

Prepared by:
Dredged Material Management Office
Seattle District, U.S. Army Corps of Engineers

NWS-2019-0362

MEMORANDUM FOR RECORD

April 9, 2020

SUBJECT: SUITABILITY DETERMINATION AND ANTIDegradation COMPLIANCE ASSESSMENT FOR THE SPADER BAY HOMEOWNERS ASSOCIATION DOCK MAINTENANCE AND REPAIR SAND REDISTRIBUTION PROJECT.

- 1. Introduction.** This memorandum reflects the consensus determination of the Dredged Material Management Program (DMMP) agencies (U.S. Army Corps of Engineers, Washington State Department of Ecology [Ecology], Washington State Department of Natural Resources, and the Environmental Protection Agency) regarding the suitability of up to 125 cubic yards (CY) of sediment that will be removed and redistributed during the Spader Bay Homeowners Association (HOA) dock maintenance and repair project. Additionally, compliance of the sediment surface to be exposed (post-maintenance) with the State of Washington’s antidegradation standard was assessed by the agencies.
- 2. Background.** The Spader Bay HOA Project is located on the eastern portion of Lake Chelan in Chelan, Washington. The HOA owns and maintains a small T-dock which needs maintenance and repair to ensure buoyed vessels are safely moored to the property, and that the existing dock is not damaged over time due to annual sand deposition. To replace the chains that connect the mooring buoys, approximately 125 CY of sand that has accumulated along the seawall will need to be removed during maintenance and then annually afterward for the duration of the 10-year permit. The applicant is proposing to distribute the removed sand along the adjacent shoreline.

This memorandum documents the evaluation of the shoaled sand that has been deposited along the shoreline near the existing community dock for redistribution along the adjacent shoreline. Compliance with the State of Washington’s anti-degradation standard is also assessed.

- 3. Project Summary.** Table 1 provides project summary and tracking information.

Table 1. Project Summary

Project ranking	No ranking but assumed Low
Characterized volume	125 CY
Draft SAP received	October 24, 2019
Revised Draft SAP received	November 7, 2019
Final SAP received	November 21, 2019
SAP approved	November 21, 2019
Sampling date	February 18, 2020
Sediment Characterization Report (SCR) received	March 30, 2020

DMMO tracking number	SPADE-1-A-F-413
EIM Study ID	SPADE20

4. **Sampling Requirements.** Because of the nearby marina sediment that had CSL exceedances of DDE, Ecology (TCP) requested that sediments be tested for metals and pesticides which are the main concerns in this area of Lake Chelan. Three grab sample locations were selected to represent the sand accumulation areas. One sediment composite of the three locations was required for laboratory analysis.
5. **Sampling and Analysis.** Sediment grabs were collected February 18, 2020. Grab samples were collected using a stainless-steel spoon and bowl. Sampling depths ranged from 0.5 to 0.75 ft. The SAP indicated that a sampling depth of 0-12 inches was required; however, the field crew interpreted this to mean that any depth within that range was acceptable. Since all samples include 0.5 foot or more, the material is considered adequately representative of the overall removal area. Figure 1 shows the proposed and actual grab locations and Table 2 lists the sample collection data.

Table 2. Sample Collection Data

Sample Location	Sample Date	Latitude	Longitude	Sample Depth
Location 1	2/18/2020	47.846406°	-120.031338°	0.75 ft
Location 2	2/18/2020	47.846349°	-120.031415°	0.50 ft
Location 3	2/18/2020	47.846460°	-120.031430°	0.58 ft

Notes:

- Coordinates are in North American Datum of 1983 Washington State Plane North, US feet.
- Google Earth Pro was used to find coordinate information, used with on-the-ground measurements taken.
- All samples were taken in the dry. Lake Chelan was down 13.67 ft below OHWM on 2/18/20.

The three samples were composited into one sample for analysis. A frozen archive and bioassay archive were also collected for potential future analysis. The samples were submitted to Edge Analytical in Burlington, WA.

6. **Analytical Results.** The metals and pesticides results for the composite sample are presented alongside the DMMP and Sediment Management Standards (SMS) freshwater guidelines in Table 3. Due to the small size of the project, data validation was not required; however, DMMO staff reviewed the laboratory quality control data and did not find any significant issues that would qualify the data unusable. No analytical results (detects and non-detects) exceed the DMMP SL1 or the SMS Sediment Cleanup Objective (SCO).

