

THURSTON COUNTY
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DEVELOPMENT SERVICES

Technical Memorandum

Date: June 3, 2019

To: KPFF Project File No. 10181900055

Cc: Eric Veloni

From: Larry Dominguez, MES, Environmental Manager KPFF

RE: Parcel 13936340700 Site Assessment

1.0 Purpose and Need

Baseline conditions reviewed to assess post construction effects of boat house and retaining wall. The retaining wall was repaired in 2006 and boat house was repaired in 2016.

2.0 Historic Conditions

Parcel is a single-family homestead residence, the house was built in the early 1940s. The bulkhead, boat house and retaining wall were built in the early 1970s. The hillside slope leading down to the shoreline had two madrone (*Arbutus menziesii*), two maple (*Acer macrophyllum*) and 4 Douglas fir (*Pseudotsuga menziesii*) growing out of the slope. The owner removed two madrone trees and one big-leaf maple tree in the early 1990s.



3.0 Baseline Conditions

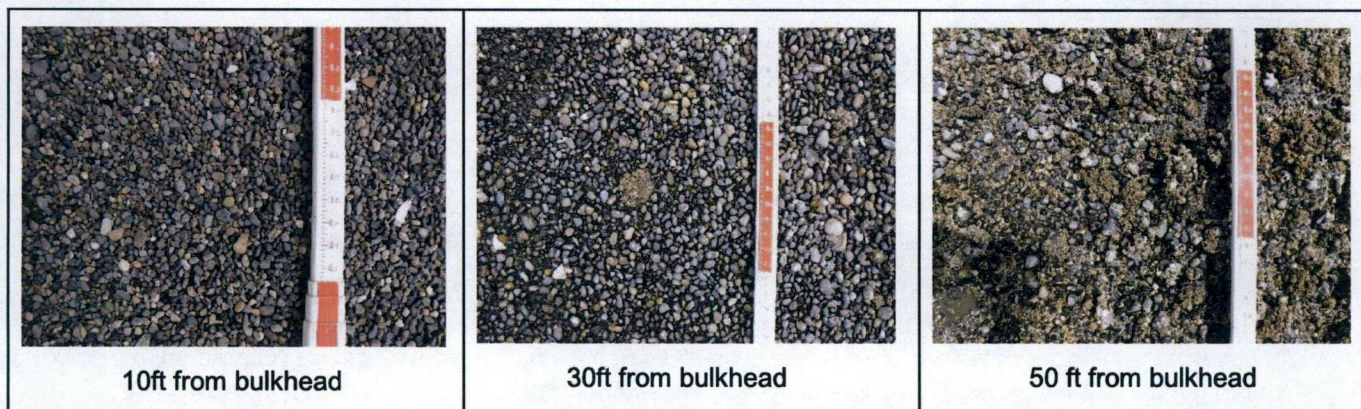
Location Information	
Address	5725 Sunrise Beach Road NW
City and County	Olympia, WA Thurston County
Lat. -Lon.	47°08'55.65" 122°99'66.32"
Tax Parcel No	13936340700
Landowner Type	Private
USACE Reference Number	
Water Resources Information	
Water Body	The Project is located within the Kennedy/Goldsborough Water Resource Inventory Area (WRIA) #14 on the western shoreline of Eld Inlet, South Puget Sound. The project affects no streams.
Shoreline Management Area Information	The lowest portion of the parcel is in a floodzone and within the 100 ft. buffer of Shoreline Management Area. Shoreline is designated as Rural shoreline in the Thurston County Shoreline Master Program Map.
Critical Areas	There are no wetlands or high groundwater or tidal flood hazards on the parcel. There are no special flood hazard areas associated with the parcel (Eld Inlet and Mud Bay contains estuarine and nearshore habitat, tidal sloughs, freshwater springs, coastal shorelines and forested uplands and classified wetlands).
Fish and Wildlife Habitat Conservation Areas	
Conservation Area	Harbor Seal Critical Habitat north and opposite side of inlet Shorebird concentrations in southern portion of Eld inlet Chinook, Coho and pink salmon essential fish habitat
Species	Chinook salmon marine area Marbled murrelet: no presence (source: PHS database 3/1/2013 update) Forage fish survey: surf smelt spawn present on beach south of the subject property

3.1 Upland Use

Single family residence

3.2 Nearshore Conditions

The nearshore conditions show a diverse sediment/gravel deposit which is conducive to forage fish species. Drift cell analysis indicates that sediment is being transported from west to east along property shoreline. 90% of the substrate is 1.5" minus gravel. See photo table below of nearshore habitat:



3.3 Riparian

House is in upland forest habitat, connected to Puget Sound shoreline by steep slope. Hillside vegetation community is mainly herbaceous with the dominant species being English Ivy (*Hedera helix*) and Sala (*Gaultheria shallon*). Other species present are Scouring horsetail (*Equisetum hyemale*), big leaf maple (*Acer macrophyllum*) saplings, wild pea (*Lathyrus sp.*) and trace amounts of ornamental species and trailing blackberry (*Rubus ursinus*). There are three old-growth Douglas fir (*Pseudotsuga menziesii*) trees and one big-leaf maple (*Acer macrophyllum*) growing from the hillside. A concrete staircase leads from the home down to the shoreline.

Existing invasive species cover (English Ivy) in the hillside is functioning as a viable slope stability measure. Previous removal attempts have shown deep old-growth roots. Wholesale removal of the ivy would result in a destabilization of the top soil. We recommend planting small pockets of native species in the ivy cover to promote species diversity without compromising bank stability.

3.4 Wetlands

There are no wetlands in or adjacent to this property

3.5 Adjacent Parcels

Single-family residences

3.6 Upland Use

Single family residence of parcel owner

4.0 4.0 Proposed Maintenance Activities

Boat House

- Install new siding using hand tools
- Install new metal roof using hand tools

Retaining Wall

- Remove existing retaining wall—old concrete blocks hauled off-site
- Install new retaining wall—13" x 6" interlocking/stacking cottage stones

4.1 Vegetation Management

The stability of the steep slope from the shoreline to the residence is heavily reliant on the mature English ivy (*Hedera helix*). Wholesale removal will bring extensive topsoil disturbance and exposure, likely requiring terracing and major stabilization treatment. We recommend leaving the ivy community in place but maintain to edges annually to prevent spreading.

To promote biodiversity without disrupting bank stabilization we recommend planting pockets of native species in the hillside that is dominated by English ivy (*Hedera helix*). Native species recommended are sword fern (*Polystichum munitum*), Nootka rose (*Rosa nootkana*) or salal (*Gaultheria shallon*). The sporadic planting will not compromise slope stability and still allow a process of converting to native plants over time with stronger roots.