

Lower Duwamish Waterway Group

Port of Seattle / City of Seattle / King County / The Boeing Company

Appendix G -Technology Assignments for Sediment Management Areas by Remedial Alternative Draft Feasibility Study

*Lower Duwamish Waterway
Seattle, Washington*

FOR SUBMITTAL TO

The U.S. Environmental Protection Agency
Region 10
Seattle, WA

The Washington State Department of Ecology
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Table of Contents

- G.1 Introduction 4
 - G.1.1 Chemical RAL Exceedances (Section 1) 4
 - G.1.2 Physical Considerations (Section 2)..... 5
 - G.1.3 Recovery Potential (Section 3)..... 5
 - G.1.4 Age of RI Data and Use of Newer Data (Section 4) 6
 - G.1.5 Remedial Action Decision (Section 5)..... 6

- G.2 Presentation of Volumes and Areas 6

List of Tables

Table G-1	Alternative 2 – Consideration Affecting Technology Assignments.....	G-7
Table G-2	Alternative 3a and 4a – Considerations Affecting Technology Assignments.....	G-7
Table G-3	Alternative 3b and 4b – Considerations Affecting Technology Assignments	G-7
Table G-4	Alternative 3c and 4c – Considerations Affecting Technology Assignments.....	G-7
Table G-5	Alternative 3d and 4d – Considerations Affecting Technology Assignments	G-7
Table G-6	Alternative 5 – Considerations Affecting Technology Assignments	G-7
Table G-7a	Relevant Chemical Data for Each SMA.....	G-7
Table G-7b	Relevant Point Data for Each SMA.....	G-7
Table G-7c	Relevant Physical Data for Each SMA	G-7
Table G-8	Alternative 2 – SMA Actions (Areas and Volumes).....	G-7
Table G-9	Alternative 3a – SMA Actions (Areas and Volumes).....	G-7
Table G-10	Alternative 3b – SMA Actions (Areas and Volumes).....	G-7
Table G-11	Alternative 3c – SMA Actions (Areas and Volumes).....	G-7
Table G-12	Alternative 3d – SMA Actions (Areas and Volumes).....	G-7
Table G-13	Alternative 4a – SMA Actions (Areas and Volumes).....	G-7
Table G-14	Alternative 4b – SMA Actions (Areas and Volumes).....	G-7
Table G-15	Alternative 4c – SMA Actions (Areas and Volumes).....	G-7
Table G-16	Alternative 4d – SMA Actions (Areas and Volumes).....	G-7
Table G-17	Alternative 5 – SMA Actions (Areas and Volumes).....	G-7

G.1 Introduction

This appendix contains information used to determine technology assignments for each sediment management area (SMA) within the Lower Duwamish Waterway (LDW) for each alternative. Information used to assign technologies includes:

- ◆ Risk-driver chemical concentrations and remedial action level (RAL) exceedances, if present
- ◆ Physical conditions (such as scour potential and water depth)
- ◆ Evidence of natural recovery (chemical trends over time)
- ◆ Age of data and any newer data in the SMA.

Tables G-1 through G-6 present the screening criteria, SMA information, and technology assignments for Alternatives 2 through 5 respectively. A roadmap of the information considered for each SMA is summarized in the following sections. Table G-1 is used as the representative table when discussing the road map to interpret the tables. See Section 8 of the FS for a detailed description of criteria and assumptions for technology assignments. This appendix concludes with a section summarizing the criteria used to assign a remedial technology to each SMA, and a final section showing the areas and volumes for each SMA and remedial alternative.

G.1.1 Chemical RAL Exceedances (Section 1)

The first section of Table G-1 indicates whether data (surface or subsurface sediment) in the SMA exceed any chemical RALs for that alternative. Exceedances based on point data (all four human health risk-driver chemicals) and based on interpolated data (total PCBs, arsenic, and cPAHs) are presented. RALs for each chemical for each alternative can be found in Table 8-1.

The second column evaluates surface sediment data against the Sediment Management Standards (SMS).¹ Forty-one SMS chemicals are risk drivers for benthic invertebrates. Depending on the alternative, the SMS-based RALs are either the cleanup screening levels (CSL) or sediment quality standards (SQS) at Year 0 or at Year 10 after active remediation (predicted from the bed composition model [BCM]) and are presented in Table 8-1. The third column provides a chemical exceedance summary, by risk driver. Individual chemical exceedances of the SQS or CSL are simply identified as "SQS" or "CSL."

The fourth column indicates whether evidence of vessel scour has been observed or if high-flow scour deeper than 5 cm is predicted by the sediment transport model (STM) for the 30-year simulation co-located with subsurface RAL exceedances. Scour is important in

¹ Determination of SQS and CSL exceedances at Year 0 incorporate sediment toxicity results.

assigning technologies because it is necessary to consider the potential for the release of buried contamination and the stability of a cap or other isolation technology. For the purpose of this feasibility study (FS), if an SMA contains evidence of both scour (either vessel or predicted high-flow) and a subsurface sediment RAL exceedance within the top 2 ft of a core, then removal or armored containment is required. Both conditions must be met. If core data are below RALs in the surface intervals (upper 2 ft) or are of lower concentrations than deeper intervals, it is assumed that buried contamination does not have the potential to be scoured and released to the surface sediment.

The fifth column identifies exceedances of cPAH RALs particular to beach play and tribal clamming areas. These exceedances are included in both the first and fourth columns, but the fifth column specifies the presence of such an exceedance in or near beach play and/or tribal clamming areas.

Interpolated chemical exceedances are presented Table G-7a. Point exceedances are presented in Table G-7b.

G.1.2 Physical Considerations (Section 2)

The second section of Table G-1 identifies physical considerations necessary in technology selection. The first column of this section indicates whether the 2003 bathymetric data are 5 or more feet deeper than any authorized navigation depths. For isolation capping to be a viable technology, there must be a minimum 5-ft clearance between current bathymetry and the operational depth. Operation depth refers to depths permitted for berthing and navigation. If the depth for an SMA is unknown, then a “?” symbol has been placed in the appropriate cell. The second column indicates whether any part of the SMA contains an area that requires habitat restoration. Any area in the LDW that is above -10 ft mean lower low water is considered habitat area and must be restored to pre-remedial elevations to prevent loss of aquatic habitat. Capping alone cannot be applied to these areas.

Relevant physical data for each SMA are presented in Table G-7c.

G.1.3 Recovery Potential (Section 3)

The third section of Table G-1 determines the recovery potential of each SMA using empirical data and model predictions (BCM and STM). Data used in this FS were collected from 1991 to 2006. To make the correct technology selection, the age of data must be taken into account. The first column of the third section reviews the potential effectiveness of enhanced natural recovery (ENR) using BCM runs simulating the application of a thin layer of sand as a remedial technology. If the SMA is predicted to recover within 10 years to below SQS for total PCBs and arsenic, to below 900 µg TEQ/kg dw for cPAH, and to below 28 ng TEQ/kg dw for dioxins/furans with ENR, then ENR is a viable technology for that SMA. The ENR simulation of the BCM is described in Section 5.

The second and third columns identify each SMA by one of three categories. If the BCM predicts that a SMA will recover to below the SQS for the 41 SMS chemicals, to below 900

µg TEQ/kg dw for cPAH, and to below 28 ng TEQ/kg dw within 10 years (without ENR), and empirical data support that prediction, then the SMA was assigned to Category 2 as a “Yes.” If the data in a SMA are mostly greater than 10 years old, newer data have lower chemical concentrations, minor exceedances of the SQS exist in isolated areas, or the SMA is expected to recover in 10 years or less, the SMA was assigned to Category 3 as a “Yes.” If the SMA does not fit into either of the two aforementioned categories, it was assigned to Category 1 and is not predicted to recover without active remediation and assigned a “No.” Additional information on the SMA categories can be found in Section 6. Output from the BCM can be found in columns of the ENR section of Table G-7b.

G.1.4 Age of RI Data and Use of Newer Data (Section 4)

The fourth section of Table G-1 considers the age of RI baseline data and any newer data made available after the RI. The first column of this section describes whether the SMA contains RI baseline data greater than 10 years old. The second column of this section describes the differences between newer FS data² and the RI baseline data. In some cases, newer data reveal concentration decreases over time in a SMA. These newer data were considered in the remedial technology selection process. Details regarding the type of newer data and whether they support recovery are found in Table G-7a.

G.1.5 Remedial Action Decision (Section 5)

The fifth section of Table G-1 displays the technology assigned to each SMA based on the chemical, physical, and data trends, and lists the key drivers for active technology assignments. The first column lists the technology, and the second column lists the chemical and physical considerations that went into the selection of the technology. For instance, if the technology assigned was “Isolation Capping,” then the “Notes” column displays the specific chemical exceedance, and the satisfaction of bathymetry criteria (only for use with the containment-based alternatives). Thickness of contamination is also included in the notes for the purpose of costing and viability of partial dredge and capping.

G.2 Presentation of Volumes and Areas

The remaining tables in Appendix G (Tables G-8 to G-17) present estimated removal volumes and containment areas for each alternative, based on the assumed technology assignments for individual SMAs. Dredge volumes correspond to the estimated depth to the lower limit of SQS contamination, with 2.5 ft added to account for dredge equipment capabilities and uncertainty (see Appendix E).

² Newer FS data are chemical data collected since finalization of the RI baseline data set in 2006.

- Table G-1 Alternative 2 – Consideration Affecting Technology Assignments**
- Table G-2 Alternative 3a and 4a – Considerations Affecting Technology Assignments**
- Table G-3 Alternative 3b and 4b – Considerations Affecting Technology Assignments**
- Table G-4 Alternative 3c and 4c – Considerations Affecting Technology Assignments**
- Table G-5 Alternative 3d and 4d – Considerations Affecting Technology Assignments**
- Table G-6 Alternative 5 – Considerations Affecting Technology Assignments**
- Table G-7a Relevant Chemical Data for Each SMA**
- Table G-7b Relevant Point Data for Each SMA**
- Table G-7c Relevant Physical Data for Each SMA**
- Table G-8 Alternative 2 – SMA Actions (Areas and Volumes)**
- Table G-9 Alternative 3a – SMA Actions (Areas and Volumes)**
- Table G-10 Alternative 3b – SMA Actions (Areas and Volumes)**
- Table G-11 Alternative 3c – SMA Actions (Areas and Volumes)**
- Table G-12 Alternative 3d – SMA Actions (Areas and Volumes)**
- Table G-13 Alternative 4a – SMA Actions (Areas and Volumes)**
- Table G-14 Alternative 4b – SMA Actions (Areas and Volumes)**
- Table G-15 Alternative 4c – SMA Actions (Areas and Volumes)**
- Table G-16 Alternative 4d – SMA Actions (Areas and Volumes)**
- Table G-17 Alternative 5 – SMA Actions (Areas and Volumes)**

