated with the Restoration Project construction to the extent practicable. However, cleanup actions are not dependent on the Restoration Project and could be constructed during a separate timeframe pending permit issuance.

For projects that include pile driving

If steel or concrete piles are being installed with an impact hammer pile driver, marbled murrelets may be adversely impacted. For installation of any type of pile with a vibratory pile driver, marine mammals may be adversely impacted. A monitoring plan may be required to ensure protection of these species.

Please fill out the following: (obtain information from contractor)	
5.1 Number of piles being replaced:	
5.2 Replacement pile type: (e.g.: ACZA-treated wood, steel, coating used on steel piles)	
5.3 Replacement pile size: (e.g. 12-inch)	
5.4 Installation method: (e.g.: vibratory, impact hammer)	Note: Vibratory or impact installation of wood, concrete, plastic, or other non-metal piles of any size is allowed. Impact installation of steel piles in marine waters is not covered under the programmatic and, in freshwater, is only covered programmatically for steel piles up to 10 inches.
5.5 Anticipated dates, number of minutes and number of days vibratory pile driving	_____ minutes per day _____ number of days Anticipated dates:

Please fill out the following: (obtain information from contractor)	
5.6 For vibratory installation, will proofing be required? If so, how many pile strikes per pile?	Yes ___ Number of pile strikes per pile: No ___
5.7 For impact hammer installation, estimate the number of pile strikes required per pile:	
5.8 For impact hammer installation or proofing, estimated number of pile strikes per day:	Minutes per day: Number of days: Anticipated dates:
5.9 For impact hammer pile driving or proofing, sound attenuation measures:	
5.10 Anticipated dates, number of minutes and number of days of impact hammer pile driving or proofing:	
5.11 Describe substrate into which piling will be driven:	

6. **Construction Techniques:**

Describe methods and timing of construction to be employed in building the project and any associated features. Identify actions that could affect listed / proposed species or designated / proposed critical habitat and describe in sufficient detail to allow an assessment of potential impacts. Consider actions such as vegetation removal, temporary or permanent elevations in noise level, channel modifications, hydrological or hydraulic alterations, access roads, power lines etc. Also discuss construction techniques associated with any interdependent or interrelated projects.

Address the following:

A. Construction sequencing and timing of each stage (duration and dates):

Sediment cleanup is anticipated to begin in summer/fall 2018 and is expected to take up to 4 months of in-water work (1 month for piling removal and 3 months for capping). In-water construction will be timed to occur within approved work windows to prevent impacts to salmonids. Due to fisheries' protective restrictions, no in-water construction work can be performed in Shelton Harbor during February 16 through July 14 of any year unless otherwise modified by applicable regulatory agencies.

B. Site preparation:

C. Equipment to be used:

Cap material is expected to be placed either using barge-mounted mechanical placement equipment (i.e., mechanical clamshell or skip box), or with land-based equipment (i.e., amphibious excavators, dozers, or conveyor equipment).

Approximately 260 creosote-treated piles will be removed in the areas of SMA-1 and SMA-2 to facilitate cap construction (Figure 2) – either as part of the Cleanup Project or as part of the Restoration Project

depending on timing. Pile removal will be performed using barge-mounted equipment for vibratory extraction to the extent practicable. If conditions do not allow for this method, Simpson or the selected contractor will consult with Ecology prior to employing other pile removal methods. Piles will be disposed of at an approved off-site upland disposal facility.

D. Construction materials to be used:

The Cleanup Project consists of an engineered cap to isolate contaminated sediments. Capping involves placing granular material to provide chemical confinement and to physically isolate contaminated material to protect biological receptors (e.g., benthic infauna, forage fish, and crabs). Subject to final design refinements, the total cap thickness including overplacement allowances would be approximately 18 inches in SMAs 1 and 2 within the intertidal zone between approximately +10 and 0 feet MLLW. In SMA-3, additional cap thickness (up to 36 inches) would be placed to create a stable embankment slope within the intertidal and shallow subtidal zone down to approximately -8 feet MLLW. Material specifications will be refined during design in coordination with permitting agency and stakeholder reviews to optimize habitat functions, but the material is expected to consist of a mixture of clean sand and gravel up to approximately 8 inches in diameter, depending on the location.

Approximately 23,000 cubic yards of capping material will be placed in SMAs 1 through 3. Up to approximately 20,000 cubic yards of clean sand and gravel could be temporarily stockpiled at the potential staging and transload sites shown on Figure 2.

E. Work corridor:

Three SMAs have been delineated within Shelton Harbor that will be addressed by the Cleanup Project (Figures 2, 3, 4, and 5) as described below:

- SMA-1: Approximately 4.4 acres in the Shelton Creek delta (within the footprint of the Restoration Project); see Figure 3
- SMA-2: Approximately 0.6 acre in the former marine railway area (also within the footprint of the Restoration Project); see Figure 4
- SMA-3: Approximately 3.5 acres in the southwestern harbor (outside of the footprint of the Restoration Project); see Figure 5

Approximately 260 creosote-treated piles will be removed in the areas of SMA-1 and SMA-2 to facilitate cap construction (Figure 2) – either as part of the Cleanup Project or as part of the Restoration Project depending on timing.

F. Staging areas and equipment wash outs:

Three potential staging and transload sites areas have been identified in upland areas adjacent to the SMAs; shown in Figure 2. Staging will occur in areas developed for industrial uses and no vegetation or habitat will be affected.

G. Stockpiling areas:

Up to 20,000 cubic yards of clean sand and gravel could be temporarily stockpiled at the potential staging and transload sites shown on Figure 3. No grading is needed for upland staging areas, and only relatively minor grading (less than 1,000 cubic yards) is needed to facilitate safe access to adjacent tideflats.

Removed pilings may also be temporarily stockpiled in upland staging areas prior to disposal. If pilings will be staged in the upland area, the pilings will be contained to prevent contaminated material from entering Shelton Harbor.

Stockpiling will occur in areas developed for industrial uses and no vegetation or habitat will be affected.

H. Running of equipment during construction:

Equipment will mainly be in operation during daytime hours, in accordance with City of Shelton requirements for construction activities. All equipment will be confined to the work corridor and staging areas. The barge-mounted equipment may remain at the adjacent Shelton Harbor area overnight.

I. Soil stabilization needs / techniques:

Erosion could occur from the Project during fill and/or stockpiling activities. BMPs, including preparation of a Temporary Erosion and Sedimentation Control (TESC) Plan in coordination with Ecology and other applicable agency requirements, will be implemented during construction activities so that any potential erosion from stockpiling and filling activities will not contribute to erosion in the area.

Conservation measures and BMPs will be employed as appropriate to control runoff and erosion, as described in Section 11.

J. Clean-up and re-vegetation:

Terrestrial habitat in the upland portion of the project area, where staging and transloading may occur, is limited because the project is located along working industrial sites. The shorelines are highly modified, and vegetation is limited to within several feet of the shoreline due to parking, paved areas, and existing boat launch structures. No native trees or shrubs will be removed or altered as a part of this proposal. Therefore, no re-vegetation activities are proposed. However, if native vegetation needs to unexpectedly be removed, revegetation would occur to return the site to current conditions.

K. Storm water controls / management:

This Project does not introduce any new impervious surface, and no new stormwater controls are needed or proposed. If a temporary staging and transload areas are used to store capping material or pilings, the material will be protected from stormwater erosion and runoff via existing stormwater controls and BMPs at the site (see Section 11 for conservation measures and BMPs).

L. Source location of any fill used:

Clean capping materials will be sourced from upland quarries.

M. Location of any spoil disposal:

No soil will be removed for disposal as part of the Cleanup Project.

7. Action Area

Please describe the action area. The action area means all areas to be affected directly (e.g., earth moving, vegetation removal, construction noise, placement of fill, release of environmental contaminants) and indirectly by the proposed action. (Example: as a direct effect, the action area for pile driving would include the area out to where the noise from the pile driving falls below the level of harm or disturbance for listed species. For vibratory hammer pile driving impacts to killer whales, this level is 120 dB. Action area will include any area where the underwater noise level may exceed 120 dB).

The action area is defined as the geographic area encompassing all of the physical, chemical, and biological changes that will occur directly or indirectly from the proposed action. Consideration of geographic footprint, noise, and turbidity is necessary to determine the extent of the action area. For this Project, the key activities are pile removal and sediment capping. The main effects will be noise and vibration and the temporary suspension of sediments in the water column. Based on these considerations, the action area has been defined based on the extent of effects from the main activities of pile removal and sediment capping.

In-water noise from construction equipment and vibratory pile removal will exceed estimated ambient noise conditions of 115 dBA across a maximum underwater area of 1.3 miles in all directions from the points of origination (Figure 7). Underwater noise will attenuate as it is intercepted by land masses, and is likely to attenuate over an even smaller area as it becomes absorbed by the substrate in the shallow intertidal and subtidal areas of Shelton Harbor, thus the estimated maximum extent of in-water noise represents conservatively large area of effects. In-air noise is expected to attenuate to ambient levels of 50 dBA over a distance of approximately 869 feet, or 0.16 mile. The action area lies within a highly active industrial area of Shelton Harbor. As a result, high disturbance is typical and expected, including in-air and in-water noise from vessel traffic and other marine industrial activity.

WAC 173-201A-210 provides guidance for a temporary zone of mixing during and immediately after necessary in-water construction activities that result in disturbance of in-place sediments. For marine waters, the point of compliance for this temporary mixing zone is 150 feet from the activity. The action area will therefore include the radius of the temporary mixing zone around each SMA, as shown in Figure 7.

