

**Seattle Multimodal Project at Colman Dock  
Season One Marine Mammal Monitoring Report**

**Washington State Department of Transportation  
Ferries Division**

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### ATTACHMENTS

Marine Mammal Monitoring Plan (May 2017).

Colman Dock Vibratory Installation for Simultaneous Driving of Two 36-inch Piles – Zone of Influence Technical Memorandum (March 8, 2017).



## 1.0 Project Setting and Land Use

The Seattle Ferry Terminal at Colman Dock, serving State Route 519, is located on the downtown Seattle waterfront, in King County, Washington. The terminal services vessels from the Bainbridge Island and Bremerton routes, and is the most heavily used terminal in the WSF system. The Seattle terminal is located in Section 6, Township 24 North, Range 4 East, and is adjacent to Elliott Bay, a tributary to Puget Sound (Figure 1-1). Land use in the area is highly urban, and includes business, industrial, the Port of Seattle container loading facility, residential, the Pioneer Square Historic District and local parks.

### 1.1 Description of the Activity

WSF is proposing to preserve the Seattle Ferry Terminal at Colman Dock (Figure 1-1). The project will reconfigure the dock while maintaining approximately the same vehicle holding capacity as current conditions.

The reconfiguration would increase total permanent overwater coverage (OWC) by about 5,400 square feet (SF) (about 1.7% more than existing overwater coverage at the site), due to the new walkway from the King County Passenger Only Ferry (POF) facility to Alaskan Way and new stairways and elevators from the POF to the upper level of the terminal. The additional 5,400 SF will be mitigated by removing a portion of Pier 48, a condemned timber structure.

The project will remove the northern timber trestle and replace a portion of it with a new concrete trestle (Figure 1-2). The area from Marion Street to the north edge of the property will not be rebuilt and will become, after demolition, a new area of open water. A section of fill contained behind a bulkhead underneath the northeast section of the dock will also be removed. WSF will construct a new steel and concrete trestle from Columbia Street northward to Marion Street.

Construction of the reconfigured dock will narrow (reduce) the OWC along the shoreline (at the landward edge) by 180 linear feet at the north end of the site, while 30 linear feet of new trestle would be constructed along the shoreline at the south end of the site. The net reduction of OWC in the nearshore zone is 150 linear feet.

The project includes demolition of the existing terminal building and construction of a new terminal building. The new terminal building will be located along the west edge of the dock, spanning all three slips to handle passenger traffic more efficiently, and will connect to the Marion Street Overpass by an elevated deck.

The project includes reconstruction of the vehicle transfer span and the passenger overhead loading (OHL) structures of Slip 3, including new hydraulic systems. The new OHL would be wider than the existing OHL, to accommodate the increased walk-on passenger volumes.



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Figure 1-1 Location of Seattle Ferry Terminal