Table G-1: Alternative 2 – Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 Years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for Alternative ²	Notes
1	A	2.56	No	No		No	No	?	Yes	No	No	No	No	-	MNR	No active remedy needed at this RAL
	B	2.34	No	No		No	No	?	Yes	No	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS exceedance from data greater than 10 years old.
2		1.32	Yes	Yes	Arsenic CSL	No	No	No	Yes	Yes	No	No	-	Dredge	Predicted year 10 CSL surface and arsenic surface RAL (>93 mg/kg dw) exceedance. Bathymetry criteria not met for capping. CSL contamination exists beyond the top 3 ft of sediment.	
3		2.21	No	No		No	No	No	Yes	No	No	No	-	MNR	No active remedy needed at this RAL	
4	A	1.36	No	No		No	No	No	Yes	No	No	No	No. Values 4 to 11 times larger for PCBs and BEHP. Arsenic decreases nominally and cPAH increases 40%.	MNR*	No active remedy needed at this RAL	
	B	1.46	No	No		No	No	No	Yes	No	Yes	No	-	MNR	No active remedy needed at this RAL	
	C	0.45	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Year 0 SQS exceedance. Area expected to have already recovered.	
5		6.23	No	Yes	CSL	Yes	No	Yes	No	No	No	No	Yes. PCBs and cPAH decrease by 42% and 10%, but BEHP and arsenic increase by 40% and 7%. SQS exceedance for phenol and benzyl alcohol.	Dredge	Predicted year 10 CSL surface PCB subsurface RAL exceedance (>2,200 µg/kg dw). Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Evidence of vessel scour observed in bathymetry data. FS data show a decrease in chemical concentrations.	
6	A	3.77	No	Yes	CSL	No	No	Yes	Yes	Yes	No	No	Mixed. PCBs 40-380 µg/kg dw, BEHP 460-750 µg/kg dw	MNR	No active remedy needed at this RAL	
	B	4.71	Yes	Yes	PCB CSL	No	No	Yes	No	Yes	No	No	Mixed. SPI above SQS for 3 chemicals, PCBs = 435 µg/kg dw, cPAH = 600 µg TEQ/kg dw; D/D PCB 130-440 µg/kg dw	MNR*	No active remedy needed at this RAL	
	C	5.90	No	No		No	No	No	No	No	Yes	No	No. SPI above SQS, PCBs = 304 µg/kg dw, cPAH = 400 µg TEQ/kg dw; D/D PCB 330-370 µg/kg dw	MNR*	No active remedy needed at this RAL	
	D	1.28	Yes	Yes	CSL	No	No	No	No	Yes	No	No	Mixed. PCBs 150-600 µg/kg dw	Dredge	Predicted year 10 CSL surface exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.	
	E	1.78	Yes	No	PCB	No	No	No	Yes	Yes	No	No	No	-	MNR	No active remedy needed at this RAL
7	A	2.31	Yes	Yes	cPAH CSL	No	No	No	Yes	Yes	No	No	-	Dredge	Predicted year 10 CSL surface and cPAH surface RAL exceedance (>3,100 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Area not predicted to recover with ENR. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.	
	B	4.17	No	No		No	No	No	Yes	No	Yes	No	-	MNR	No active remedy needed at this RAL	
	C	0.86	No	No		No	No	No	Yes	No	No	No	-	MNR*	No active remedy needed at this RAL	
	D	2.70	No	No		No	No	No	Yes	No	No	No	-	MNR*	No active remedy needed at this RAL	
	E	0.77	No	No		No	No	Yes	No	No	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
	F	1.08	No	No		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
8	A	1.60	No	No		No	No	No	Yes	No	No	No	-	MNR*	No active remedy needed at this RAL	
	B	4.06	No	No		No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
	C	2.17	No	No		No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Predicted year 10 SQS exceedance from data >10 years old. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.	

Table G-1: Alternative 2 – Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 Years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for Alternative ²	Notes
9	A	3.57	No	No		No	No	Yes	Yes	Yes	No	No	No	-	MNR	No active remedy needed at this RAL
	B	2.27	No	No		No	No	Yes	No	No	No	Yes	No	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
10	A	2.07	Yes	Yes	Arsenic CSL	Yes	No	No	Yes	Yes	No	No	No	-	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. CSL Contamination exists below the top 3 ft of sediment.
	B	5.46	No	No		No	No	No	Yes	No	No	No	No	-	MNR	No active remedy needed at this RAL
11	A	4.39	No	No		No	No	No	Yes	No	Yes	No	No	Mixed. below SQS for PCBs = 173 µg/kg dw, exceed SQS for 2 PAHs, cPAH = 1,000 µg/kg dw.	MNR	No active remedy needed at this RAL
	B	1.07	No	No		No	No	No	No	No	No	No	No	-	MNR*	No active remedy needed at this RAL
	C	2.98	Yes	Yes	PCB D/F CSL	Yes	No	No	No	Yes	No	No	No	Yes. below SQS for all chemicals, PCBs = 140 µg/kg dw, cPAH = 300 µg TEQ/kg dw	Dredge	PCB surface (>3,000 µg/kg dw) 3x CSL and Dioxins/Furans (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data on the east side of SMA not in Navigation Channel.
12		0.44	No	No		No	No	Yes	Yes	No	No	No	No	-	MNR*	No active remedy needed at this RAL
13		2.73	No	No		No	No	No	No	No	No	No	No	-	MNR	No active remedy needed at this RAL
14	A	2.74	Yes	Yes	Arsenic CSL	Yes	No	No	Yes	Yes	No	No	No	Mixed. Yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge	Arsenic surface RAL (>300 mg/kg dw) 3x CSL and predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
	B	1.03	No	No		No	No	No	No	No	Yes	No	No	-	MNR	No active remedy needed at this RAL
15		2.43	No	No		No	No	No	Yes	No	No	No	No	Mixed. Yes for PCBs; no for cPAH, BEHP, As, but below SQS	MNR	No active remedy needed at this RAL
16	A	4.29	Yes	No	Arsenic D/F	No	No	No	Yes	No	No	No	No	-	Dredge	Dioxins/furans surface RAL (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Potential Assumed tribal clamming located within area, dredging requires restoration elevation. Evidence of vessel scour observed in bathymetry data.
	B	2.64	No	No		Yes	No	No	No	No	Yes	No	No	Yes. below SQS, PCB = 170 µg/kg dw; cPAH = 380 µg/kg dw.	MNR	No active remedy needed at this RAL
17		2.35	No	No		No	No	No	Yes	No	No	Yes	-	MNR	No active remedy needed at this RAL	
18	A	1.73	No	No		No	No	No	Yes	No	No	No	-	MNR	No active remedy needed at this RAL	
	B	2.35	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
19		3.12	No	No		No	No	No	Yes	No	No	Yes	-	MNR	No active remedy needed at this RAL	
20		0.80	No	Yes	CSL	No	No	No	Yes	No	No	No	No	Mixed. T115 samples elevated for cPAHs, PCB (above SQS), dioxin/furans, and BEHP. SPI below SQS for PCBs (237 µg/kg dw); 1 SQS exceedance; 1 CSL exceedance; cPAH = 360 µg TEQ/kg dw.	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Dredge event planned for area. Contamination is limited to the top 3 ft of sediment.
21		0.93	No	No		No	No	No	Yes	No	No	No	-	MNR	No active remedy needed at this RAL	
22	A	0.72	No	No		No	No	Yes	Yes	No	Yes	Yes	-	MNR	No active remedy needed at this RAL	
	B	0.95	No	No		No	No	No	No	No	Yes	No	-	MNR	No active remedy needed at this RAL	
23		1.50	No	No		No	No	No	Yes	No	No	No	-	MNR	No active remedy needed at this RAL	
24		4.19	No	No		No	No	Yes	Yes	No	No	Yes	Yes	Yes for all chemicals decrease by 11%-43% and below SQS; PCB = 176 µg/kg dw; cPAH 265 µg TEQ/kg dw	MNR	No active remedy needed at this RAL

Table G-1: Alternative 2 – Considerations Affecting Technology Assignments

		Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 Years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for Alternative ²	Notes
25		1.77	No	No		No	No	Yes	No	No	No	No	No	-	MNR	No active remedy needed at this RAL
26		2.14	Yes	Yes	PCB D/F CSL	No	No	No	Yes	No	No	No	No	No. ICS data have CSL exceedances; SPI PCBs=1,600 µg/kg dw	Dredge	PCB surface RAL (>5,000 µg/kg dw). greater than 3x CSL. STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. New FS data do not show recovery.
27	A	0.72	No	No		No	No	Yes	No	Yes	No	No	Yes	-	MNR	No active remedy needed at this RAL
	B	2.99	No	No		No	No	Yes	No	No	Yes	Yes	Yes	-	Verification Monitoring	PCB surface RAL exceedance (>480 µg/kg dw), but isolated. Time 0 SQS surface exceedance, accompanied with a toxicity pass. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data..
	C	0.62	No	No		No	No	Yes	No	No	Yes	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour STM predicts scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.
28		1.83	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour observed.	
29		0.74	No	No		No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.	
30	A	0.68	No	No		No	No	Yes	No	No	No	Yes	-	MNR	No active remedy needed at this RAL	
	B	2.95	No	No		No	No	Yes	No	No	No	No	Yes. below SQS for PCBs (97 µg/kg dw); above SQS for benzyl alcohol (RI data was above CSL); cPAH = 220 µg TEQ/kg dw	MNR	cPAH RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). STM predicts scour under high-flow conditions evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.	
31		4.15	No	No		No	No	Yes	No	No	No	No	-	MNR*	No active remedy needed at this RAL	
32		4.35	No	No		No	No	Yes	No	No	Yes	Yes	Mixed. cPAH, BEHP, PCB increase by 110%, 250%, 820%; As decreases by 20%; but all still below SQS and cPAH = 130 µg TEQ/kg dw	MNR	No active remedy needed at this RAL	
33		3.67	No	No		No	No	Yes	Yes	Yes	No	Yes	-	MNR	No active remedy needed at this RAL	
34		0.29	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Predicted year 10 SQS surface exceedance from data >10 years old. Area expected to have already recovered.	
35	A	0.27	No	Yes	CSL	No	No	Yes	No	Yes	No	No	-	MNR	No active remedy needed at this RAL	
	B	0.57	No	No		No	No	Yes	Yes	No	Yes	Yes	-	MNR*	No active remedy needed at this RAL	
	C	0.59	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Nearby toxicity pass. Predicted year 10 SQS surface exceedance from data >10 years old. STM predicts flood scour under high-flow conditions. Area expected to have already recovered.	
	D	0.71	No	No		No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
36		0.67	No	No		No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS exceedance from data >10 years old. Area expected to have already recovered. STM predicts flood scour under high-flow conditions. No core data in isolated SMA.	
37	A	0.68	No	No		No	No	Yes	No	No	Yes	No	Sampling at T117 will redefine boundary and expand EAA to cover most of the areas of concern for these SMAs.	Verification Monitoring	Year 0 SQS surface exceedance, but boundary being confirmed by EAA. PCB surface RAL exceedance (>480 µg/kg dw), driven by interpolation from EAA. Area expected to have already recovered.	
	B	0.59	No	No		No	No	Yes	Yes	Yes	No	No	-	MNR	No active remedy needed at this RAL	
38		0.93	Yes	-	PCB	No	No	No	Yes	No	No	No	Yes. below SQS, 4 surface sediment samples PCB <200 µg/kg dw	MNR	No active remedy needed at this RAL	

Table G-1: Alternative 2 – Considerations Affecting Technology Assignments

		Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 Years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for Alternative ²	Notes
39		0.60	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions.	
40		0.43	No	No		No	Yes	Yes	No	No	Yes	Yes	-	Verification Monitoring	Nearby toxicity pass. Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.	
41		4.50	Yes	Yes	Arsenic cPAH CSL	Yes	Yes	Yes	Yes	No	No	No	No. 22 of 28 samples > SQS for PCBs; CSL exceedance for Hg.	Dredge	Predicted year 10 CSL surface and PCB subsurface RAL exceedance (>2,200 µg/kg dw). STM predicts flood scour under high-flow conditions. Potential assumed tribal clamming located within area. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.	
42	A	1.55	No	No		Yes	No	Yes	No	No	No	No	-	MNR*	No active remedy needed at this RAL	
	B	3.56	No	Yes	CSL	No	No	Yes	No	No	No	No	-	Dredge	Predicted year 10 CSL surface exceedance for 3 chemicals. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.	
43		0.36	No	No		No	Yes	Yes	Yes	No	Yes	Yes	-	Verification Monitoring	Area expected to recover when outfall loads are redistributed in the BCM.	
44		0.16	No	No		No	Yes	Yes	No	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
45		0.56	No	No		No	Yes	Yes	No	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
46		1.35	No	No		No	Yes	Yes	No	No	No	No	-	MNR*	No active remedy needed at this RAL	
47		0.89	No	-		No	Yes	Yes	No	Yes	No	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
48		1.00	Yes	-	PCB	No	Yes	Yes	-	No	No	No	-	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw), greater than 3x CSL.	
49		0.21	No	-		No	Yes	Yes	-	No	Yes	Yes	-	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
50		188.00	No	No		No	No	No	-	-	-	No	-	NR	No active remedy needed at this RAL	

1. Criteria for active remediation (PCB > 2,200 µg/kg dw, As > 80 mg/kg dw, cPAH > LDW wide 3,100 µg TEQ/kg dw, and D/F > 120 ng TEQ/kg dw).