The project will follow local noise control regulations. All equipment will be required to comply with pertinent U.S. Environmental Protection Agency equipment noise standards. In-water construction will be timed to occur within approved work windows to prevent impact to fish.

8. Species Information:

Identify each listed or proposed species, including terrestrial species, as well as designated or proposed critical habitat in the action area. Please include information on which listed species use are expected to be found in the action area and the potential for them to be there during project activities.

To determine what listed or proposed species may occur in the action area, contact NOAA Fisheries at the address listed below and obtain a county list of federally listed/ designated and proposed species and critical habitat from the:

U.S. Fish and Wildlife Service at: http://westernwashington.fws.gov/se/SE_List/Endangered_Species.asp

National Marine Fisheries Service at:
 510 Desmond Dr., SE # 103
 Lacey, WA 98503
 (360) 753-9530
<http://www.nwr.noaa.gov>

Table 1 presents a summary of threatened and endangered species potentially occurring in the action area (NMFS 2018; USFWS 2018a) with listed species under the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) jurisdiction identified based on the geographic boundaries of Distinct Population Segments (DPSs) and Evolutionary Significant Units (ESUs). The table also identifies whether critical habitat has been designated by NMFS or USFWS for those species within the Project vicinity. The Project will occur during the approved in-water work window for the site when the species listed in Table 1 are unlikely to be present.

Table 1.
Species and Critical Habitat with Federal ESA Status that May Occur in the Action Area

Common Name (Scientific Name)	Jurisdiction	ESA Status	Critical Habitat
Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	NMFS	Threatened (Puget Sound ESU)	Designated
Steelhead (<i>Oncorhynchus mykiss</i>)	NMFS	Threatened (Puget Sound DPS)	Designated
Bocaccio (<i>Sebastes paucispinis</i>)	NMFS	Endangered (Puget Sound/Georgia Basin DPS)	Designated Puget Sound (Does not include Shelton Harbor and Oakland Bay)
Yelloweye rockfish (<i>Sebastes ruberrimus</i>)	NMFS	Threatened (Puget Sound/Georgia Basin DPS)	Designated Puget Sound (Does not include Shelton Harbor and Oakland Bay)
Southern resident killer whale (<i>Orcinus orca</i>)	NMFS	Endangered	Designated
Marbled murrelet (<i>Brachyramphus marmoratus</i>)	USFWS	Threatened	None Designated

ESA = Endangered Species Act

USFWS identifies the following additional listed species to be present in Mason County: northern spotted owl (*Strix occidentalis caurina*), streaked horned lark (*Eremophila alpestris strigata*), yellow-billed cuckoo (*Coccyzus americanus*), Oregon spotted frog (*Rana pretiosa*), and a terrestrial invertebrate under review for listing, the Burrington jumping-slug (*Hemphilia burringtoni*) (USFWS 2018a); however, these terrestrial species are not addressed in this BE due to lack of suitable habitat within and adjacent to the action area. One candidate plant species for listing identified by USFWS to be present in Mason County is the whitebark pine (*Pinus albicaulis*); no other listed plant species occur in Mason County. This species is also not addressed in this BE due to lack of suitable habitat within and adjacent to the action area.

There are also several Endangered Species Act (ESA)-listed species under NMFS jurisdiction that occur in Washington state that are not shown in Table 1 and are not addressed in this BE due to the location of the Project action area in Shelton Harbor and the species life history and habitat requirements. These include the southern DPS of green sturgeon (*Acipenser medirostris*), leatherback sea turtle (*Dermochelys coriacea*), humpback whale (*Megaptera novaeangliae*), and southern DPS of Pacific eulachon (*Thaleichthys pacificus*). Specific reasoning for not including these species in this BE are as follows:

- Two confirmed Southern DPS green sturgeon were detected in Puget Sound in 2006, but the extent to which green sturgeon from the Southern DPS use Puget Sound is uncertain (NOAA 2009). Observations of green sturgeon in Puget Sound are much less common compared to the coastal Washington estuaries and bays, such as Willapa Bay, Grays Harbor, and the Lower Columbia River estuary. In addition, Puget Sound does not appear to be part of the coastal migratory corridor that Southern DPS fish use to reach overwintering grounds north of Vancouver Island, and was excluded from the final designated critical habitat (NOAA 2009).
- Leatherback sea turtles primarily occur in outer coastal areas and are extremely rare in Puget Sound (NOAA 2012).
- Humpback whales would not be expected to occur in South Puget Sound because they generally occur off the outer coast and would be very unlikely to occur in the narrow confines of the action area of Shelton Harbor or Oakland Bay/Hammersley Inlet (NOAA 1991).
- The Southern DPS of Pacific eulachon are not expected to occur in Puget Sound. The majority of the population resides in the Columbia River basin (NMFS 2017).

The Eastern DPS of Steller sea lion was removed from the list of threatened species under the ESA (78 Federal Register [FR] 66140) in December 2013.

9. Existing Environmental Conditions:

Describe existing environmental conditions for the following:

A. Shoreline riparian vegetation and habitat features

The shoreline in the vicinity of the Project site is predominately developed with industrial land use facilities, parking areas, and boat launch structures with vegetation limited to within several feet of the shoreline. Most of the shoreline is developed and consists of armored bulkheads, embankments, deltas, and beaches, with little vegetation. The areas that consist of bulkheads and embankments are considered steep slopes (City of Shelton 2018). Existing limited riparian vegetation is characterized by shrubs and deciduous trees. No listed plant species are known to be on or near Shelton Harbor. There are invasive species (e.g., Himalayan blackberry) observed on or near the shoreline action area.

B. Aquatic substrate and vegetation (include information on the amount and type of eelgrass or macroalgae present at the site)

As part of the Puget Sound Initiative for restoration and recovery of Puget Sound, Ecology identified Oakland Bay and Shelton Harbor Sediments Cleanup Site as one of seven high priority areas in Puget Sound for cleanup and restoration because of its important habitat and valuable natural resources. A 2008 study reported elevated surface sediment dioxin/furan concentrations at the Site, particularly within the Shelton Harbor Sediment Cleanup Unit (Herrera 2010). Thus, based on Ecology's previous evaluations (Ecology 2013, 2017), the following chemicals of concern have been identified within the Shelton Harbor Sediment Cleanup Unit:

- Toxicity from wood debris breakdown products
- Dioxins/furans
- Polynuclear aromatic hydrocarbons
- Copper
- Tributyltin

Within the SMA footprints and temporary zone of sediment mixing, sediments are characterized as estuarine mudflat and mud-wood debris with no aquatic vegetation (Anchor Environmental 2002). The area affected by in-air noise includes areas with 51-75% riparian vegetation overhang adjacent to Shelton Harbor. The maximum area affected by in-water noise includes subtidal areas with no aquatic vegetation in Oakland Bay and subtidal areas with up to 25% aquatic vegetation cover, comprised of green, brown and red algae species. No eelgrass was observed (Anchor Environmental 2002).

C. Surrounding land/water uses

Upland areas abutting Shelton Harbor were developed through historic fill activities within the shoreline adjacent to Shelton Harbor. Most of the uplands consist of compacted dirt and gravel, and paved roads associated with the industries located on the adjacent property

D. Level of development

Shelton Harbor is developed for urban industrial uses, used as a working lumber yard with upland- and aquatic-based industrial activities. Adjacent properties are developed for commercial uses including a yacht club, railroad, and residential and commercial buildings associated with the City of Shelton. Areas affected by in-water noise include shorelines adjacent to low-density residential development in Hammersley Inlet.

E. Water quality

Waters in Shelton Harbor are categorized by Ecology as either Category 2, waters of concern, or Category 4a for Inner Shelton Harbor, with a U.S. Environmental Protection Agency-approved Total Maximum Daily Load (TMDL) in place (Ecology 2018). Inner Shelton Harbor has been placed on the federal 303(d) list (1996, 1998, and 2004) for not meeting state water quality standards for fecal coliform bacteria (Ecology 2004).

F. Describe use of the action area by listed salmonid fish species.

Goldsborough and Shelton Creeks provide watershed inputs to Shelton Harbor and are productive salmonid streams. In 2000, Simpson and the U.S. Army Corps of Engineers, in conjunction with the Washington Department of Fish and Wildlife and the Squaxin Island Tribe, removed a 33-foot-high dam in Goldsborough Creek, improving fish passage for listed Chinook salmon (*Oncorhynchus tshawytscha*), and Steelhead (*O. mykiss*)

There is no current or historical evidence of bull trout occurring in Oakland Bay or Hammersley Inlet. The Nisqually River is the nearest river with documented presence of bull trout, approximately 25 miles from Shelton Harbor by water (WDFW 2018a), with marine shoreline areas of the Puget Sound to the east and north of Nisqually River listed as Critical Habitat.

Other native salmonids known to spawn in Goldsborough Creek include coho salmon (*O. kisutch*; WDFW 2018a) and Western South Sound Coastal Cutthroat trout (*O. clarkii clarkii*; Kuttel 2002). Chum salmon that originate from Shelton Creek and other streams in the Oakland Bay and Hammersley Inlet areas of the Puget Sound may migrate through or rear in Shelton Harbor (WDFW 2018a). Sockeye (*O. nerka*) and pink salmon (*O. gorbuscha*) have also been observed in low numbers on the spawning grounds of the area's tributaries, and are considered strays.

G. Is the project located within designated / proposed bull trout or Pacific salmon critical habitat? If so, please address the proposed projects' potential direct and indirect effect to primary constituent elements (Critical habitat templates can be found on the Corps website at: <http://www.nws.usace.army.mil/Missions/CivilWorks/Regulatory/PermitGuidebook/EndangeredSpecies.aspx>, select Forms, Tools and References; Forms and Templates; Critical Habitat Assessment Forms.