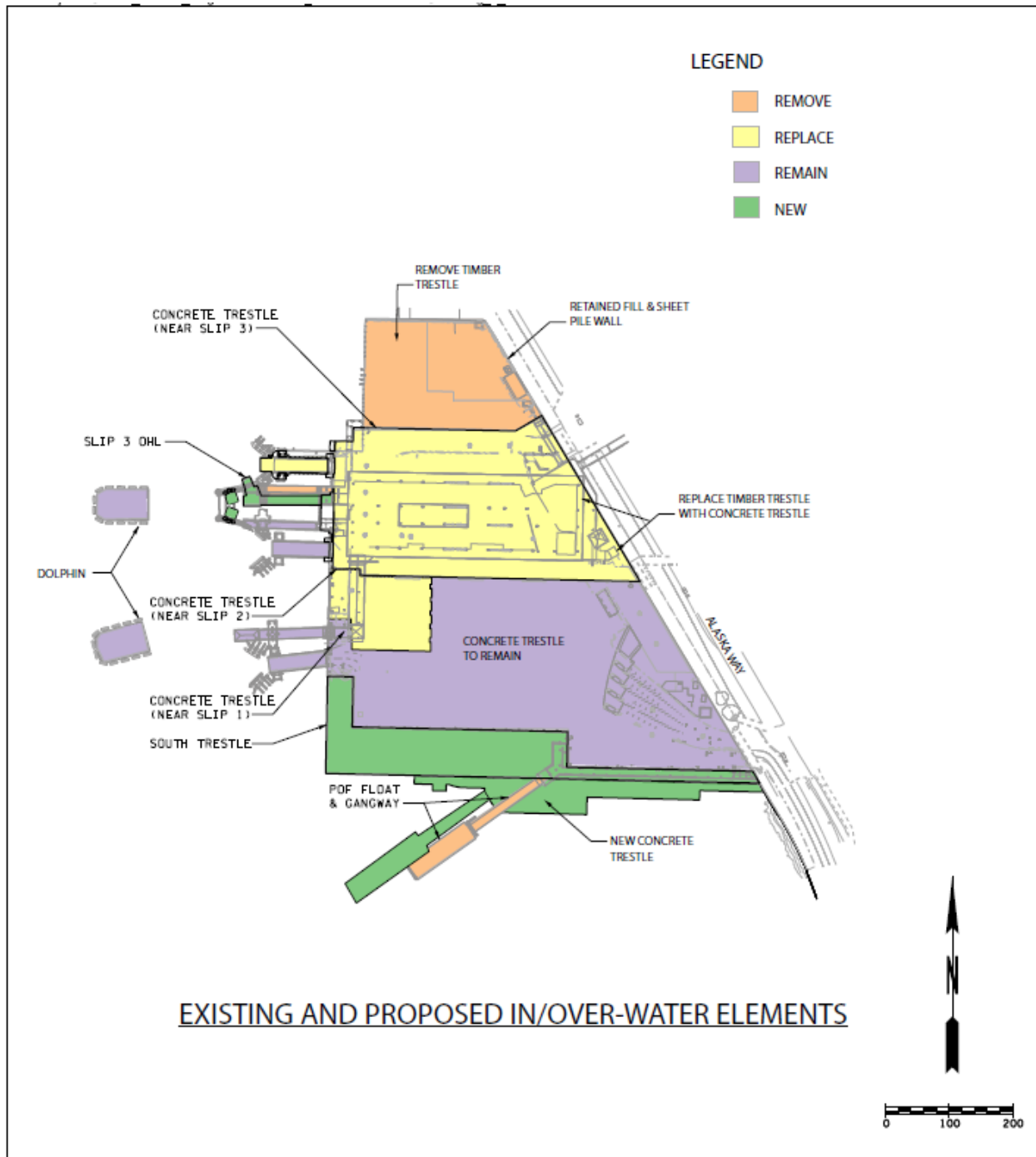


Figure 1-2 Existing/Proposed Construction Elements



The project will maintain the current POF functions on site, and address safety concerns related to pedestrian/vehicle conflicts. A new covered pier, sized to accommodate POF passenger waiting and connected by a new overhead pedestrian bridge to the terminal building and the Marion Street Overpass, would be constructed along the south side of Colman Dock

Sediment beneath the terminal has been contaminated by the creosote-treated piles and other chemicals discharged to the environment over the years. A cap was installed to cover contaminated sediment on the south half of the site prior to trestle expansion in 1990. WSF proposes to place a new sediment cap to the north and south of the current cap during construction of the project to contain existing contamination.

Stormwater management will be improved by the addition of Filterra treatment units in the southern portion of the terminal, which will remove oil and suspended solids.

The effects of the project were analyzed pursuant to the National Environmental Policy Act and the federal co-lead agencies, FTA and FHWA, issued a finding of no significant impact (FONSI) on November 5, 2015. During the NEPA process, the project underwent formal Endangered Species Act (ESA) consultation with National Oceanographic and Atmospheric Administration (NOAA) Fisheries and the U.S. Fish and Wildlife Service. NOAA Fisheries issued a Biological Opinion on March 20, 2014 and USFWS issued a Biological Opinion on February 18, 2014. An ESA re-initiation is now in process, primarily due to a change in pile type from concrete to steel, and is expected to be complete in the spring of 2017.

The construction will take approximately five years, beginning in mid-2017. The terminal will be kept in operation during the construction.