YELLOW - Active; Active Remedy Needed due to chemical or toxicity RAL exceedance
 GREEN - Capping; Bathymetry and habitat criteria satisfied for capping

Table G-2: Alternative 3A and 4A Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 0?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3A	Action for 4A	Notes
1	A	2.56	No	Yes	CSL	No	No	?	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance. Bathymetry criteria not met for capping. Area predicted to recover with ENR.
	B	2.34	No	No		No	No	?	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance from data greater than 10 years old.
2		1.32	Yes	Yes	PCB Arsenic CSL	No	No	No	Yes	Yes	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface and Arsenic surface RAL (>93 mg/kg dw) exceedance. Bathymetry criteria not met for capping. CSL contamination exists beyond the top 3 ft of sediment.	
3		2.21	No	No		No	No	No	Yes	No	No	No	-	MNR	MNR	No active remedy needed at this RAL	
4	A	1.36	No	No		No	No	No	Yes	No	No	No	No. Values 4 to 11 times larger for PCBs and BEHP. Arsenic decreases nominally and cPAH increases 40%.	Dredge with ENR	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw) by interpolation, but point exceedance is located outside clamming area.	
	B	1.46	No	No		No	No	No	Yes	No	Yes	No	-	MNR	MNR	No active remedy needed at this RAL	
	C	0.45	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance. Area expected to have already recovered.	
5		6.23	No	Yes	CSL	Yes	No	Yes	No	No	No	No	Yes. PCBs and cPAH decrease by 42% and 10%, but BEHP and arsenic increase by 40% and 7%. SQS exceedance for phenol and benzyl alcohol.	Isolation Capping	Dredge	Predicted year 10 CSL surface PCB subsurface RAL exceedance (>2,200 µg/kg dw). Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Evidence of vessel scour observed in bathymetry data. FS data show a decrease in chemical concentrations.	
6	A	3.77	No	Yes	CSL	No	No	Yes	Yes	Yes	Yes	No	Mixed. PCBs 40-380 µg/kg dw, BEHP 460-750 µg/kg dw	MNR	MNR	No active remedy needed at this RAL	
	B	4.71	Yes	Yes	PCB CSL	No	No	Yes	No	Yes	No	No	Mixed. SPI above SQS for 3 chemicals, PCBs = 435 µg/kg dw, cPAH = 600 µg TEQ/kg dw; D/D PCB 130-440 µg/kg dw	MNR*	MNR*	No active remedy needed at this RAL	
	C	5.90	No	Yes	CSL	No	No	No	No	No	Yes	No	No. SPI above SQS, PCBs = 304 µg/kg dw, cPAH = 400 µg TEQ/kg dw; D/D PCB 330-370 µg/kg dw	MNR*	MNR*	No active remedy needed at this RAL	
	D	1.28	Yes	Yes	cPAH CSL	No	Yes	No	No	Yes	No	No	Mixed. PCBs 150-600 µg/kg dw	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.	
	E	1.78	Yes	No	PCB cPAH	No	Yes	No	Yes	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL	
7	A	2.31	Yes	Yes	cPAH CSL	No	Yes	No	Yes	Yes	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface and cPAH surface RAL exceedance (>3,100 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Area not predicted to recover with ENR. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.	
	B	4.17	No	No		No	No	No	Yes	No	Yes	No	-	MNR	MNR	No active remedy needed at this RAL	
	C	0.86	No	Yes	CSL	No	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	CSL surface RAL exceedance for fluoranthene, concentration is 1.2 times CSL threshold. Bathymetry criteria not met for capping. Area predicted to recover with ENR. Potential Assumed tribal clamming located within area. Evidence of vessel scour observed in bathymetry data.	
	D	2.70	Yes	No	cPAH	No	Yes	No	Yes	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). Area predicted to recover with ENR.	
	E	0.77	No	No		No	No	Yes	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.

Table G-2: Alternative 3A and 4A Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 0?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3A	Action for 4A	Notes
	F	1.08	No	No		No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
8	A	1.60	Yes	No	cPAH	No	Yes	No	No	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR. Beach and potential assumed tribal clamming located within area.	
	B	4.06	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
	C	2.17	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Predicted year 10 SQS exceedance from data >10 years old. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.	
9	A	3.57	Yes	Yes	cPAH CSL	No	Yes	Yes	Yes	No	No	No	-	Isolation Capping	Dredge	CSL Toxicity exceedance. PCB subsurface RAL exceedance (>2,200 µg/kg dw), but Flood scour predicted to be <1 cm.	
	B	2.27	No	No		No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
10	A	2.07	Yes	Yes	Arsenic CSL	Yes	No	Yes	Yes	No	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. CSL Contamination exists below the top 3 ft of sediment.	
	B	5.46	No	Yes	CSL	No	No	Yes	No	No	No	No	-	Partial Dredge/Cap	Dredge	Year 0 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.	
11	A	4.39	No	No		No	No	Yes	No	Yes	No	No	Mixed. below SQS for PCBs = 173 µg/kg dw, exceed SQS for 2 PAHs, cPAH = 1,000 µg/kg dw.	MNR	MNR	No active remedy needed at this RAL	
	B	1.07	No	Yes	CSL	No	No	No	No	No	No	No	-	Partial Dredge/Cap	Dredge	CSL surface exceedance for fluoranthene, Pyrene, and total HPAH, greatest concentration is 2.7 times CSL. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Evidence of vessel scour observed in bathymetry data. Contamination exists below the top 3 ft of sediment.	
	C	2.98	Yes	Yes	PCB D/F CSL	Yes	No	No	No	Yes	No	No	Yes. below SQS for all chemicals, PCBs = 140 µg/kg dw, cPAH = 300 µg TEQ/kg dw	Dredge with ENR	Dredge	PCB surface (>3,000 µg/kg dw) 3x CSL and Dioxins/Furans (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data on the east side of SMA not in Navigation Channel.	
12		0.44	No	Yes	CSL	No	No	Yes	Yes	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity and Hg Mercury surface CSL (RAL) exceedance. Area expected to recover with ENR.	
13		2.73	No	Yes, toxicity	CSL	No	No	No	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance and year 0 CSL surface exceedance. Depth criteria not met for capping. Area predicted to recover with ENR.	
14	A	2.74	Yes	Yes	Arsenic CSL	Yes	No	Yes	Yes	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge with ENR	Dredge	Arsenic surface RAL (>300 mg/kg dw) 3x CSL and predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.	
	B	1.03	No	No		No	No	No	No	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL	
15		2.43	No	Yes, toxicity	CSL	No	No	Yes	No	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge with ENR	Dredge	Year 0 CSL surface and CSL toxicity exceedance. New FS data show some/mixed recovery. Area predicted to recover with ENR.	

Table G-2: Alternative 3A and 4A Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 0?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3A	Action for 4A	Notes
16	A	4.29	Yes	Yes	Arsenic cPAH D/F CSL	No	Yes	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	Dioxins/furans surface RAL (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Potential Assumed tribal clamming located within area, dredging requires restoration of elevation. Evidence of vessel scour observed in bathymetry data.
	B	2.64	No	No		Yes	No	No	No	No	Yes	No	No	Yes. below SQS, PCB = 170 µg/kg dw; cPAH = 380 µg/kg dw.	MNR	MNR	No active remedy needed at this RAL
17		2.35	No	No		No	No	No	Yes	No	No	Yes	-	MNR	MNR	No active remedy needed at this RAL	
18	A	1.73	No	Yes	CSL	No	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	Zinc CSL surface exceedance, concentration is 1.6 times the CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Area predicted to recover with ENR, Empirical data show recovery. Net sedimentation ranges from 2 - 3 cm/yr.	
	B	2.35	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
19		3.12	No	No		Yes	No	No	Yes	No	No	Yes	-	MNR	MNR	No active remedy needed at this RAL	
20		0.80	No	Yes	CSL	No	No	No	Yes	No	No	No	Mixed. T115 samples elevated for cPAHs, PCB (above SQS), dioxin/furans, and BEHP. SPI below SQS for PCBs (237 µg/kg dw); 1 SQS exceedance; 1 CSL exceedance; cPAH = 360 µg TEQ/kg dw.	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Dredge event planned for area. Contamination is limited to the top 3 ft of sediment.	
21		0.93	No	Yes, toxicity	CSL	No	No	No	Yes	No	No	No	-	Partial Dredge/Cap	Dredge	CSL toxicity and PCB subsurface RAL exceedance (>2,200 µg/kg dw), but STM flood scour only predicted to be 2.4 cm. Bathymetry criteria not met for capping. Contamination exists below the top 3 ft of sediment.	
22	A	0.72	No	Yes	CSL	No	No	Yes	Yes	No	Yes	No	-	MNR	MNR	No active remedy needed at this RAL	
	B	0.95	No	No		No	No	No	No	No	Yes	No	-	MNR	MNR	No active remedy needed at this RAL	
23		1.50	Yes	No	cPAH	No	Yes	No	Yes	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance in potential assumed tribal clamming and beach area (>1,500 µg TEQ/kg dw). Area expected to recover with ENR.	
24		4.19	No	No		No	No	Yes	Yes	No	No	Yes	Yes for all chemicals decrease by 11%-43% and below SQS; PCB = 176 µg/kg dw; cPAH 265 µg TEQ/kg dw	MNR	MNR	No active remedy needed at this RAL	
25		1.77	No	Yes, toxicity	CSL	No	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance, Bathymetry criteria not met for capping. Area predicted to recover with ENR.	
26		2.14	Yes	Yes	PCB D/F CSL	No	No	No	Yes	Yes	No	No	No. ICS data have CSL exceedances; SPI PCBs=1,600 µg/kg dw	Dredge with ENR	Dredge	PCB surface RAL (>5,000 µg/kg dw). greater than 3x CSL. STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. New FS data do not show recovery.	
27	A	0.72	No	No		No	No	No	Yes	No	Yes	No	-	MNR	MNR	No active remedy needed at this RAL	
	B	2.99	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	PCB surface RAL exceedance (>480 µg/kg dw), but isolated. Time 0 SQS surface exceedance, accompanied with a Toxicity pass. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data..	
	C	0.62	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour STM predicts scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.	