Critical habitat in the action area has been designated for the Puget Sound ESU of Chinook salmon and Puget Sound DPS of Steelhead, considered in this BE (USFWS 2018b). Table 2 summarizes the potential Project effects on Chinook salmon and steelhead (PCEs).

The PCEs for Chinook salmon that are present within the action area, as discussed in Table 2, are PCEs 4, 5, and 6. The Project is located in a working harbor in an urban industrial area of Shelton Harbor that includes riprap armoring, and poor riparian and marsh vegetation conditions. Capping activities will result in temporary disturbance to shallow water substrates and may result in, localized turbidity increases in the action area over the short-term. However, no long-term effects to the above-mentioned PCEs will result from the Project.

Table 2
Potential Project Effects on Chinook Salmon and Steelhead Primary Constituent Elements

Chinook Salmon and Steelhead PCE	PCE Present	Potential Project Effects
1. Freshwater spawning sites, with water quantity and quality conditions and substrate that support spawning, incubation, and larval development	Not present	Not applicable
2. Freshwater rearing sites, with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage that support juvenile development; and natural cover, such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks	Not present	Not applicable
3. Freshwater migration corridors free of obstruction, with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival	Not present	Not applicable

Chinook Salmon and Steelhead PCE	PCE Present	Potential Project Effects
4. Estuarine areas free of obstruction, with water quality, water quantity and salinity conditions that support juvenile and adult physiological transitions between fresh-and saltwater; natural cover, such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels, and juvenile and adult forage, including aquatic invertebrates and fishes, that support growth and maturation	Present	<p>Passage may be impeded in the action area during in-water work for a period of up to 16 weeks during the allowable in-water work window, which is when salmonids are not anticipated to be present. Temporary turbidity and construction noise effects may delay migration periodically for a period of hours during placement of the sediment capping layers or removal of pilings.</p> <p>Capping and piling removal activities will result in disturbance to shallow water substrates and may result in temporary, localized turbidity increases in the action area over the short-term.</p> <p>No long-term negative effects to water quality will result from the Project.</p>
5. Nearshore marine areas free of obstruction, with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, that support growth and maturation; and natural cover, such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels	Present	<p>In addition to the information provided in PCE 4, proposed piling removal and capping is located in an aquatic industrial zone and will not result in loss of habitat features. The work will improve substrate conditions in the biologically active zone by removing creosote treated pilings and containing sediment with chemical contaminants above cleanup criteria. The Project does not include any nearshore construction activity.</p>
6. Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, that support growth and maturation	Present	<p>Short-term effects to water quality may occur related to capping and piling removal, but turbidity is expected to be limited, short-term, and localized, and is not expected to result in any long-term effects.</p> <p>Forage fish spawning habitat is not located within the capping footprint, however in-water noise levels resulting from piling removal activities could be a short-term behavioral deterrent to spawning forage fish in Hammersley Inlet across from Shelton Harbor. No long-term modifications of prey species habitats are expected.</p>

- H. Describe use of the action area by other listed fish species (green sturgeon, eulachon, bocaccio, canary rockfish and yelloweye rockfish).

As described in Section 8, Southern DPS green sturgeon and Pacific eulachon are not expected to occur in Puget Sound and are therefore not addressed in this BE. The Puget Sound/Georgia Basin DPS of canary rockfish were delisted on January 23, 2017, and therefore will not be included in these analyses.

The closest designated nearshore designated critical habitat for bocaccio and yelloweye rockfish is located outside of the Shelton Harbor within Hammersley Inlet, approximately 1.4 miles from the Project activities (NOAA 2014). A small portion of the action area for in-water noise overlaps the designated nearshore critical habitat for the Puget Sound/Georgia Basin DPS (effective February 11, 2015) of the listed species, bocaccio and yelloweye rockfish (approximately 1/4 mile of Hammersley Inlet).

Presence of adults of these species within the Project action area is unlikely, as there are no essential deepwater habitat features likely to attract these fish. The current shoreline of the Shelton Harbor and nearby Hammersley Inlet consists of mainly shallow intertidal and subtidal areas with fine sediments, which would not be attractive habitat to adults as they require complex bathymetric environments. The capping project is at a depth of up to approximately -8 feet MLLW, and the maximum depth of Shelton Harbor is approximately -20 feet MLLW. The maximum depth in the action area affected by in-water noise is -72 feet MLLW and the depth of nearshore critical habitat that could be affected by noise is less than -30 feet MLLW. The water depth of the area is far too shallow to be utilized by adults, as an essential habitat feature consists of a depth of approximately 98 feet or more.

Essential nearshore habitat features, such as substrates composed of sand, rock, and/or cobble that also support kelp, are not located within the capping area. The substrate in the action area is primarily mud and sand, with smaller areas of rock and cobble that could be affected by in-water noise. The water quality conditions within Shelton Harbor are compromised due to industrial uses. Potential nearshore habitat in the action area has low densities of kelp, or other aquatic vegetation preferred by the species. As it is very unlikely that adults would be present within or in the vicinity of the action area, and essential nearshore habitat conditions are not located within the action area, the presence of larval or small juveniles would be incidental. The well-developed larvae are born with limited abilities to swim, maintain buoyancy in the water column, and feed. These larvae are pelagic for several months and occur in the water column from near the surface to depths of 328 feet or more. Larvae and small juveniles located within the greater Puget Sound during the spring and summer months are subject to currents that could potentially drift the fish into the Project area.

Deeper and less disturbed areas within Hammersley Inlet provide more suitable habitat for all life stages of these species, and these species could be present within that area any time of year; incidental occurrences of larvae or small juveniles within the action area are possible, although unlikely.

- I. Is the project located within designated/proposed critical habitat for any of the species listed below? If so please address the proposed projects' potential direct and indirect effect to primary constituent elements. Please see the NOAA-Fisheries and US Fish and Wildlife websites (www.nwr.noaa.gov and www.fws.gov/pacific respectively) for further information.

<i>Southern resident killer whale</i>	<i>Marbled murrelet</i>
<i>Northern spotted owl</i>	<i>Western snowy plover</i>
<i>Green sturgeon</i>	<i>Eulachon</i>

Designated critical habitat that occurs in the action area for the above-mentioned species includes southern resident killer whale. In Puget Sound, water that is more than 20 feet deep is designated for critical habitat, which includes the portions of Hammersley Inlet and Oakland Bay in the action area affected by in-water noise. No critical habitat for other listed species occurs in the vicinity of the project.

- J. Describe use of action area by marbled murrelets. How far to the nearest marbled murrelet nest site or critical habitat? Some information is available on the Fish and Wildlife Service website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?scode=B08C>.

The Project is located in an urban-industrial environment that does not include suitable nesting habitat for marbled murrelets. Marbled murrelets could forage in Oakland Bay about 0.5 mile east of the Project action area, but would be unlikely to forage in the heavily-trafficked Shelton Harbor. The WDFW Priority Habitats and Species maps do not document marbled murrelets in the vicinity of the Project action area (WDFW 2018a). According to USFWS critical habitat maps (USFWS 2018), the nearest critical habitat for marbled murrelet is approximately 20 miles south and approximately 15 miles north of the Project action area.

- K. Describe use of action area by the spotted owl. How far to the nearest spotted nest site or critical habitat? Some information is available on the Fish and Wildlife Service website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?scode=B08B>.

The Project is located in an urban-industrial environment that does not include suitable nesting and foraging habitat for northern spotted owl. The WDFW PHS maps do not document northern spotted owl in the vicinity of the Project action area (WDFW 2018a). According to USFWS critical habitat maps (USFWS 2018), the nearest critical habitat for northern spotted owl is approximately 25 miles southeast and 15 miles north of the Project action area.

- L. **For marine areas only:** Describe use of action area by Southern Resident killer whales. How often have they been seen in the area and during what months of the year? For information on noise impacts on killer whales and other marine mammals, please see the National Marine Fisheries website: <http://www.nwr.noaa.gov/Marine-Mammals/MM-consults.cfm>.

Killer whales are infrequently sighted in the nearby waters of Hammersley Inlet and Oakland Bay; approximately 4 sighting events have been reported in the past nine years (Orca Network, 2017). Entry into the action area is likely limited for killer whales by tides and shallow passages in the eastern portion of Hammersley Inlet that are less than -15 MLLW. Although it is very unlikely, a killer whale could attempt to enter Shelton Harbor. Entry of killer whales into Shelton Harbor would be limited by its shallow depths, less than 20 feet deep in subtidal areas, and marine traffic associated with the yacht club and industrial zones that deter whales from the area. Noise created by piling removal and other construction equipment could affect killer whales in Hammersley Inlet/Oakland Bay, but noise will dissipate over short distances within the action area due to shallow depths.

- M. **For marine areas and Columbia River:** How far is the nearest Steller sea lion haulout site from the action area? Describe their use of the action area. See the National Marine Fisheries website:

<http://www.nwr.noaa.gov/Marine-Mammals/MM-consults.cfm> for information on the Steller sea lion and location of their haulout sites.

The Eastern DPS of Steller sea lion was removed from the list of threatened species under the ESA (78 FR 66140) in December 2013. Stellar sea lions are known to haul out on log booms in Shelton Harbor in groups of less than 100 individuals (Jeffries et al. 2000).

N. **For marine areas only: Forage Fish Habitat** – only complete this section if the project is in tidal waters.

Check box if Washington Department of Fish and Wildlife (WDFW) documented habitat is present. Go to the WDFW website for this information: <http://wdfw.wa.gov/fish/forage/forage.htm>, then search for each species under the link to Biology, then the link to Documented Spawning Grounds (if available, please attach a copy of the Hydraulic Project Approval from WDFW):

Surf Smelt: **Pacific Herring:** **Sand Lance:**

Check box if the proposed action will occur in potentially suitable forage fish spawning habitat:

Surf Smelt: **Pacific Herring:** **Sand Lance:**

If no boxes are checked, please explain why site is not suitable as forage fish spawning habitat.