Table 3. Sample Results Summary

Parameter	SL1	SMS SCO	Result	PQL	Units
Total solids	--	--	96.72	0.10	%
Metals					
Arsenic	14	14	ND	1.0	mg/Kg
Cadmium	2.1	2.1	ND	1.0	mg/Kg
Chromium	72	72	3.4	1.0	mg/Kg
Copper	400	400	12	1.0	mg/Kg

Parameter	SL1	SMS SCO	Result	PQL	Units
Lead	360	360	27	1.0	mg/Kg
Nickel	38	26	3.7	1.0	mg/Kg
Selenium	11	11	ND	1.0	mg/Kg
Silver	0.57	0.57	ND	0.5	mg/Kg
Zinc	3,200	3,200	40	1.0	mg/Kg
Mercury	0.66	0.66	ND	0.008	mg/Kg
Pesticides					
2,4' – DDD	310	310	ND	1	ug/Kg
2,4' – DDE	21	21	ND	1	ug/Kg
2,4' – DDT	100	100	ND	1	ug/Kg
4,4' – DDD	310	310	ND	2	ug/Kg
4,4' – DDE	21	21	ND	1	ug/Kg
4,4' – DDT	100	100	ND	2	ug/Kg
Dieldrin	4.9	4.9	ND	1	ug/Kg
Endrin Ketone	8.5	8.5	ND	1	ug/Kg

Notes:

ND – Not detected above the listed practical quantitation limit (PQL).

PQL – Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

7. **Biological Testing.** Biological testing was not required; concentrations of all detected and non-detected chemicals of concerns were below DMMP SL1.

8. **Sediment Exposed by Dredging.** The sediment to be exposed by dredging/removal must either meet the State of Washington SMS or the State’s Antidegradation standard (Ecology, 2013) as outlined by DMMP guidance (DMMP, 2008). Concentrations of metals and pesticides in the overlying sediment were below the SMS SCO; therefore, the leave surface is assumed to be in compliance with the State of Washington anti-degradation standard.

9. **Suitability and Antidegradation Determination.** This memorandum documents the evaluation of the suitability determination for the Spader Bay HOA dock maintenance and repair project for on-site beneficial placement. Comparison of sediment analytical results to DMMP SLs and Washington State SMS indicates this material is suitable for on-site beneficial use. The data gathered were deemed sufficient and acceptable for regulatory decision-making under the DMMP program.

In summary, based on the results of the previously described testing, the DMMP agencies have concluded that **up to 125 CY of characterized material from the Spader Bay HOA project is suitable** for redistribution along the adjacent shoreline. Additionally, sand that accumulates after the dock maintenance and repair project is completed may also be redistributed along the shoreline annually for the duration of the 10-year permit. If this annual volume exceeds 125 CY, the DMMO should be consulted to determine whether there is a need for further evaluation.

Furthermore, the DMMP agencies have determined that the sediment to be exposed by dredging **meets the state antidegradation standard.**

A decision regarding the suitability of the material for beneficial use at a different placement site or

upland disposal at any location other than a permitted landfill must be approved by the entity receiving the material. Additional coordination with local resource agencies may be required.

This suitability determination does ***not*** constitute final agency approval of the project. A final decision will be made after full consideration of agency input, and after an alternatives analysis is done under section 404(b)(1) of the Clean Water Act.

10. References.

DMMP, 2008. *Quality of Post-Dredge Sediment Surfaces (Updated)*. A Clarification Paper Prepared by David Fox (USACE), Erika Hoffman (EPA) and Tom Gries (Ecology) for the Dredged Material Management Program, June 2008.

DMMP, 2018. *Dredged Material Evaluation and Disposal Procedures (User Manual)*. Prepared by the Seattle District Dredged Material Management Office for the Dredged Material Management Program, December 2018.

Grette Associates, 2019. *Draft Sampling and Analysis Plan for Spader Bay Homeowners Association Sand Redistribution Project*. November 21, 2019.