Table G-2: Alternative 3A and 4A Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 0?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3A	Action for 4A
28		1.83	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour observed.
29		0.74	No	No		No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.
30	A	0.68	Yes	No	cPAH	No	Yes	No	No	No	No	Yes	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR.
	B	2.95	Yes	Yes	cPAH CSL	Yes	Yes	No	Yes	No	No	No	Yes. below SQS for PCBs (97 µg/kg dw); above SQS for benzyl alcohol (RI data was above CSL); cPAH = 220 µg TEQ/kg dw	Dredge with ENR	Dredge	cPAH RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). STM predicts scour under high-flow conditions evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
31		4.15	Yes	Yes	PCB cPAH CSL	No	Yes	No	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity, PCB and Hg Mercury CSL surface, and cPAH surface RAL exceedance for potential assumed tribal clamming (>1,500 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
32		4.35	No	No		No	No	No	Yes	No	No	Yes	Mixed. cPAH, BEHP, PCB increase by 110%, 250%, 820%; As decreases by 20%; but all still below SQS and cPAH = 130 µg TEQ/kg dw	MNR	MNR	No active remedy needed at this RAL
33		3.67	Yes	Yes	PCB cPAH CSL	Yes	Yes	No	Yes	Yes	No	Yes	-	MNR	MNR	No active remedy needed at this RAL
34		0.29	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Predicted year 10 SQS surface exceedance from data >10 years old. Area expected to have already recovered.
35	A	0.27	No	Yes	CSL	No	No	No	Yes	No	Yes	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. STM predicts flood scour under high-flow conditions. Depth criteria not met for capping. capping requires partial dredge and cap. Contamination is limited to the top 3 ft of sediment.
	B	0.57	No	No		No	No	Yes	Yes	Yes	No	Yes	-	MNR*	MNR*	No active remedy needed at this RAL
	C	0.59	No	No		No	No	Yes	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Nearby toxicity pass. Predicted year 10 SQS surface exceedance from data >10 years old. STM predicts flood scour under high-flow conditions. Area expected to have already recovered.
	D	0.71	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
36		0.67	No	No		No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance from data >10 years old. Area expected to have already recovered. STM predicts flood scour under high-flow conditions. No core data in isolated SMA.
37	A	0.68	No	No		No	No	No	Yes	No	No	Yes	Sampling at T117 will redefine boundary and expand EAA to cover most of the areas of concern for these SMAs.	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance, but boundary being confirmed by EAA. PCB surface RAL exceedance (>480 µg/kg dw), driven by interpolation from EAA. Area expected to have already recovered.
	B	0.59	No	No		No	No	No	Yes	Yes	Yes	No	-	MNR	MNR	No active remedy needed at this RAL
38		0.93	No	-		No	No	No	No	Yes	No	No	Yes. below SQS, 4 surface sediment samples PCB <200 µg/kg dw	MNR	MNR	No active remedy needed at this RAL
39		0.60	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions.

Table G-2: Alternative 3A and 4A Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision			
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed CSL at Year 0?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3A	Action for 4A	Notes
40		0.43	No	No		No	No	Yes	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Nearby toxicity pass. Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.
41		4.50	Yes	Yes	Arsenic cPAH CSL	Yes	Yes	Yes	Yes	Yes	No	No	No	No. 22 of 28 samples > SQS for PCBs; CSL exceedance for Hg.	Dredge with ENR	Dredge	Predicted year 10 CSL surface and PCB subsurface RAL exceedance (>2,200 µg/kg dw). STM predicts flood scour under high-flow conditions. Potential Assumed tribal clamming located within area. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
42	A	1.55	No	Yes	CSL	Yes	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	PCB subsurface RAL exceedance (>2,200 µg/kg dw). CSL exceedance for Benzoic Acid, concentration 1.4 times CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping (potential assumed tribal clamming area). Dredging requires area be restored to existing elevations due to potential tribal clamming area. Contamination is limited to the top 3 ft of sediment.
	B	3.56	No	Yes	CSL	No	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance for 3 chemicals. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.
43		0.36	No	No		No	No	No	Yes	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Area expected to recover when outfall loads are redistributed in the BCM.
44		0.16	No	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
45		0.56	No	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
46		1.35	No	Yes, toxicity	CSL	No	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity and CSL year 0 surface exceedance. STM predicts flood scour under high-flow conditions observed. Bathymetry criteria not met for capping. Potential Assumed tribal clamming and beach located within area, dredging requires area to be restored to existing elevations. Contamination is limited to the top 3 ft of sediment.
47		0.89	No	Yes	CSL	No	No	No	Yes	No	Yes	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
48		1.00	Yes	Yes	PCB CSL	No	No	Yes	Yes	-	No	No	No	-	Isolation Capping	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw), greater than 3x CSL.
49		0.21	No	No		No	No	No	Yes	-	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
50		188.00	No	0		No	No	No	No	-	-	-	No	-	NR	NR	No active remedy needed at this RAL

1. Criteria for active remediation (PCB > 1,300 µg/kg dw, As > 93 mg/kg dw, cPAH > (LDW wide [3,100 µg TEQ/kg dw], Clamming [1,500 µg TEQ/kg dw], Beaches [900 µg TEQ/kg dw], Beach 6 [600 µg TEQ/kg dw], Beach 3 [400 µg TEQ/kg dw]), and D/F > 49 ng TEQ/kg dw.

YELLOW - Active; Active Remedy Needed due to chemical or toxicity RAL exceedance
 GREEN - Capping, Bathymetry and habitat criteria satisfied for capping

Table G-3: Alternative 3B and 4B Considerations Affecting Technology Assignments

			Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed SQS at year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3B	Action for 4B	Notes
1	A	2.56	No	No		No	No	?	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance. Bathymetry criteria not met for capping. Area predicted to recover with ENR.
	B	2.34	No	No		No	No	?	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance from data greater than 10 years old.
2		1.32	Yes	Yes	PCB Arsenic SQS	No	No	No	Yes	Yes	No	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface and Arsenic surface RAL (>93 mg/kg dw) exceedance. Bathymetry criteria not met for capping. CSL contamination exists beyond the top 3 ft of sediment.
3		2.21	No	No		No	No	No	Yes	No	No	No	No	-	MNR	MNR	No active remedy needed at this RAL
4	A	1.36	No	No		No	No	No	Yes	No	No	No	No	No. Values 4 to 11 times larger for PCBs and BEHP. Arsenic decreases nominally and cPAH increases 40%.	Dredge with ENR	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw) by interpolation, but point exceedance is located outside clamming area.
	B	1.46	No	No		No	No	No	Yes	No	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL
	C	0.45	No	No		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance. Area expected to have already recovered.
5		6.23	No	Yes	SQS	Yes	No	Yes	No	No	No	No	Yes. PCBs and cPAH decrease by 42% and 10%, but BEHP and arsenic increase by 40% and 7%. SQS exceedance for phenol and benzyl alcohol.	Isolation Capping	Dredge	Predicted year 10 CSL surface PCB subsurface RAL exceedance (>2,200 µg/kg dw). Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Evidence of vessel scour observed in bathymetry data. FS data show a decrease in chemical concentrations.	
6	A	3.77	Yes	Yes	PCB SQS	No	No	Yes	Yes	Yes	Yes	No	No	Mixed. PCBs 40-380 µg/kg dw, BEHP 460-750 µg/kg dw	MNR	MNR	No active remedy needed at this RAL
	B	4.71	Yes	Yes	PCB SQS	No	No	Yes	No	Yes	No	No	No	Mixed. SPI above SQS for 3 chemicals, PCBs = 435 µg/kg dw, cPAH = 600 µg TEQ/kg dw; D/D PCB 130 440 µg/kg dw	ENR	Dredge	Predicted year 10 CSL surface and PCB surface RAL exceedance (>2,200 µg/kg dw), but new FS data show recovery to below CSL. Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Source control needed.
	C	5.90	Yes	Yes	PCB SQS	No	No	No	No	No	Yes	No	No	No. SPI above SQS, PCBs = 304 µg/kg dw, cPAH = 400 µg TEQ/kg dw; D/D PCB 330-370 µg/kg dw	ENR	Dredge	Predicted year 10 SQS surface and PCB surface RAL exceedance (>700 µg/kg dw). Year 0 CSL surface exceedance, but point exceedance is isolated. Area predicted to recover with suitable for ENR.
	D	1.28	Yes	Yes	PCB cPAH SQS	No	Yes	No	No	Yes	No	No	No	Mixed. PCBs 150-600 µg/kg dw	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.
	E	1.78	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	Yes	No	No	No	-	MNR	MNR	No active remedy needed at this RAL
7	A	2.31	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No Yes	No	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface and cPAH surface RAL exceedance (>3,100 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Area not predicted to recover with ENR. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.

Table G-3: Alternative 3B and 4B Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed SQS at year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3B	Action for 4B	Notes
7	B	4.17	No	No		No	No	No	Yes	No	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL
	C	0.86	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL surface RAL exceedance for fluoranthene, concentration is 1.2 times CSL threshold. Bathymetry criteria not met for capping. Area predicted to recover with ENR. Potential Assumed tribal clamming located within area. Evidence of vessel scour observed in bathymetry data.
	D	2.70	Yes	Yes	cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). Area predicted to recover with ENR.
	E	0.77	No	No		No	No	Yes	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
	F	1.08	No	No		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
8	A	1.60	Yes	Yes	cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR. Beach and potential assumed tribal clamming located within area.
	B	4.06	No	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
	C	2.17	No	Yes	SQS	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Predicted year 10 SQS exceedance from data >10 years old. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.
9	A	3.57	Yes	Yes	PCB cPAH SQS	No	Yes	Yes	Yes	Yes	No	No	No	-	Isolation Capping	Dredge	CSL Toxicity exceedance. PCB subsurface RAL exceedance (>2,200 µg/kg dw), but Flood scour predicted to be <1 cm.
	B	2.27	No	No		No	No	Yes	No	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
10	A	2.07	Yes	Yes	Arsenic SQS	Yes	No	No	Yes	Yes	No	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. CSL Contamination exists below the top 3 ft of sediment.
	B	5.46	No	Yes	SQS	No	No	No	Yes	No	No	No	No	-	Partial Dredge/Cap	Dredge	Year 0 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.
11	A	4.39	No	No		No	No	No	Yes	No	Yes	No	No	Mixed. below SQS for PCBs = 173 µg/kg dw, exceed SQS for 2 PAHs, cPAH = 1,000 µg/kg dw.	MNR	MNR	No active remedy needed at this RAL
	B	1.07	No	Yes	SQS	No	No	No	No	No	No	No	No	-	Partial Dredge/Cap	Dredge	CSL surface exceedance for fluoranthene, Pyrene, and total HPAH, greatest concentration is 2.7 times CSL. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Evidence of vessel scour observed in bathymetry data. Contamination exists below the top 3 ft of sediment.
	C	2.98	Yes	Yes	PCB D/F SQS	Yes	No	No	No	Yes	No	No	No	Yes. below SQS for all chemicals, PCBs = 140 µg/kg dw, cPAH = 300 µg TEQ/kg dw	Dredge with ENR	Dredge	PCB surface (>3,000 µg/kg dw) 3x CSL and Dioxins/Furans (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data on the east side of SMA not in Navigation Channel.
12		0.44	No	No		No	No	Yes	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity and Hg Mercury surface CSL (RAL) exceedance. Area expected to recover with ENR.

Table G-3: Alternative 3B and 4B Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed SQS at year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3B	Action for 4B
13		2.73	No	No		No	No	No	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance and year 0 CSL surface exceedance. Depth criteria not met for capping. Area predicted to recover with ENR.
14	A	2.74	Yes	Yes	Arsenic SQS	Yes	No	No	Yes	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge with ENR	Dredge	Arsenic surface RAL (>300 mg/kg dw) 3x CSL and predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
	B	1.03	No	No		No	No	No	No	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL
15		2.43	No	No		No	No	No	No	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge with ENR	Dredge	Year 0 CSL surface and CSL toxicity exceedance. New FS data show some/mixed recovery. Area predicted to recover with ENR.
16	A	4.29	Yes	Yes	PCB Arsenic cPAH D/F SQS	No	Yes	No	Yes	No	No	No	-	Dredge with ENR	Dredge	Dioxins/furans surface RAL (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Potential Assumed tribal clamming located within area, dredging requires restoration of elevation. Evidence of vessel scour observed in bathymetry data.
	B	2.64	No	No		Yes	No	No	No	Yes	No	No	Yes. below SQS, PCB = 170 µg/kg dw; cPAH = 380 µg/kg dw.	MNR	MNR	No active remedy needed at this RAL
17		2.35	No	No		No	No	No	Yes	No	No	Yes	-	MNR	MNR	No active remedy needed at this RAL
18	A	1.73	No	Yes	SQS	No	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	Zinc CSL surface exceedance, concentration is 1.6 times the CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Area predicted to recover with ENR, Empirical data show recovery. Net sedimentation ranges from 2 - 3 cm/yr.
	B	2.35	No	No		Yes	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
19		3.12	No	No		Yes	No	No	Yes	No	No	Yes	-	MNR	MNR	No active remedy needed at this RAL
20		0.80	No	Yes	SQS	No	No	No	Yes	No	No	No	Mixed. T115 samples elevated for cPAHs, PCB (above SQS), dioxin/furans, and BEHP. SPI below SQS for PCBs (237 µg/kg dw); 1 SQS exceedance; 1 CSL exceedance; cPAH = 360 µg TEQ/kg dw.	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Dredge event planned for area. Contamination is limited to the top 3 ft of sediment.
21		0.93	No	No		No	No	No	Yes	No	No	No	-	Partial Dredge/Cap	Dredge	CSL toxicity and PCB subsurface RAL exceedance (>2,200 µg/kg dw), but STM flood scour only predicted to be 2.4 cm. Bathymetry criteria not met for capping. Contamination exists below the top 3 ft of sediment.
22	A	0.72	No	No		No	No	Yes	Yes	No	Yes	Yes	-	MNR	MNR	No active remedy needed at this RAL
	B	0.95	No	No		No	No	No	No	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL
23		1.50	Yes	No	cPAH	No	Yes	No	Yes	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance in potential assumed tribal clamming and beach area (>1,500 µg TEQ/kg dw). Area expected to recover with ENR.
24		4.19	No	No		No	No	Yes	Yes	No	No	Yes	Yes for all chemicals decrease by 11%-43% and below SQS; PCB = 176 µg/kg dw; cPAH 265 µg TEQ/kg dw	MNR	MNR	No active remedy needed at this RAL
25		1.77	No	No		No	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance, Bathymetry criteria not met for capping. Area predicted to recover with ENR.
26		2.14	Yes	Yes	PCB D/F SQS	No	No	No	Yes	Yes	No	No	No. ICS data have CSL exceedances; SPI PCBs=1,600 µg/kg dw	Dredge with ENR	Dredge	PCB surface RAL (>5,000 µg/kg dw). greater than 3x CSL. STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. New FS data do not show recovery.