Documented spawning locations occur in Oakland Bay and Hammersley Inlet adjacent to and across from Shelton Harbor, in the action area that could be affected by in-water noise created by vibratory piling removal (WDFW 2018b). Surf smelt may spawn at any time of year, but in Hood Canal and South Puget Sound areas, spawning occurs in at least July to April (WDFW 2015).

No documented habitat for surf smelt, pacific herring, and sand lance exist in the capping footprint. The Project is located in an industrial harbor used for lumber processing.

Please describe the type of substrate and elevation and presence of aquatic vegetation at the project area. For example:

At +10 to +5 feet above MLLW, there is no aquatic vegetation, the substrate consists of large cobbles.

At +5 to +1 foot above MLLW, there is eelgrass and the substrate consists of fine sand.

At 0 to -14.2 MLLW, in the area of sediment capping, there is no aquatic vegetation and the substrate consists of mudflat and mud-wood debris. In the total action area affected by in-water noise, the elevation extends to a maximum depth of -72 MLLW where Hammersley Inlet becomes Oakland Bay. Substrates in the total action area include intertidal and shallow subtidal areas of mudflat, mud/sand, rock/cobble, and sand/shell/cobble. Subtidal vegetation coverage ranges from none to 25% cover with brown, green and red seaweed.

10. **Effects Analysis**

Describe the direct and indirect effects of the action on the proposed and listed species as well as designated and proposed critical habitat within the action area. Consider the impact to both individuals and the population. Discuss the short-term, construction-related, impacts as well as the long-term and permanent effects.

Direct Impacts

Potential direct Project effects on listed or proposed species, suitable habitat, critical habitat, and food resources are:

- Temporary in-water noise effects from vibratory pile removal
- Temporary airborne noise effects due to construction equipment associated with capping placement and pile removal activities
- Localized turbidity and water quality effects associated with capping placement and pile removal activities
- Short-term substrate disturbance during capping placement and pile removal activities

Permanent negative impacts are not anticipated as a result of the Cleanup Project; however, the long-term impact will be beneficial to the benthic habitat from addressing sediment with chemical contaminants above cleanup criteria in the biologically active zone and removal of creosote-treated pilings. Impacts to critical habitat were discussed in Section 9.G. of this BE.

In-water and Airborne Noise

Noise will be created by vibratory piling removal and other equipment used to place capping materials. In-water noise presents a potential direct and indirect effect to listed salmonids, marbled murrelets and killer whales. Airborne noise has the potential to disturb marbled murrelets that may be present nearby.

Impacts on fishes or other aquatic organisms have not been directly observed in association with the use of vibratory hammers for pile removal in water. This may be due to the slower rise time and the fact that the energy produced is spread out over the time it takes to vibrate the pile (WSDOT 2013). Underwater sound pressure for vibratory removal of this type of pile is expected to be approximately 150 dB_{RMS} (measured at 52 feet from the source) (Laughlin 2011). This sound pressure is expected to attenuate at a rate of 4.5 dB per doubling distance according to the practical spreading model used by USFWS and NMFS (Davidson 2004). Sound pressure will also stop when it reaches the nearest land mass and will attenuate more rapidly in shallow water (Rogers and Cox 1988).

Ambient in-water noise levels have not been measured in Shelton Harbor. A conservative assumption is that baseline noise levels may reach those that have been measured near the eastern terminus of the Hood Canal Bridge, ranging from 115 to 135 decibels root mean square (dB_{RMS})¹ (Carlson et al. 2005). Using the accepted practical spreading model for underwater noise transmission (WSDOT 2013), sound pressure levels will decrease to ambient levels of 115 dB_{RMS} within approximately 1.3 miles². The land masses located near Shelton Harbor are expected to limit this boundary as per Rogers and Cox (1988), as shown on Figure 7.

Underwater noise levels within 50 feet of the vibratory hammer source may equal or exceed 150 dB_{RMS}, the threshold above which potential behavioral effects to listed salmonids, and marbled murrelets could

¹ For pile work, this is the square root of the mean square of a single pile driving impulse pressure event.

² Practical Spreading Model: $R1 = (10(TL/TLC))(R2)$ where $R1$ = distance from source; TL = transmission loss in dB between expected dB and threshold dB; TLC = transmission loss constant (bubble curtain dB attenuation + sound attenuation); and $R2$ = distance from source of initial sound measurement. For the limit of ambient noise levels, $R1 = (10([150-115]/15))(10) = 2,154$ meters or 1.3 miles. Practical spreading model calculator available at: http://www.wsdot.wa.gov/NR/rdonlyres/1C4DD9F8-681F-49DC-ACAF-ABD307DAEAD2/0/BA_NMFSpileDrivCalcs.xls.

occur (NMFS 2012). Noise levels may exceed the threshold of 120 dBRMS for causing behavioral disruption to marine mammals by continuous noise (NMFS 2016). In-water noise levels are not anticipated to exceed injurious levels for fish, marbled murrelets or killer whales. Noise that could cause behavioral disturbances to these species in-water will dissipate over short distances in the shallow inter-tidal and sub-tidal areas of Shelton Harbor due to absorption by the substrate. Construction equipment noise may be masked by background noise caused by industrial and commercial activity in Shelton Harbor.

Ambient in-air noise has not been measured for Shelton Harbor. Typical ambient in-air noise levels for light auto traffic (measured at 100 feet) at Friday Harbor were measured at approximately 50 dBA (decibels on A-weighted scale³; WSDOT 2013⁴); in comparison, forested areas have been measured at 45 to 52 dBA (WSDOT 1994; USFS 1996). Therefore, the conservative value of 50 dBA for background noise levels is can be assumed for Shelton Harbor. Heavy equipment and vibratory piling removal will be the loudest airborne activity related to the Project, expected to generate noise of up to 81 dBA (measured at 50 feet from the source) (WSDOT 2013; Laughlin 2011). This sound is expected to attenuate at a rate of 6 dB (decibels) per doubling of distance according to the standard reduction for point source in-air noise at hard-site (paved) conditions (WSDOT 2013). Based on this attenuation rate, sound levels are calculated to decrease to ambient noise levels of 50 dBA over a distance of approximately 869 feet, or 0.16 mile.

Temporary in-water noise effects to listed salmonids will be highly unlikely and discountable because work will occur during the approved in-water work window for the area when these fish are not expected to be present. In-water and airborne noise effects to marbled murrelets and killer whales will be highly unlikely and discountable because these species are unlikely to be present near the project area.

Degradation of Water Quality

Capping activities can affect water quality by temporarily suspending sediments and increasing turbidity. Turbidity occurs when suspended organic and inorganic particles in the water column scatter light wavelengths and reduce the light available to underwater environments. Sediments can be suspended during capping activities, which increase turbidity throughout the water column at varying levels. Levels of suspended sediment are expected to be highest closest to the capping operations. The extent of suspension is a byproduct of several factors, including physical properties of the capping material, site conditions, nature and extent of debris and obstructions, and operational considerations of the equipment and operator. For example, in dredging projects, sediment plume sizes typically decrease exponentially with movement away from the dredging site both vertically and horizontally, as well as with time due to movement of suspended material with tides (Bridges et al. 2008; Nightingale and Simenstad 2001), however turbidity impacts are expected to be smaller with capping compared to the level of disturbance created by dredging.

Temporary and localized turbidity may occur during pile removal and capping. Typical effects on salmonids from high turbidity include direct mortality, gill tissue damage, physiological stress, and behavioral effects; direct mortality to fish only occurs at very high turbidity levels such as those that can occur during in-water dredged material disposal. Studies of turbidity effects by Redding et al. (1987),

³ For sound pressure in air, the reference amplitude is usually 20 micro-Pascals (μPa). One Pascal is the pressure resulting from a force of one newton exerted over an area of 1 square meter. Sound measured on an A-weighted scale is in reference to 20 μPa in this document.

⁴ Source cited by WSDOT (2013) is <http://www.nonoise.org/resource/educat/ownpage/soundlev.htm>.

Servizi and Martens (1987), Salo et al. (1980), Bisson and Bilby (1982), and Berg and Northcote (1985) indicated that stress responses and behavioral effects such as impaired feeding and migration disruption occur at levels exceeding (and far higher than) any turbidity anticipated as a result of Project activities. Temporary turbidity effects to listed Chinook salmon and steelhead will be highly unlikely and discountable because work will occur during the approved in-water work window for the area when these fish are not expected to be present.

It is anticipated that turbid sediments will disseminate to background levels within 150 feet of the bucket, in compliance with Washington State water quality standards. Water quality monitoring will be performed during in-water construction under Ecology oversight.

No potential exposure to contaminated sediment is expected due to resuspension with capping activities. Minimal amounts of contaminated sediment may become resuspended with piling removal creating a short-term adverse effect on water quality.

Overall, water quality conditions in the Port Gamble Bay will improve in the long term as a result of the proposed action. The remediation of areas of contaminated sediment will result in decreases in, or removal of, exposure pathways to chemicals of concern in sediment. Exposure of listed species to contaminants could potentially occur during pile removal because when contaminated sediments are mobilized, some portion of the sediment will be resuspended in the water column, but this is expected to be minimal and to be short term.