## 1.2 Construction Seasons

The project consists of four in-water work seasons:

- Season 1 (2017/18) construction activities focused on the South Trestle, Terminal Building Foundation, Pier 48 mitigation, temporary Passenger Offloading Facility and temporary work platforms.
- Season 2 (2018/19) will include constructing the North Trestle, pedestrian walkway, permanent Passenger Offloading Facility, Slip 3 and temporary work platforms.
- Season 3 (2019/20) will continue construction of the North Trestle, Slip 3 and temporary work platforms.
- Season 4 (2020/21) will include the demolition of the existing North timber trestle, completion of Slip 3 and temporary work platforms.



### 1.2.1 In-water Project Elements Completed in 2017/18 (Season 1)

Pile numbers that were planned and completed for Season 1 are provided below.

**Table 2-1. Pile Numbers Planned/Completed Season 1**

Method	Pile type	Pile size (inch)	Season 1 Planned	Season 1 Completed	Comment
Vibratory removal	Timber	14	215	142	Fewer present than estimated for Pier 48 mitigation.
Vibratory removal	Steel	24	2	0	Postponed until future season.
Vibratory driving	Steel	24	101	160	Temporary piles. More needed than planned (24" piles removed are same piles).
Vibratory removal	Steel	24	101	160	Temporary piles (same piles removed).
Vibratory driving	Steel	30	17	8	Fewer needed.
Vibratory driving	Steel	36	205	275	More needed than planned (36" piles below noted as impacted are same piles).
Impact driving	Steel	30	14	8	Fewer needed.
Impact driving	Steel	36	201	275	More needed than planned.
<b>Total Permanent Piles*</b>			236	291	





## 2.0 Monitoring and Take Results

Marine mammal monitoring was implemented for all pile driving and removal in the 2017/18 in-water work window (August 1 to February 15). Monitoring took place over 99 days. The marine mammal monitoring plan is attached.

Pile driving/removal was paused for 15 hours 31 minutes in Season 1 in order to avoid unpermitted take, prevent injury or to comply with visibility requirements for monitoring.

Permitted take, observations and take used are provided below:

**Table 3-1. Permitted Take**

Species	Total	Level A	Level B
Harbor Seal	364	715	1,079
California Sea Lion	0	3,901	3,901
Steller Sea Lion	0	116	116
Transient Killer Whale	0	7	7
Gray Whale	1	15	16
Harbor Porpoise	233	2,056	2,289
Dall's Porpoise	16	137	153

**Table 3-2. Observations and Take Used**

Species	Individuals Observed	Total Take Used	Level A Used	Level B Used
Harbor Seal	813	211	23	188
California Sea Lion	1,047	282	0	282
Steller Sea Lion	54	9	0	9
SR Killer Whale	148	0	0	0
Transient Killer Whale	19	0	0	0
Gray Whale	0	0	0	0
Harbor Porpoise	288	41	0	41
Dall's Porpoise	0	0	0	0



## 2.1 Data Collection

All data was collected in ArcGIS Survey 123. Data fields collected are listed below, and are available upon request.

**Table 3-3. Data Fields**

<b>Protected Species Observer Data Fields</b>
PSO Monitor Name
Project
PSO Monitoring Station ID
Construction Activity
Weather Conditions
Specify other. (Weather)
Observation Date & Time
Species Observed
Specify other. (Species)
Duplicate Sighting
Number of Individuals Observed
Direction of Sighting from the PSO
Distance from the PSO
Compass Bearing towards Animal from PSO (optional data)
Distance from PSO to Animal (Meters) (optional data)
Compass Bearing to Noise Source from PSO (optional data)
Distance from PSO to Noise Source (Meters) (optional data)
Calculated Angle between the Bearings (optional data)
Distance of Animal from Noise Source (Meters) (optional data)
Observed Behavior
Direction of Travel
Comments about the Sighting
Zone Selection
Number of Individuals in Shutdown Zone
Number of Individuals in Harassment Zone
Harassment/Shutdown Comments

## 2.2 Sound Source Verification

WSDOT conducted sound source verification site measurements of the Level B harassment zone from vibratory pile driving of two 30-inch steel piles at the Seattle Project in November 2017 (report attached). The result showed that pile-driving noise of two 36-in steel piles being concurrently driven was no longer detectable at a range of 5.4 miles (8.69 km); therefore, this distance was used to redefine the vibratory ZOI for 24- 30- and 36-inch steel piles.