Table G-3: Alternative 3B and 4B Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed SQS at year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3B	Action for 4B	Notes
27	A	0.72	No	No		No	No	Yes	No	Yes	No	Yes	-	MNR	MNR	No active remedy needed at this RAL	
	B	2.99	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	PCB surface RAL exceedance (>480 µg/kg dw), but isolated. Time 0 SQS surface exceedance, accompanied with a Toxicity pass. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data..	
	C	0.62	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour STM predicts scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.	
28		1.83	No	No		No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour observed.	
29		0.74	No	No		No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.	
30	A	0.68	Yes	No	cPAH	No	Yes	No	Yes	No	No	Yes	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR.	
	B	2.95	Yes	No	cPAH	No	Yes	No	Yes	No	No	No	Yes. below SQS for PCBs (97 µg/kg dw); above SQS for benzyl alcohol (RI data was above CSL); cPAH = 220 µg TEQ/kg dw	Dredge with ENR	Dredge	cPAH RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). STM predicts scour under high-flow conditions evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.	
31		4.15	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity, PCB and Hg Mercury CSL surface, and cPAH surface RAL exceedance for potential assumed tribal clamming (>1,500 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.	
32		4.35	No	Yes	SQS	No	No	No	Yes	No	No	Yes	Mixed. cPAH, BEHP, PCB increase by 110%, 250%, 820%; As decreases by 20%; but all still below SQS and cPAH = 130 µg TEQ/kg dw	MNR	MNR	No active remedy needed at this RAL	
33		3.67	Yes	Yes	PCB cPAH SQS	Yes	Yes	No	Yes	Yes	No	Yes	-	MNR	MNR	No active remedy needed at this RAL	
34		0.29	No	Yes	SQS	No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Predicted year 10 SQS surface exceedance from data >10 years old. Area expected to have already recovered.	
35	A	0.27	No	Yes	SQS	No	No	No	Yes	No	Yes	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. STM predicts flood scour under high-flow conditions. Depth criteria not met for capping. capping requires partial dredge and cap. Contamination is limited to the top 3 ft of sediment.	
	B	0.57	No	Yes	SQS	No	No	Yes	Yes	Yes	No	Yes	-	MNR*	MNR*	No active remedy needed at this RAL	
	C	0.59	No	Yes	SQS	No	No	Yes	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Nearby toxicity pass. Predicted year 10 SQS surface exceedance from data >10 years old. STM predicts flood scour under high-flow conditions. Area expected to have already recovered.	
	D	0.71	No	No		No	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	

Table G-3: Alternative 3B and 4B Considerations Affecting Technology Assignments

		Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision			
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed SQS at year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3B	Action for 4B	Notes
36		0.67	No	No		No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance from data >10 years old. Area expected to have already recovered. STM predicts flood scour under high-flow conditions. No core data in isolated SMA.	
37	A	0.68	No	No		No	No	No	Yes	No	Yes	No	Sampling at T117 will redefine boundary and expand EAA to cover most of the areas of concern for these SMAs.	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance, but boundary being confirmed by EAA. PCB surface RAL exceedance (>480 µg/kg dw), driven by interpolation from EAA. Area expected to have already recovered.	
	B	0.59	No	No		No	No	No	Yes	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL.	
38		0.93	Yes	-	PCB	Yes	No	No	No	Yes	No	No	Yes. below SQS, 4 surface sediment samples PCB <200 µg/kg dw	Partial Dredge/Cap	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw) by interpolation; newer FS data show PCB surface recovery (<240 µg/kg dw) for this point. PCB subsurface RAL exceedance (>700 µg/kg dw). STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.	
39		0.60	No	No		No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions.	
40		0.43	No	No		No	No	Yes	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Nearby toxicity pass. Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.	
41		4.50	Yes	Yes	PCB Arsenic cPAH SQS	Yes	Yes	Yes	Yes	Yes	No	No	No. 22 of 28 samples > SQS for PCBs; CSL exceedance for Hg.	Dredge with ENR	Dredge	Predicted year 10 CSL surface and PCB subsurface RAL exceedance (>2,200 µg/kg dw). STM predicts flood scour under high-flow conditions. Potential Assumed tribal clamming located within area. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.	
42	A	1.55	Yes	No	PCB	Yes	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	PCB subsurface RAL exceedance (>2,200 µg/kg dw). CSL exceedance for Benzoic Acid, concentration 1.4 times CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping (potential assumed tribal clamming area). Dredging requires area be restored to existing elevations due to potential tribal clamming area. Contamination is limited to the top 3 ft of sediment.	
	B	3.56	No	Yes	SQS	No	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance for 3 chemicals. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.	
43		0.36	No	Yes	SQS	No	No	No	Yes	Yes	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Area expected to recover when outfall loads are redistributed in the BCM.	
44		0.16	No	No		No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
45		0.56	No	No		No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	

Table G-3: Alternative 3B and 4B Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed SQS at year 10?	For which risk driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3B	Action for 4B
46	1.35	No	No		No	No	Yes	No	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity and CSL year 0 surface exceedance. STM predicts flood scour under high-flow conditions observed. Bathymetry criteria not met for capping. Potential Assumed tribal clamming and beach located within area, dredging requires area to be restored to existing elevations. Contamination is limited to the top 3 ft of sediment.
47	0.89	No	-		No	No	Yes	No	Yes	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
48	1.00	Yes	-	PCB	No	No	Yes	-	No	No	No	-	Isolation Capping	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw), greater than 3x CSL.	
49	0.21	No	-		No	No	Yes	-	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
50	188.00	No	No		No	No	No	-	-	-	Yes	-	NR	NR	No active remedy needed at this RAL	

1. Criteria for active remediation (PCB > 700 µg/kg dw, As > 88 mg/kg dw, cPAH > (LDW wide [3,100 µg TEQ/kg dw], Clamming [1,500 µg TEQ/kg dw], Beaches [900 µg TEQ/kg dw], Beach 6 [600 µg TEQ/kg dw], Beach 3 [400 µg TEQ/kg dw]), and D/F > 49 ng TEQ/kg dw.

YELLOW - Active; Active Remedy Needed due to chemical or toxicity RAL exceedance
 GREEN - Capping; Bathymetry and habitat criteria satisfied for capping

Updated: 4/22/09 MLS

Table G-4: Alternative 3C and 4C Considerations Affecting Technology Assignments

			Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3C	Action for 4C	Notes
1	A	2.56	Yes	cPAH	No	No	?	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance. Bathymetry criteria not met for capping. Area predicted to recover with ENR.
	B	2.34	No		No	No	?	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance from data greater than 10 years old.
2		1.32	Yes	PCB Arsenic	No	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface and Arsenic surface RAL (>93 mg/kg dw) exceedance. Bathymetry criteria not met for capping. CSL contamination exists beyond the top 3 ft of sediment.
3		2.21	Yes	cPAH	Yes	No	No	Yes	No	No	No	No	-	Dredge	Dredge	PCB subsurface RAL (>480 ug/kg dw) and Arsenic subsurface RAL exceedance (>57 mg/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.
4	A	1.36	Yes	cPAH	No	No	No	Yes	No	No	No	No	No. Values 4 to 11 times larger for PCBs and BEHP. Arsenic decreases nominally and cPAH increases 40%.	Dredge with ENR	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw) by interpolation, but point exceedance is located outside clamming area.
	B	1.46	No		No	No	No	Yes	No	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL
	C	0.45	No		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance. Area expected to have already recovered.
5		6.23	Yes	cPAH	Yes	No	Yes	No	No	No	No	No	Yes. PCBs and cPAH decrease by 42% and 10%, but BEHP and arsenic increase by 40% and 7%. SQS exceedance for phenol and benzyl alcohol.	Isolation Capping	Dredge	Predicted year 10 CSL surface PCB subsurface RAL exceedance (>2,200 µg/kg dw). Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Evidence of vessel scour observed in bathymetry data. FS data show a decrease in chemical concentrations.
6	A	3.77	Yes	PCB cPAH	No	No	Yes	Yes	Yes	Yes	No	No	Mixed. PCBs 40-380 µg/kg dw, BEHP 460-750 µg/kg dw	Isolation Capping	Dredge	cPAH surface RAL exceedance (>900 µg TEQ/kg dw). Predicted year 10 CSL surface exceedance, but new FS data show some recovery.
	B	4.71	Yes	PCB cPAH	No	No	Yes	No	Yes	No	No	No	Mixed. SPI above SQS for 3 chemicals, PCBs = 435 µg/kg dw, cPAH = 600 µg TEQ/kg dw; D/D PCB 130-440 µg/kg dw	ENR	Dredge	Predicted year 10 CSL surface and PCB surface RAL exceedance (>2,200 µg/kg dw), but new FS data show recovery to below CSL. Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Source control needed.
	C	5.90	Yes	PCB cPAH	No	No	No	No	No	Yes	No	No	No. SPI above SQS, PCBs = 304 µg/kg dw, cPAH = 400 µg TEQ/kg dw; D/D PCB 330-370 µg/kg dw	ENR	Dredge	Predicted year 10 SQS surface and PCB surface RAL exceedance (>700 µg/kg dw). Year 0 CSL surface exceedance, but point exceedance is isolated. Area predicted to recover with suitable for ENR.
	D	1.28	Yes	PCB cPAH	No	Yes	No	No	Yes	No	No	No	Mixed. PCBs 150-600 µg/kg dw	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.
	E	1.78	Yes	PCB cPAH	No	Yes	No	Yes	Yes	No	No	No	No	-	MNR	MNR

Table G-4: Alternative 3C and 4C Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3C	Action for 4C	Notes
7	A	2.31	Yes	PCB cPAH	No	Yes	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface and cPAH surface RAL exceedance (>3,100 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Area not predicted to recover with ENR. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.
	B	4.17	Yes	PCB	No	No	No	Yes	No	Yes	No	No	-	ENR	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Area predicted to recover with suitable for ENR. Beach and potential assumed tribal clamming located within area.
	C	0.86	Yes	PCB cPAH	No	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL surface RAL exceedance for fluoranthene, concentration is 1.2 times CSL threshold. Bathymetry criteria not met for capping. Area predicted to recover with ENR. Potential Assumed tribal clamming located within area. Evidence of vessel scour observed in bathymetry data.
	D	2.70	Yes	cPAH	No	Yes	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). Area predicted to recover with ENR.
	E	0.77	No		No	No	Yes	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
	F	1.08	No		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
8	A	1.60	Yes	PCB cPAH	No	Yes	No	Yes	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR. Beach and potential assumed tribal clamming located within area.	
	B	4.06	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
	C	2.17	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Predicted year 10 SQS exceedance from data >10 years old. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.
9	A	3.57	Yes	PCB cPAH	No	Yes	Yes	Yes	No	No	No	-	Isolation Capping	Dredge	CSL Toxicity exceedance. PCB subsurface RAL exceedance (>2,200 µg/kg dw), but Flood scour predicted to be <1 cm.	
	B	2.27	No		No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
10	A	2.07	Yes	Arsenic cPAH	Yes	No	No	Yes	Yes	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. CSL Contamination exists below the top 3 ft of sediment.	
	B	5.46	Yes	PCB cPAH	Yes	No	No	Yes	No	No	No	-	Partial Dredge/Cap	Dredge	Year 0 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.	
11	A	4.39	No		No	No	No	Yes	No	Yes	No	Mixed. below SQS for PCBs = 173 µg/kg dw, exceed SQS for 2 PAHs, cPAH = 1,000 µg/kg dw.	MNR	MNR	No active remedy needed at this RAL	
	B	1.07	Yes	cPAH	No	No	No	No	No	No	No	-	Partial Dredge/Cap	Dredge	CSL surface exceedance for fluoranthene, Pyrene, and total HPAH, greatest concentration is 2.7 times CSL. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Evidence of vessel scour observed in bathymetry data. Contamination exists below the top 3 ft of sediment.	