Disturbance of Benthic Species

Capping and piling removal will occur within a relatively small area containing limited benthic species. Capping will cause the temporary but complete removal of benthic species within the SMAs. This could lead to a temporary loss of foraging opportunities for aquatic species, including salmonids, in the vicinity of the SMAs. However, this is expected over a small area of Shelton Harbor and is not expected to impact feeding opportunities for species in the overall action area and the recolonization of the SMAs with benthic species is expected to occur quickly, within 1 to 2 years.

Disturbance to Critical Habitat/EFH

Sediment capping and piling removal actions may temporarily impact PCEs of critical habitat as previously discussed or function of EFH; please see additional discussion in Section 13 regarding the EFH impact assessment.

Indirect Impacts

Potential indirect Project effects on listed or proposed species, suitable habitat, critical habitat, and food resources are:

- Long-term substrate improvements from placement of new capping and sand/gravel material over contaminated sediment, leading to beneficial effects to benthic habitat quality
- Long-term beneficial effects of removing creosote-treated piles from the environment

It is possible, but highly unlikely, that fuel or lubricants from the barge or equipment could enter the water. The barge carries only a small amount of fuel on-board, and must carry oil response cleanup equipment at all times. Crews are trained to deploy cleanup booms and materials in the event of a spill.

Effects from Interdependent Activities

Interdependent actions have no independent utility apart from the proposed action. There are no interdependent activities associated with the Project, and thus no impacts will occur from interdependent activities.

Effects from Interrelated Activities

Interrelated actions are part of a larger action and though they rely upon that action for their justification, the action could occur as part of another project. For this Project, there are no interrelated activities, and thus, no impacts will occur from interrelated activities.

11. Conservation measures:

Conservation measures are measures that would reduce or eliminate adverse impacts of the proposed activity (examples: work done during the recommended work window (to avoid times when species are most likely to be in the area), silt curtain, erosion control best management practices, percent grating on a pier to reduce shading impacts).

Proposed work window

Due to fisheries' protective restrictions, no in-water construction work can be performed in Shelton Harbor during February 16 through July 14 of any year unless otherwise modified by applicable regulatory agencies.

Other conservation measures

Contractor staging will occur on barges and in existing developed upland areas. Conservation measures and BMPs have been incorporated into the Project design in order to minimize environmental effects and minimize the exposure of sensitive species to potential effects from sediment capping and piling removal. The following conservation measures and BMPs will be implemented to minimize environmental impacts during construction:

- Work shall occur during the regulatory agency-approved in-water work windows, which may include a work window extension.
- All permit conditions issued by the regulatory agencies, as well as the substantive requirements of state and local laws that shall be integrated into the Ecology-approved final design of the Cleanup Project, shall be complied with for the sediment cleanup action.
- Turbidity and other water quality parameters shall be monitored to ensure construction activities are in compliance with Washington State Surface Water Quality Standards (173-201A WAC) and in accordance with the Ecology-issued Water Quality Certification and National Pollutant Discharge Elimination System construction stormwater general permit, if required.
- The contractor shall develop a Temporary Erosion and Sedimentation Control (TESC) plan in coordination with Ecology and other applicable agency requirements. The TESC plan shall be implemented before, during, and after construction activities so that any potential erosion from stockpiling activities shall be avoided or minimized to the maximum extent practicable.
- The contractor shall be responsible for the preparation of a Spill Prevention, Control, and Countermeasure Plan to be used for the duration of the Project to safeguard against an unintentional release of fuel, lubricants, or hydraulic fluid from construction equipment.
- Excess or waste materials shall not be disposed of or abandoned waterward of mean higher high water or allowed to enter waters of the State.

- Imported fill material shall be clean and obtained from approved sources. Material shall be characterized and tested in accordance with Ecology protocols to determine whether it is suitable for its intended use.
- The removal of creosote-treated piles and wood structures will be consistent with U.S. Environmental Protection Agency “Best Management Practices for Pile Removal and Disposal” (March 1, 2007). Piles and the creosote-treated wood structures will be disposed of at an approved off-site upland disposal facility.

12. **Determination of Effect:**

Provide a summary of impacts concluding with statement(s) of effect, by species. Even projects that are intended to benefit the species might have short-term adverse impacts and those must be addressed. Only the following determinations are valid for listed species or designated critical habitat:

No effect. Literally no effect. No probability of any effect. The action is determined to have ‘no effect’ if there are no proposed or listed salmon and no proposed or designated critical habitat in the action area or downstream from it. This effects determination is the responsibility of the action agency to make and does not require NMFS review.

May Affect, Not Likely to Adversely Affect (NLAA). Insignificant, discountable, or beneficial effects. The effect level is determined to be ‘may affect, not likely to adversely affect’ if the proposed action does not have the potential to hinder attainment of relevant properly functioning indicators and has a negligible (extremely low) probability of taking proposed or listed salmon or resulting in the destruction or adverse modification of their habitat. An insignificant effect relates to the size of the impact and should never reach the scale where take occurs. A ‘discountable effect’ is defined as being so extremely unlikely to occur that a reasonable person cannot detect, measure, or evaluate it. This level of effect requires informal consultation, which consists of NMFS and/or USFWS concurrence with the action agency’s determination.

May Affect, Likely to Adversely Affect (LAA). This form is not appropriate for use with a project that is LAA listed species. Please see the Biological Assessment (BA) template on the Corps website: http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=mainpage_ESA

Analysis of Effects to Species

Potential effects to the listed species include physical and behavioral impacts from temporary turbidity and loss of benthic food resources as a result of capping actions.

Chinook Salmon, Steelhead, Bocaccio and Yelloweye Rockfish

Potential adverse effects on juvenile and adult salmonids and rockfish are not expected to be significant. Based on the guidance and definitions provided above and the previously discussed Project effects, the effect determination for these species is that the Project **may affect, but is not likely to adversely affect Puget Sound Chinook salmon, Puget Sound steelhead, bocaccio and yelloweye rockfish**. Justification for these determinations is as follows:

- In-water work will occur during the in-water work window when listed salmonids are not expected to be present. Adult and juvenile rockfish are highly unlikely to be present in the action area. In addition, fish that are present will experience effects that are discountable or insignificant.

- Turbidity effects (such as direct mortality, gill damage, stress, and behavioral changes) are not generally seen at the suspended sediment concentrations generated from capping or piling removal, particularly over a relatively small area over a short period of time.
- In-water noise caused by piling removal and construction equipment will dissipate over short distances and may be masked by background noise levels caused by industrial and commercial activities in Shelton Harbor.
- Substrate disturbance and disturbance of benthic and epibenthic prey items will occur during capping and piling removal. However, this effect will be short-term and temporary, and no long-term modifications of salmonid prey species habitats are expected. These effects are therefore considered insignificant.
- In the long-term, benthic habitat conditions will be improved in Shelton Harbor due to addressing the sediment contamination in the biologically active zone.
- Short-term and localized impacts to water quality could result in the form of short-term changes in water column turbidity and suspended contaminants for fish and fish prey, and there is minimal risk of acute contaminant exposure to fish that may be in the area. Direct fish mortality or stress from suspended sediment is not expected to occur, and water quality effects are not expected to be at a level that would affect the abundance of water column prey items. These effects are thus determined to be insignificant.
- Operations will be stopped temporarily if injured, sick, or dead listed species are located in the Project area. The contractor will follow appropriate notification protocol as described in all permits issued for this work.

Chinook Salmon and Steelhead Critical Habitat

Based on the guidance and definitions provided above and the previously discussed Project effects, the effect determination for critical habitat for these species is that the Project may affect, but is not likely to adversely affect designated critical habitat for Puget Sound Chinook salmon and Puget Sound Steelhead. The “may affect, but not likely to adversely affect” determination is appropriate for these species’ critical habitat for the following reasons:

- In-water work will be restricted to the work window, as described previously.
- Substrate disturbance effects to prey species will be insignificant and temporary because substrates have been previously disturbed in the area due to industrial uses and benthic organisms will rapidly recolonize the capped area. Adult salmonids are not expected to feed upon epibenthic prey. Forage fish would not be expected to spawn in or near the action area because suitable substrates are lacking, and eelgrass is not present.
- In the long-term, benthic habitat conditions will be improved in Shelton Harbor due to addressing the sediment contamination in the biologically active zone.
- Impacts to water column habitat are expected to be temporary and localized, and no long-term water quality effects are expected. Water quality effects are not expected to be at a level that would affect the abundance of water column prey items; therefore, these effects are considered insignificant.
- There will be no effect on water quantity or flows.
- There will be no effect on availability of natural cover.
- Fish passage effects, if any, would be limited to the duration of in-water work during capping and piling removal, which will occur during the in-water work window when salmonids are not expected to be present. These effects are thus discountable.

- BMPs will be in place to minimize the potential for spills to occur and to minimize the effect if they do occur. These effects are therefore expected to be insignificant.

Killer Whale

Potential adverse effects on killer whale are not expected to be significant. Based on the guidance and definitions provided above and the previously discussed Project effects, the effect determination is that the Project **may affect, but is not likely to adversely affect** killer whale. Justification for this determination is as follows:

- The likelihood is extremely low that killer whales could occur in the shallow waterway of the action area during capping or piling removal activity and be temporarily displaced or subject to temporary water quality effects. Therefore, these effects are considered discountable.
- In-water noise caused by piling removal and construction equipment will dissipate over short distances and may be masked by background noise levels caused by industrial and commercial activities in Shelton Harbor.
- Construction of the Project will not occur when juvenile and adult Chinook salmon (primary killer whale prey items) are likely to be present. Project effects to Puget Sound Chinook salmon, the killer whales' favored food source, are insignificant or discountable.
- BMPs will be in place to minimize the potential for spills to occur and to minimize the effect if they do occur. These effects are therefore expected to be insignificant.