Grette Associates, 2020. *Spader Bay HOA Data Report*. March 30, 2020

13. Agency Signatures.

signed copy on file in DMMO - Seattle District office

Concur:

Date Joy Dunay – Seattle District Corps of Engineers

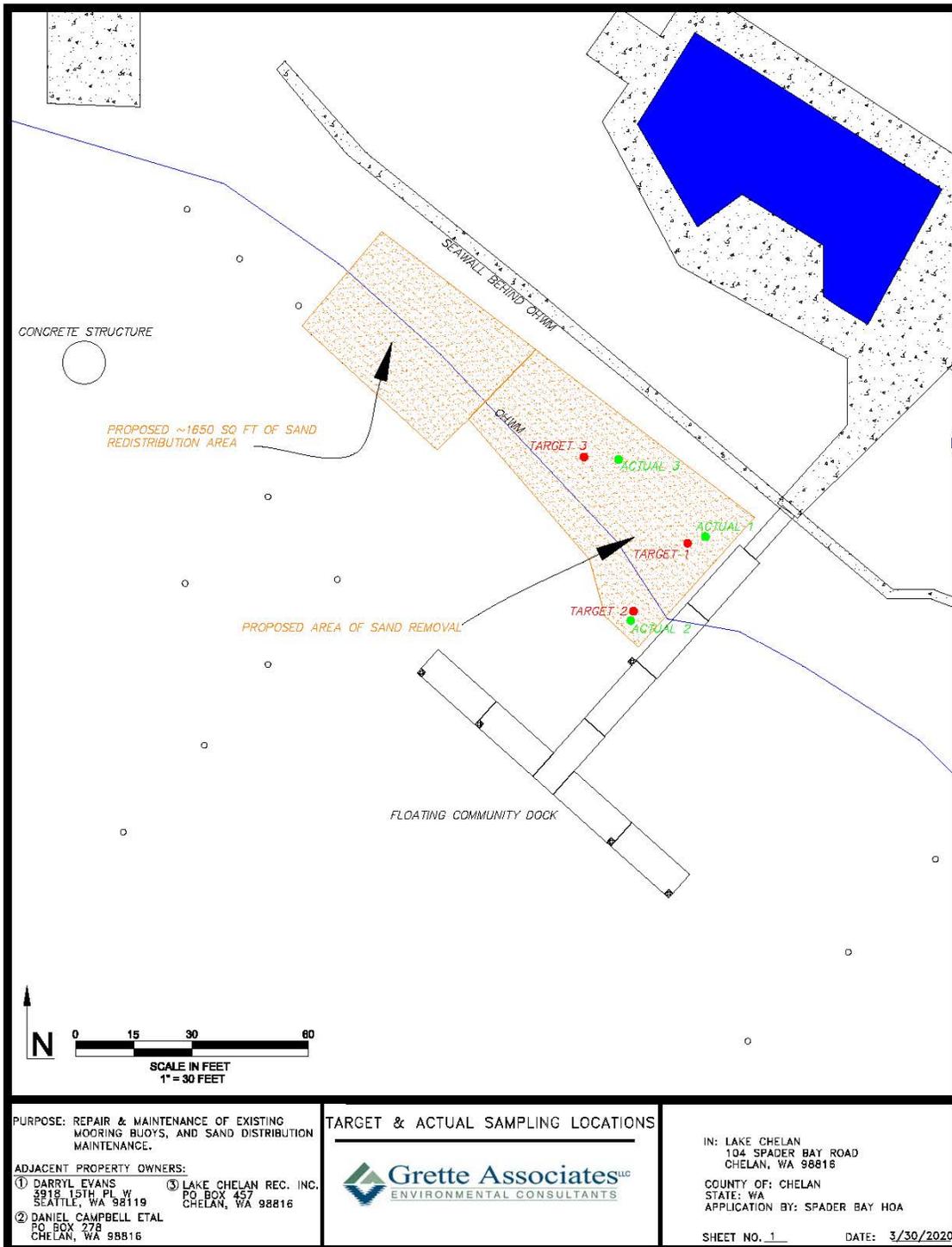
Date Erika Hoffman - Environmental Protection Agency Region 10

Date Laura Inouye, Ph.D. - Washington Department of Ecology

Date Shannon Soto - Washington Department of Natural Resources

Copies furnished:
DMMP signatories

Figure 1. Sample Locations



PURPOSE: REPAIR & MAINTENANCE OF EXISTING MOORING BUOYS, AND SAND DISTRIBUTION MAINTENANCE.

ADJACENT PROPERTY OWNERS:
 ① DARRYL EVANS 3918 15TH PL W SEATTLE, WA 98119
 ② DANIEL CAMPBELL ETAL PO BOX 278 CHELAN, WA 98816
 ③ LAKE CHELAN REC. INC. PO BOX 457 CHELAN, WA 98816

TARGET & ACTUAL SAMPLING LOCATIONS



IN: LAKE CHELAN
 104 SPADER BAY ROAD
 CHELAN, WA 98816

COUNTY OF: CHELAN
 STATE: WA
 APPLICATION BY: SPADER BAY HOA

SHEET NO. 1 DATE: 3/30/2020