Table G-4: Alternative 3C and 4C Considerations Affecting Technology Assignments

			Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3C	Action for 4C	Notes
	C	2.98	Yes	PCB D/F	Yes	No	No	No	Yes	No	No	No	Yes. below SQS for all chemicals, PCBs = 140 µg/kg dw, cPAH = 300 µg TEQ/kg dw	Dredge with ENR	Dredge	PCB surface (>3,000 µg/kg dw) 3x CSL and Dioxins/Furans (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data on the east side of SMA not in Navigation Channel.
12		0.44	No		No	No	Yes	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity and Hg Mercury surface CSL (RAL) exceedance. Area expected to recover with ENR.
13		2.73	Yes	PCB	No	No	No	No	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance and year 0 CSL surface exceedance. Depth criteria not met for capping. Area predicted to recover with ENR.
14	A	2.74	Yes	Arsenic cPAH	Yes	No	No	Yes	Yes	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge with ENR	Dredge	Arsenic surface RAL (>300 mg/kg dw) 3x CSL and predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
	B	1.03	No		No	No	No	No	No	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL
15		2.43	Yes	PCB	No	No	No	Yes	No	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge with ENR	Dredge	Year 0 CSL surface and CSL toxicity exceedance New FS data show some/mixed recovery. Area predicted to recover with ENR.
16	A	4.29	Yes	-PCB -Arsenic -cPAH -D/F	No	Yes	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	Dioxins/furans surface RAL (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Potential Assumed tribal clamming located within area, dredging requires restoration of elevation. Evidence of vessel scour observed in bathymetry data.
	B	2.64	Yes	cPAH	Yes	No	No	No	No	Yes	No	No	Yes. below SQS, PCB = 170 µg/kg dw; cPAH = 380 µg/kg dw.	MNR	MNR	No active remedy needed at this RAL
17		2.35	No		No	No	No	Yes	No	No	Yes	Yes	-	MNR	MNR	No active remedy needed at this RAL
18	A	1.73	Yes	PCB	No	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	Zinc CSL surface exceedance, concentration is 1.6 times the CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Area predicted to recover with ENR, Empirical data show recovery. Net sedimentation ranges from 2 - 3 cm/yr.
	B	2.35	No		Yes	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
19		3.12	No		Yes	No	No	Yes	No	No	Yes	Yes	-	MNR	MNR	No active remedy needed at this RAL
20		0.80	No		No	No	No	Yes	No	No	No	No	Mixed. T115 samples elevated for cPAHs, PCB (above SQS), dioxin/furans, and BEHP. SPI below SQS for PCBs (237 µg/kg dw); 1 SQS exceedance; 1 CSL exceedance; cPAH = 360 µg TEQ/kg dw.	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Dredge event planned for area. Contamination is limited to the top 3 ft of sediment.
21		0.93	No		No	No	No	Yes	No	No	No	No	-	Partial Dredge/Cap	Dredge	CSL toxicity and PCB subsurface RAL exceedance (>2,200 µg/kg dw), but STM flood scour only predicted to be 2.4 cm. Bathymetry criteria not met for capping. Contamination exists below the top 3 ft of sediment.
22	A	0.72	Yes	PCB	No	No	Yes	Yes	No	Yes	No	Yes	-	Isolation Capping	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Area contains CSL chemical exceedance for BEHP with toxicity pass nearby.
	B	0.95	No		No	No	No	No	No	Yes	No	No	-	MNR	MNR	No active remedy needed at this RAL
23		1.50	Yes	cPAH	No	Yes	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance in potential assumed tribal clamming and beach area (>1,500 µg TEQ/kg dw). Area expected to recover with ENR.

Table G-4: Alternative 3C and 4C Considerations Affecting Technology Assignments

			Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3C	Action for 4C	Notes
24		4.19	Yes	cPAH	No	No	Yes	Yes	No	No	Yes	Yes	Yes for all chemicals decrease by 11%-43% and below SQS; PCB = 176 µg/kg dw; cPAH 265 µg TEQ/kg dw	ENR	Dredge	cPAH surface RAL exceedance (>900 µg TEQ/kg dw). New FS data show recovery. Area predicted to recover with suitable for ENR.
25		1.77	Yes	Arsenic cPAH	No	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity exceedance, Bathymetry criteria not met for capping. Area predicted to recover with ENR.
26		2.14	Yes	PCB D/F	No	No	No	Yes	No	No	No	No	No. ICS data have CSL exceedances; SPI PCBs=1,600 µg/kg dw	Dredge with ENR	Dredge	PCB surface RAL (>5,000 µg/kg dw). greater than 3x CSL. STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. New FS data do not show recovery.
27	A	0.72	Yes	PCB D/F	No	No	No	Yes	No	Yes	No	Yes	-	Partial Dredge/Cap	Dredge	Dioxins/furans RAL exceedance (>28 ng TEQ/kg dw). Area predicted to recover with ENR. Evidence of vessel scour observed in bathymetry data. RI data show mixed recovery. Contamination exists below the top 3 ft of sediment. Source control needed.
	B	2.99	Yes	PCB cPAH	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	PCB surface RAL exceedance (>480 µg/kg dw), but isolated. Time 0 SQS surface exceedance, accompanied with a Toxicity pass. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data..
	C	0.62	Yes	cPAH	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour STM predicts scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.
28		1.83	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour observed.
29		0.74	No		No	No	No	No	No	Yes	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.
30	A	0.68	Yes	cPAH	No	Yes	No	Yes	No	No	No	Yes	-	Dredge with ENR	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR.
	B	2.95	Yes	cPAH	Yes	Yes	No	Yes	No	No	No	No	Yes. below SQS for PCBs (97 µg/kg dw); above SQS for benzyl alcohol (RI data was above CSL); cPAH = 220 µg TEQ/kg dw	Dredge with ENR	Dredge	cPAH RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). STM predicts scour under high-flow conditions evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
31		4.15	Yes	PCB cPAH	No	Yes	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity, PCB and Hg Mercury CSL surface, and cPAH surface RAL exceedance for potential assumed tribal clamming (>1,500 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
32		4.35	No		No	No	No	Yes	No	No	Yes	Yes	Mixed. cPAH, BEHP, PCB increase by 110%, 250%, 820%; As decreases by 20%; but all still below SQS and cPAH = 130 µg TEQ/kg dw	MNR	MNR	No active remedy needed at this RAL
33		3.67	Yes	PCB cPAH	Yes	Yes	No	Yes	Yes	Yes	No	Yes	-	MNR	MNR	No active remedy needed at this RAL
34		0.29	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Predicted year 10 SQS surface exceedance from data >10 years old. Area expected to have already recovered.

Table G-4: Alternative 3C and 4C Considerations Affecting Technology Assignments

			Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3C	Action for 4C	Notes
35	A	0.27	No		No	No	No	Yes	No	Yes	No	No	-	Dredge with ENR	Dredge	Predicted year 10 CSL surface exceedance. STM predicts flood scour under high-flow conditions. Depth criteria not met for capping. capping requires partial dredge and cap. Contamination is limited to the top 3 ft of sediment.
	B	0.57	Yes	PCB	No	No	Yes	Yes	Yes	No	Yes	Yes	-	Isolation Capping	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Predicted year 10 SQS surface exceedance from data >10 years old; but resampled data show some recovery. STM predicts flood scour under high-flow conditions.
	C	0.59	No		No	No	Yes	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Nearby toxicity pass. Predicted year 10 SQS surface exceedance from data >10 years old. STM predicts flood scour under high-flow conditions. Area expected to have already recovered.
	D	0.71	No		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
36		0.67	No		No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance from data >10 years old. Area expected to have already recovered. STM predicts flood scour under high-flow conditions. No core data in isolated SMA.	
37	A	0.68	Yes	PCB	No	No	No	Yes	No	No	Yes	No	Sampling at T117 will redefine boundary and expand EAA to cover most of the areas of concern for these SMAs.	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance, but boundary being confirmed by EAA. PCB surface RAL exceedance (>480 µg/kg dw), driven by interpolation from EAA. Area expected to have already recovered.
	B	0.59	No		No	No	No	Yes	Yes	No	No	No	-	MNR	MNR	No active remedy needed at this RAL
38		0.93	Yes	PCB	Yes	No	No	No	Yes	No	No	No	Yes. below SQS, 4 surface sediment samples PCB <200 µg/kg dw	Partial Dredge/Cap	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw) by interpolation; newer FS data show PCB surface recovery (<240 µg/kg dw) for this point. PCB subsurface RAL exceedance (>700 µg/kg dw). STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.
39		0.60	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions.
40		0.43	No		No	No	Yes	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Nearby toxicity pass. Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.
41		4.50	Yes	PCB Arsenic cPAH	Yes	Yes	Yes	Yes	Yes	No	No	No	No. 22 of 28 samples > SQS for PCBs; CSL exceedance for Hg.	Dredge with ENR	Dredge	Predicted year 10 CSL surface and PCB subsurface RAL exceedance (>2,200 µg/kg dw). STM predicts flood scour under high-flow conditions. Potential Assumed tribal clamming located within area. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
42	A	1.55	Yes	PCB cPAH	Yes	No	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	PCB subsurface RAL exceedance (>2,200 µg/kg dw). CSL exceedance for Benzoic Acid, concentration 1.4 times CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping (potential assumed tribal clamming area). Dredging requires area be restored to existing elevations due to potential tribal clamming area.
	B	3.56	Yes	cPAH	Yes	No	No	No	Yes	No	No	No	-	Dredge with ENR	Dredge	Contamination is limited to the top 3 ft of sediment. Predicted year 10 CSL surface exceedance for 3 chemicals. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.

Table G-4: Alternative 3C and 4C Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3C	Action for 4C	Notes
43	0.36	No		No	No	No	Yes	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Area expected to recover when outfall loads are redistributed in the BCM.	
44	0.16	Yes	cPAH	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
45	0.56	No		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
46	1.35	Yes	PCB	No	No	No	Yes	No	No	No	No	-	Dredge with ENR	Dredge	CSL toxicity and CSL year 0 surface exceedance. STM predicts flood scour under high-flow conditions observed. Bathymetry criteria not met for capping. Potential Assumed tribal clamming and beach located within area, dredging requires area to be restored to existing elevations. Contamination is limited to the top 3 ft of sediment.	
47	0.89	No		No	No	No	Yes	No	Yes	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
48	1.00	Yes	PCB cPAH	No	No	Yes	Yes	-	No	No	No	-	Isolation Capping	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw), greater than 3x CSL.	
49	0.21	No		No	No	No	Yes	-	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
50	188.00	No		No	No	No	No	-	-	-	No	-	NR	NR	No active remedy needed at this RAL	

1. Criteria for active remediation (PCB > 700 µg/kg dw, As > 30 mg/kg dw, cPAH > (LDW wide [900 µg TEQ/kg dw], Beach 6 [600 µg TEQ/kg dw], Beach 3 [400 µg TEQ/kg dw]), and D/F > 28 ng TEQ/kg.