Killer Whale Critical Habitat

Based on the guidance and definitions provided above and the previously discussed Project effects, the effect determination is that the Project is **may affect, but is not likely to adversely affect** designated critical habitat for killer whale. Justification for this determination is as follows:

- The majority of the action area (Shelton Harbor and nearshore areas of Oakland Bay and Hammersley Inlet) is excluded from Killer Whale Critical Habitat due to shallow depths

Marbled Murrelet

Potential adverse effects on marbled murrelets are not expected to be significant. Based on the guidance and definitions provided above and the previously discussed Project effects, the effect determination for this species is that the Project **may affect, but is not likely to adversely affect** marbled murrelets.

Justification for this determination is as follows:

- The likelihood is extremely low that marbled murrelets could occur in the action area during the Project or be temporarily displaced subject to construction activity.
- The Project is expected to have discountable effects on marbled murrelet prey species (e.g., small fish and invertebrates) during construction. Therefore, effects on marbled murrelets are considered discountable or extremely unlikely to occur.

13. **EFH Analysis**

Essential Fish Habitat (EFH) is broadly defined by the Act (now called the Magnuson-Stevens Act or the Sustainable Fisheries Act) to include “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”. This language is interpreted or described in the 1997 Interim Final Rule [62 Fed. Reg. 66551, Section 600.10 Definitions] -- Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include historic areas if 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 a species’ full life cycle.

Additional guidance for EFH analyses can be found at the NOAA Fisheries web site under the Sustainable Fisheries Division.

A. Description of the Proposed Action (may refer to BA project description)

The proposed action is described in Sections 5 and 6 of the BE.

B. Addresses EFH for Appropriate Fisheries Management Plans

The waters of Puget Sound, including the action area, are designated as EFH for the three EFH composite groups of groundfish, coastal pelagic fish, and Pacific salmon (NMFS 1998; PFMC 1998a, 1998b, 1999). The Pacific salmon composite includes Chinook, coho, and pink salmon (PFMC 1999).

C. Effects of the Proposed Action

i. Effects on EFH (groundfish, coastal pelagic, and salmon EFH should be discussed separately)

Potential adverse effects on EFH include degradation of water quality through turbidity, noise associated with capping and piling removal, and temporary impacts to benthic aquatic habitat associated with capping.

Groundfish

Forty-six groundfish species are known to occur in the vicinity of central Puget Sound, including two ESA-listed species (yelloweye rockfish and bocaccio). Potential Project effects on essential groundfish habitat will be minimal and discountable. Groundfish are not associated with the shallow habitat associated with the proposed capping and pile removal area. Turbidity will be temporary and localized and is not expected to impact primary productivity and food resources for groundfish. No eelgrass habitat or forage fish spawning areas are located within the proposed Project site. Therefore, it is concluded that the proposed Project will not adversely affect groundfish EFH.

Coastal Pelagic

Managed coastal pelagic species found in waters of central Puget Sound include northern anchovy (*Engraulis mordax*), Pacific mackerel (*Scomber japonicas*), Pacific sardine (*Sardinops sagax*), and market squid (*Loligo opalescens*). Potential Project effects on coastal pelagic habitat will be minimal and discountable. Coastal pelagic fish use deeper water than Shelton Harbor, Oakland Bay and Hammersley Inlet. Turbidity will be temporary and localized and is not expected to impact primary productivity and food resources for coastal pelagic species. No eelgrass habitat or forage fish spawning areas are located

within the proposed capping sites. Therefore, it is concluded that the proposed Project will not adversely affect coastal pelagic EFH.

Salmon

Managed salmon species found in waters of Puget Sound include Chinook salmon, coho salmon (*Oncorhynchus kisutch*), and Puget Sound pink salmon (*O. gorbuscha*). Potential Project effects on salmon habitat will be minimal and discountable, as discussed in Section 9.G of the BE. Turbidity will be temporary and localized and is not expected to impact primary productivity and food resources for salmon species. No eelgrass habitat or forage fish spawning areas are located within the proposed capping sites. The availability of waters and substrate necessary to support the contribution of these managed species to a healthy ecosystem will not be changed. Due to fisheries' protective restrictions, no in-water construction work can be performed in Shelton Harbor during February 16 through July 14 of any year unless otherwise modified by applicable regulatory agencies. Therefore, it is concluded that the proposed Project will not adversely affect salmon EFH.

ii. Effects on Managed Species (unless effects to an individual species are unique, it is not necessary to discuss adverse effects on a species-by-species basis)

There are no unique effects to an individual species as a result of this Project.

iii. Effects on Associated Species, Including Prey Species

No impacts on the health or availability of forage fish and other prey species are anticipated.

iv. Cumulative Effects

This project will have beneficial long-term effects on salmonids by improving the shallow intertidal zone of Shelton Harbor by expanding shallow sloped delta areas preferred by juvenile salmonids and by reducing the likelihood that contaminants will become mobilized into the food web.

D. Proposed Conservation Measures

Project conservation measures to minimize Project impacts are described in Section 11 of the BE.

E. Conclusions by EFH (taking into account proposed conservation measures)

This Project will not adversely affect groundfish, or coastal pelagic or managed salmon species EFH.

14. References:

Include any studies or papers that support statements made in this form (example: reference the source for the listed species that are covered).

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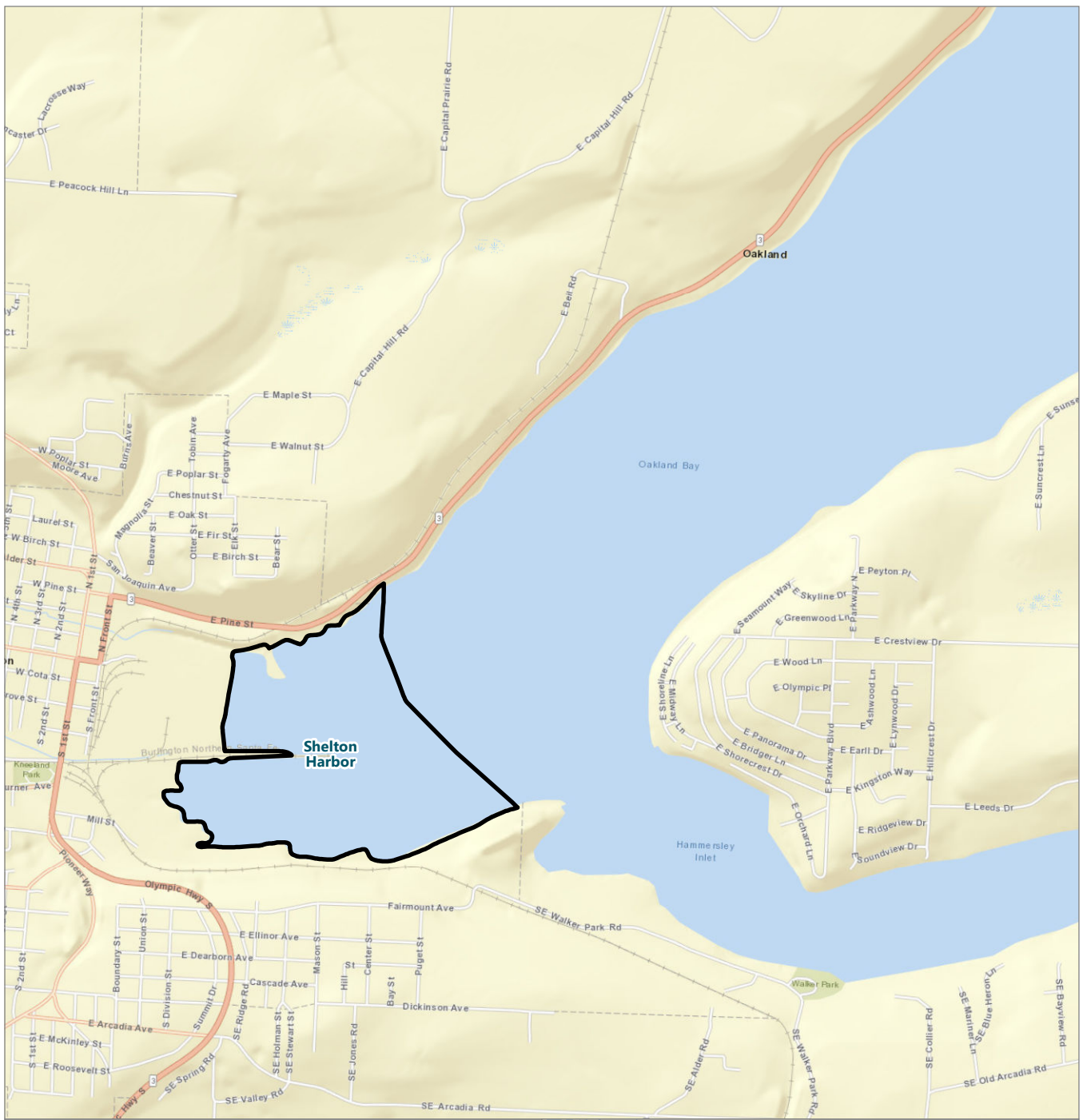
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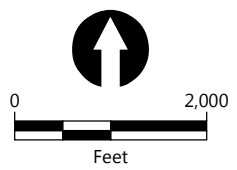
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15. Appendices:

As needed include mitigation, revegetation plans, monitoring plans, results of studies, water quality information, etc.



