King County Denny Way CSO

SHARP Report — Part 1 of 2

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• SHARP first SHARP	v2024.04.29	Ecology Info	
• SHARP rating	High	ERTS	563097
• SHARP date	12/29/2023	CSID	2582
• EJFlagged?	⃠ - No Override	FSID	4455938
• LD confidence level	low	VCP	none
• Cleanup milestone	site hazard assessment	UST ID	none
• SHARPster	Jeff Wirtz, copied to new version by Meredith Bee	LUST ID	none

This section is blank if this is the first SHARP

SHARP Media	Scores	Confidence	Additional Factors	
Indoor air	D4	high	multiple chemical types	✔
Groundwater	D4	high	risk to off-site people	⃠
Surface water	**A2**	high	climate change impacts	✔
Sediment	**A1**	high	plant/animal tissue data	⃠
Soil	D4	high		

Location and land use info

3165 Alaskan Way, Seattle, King County, 98121

Primary parcel	N/A
Land use	other
Responsible unit	NWRO

Sources reviewed

2018, Denny Way Sediment Cleanup Unit Background Draft, Anchor QEA

2008, Denny Way Interim Sediment Cleanup Project Closure Report, Anchor Environmental

2007, Fact Sheet, Ecology

Primary census tract	Associated census tracts
53033008004	SHARP it

Local demographics comments

The hazardous substances from this site remained on the census tract where the release occurred.

Source/source area description

The Denny Way Combined Sewer Overflow (CSO) was built in the 1960s when the Municipality of Metropolitan Seattle (formerly Metro; now King County) built the system that collected, transported, and treated wastewater in the greater Seattle area. Until 2004, the outfall of the Denny Way CSO was at the shoreline. It was exposed during normal low tide and frequently discharged directly across exposed intertidal sediment. The site is no longer affected by the discharge due to the completion of a 2005 King County CSO control project, which has diminished the frequency of discharges, treated CSOs locally and relocated the CSO pipe further offshore.

Soil comments

The entire site consists of sediment cleanup units and no upland soil units.

Groundwater comments

The entire site consists of sediment cleanup units and no upland soil units.

Surface water comments

Several threatened species of fish may occasionally be present in marine areas near the Site.

Sediment comments

Contaminants in the site sediments include: Bis (2-ethylhexyl)phthalate, Butyl benzyl phthalate, Cadmium, Copper, Lead, Mercury, Silver, Polycyclic aromatic hydrocarbons (PAHs) and Polychlorinated biphenyls (PCBs).

Indoor air comments

Since there are no buildings on site, the indoor air ranking must be D4.

Additional factors comments

Contaminants in the site sediments include: Bis (2-ethylhexyl)phthalate, Butyl benzyl phthalate, Cadmium, Copper, Lead, Mercury, Silver, Polycyclic aromatic hydrocarbons (PAHs) and Polychlorinated biphenyls (PCBs).

The site is on Elliott Bay and subject to sea level rise.

Site history

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Numerous site studies have been conducted by the county since 1980. The studies include the collection of samples, collected from the sea-floor surface to approximately 10 feet below the mudline. Based on the lab analysis, contaminants have been identified as the following:

- Bis (2-ethylhexyl)phthalate
- Butyl benzyl phthalate
- Cadmium
- Copper
- Lead
- Mercury
- Silver
- Polycyclic aromatic hydrocarbons (PAHs)
- Polychlorinated biphenyls (PCBs)

In 1990, the Corps and King County sponsored the Denny Way CSO capping project to test the feasibility of capping contaminated sediments in Elliott Bay with suitable navigation dredged material. A 3-foot layer of graded sand, dredged from the Upper Turning Basin of the Duwamish Waterway during routine navigation channel maintenance, was beneficially reused by placing these materials over a 3-acre area in water depths ranging from approximately -30 to -60 feet MLLW. Construction of the cap was performed by the Corps by controlling the release of the sand using specially equipped bottom dump barges and accompanying tugs.

During the next 10 years, King County monitored the effectiveness of the placed cap. Monitoring data demonstrated that the cap remained stable and successfully isolated underlying contaminated sediments. However, chemical concentrations on the cap surface layer (offshore of the Denny Way CSO) increased after cap construction, likely due to redistribution of contaminated sediments present in adjacent shallow subtidal slope areas along the inshore edge of the cap.

To further accelerate cleanup of the Denny Way area and minimize the risk of future recontamination, Ecology and King County entered into an Agreed Order in 2007 to perform interim sediment cleanup actions in nearshore areas upslope of the cap. Sediments targeted for dredging included relatively high concentration deposits (e.g., greater than 5,000 micrograms per kilogram [µg/kg] total polychlorinated biphenyls [PCBs]) that could pose a risk of recontamination of the adjacent cap due to wind-wave, vessel propeller wash, and/or seismic disturbances. Once flows were directed to the new outfalls in 2005 and the old Denny Way shoreline outfall was decommissioned and subsequently removed, the interim action was started. The project was completed in 2007 which resulted in mechanical dredging and off-site landfill disposal of approximately 14,000 cubic yards (cy) of contaminated sediments from side slopes ranging in depth from approximately +10 feet to -35 feet MLLW within a 1.2-acre area. The dredged area was backfilled and armored with an average thickness of more than 8 feet of material, including well-graded sand, sandy-gravel habitat mix, cobbles, and boulders, all from upland quarry sources. In addition, an approximate 6-inch-thick layer of well-graded, clean sand was placed around the perimeter of the dredge prism to address dredging residuals.

Overflow - Site contamination and cleanup history

No overflow

King County Denny Way CSO

2582 King County Denny Way CSO 20231229
First SHARP
SHARP rating — High

SHARP Report — Part 2 of 2

Conceptual site model
12/29/2023

SHARP