YELLOW - Active; Active Remedy Needed due to chemical or toxicity RAL exceedance

GREEN - Capping; Bathymetry and habitat criteria satisfied for capping

Updated: 4/22/09 MLS

Table G-5: Alternative 3D and 4D Considerations Affecting Technology Assignments

		Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision			
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA Located Above -10 ft MLLW Elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA already likely recovered or is predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3D	Action for 4D	Notes
			PCB cPAH SQS														
1	A	2.56	Yes	Yes	PCB cPAH SQS	No	No	?	Yes	No	No	No	No	-	Dredge	Dredge	CSL toxicity exceedance. Bathymetry criteria not met for capping. Area predicted to recover with ENR.
	B	2.34	No	Yes		No	No	?	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance from data greater than 10 years old.
2		1.32	Yes	Yes	PCB Arsenic SQS	No	No	No	Yes	Yes	No	No	No	-	Dredge	Dredge	Predicted year 10 CSL surface and Arsenic surface RAL (>93 mg/kg dw) exceedance. Bathymetry criteria not met for capping. CSL contamination exists beyond the top 3 ft of sediment.
3		2.21	Yes	Yes	PCB cPAH SQS	Yes	No	No	Yes	No	No	No	No	-	Dredge	Dredge	PCB subsurface RAL (>480 ug/kg dw) and Arsenic subsurface RAL exceedance (>57 mg/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.
4	A	1.36	Yes	Yes	PCB cPAH SQS	No	No	No	Yes	No	No	No	No	No. Values 4 to 11 times larger for PCBs and BEHP. Arsenic decreases nominally and cPAH increases 40%.	Dredge	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw) by interpolation, but point exceedance is located outside clamming area.
	B	1.46	Yes	Yes	PCB SQS	No	No	No	Yes	No	Yes	No	No	-	ENR	Dredge	PCB surface RAL exceedance (>240 µg/kg).
	C	0.45	No	Yes		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance. Area expected to have already recovered.
5		6.23	Yes	Yes	PCB cPAH SQS	Yes	No	Yes	No	No	No	No	No	Yes. PCBs and cPAH decrease by 42% and 10%, but BEHP and arsenic increase by 40% and 7%. SQS exceedance for phenol and benzyl alcohol.	Isolation Capping	Dredge	Predicted year 10 CSL surface PCB subsurface RAL exceedance (>2,200 µg/kg dw). Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Evidence of vessel scour observed in bathymetry data. FS data show a decrease in chemical concentrations.
6	A	3.77	Yes	Yes	PCB cPAH SQS	No	No	Yes	Yes	Yes	Yes	No	No	Mixed. PCBs 40-380 µg/kg dw, BEHP 460-750 µg/kg dw	Isolation Capping	Dredge	cPAH surface RAL exceedance (>900 µg TEQ/kg dw). Predicted year 10 CSL surface exceedance, but new FS data show some recovery.
	B	4.71	Yes	Yes	PCB cPAH SQS	No	No	Yes	No	Yes	No	No	No	Mixed. SPI above SQS for 3 chemicals, PCBs = 435 µg/kg dw, cPAH = 600 µg TEQ/kg dw; D/D PCB 130-440 µg/kg dw	ENR	Dredge	Predicted year 10 CSL surface and PCB surface RAL exceedance (>2,200 µg/kg dw), but new FS data show recovery to below CSL. Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Source control needed.
	C	5.90	Yes	Yes	PCB cPAH SQS	No	No	No	No	No	Yes	No	No	No. SPI above SQS, PCBs = 304 µg/kg dw, cPAH = 400 µg TEQ/kg dw; D/D PCB 330-370 µg/kg dw	ENR	Dredge	Predicted year 10 SQS surface and PCB surface RAL exceedance (>700 µg/kg dw). Year 0 CSL surface exceedance, but point exceedance is isolated. Area predicted to recover with suitable for ENR.
	D	1.28	Yes	Yes	PCB cPAH SQS	No	Yes	No	No	Yes	No	No	No	Mixed. PCBs 150-600 µg/kg dw	Dredge	Dredge	Predicted year 10 CSL surface exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.
	E	1.78	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	Yes	No	No	No	-	ENR	Dredge	Interpolated cPAH surface RAL exceedance (>600 µg TEQ/kg dw (Beach 3)) Predicted year 10 SQS surface exceedance. Source control may be an issue (near outfall), all exceedances driven by interpolation.

Table G-5: Alternative 3D and 4D Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA Located Above -10 ft MLLW Elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA already likely recovered or is predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3D	Action for 4D	Notes
7	A	2.31	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	Yes	No	No	-	Dredge	Dredge	Predicted year 10 CSL surface and cPAH surface RAL exceedance (>3,100 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Area not predicted to recover with ENR. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.
	B	4.17	Yes	Yes	PCB SQS	No	No	No	Yes	No	Yes	No	No	-	ENR	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Area predicted to recover with suitable for ENR. Beach and potential assumed tribal clamming located within area.
	C	0.86	Yes	Yes	PCB cPAH SQS	No	No	No	Yes	No	No	No	No	-	Dredge	Dredge	CSL surface RAL exceedance for fluoranthene, concentration is 1.2 times CSL threshold. Bathymetry criteria not met for capping. Area predicted to recover with ENR. Potential Assumed tribal clamming located within area. Evidence of vessel scour observed in bathymetry data.
	D	2.70	Yes	Yes	cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). Area predicted to recover with ENR.
	E	0.77	No	Yes		No	No	Yes	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
	F	1.08	No	Yes		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
8	A	1.60	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR. Beach and potential assumed tribal clamming located within area.
	B	4.06	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
	C	2.17	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Predicted year 10 SQS exceedance from data >10 years old. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.
9	A	3.57	Yes	Yes	PCB cPAH SQS	No	Yes	Yes	Yes	No	No	No	No	-	Isolation Capping	Dredge	CSL Toxicity exceedance. PCB subsurface RAL exceedance (>2,200 µg/kg dw), but Flood scour predicted to be <1 cm.
	B	2.27	No	No		No	No	Yes	No	No	Yes	No	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
10	A	2.07	Yes	Yes	PCB Arsenic cPAH SQS	Yes	No	No	Yes	Yes	No	No	No	-	Dredge	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. CSL Contamination exists below the top 3 ft of sediment.
	B	5.46	Yes	Yes	PCB cPAH SQS	Yes	No	No	Yes	No	No	No	No	-	Partial Dredge/Cap	Dredge	Year 0 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.
11	A	4.39	No	No		Yes	No	No	Yes	No	No	No	Mixed. below SQS for PCBs = 173 µg/kg dw, exceed SQS for 2 PAHs, cPAH = 1,000 µg/kg dw.	ENR	Dredge	PCB subsurface RAL exceedance (>240 µg/kg dw). Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.	
	B	1.07	Yes	Yes	PCB cPAH SQS	Yes	No	No	No	No	No	No	No	-	Partial Dredge/Cap	Dredge	CSL surface exceedance for fluoranthene, Pyrene, and total HPAH, greatest concentration is 2.7 times CSL. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Evidence of vessel scour observed in bathymetry data. Contamination exists below the top 3 ft of sediment.
	C	2.98	Yes	Yes	PCB D/F SQS	Yes	No	No	No	Yes	No	No	Yes. below SQS for all chemicals, PCBs = 140 µg/kg dw, cPAH = 300 µg TEQ/kg dw	Dredge	Dredge	PCB surface (>3,000 µg/kg dw) 3x CSL and Dioxins/Furans (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data on the east side of SMA not in Navigation Channel.	
12		0.44	No	Yes		No	No	Yes	Yes	No	No	No	No	-	Dredge	Dredge	CSL toxicity and Hg Mercury surface CSL (RAL) exceedance. Area expected to recover with ENR.

Table G-5: Alternative 3D and 4D Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA Located Above -10 ft MLLW Elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA already likely recovered or is predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3D	Action for 4D
13		2.73	Yes	Yes	PCB SQS	No	No	No	No	No	No	No	-	Dredge	Dredge	CSL toxicity exceedance and year 0 CSL surface exceedance. Depth criteria not met for capping. Area predicted to recover with ENR.
14	A	2.74	Yes	Yes	PCB Arsenic cPAH SQS	Yes	No	No	Yes	Yes	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge	Dredge	Arsenic surface RAL (>300 mg/kg dw) 3x CSL and predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
	B	1.03	No	Yes		Yes	No	No	No	No	Yes	No	-	ENR	Dredge	Year 0 SQS surface and PCB subsurface (>240 µg/kg dw) exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
15		2.43	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge	Dredge	Year 0 CSL surface and CSL toxicity exceedance. New FS data show some/mixed recovery. Area predicted to recover with ENR.
16	A	4.29	Yes	Yes	PCB Arsenic cPAH D/F SQS	No	Yes	No	Yes	No	No	No	-	Dredge	Dredge	Dioxins/furans surface RAL (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Potential Assumed tribal clamming located within area, dredging requires restoration of elevation. Evidence of vessel scour observed in bathymetry data.
	B	2.64	Yes	Yes	PCB SQS	Yes	No	No	No	No	Yes	No	Yes. below SQS, PCB = 170 µg/kg dw; cPAH = 380 µg/kg dw.	ENR	Dredge	Arsenic subsurface RAL exceedance (>93 mg/kg dw), but new FS data show some recovery and most of the cores have been dredged. Year 0 SQS surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Area predicted to recover with ENR.
17		2.35	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	-	ENR	Dredge	PCB surface RAL exceedance (>240 µg/kg dw). Predicted net sedimentation rates > 2 cm and no scour predicted or observed. Area predicted to recover with suitable for ENR. Bathymetry criteria not met for capping (potential assumed tribal clamming area).
18	A	1.73	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	No	-	Dredge	Dredge	Zinc CSL surface exceedance, concentration is 1.6 times the CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Area predicted to recover with ENR, Empirical data show recovery. Net sedimentation ranges from 2 - 3 cm/yr.
	B	2.35	Yes	Yes	PCB SQS	Yes	No	No	Yes	No	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
19		3.12	No	Yes		Yes	No	No	Yes	No	No	Yes	-	ENR	Dredge	PCB subsurface RAL exceedance (>1,300 µg/kg dw) and some vessel scour observed, but most area dredged and resampled data shows recovery. Bathymetry criteria not met for capping. Evidence of vessel scour observed in bathymetry data.
20		0.80	No	Yes		Yes	No	No	Yes	No	No	No	Mixed. T115 samples elevated for cPAHs, PCB (above SQS), dioxin/furans, and BEHP. SPI below SQS for PCBs (237 µg/kg dw); 1 SQS exceedance; 1 CSL exceedance; cPAH = 360 µg TEQ/kg dw.	Dredge	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Dredge event planned for area. Contamination is limited to the top 3 ft of sediment.
21		0.93	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	No	-	Partial Dredge/Cap	Dredge	CSL toxicity and PCB subsurface RAL exceedance (>2,200 µg/kg dw), but STM flood scour only predicted to be 2.4 cm. Bathymetry criteria not met for capping. Contamination exists below the top 3 ft of sediment.
	A	0.72	Yes	Yes	PCB SQS	No	No	Yes	Yes	No	Yes	Yes	-	Isolation Capping	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Area contains CSL chemical exceedance for BEHP with toxicity pass nearby.