LEGEND:
 Shelton Harbor



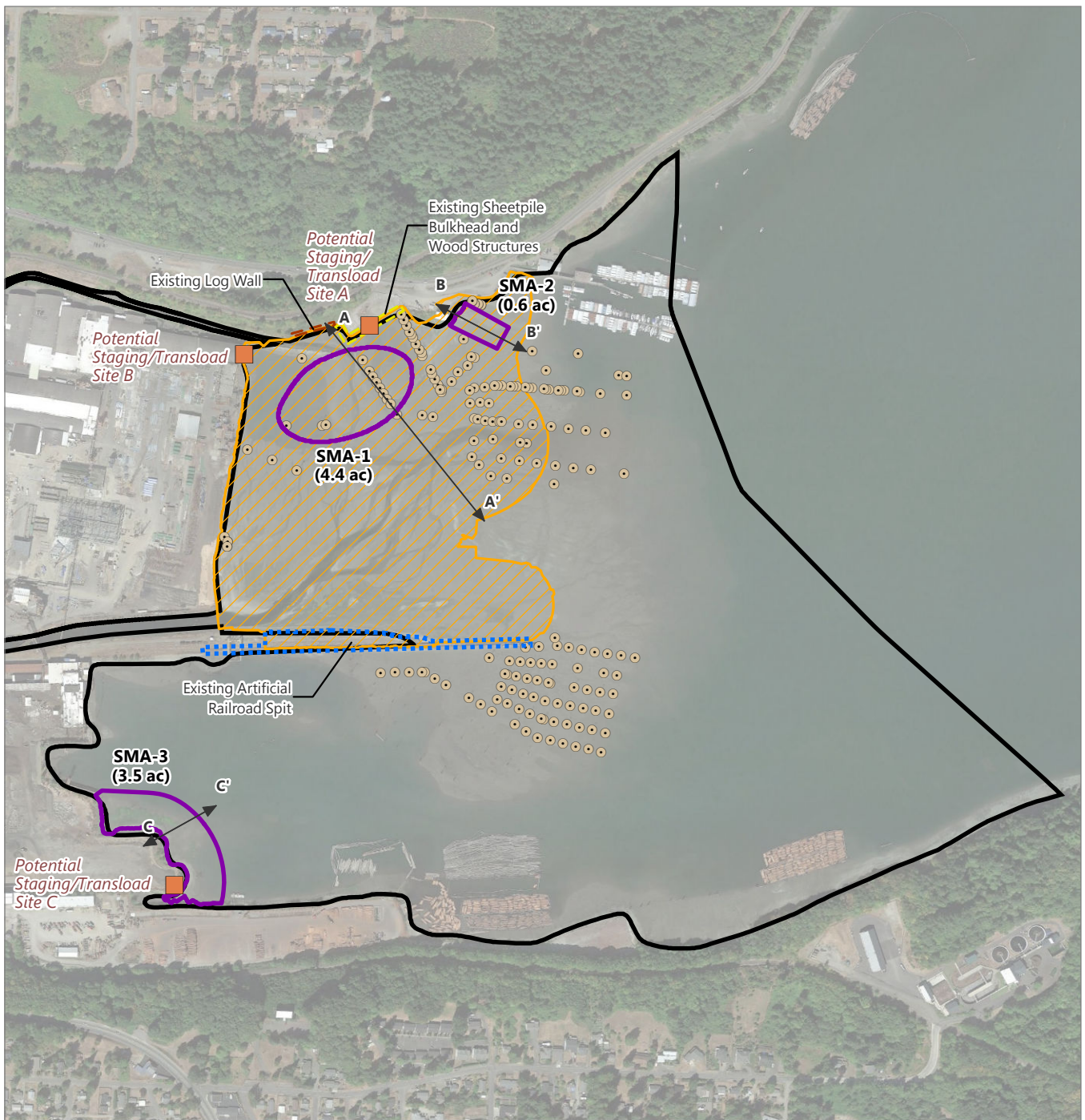
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Figure 1
Vicinity Map
 Biological Evaluation
 Shelton Harbor Interim Action Cleanup Project



Figure 2. Existing conditons for the Shelton Harbor Interim Action Cleanup Project. Goldsborough Creek and Shelton Creek pass through the lumber mill site before entering Oakland Bay.

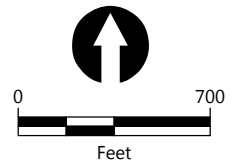


LEGEND:

- Existing Pile (Approximate)
- ▤ Existing Artificial Railroad Spit
- ▤ Existing Log Wall
- ▤ Existing Sheetpile Bulkhead and Wood Structures
- Potential Staging/Transload Site
- ↔ Extent of Cross Section

- ▭ Sediment Management Areas (SMAs)
- ▤ Habitat Restoration Area
- ▭ Sediment Cleanup Unit Boundary (Cleanup Project completed by Simpson)

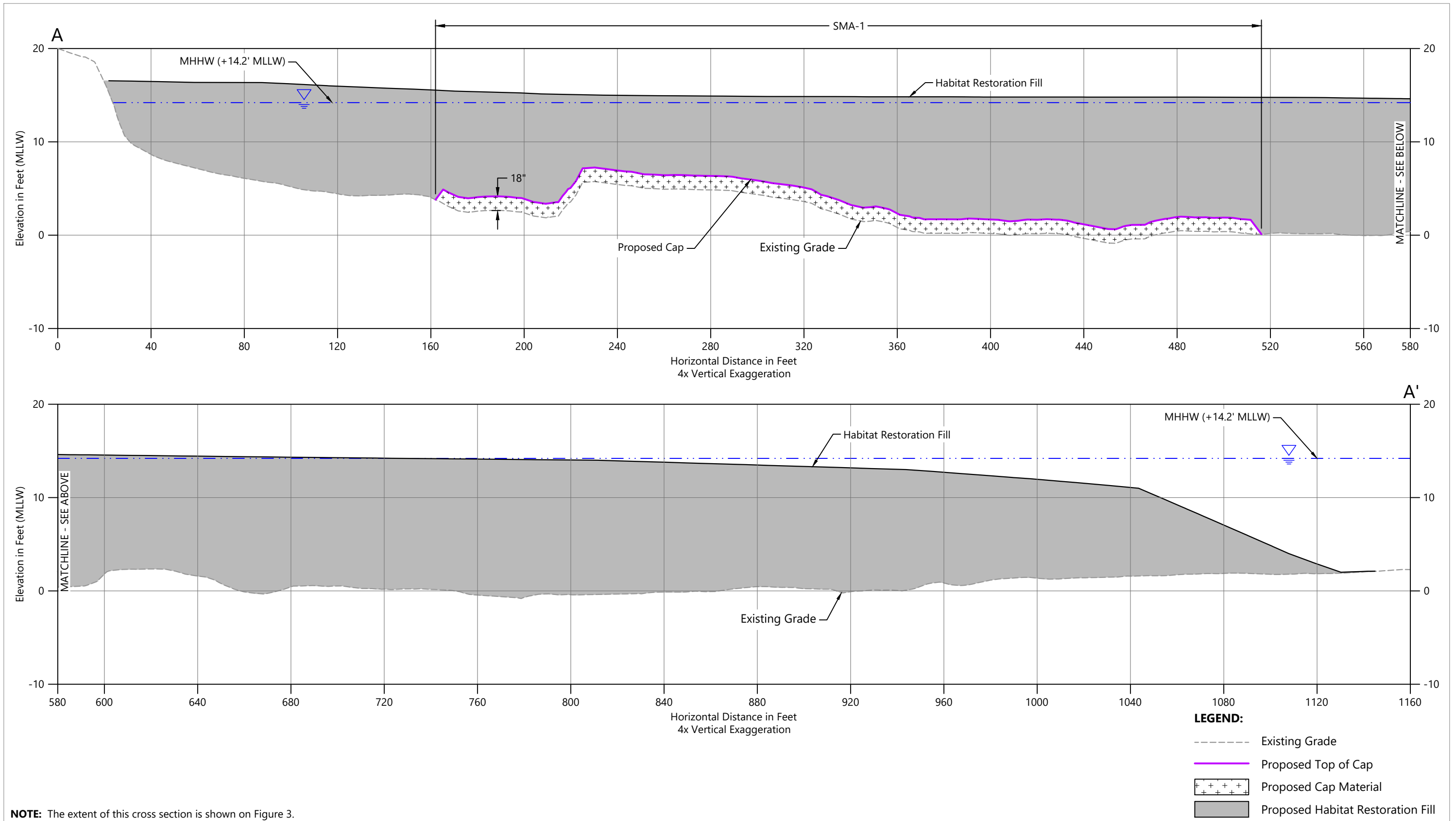
NOTE(S):
The Restoration Project will be completed by South Puget Sound Salmon Enhancement Group.



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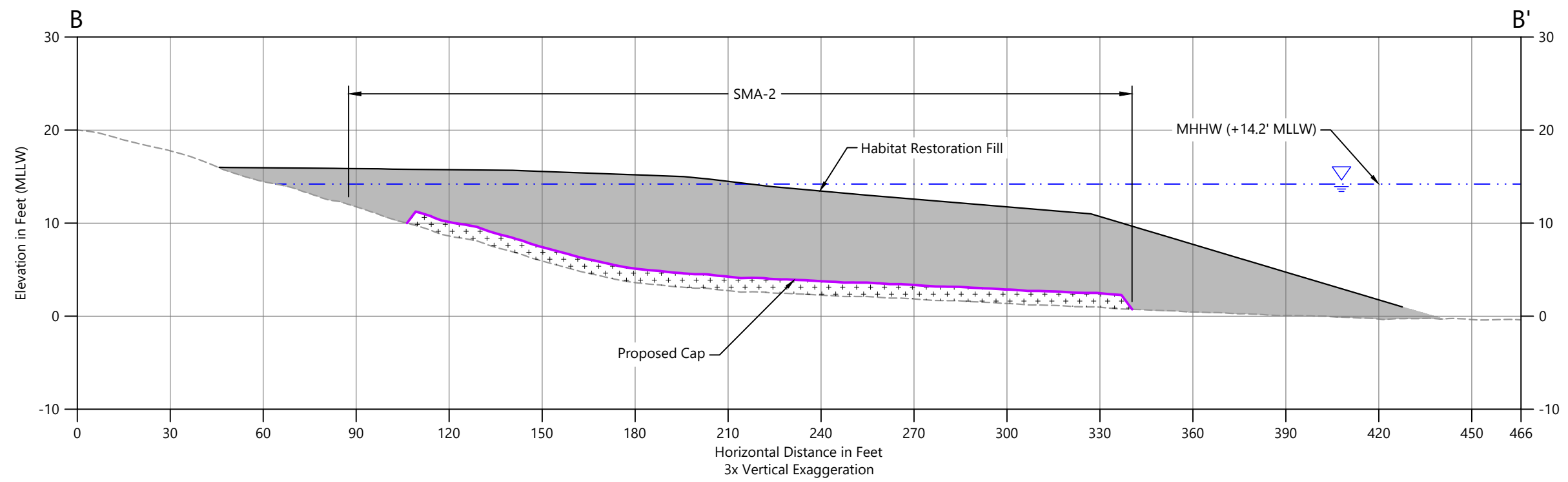
Figure 3
Plan View
Biological Evaluation
Shelton Harbor Interim Action Cleanup Project



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Figure 4
SMA-1 Cap Section
 Biological Evaluation
 Shelton Harbor Interim Action Cleanup Project



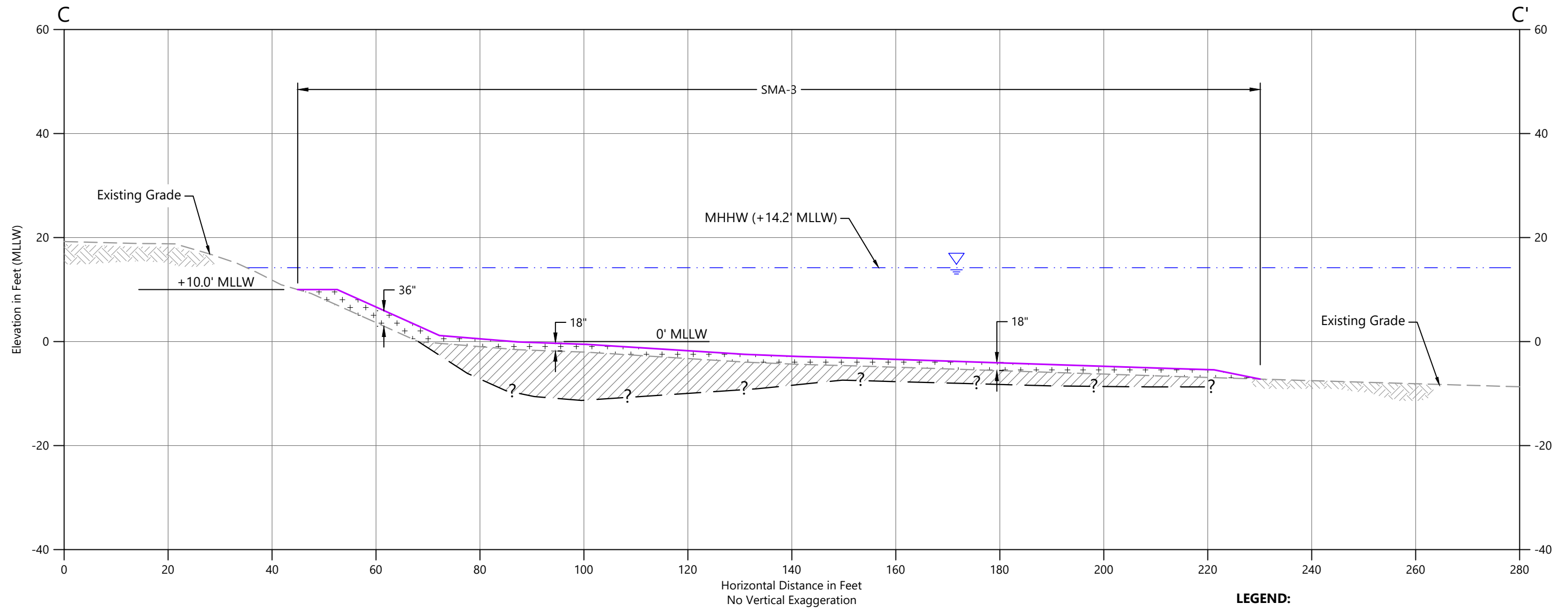
NOTE: The extent of this cross section is shown on Figure 3.

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**BE Figure 5
 SMA-2 Cap Section**

Biological Evaluation
 Shelton Harbor Interim Action Cleanup Project



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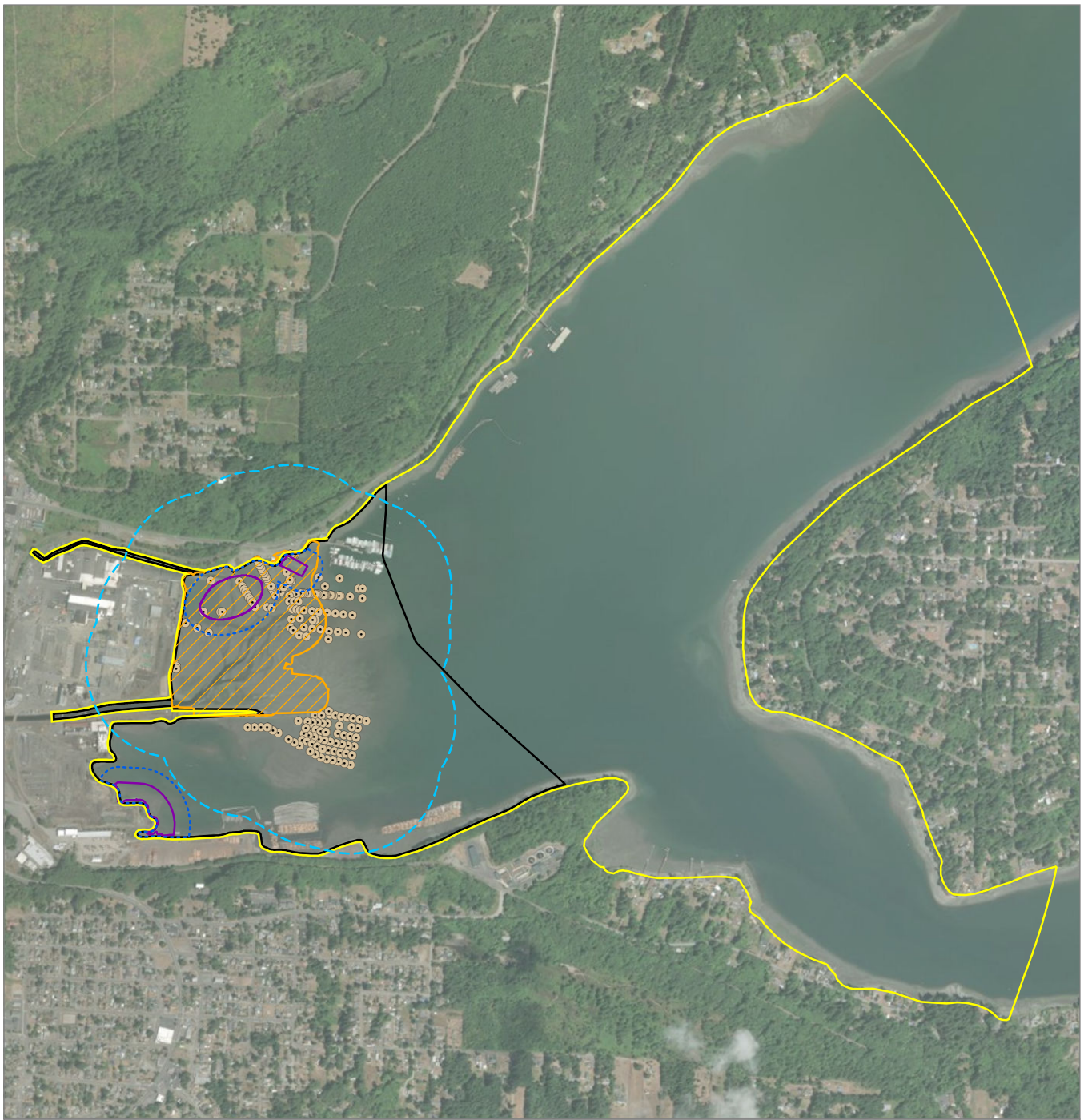
- Existing Grade
- ?— Approximate Extent of Wood Waste and Dioxin-Contaminated Sediment
- Proposed Top of Cap
- + + + + Proposed Cap Material
- Existing Sediment

NOTE: The extent of this cross section is shown on Figure 3.

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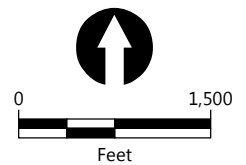


Figure 6
SMA-3 Embankment Section
 Biological Evaluation
 Shelton Harbor Interim Action Cleanup Project



LEGEND:

- Existing Pile (Approximate)
- ▨ Habitat Restoration Area
- ▭ Sediment Management Areas (SMAs)
- ▭ Sediment Cleanup Unit Boundary (Cleanup Project completed by Simpson)
- ⋯ Water Quality Mixing Zone
- ▭ Extent of In-water Noise Effects
- ⋯ Extent of In-air Noise Effects



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Figure 7
Action Area
 Biological Evaluation
 Shelton Harbor Interim Action Cleanup Project