Table G-5: Alternative 3D and 4D Considerations Affecting Technology Assignments

SMA		Section 1: Chemical RAL Exceedance						Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision		
Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA Located Above -10 ft MLLW Elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA already likely recovered or is predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3D	Action for 4D	Notes	
22	B	0.95	Yes	Yes	PCB SQS	No	No	No	No	No	Yes	No	No	-	ENR	Dredge	PCB surface RAL exceedance (>240 µg/kg dw). Flood scour STM predicts flood scour under high-flow event, but subsurface exceedance located outside scour footprint. Bathymetry criteria not met for capping, area periodically dredged.
23		1.50	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge	Dredge	cPAH surface RAL exceedance in potential assumed tribal clamming and beach area (>1,500 µg TEQ/kg dw). Area expected to recover with ENR.
24		4.19	Yes	Yes	PCB cPAH SQS	No	No	Yes	Yes	No	No	Yes	Yes	Yes for all chemicals decrease by 11%-43% and below SQS; PCB = 176 µg/kg dw; cPAH 265 µg TEQ/kg dw	ENR	Dredge	cPAH surface RAL exceedance (>900 µg TEQ/kg dw). New FS data show recovery. Area predicted to recover with suitable for ENR.
25		1.77	Yes	Yes	PCB Arsenic cPAH SQS	No	No	No	Yes	No	No	No	No	-	Dredge	Dredge	CSL toxicity exceedance, Bathymetry criteria not met for capping. Area predicted to recover with ENR.
26		2.14	Yes	Yes	PCB D/F SQS	No	No	No	Yes	Yes	No	No	No	No. ICS data have CSL exceedances; SPI PCBs=1,600 µg/kg dw	Dredge	Dredge	PCB surface RAL (>5,000 µg/kg dw). greater than 3x CSL. STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. New FS data do not show recovery.
27	A	0.72	Yes	Yes	PCB D/F SQS	Yes	No	No	Yes	No	Yes	No	Yes	-	Partial Dredge/Cap	Dredge	Dioxins/furans RAL exceedance (>28 ng TEQ/kg dw). Area predicted to recover with ENR. Evidence of vessel scour observed in bathymetry data, RI data show mixed recovery. Contamination exists below the top 3 ft of sediment. Source control needed.
	B	2.99	Yes	Yes	PCB cPAH SQS	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	PCB surface RAL exceedance (>480 µg/kg dw), but isolated. Time 0 SQS surface exceedance, accompanied with a Toxicity pass. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data..
	C	0.62	Yes	Yes	cPAH SQS	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour STM predicts scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.
28		1.83	No	Yes		Yes	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour observed.
29		0.74	Yes	Yes	PCB SQS	No	No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.
30	A	0.68	Yes	Yes	cPAH SQS	No	Yes	No	Yes	No	No	No	Yes	-	Dredge	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR.
	B	2.95	Yes	Yes	PCB cPAH SQS	Yes	Yes	No	Yes	No	No	No	No	Yes. below SQS for PCBs (97 µg/kg dw); above SQS for benzyl alcohol (RI data was above CSL); cPAH = 220 µg TEQ/kg dw	Dredge	Dredge	cPAH RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). STM predicts scour under high-flow conditions evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
31		4.15	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge	Dredge	CSL toxicity, PCB and Hg Mercury CSL surface, and cPAH surface RAL exceedance for potential assumed tribal clamming (>1,500 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.

Table G-5: Alternative 3D and 4D Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision			
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA Located Above -10 ft MLLW Elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA already likely recovered or is predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3D	Action for 4D	Notes
32		4.35	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	Mixed. cPAH, BEHP, PCB increase by 110%, 250%, 820%; As decreases by 20%; but all still below SQS and cPAH = 130 µg TEQ/kg dw	ENR	Dredge	Predicted year 10 SQS surface exceedance from data >10 years old. Area expected to have already recovered. Area suitable for ENR. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data. New FS data show slight increase.
33		3.67	Yes	Yes	PCB cPAH SQS	Yes	Yes	No	Yes	Yes	Yes	No	Yes	-	ENR	Dredge	PCB surface RAL (>1,300 µg/kg dw) and cPAH RAL exceedance for potential tribal clamming (>1,500 µg TEQ/kg dw), but newer, resampled data show recovery. Year 0 SQS surface exceedance in 2006 (newest) data. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Potential Assumed tribal clamming located within area must be returned to elevation after dredge.
34		0.29	No	Yes		No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Predicted year 10 SQS surface exceedance from data >10 years old. Area expected to have already recovered.
35	A	0.27	No	Yes		No	No	No	Yes	No	Yes	No	No	-	Dredge	Dredge	Predicted year 10 CSL surface exceedance. STM predicts flood scour under high-flow conditions. Depth criteria not met for capping. capping requires partial dredge and cap. Contamination is limited to the top 3 ft of sediment.
	B	0.57	Yes	Yes	PCB SQS	No	No	Yes	Yes	Yes	No	Yes	Yes	-	Isolation Capping	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Predicted year 10 SQS surface exceedance from data >10 years old; but resampled data show some recovery. STM predicts flood scour under high-flow conditions.
	C	0.59	Yes	Yes	PCB SQS	No	No	Yes	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Nearby toxicity pass. Predicted year 10 SQS surface exceedance from data >10 years old. STM predicts flood scour under high-flow conditions. Area expected to have already recovered.
	D	0.71	No	No		No	No	No	Yes	No	No	Yes	No	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.
36		0.67	Yes	Yes	PCB SQS	No	No	No	No	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS exceedance from data >10 years old. Area expected to have already recovered. STM predicts flood scour under high-flow conditions. No core data in isolated SMA.
37	A	0.68	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	No	Sampling at T117 will redefine boundary and expand EAA to cover most of the areas of concern for these SMAs.	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance, but boundary being confirmed by EAA. PCB surface RAL exceedance (>480 µg/kg dw), driven by interpolation from EAA. Area expected to have already recovered.
	B	0.59	No	Yes		No	No	No	Yes	Yes	Yes	No	No	-	ENR	Dredge	Year 0 SQS surface RAL exceedance for Phenol, concentration is at SQS limit. Potential Assumed tribal clamming located within area. STM predicts scour under high-flow conditions.
38		0.93	Yes	-	PCB	Yes	No	No	No	Yes	No	No	No	Yes. below SQS, 4 surface sediment samples PCB <200 µg/kg dw	Partial Dredge/Cap	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw) by interpolation; newer FS data show PCB surface recovery (<240 µg/kg dw) for this point. PCB subsurface RAL exceedance (>700 µg/kg dw). STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping. capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.
39		0.60	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions.
40		0.43	No	Yes		No	No	Yes	Yes	No	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Nearby toxicity pass. Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.
41		4.50	Yes	Yes	PCB Arsenic cPAH SQS	Yes	Yes	Yes	Yes	Yes	No	No	No	No. 22 of 28 samples > SQS for PCBs; CSL exceedance for Hg.	Dredge	Dredge	Predicted year 10 CSL surface and PCB subsurface RAL exceedance (>2,200 µg/kg dw). STM predicts flood scour under high-flow conditions. Potential Assumed tribal clamming located within area. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.

Table G-5: Alternative 3D and 4D Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and New Data		Section 5: Remedial Action Decision			
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does area require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does SMA contain cPAH RAL exceedances in beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or Part of SMA Located Above -10 ft MLLW Elevation (for habitat maintenance)?	Does SMA exceed SQS year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA already likely recovered or is predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action for 3D	Action for 4D	Notes
42	A	1.55	Yes	Yes	PCB cPAH SQS	Yes	No	No	Yes	No	No	No	No	-	Dredge	Dredge	PCB subsurface RAL exceedance (>2,200 µg/kg dw). CSL exceedance for Benzoic Acid, concentration 1.4 times CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping (potential assumed tribal clamming area). Dredging requires area be restored to existing elevations out to potential tribal clamming area. Contamination is limited to the top 3 ft of sediment.
	B	3.56	Yes	Yes	cPAH SQS	Yes	No	No	Yes	No	No	No	No	-	Dredge	Dredge	Predicted year 10 CSL surface exceedance for 3 chemicals. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.
43		0.36	Yes	Yes	PCB SQS	No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Area expected to recover when outfall loads are redistributed in the BCM.	
44		0.16	Yes	Yes	cPAH SQS	No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
45		0.56	Yes	Yes	PCB SQS	No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
46		1.35	Yes	Yes	PCB SQS	Yes	No	No	Yes	No	No	No	-	Dredge	Dredge	CSL toxicity and CSL year 0 surface exceedance. STM predicts flood scour under high-flow conditions observed. Bathymetry criteria not met for capping. Potential Assumed tribal clamming and beach located within area, dredging requires area to be restored to existing elevations. Contamination is limited to the top 3 ft of sediment.	
47		0.89	No	Yes		No	No	No	Yes	No	Yes	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
48		1.00	Yes	Yes	PCB cPAH SQS	No	No	Yes	Yes	-	No	No	-	Isolation Capping	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw), greater than 3x CSL.	
49		0.21	No	Yes		No	No	No	Yes	-	No	Yes	-	Verification Monitoring	Verification Monitoring	Year 0 SQS surface exceedance. Area expected to have already recovered.	
50		188.00	No	No		No	No	No	No	-	-	Yes	-	NR	NR	No active remedy needed for this RAL.	

1. Criteria for active remediation (PCB > 240 µg/kg dw, As > 53 mg/kg dw, cPAH > (LDW wide [900 µg TEQ/kg dw], Beach 6 [600 µg TEQ/kg dw], Beach 3 [400 µg TEQ/kg dw]), and D/F > 28 ng TEQ/kg.

YELLOW - Active; Active Remedy Needed due to chemical or toxicity RAL exceedance

GREEN - Capping; Bathymetry and habitat criteria satisfied for capping

Table G-6: Alternative 5 - Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and Newer Data		Section 5: Remedial Action Decision	
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does SMA require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does site require remediation due to beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action	Notes
1	A	2.56	Yes	Yes	PCB cPAH SQS	No	No	?	Yes	No	No	No	No	-	Dredge	CSL toxicity exceedance. Bathymetry criteria not met for capping. Area predicted to recover with ENR.
	B	2.34	Yes	Yes	PCB SQS	No	No	?	Yes	No	No	Yes	Yes	-	Dredge	Year 0 SQS exceedance from data greater than 10 years old.
2		1.32	Yes	Yes	PCB Arsenic SQS	No	No	No	Yes	Yes	No	No	-	Dredge	Predicted year 10 CSL surface and Arsenic surface RAL (>93 mg/kg dw) exceedance. Bathymetry criteria not met for capping. CSL contamination exists beyond the top 3 ft of sediment.	
3		2.21	Yes	Yes	PCB cPAH SQS	Yes	No	No	Yes	No	No	No	-	Dredge	PCB subsurface RAL (>480 ug/kg dw) and Arsenic subsurface RAL exceedance (>57 mg/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.	
4	A	1.36	Yes	Yes	PCB cPAH SQS	No	No	No	Yes	No	No	No	No. Values 4 to 11 times larger for PCBs and BEHP. Arsenic decreases nominally and cPAH increases 40%.	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw) by interpolation, but point exceedance is located outside clamming area.	
	B	1.46	Yes	Yes	PCB SQS	No	No	No	Yes	No	Yes	No	-	Dredge	PCB surface RAL exceedance (>240 µg/kg).	
	C	0.45	No	Yes	SQS	No	No	No	Yes	No	No	Yes	-	Dredge	Year 0 SQS exceedance. Area expected to have already recovered.	
5		6.23	Yes	Yes	PCB cPAH SQS	Yes	No	Yes	No	No	No	No	Yes. PCBs and cPAH decrease by 42% and 10%, but BEHP and arsenic increase by 40% and 7%. SQS exceedance for phenol and benzyl alcohol.	Dredge	Predicted year 10 CSL surface PCB subsurface RAL exceedance (>2,200 µg/kg dw). Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Evidence of vessel scour observed in bathymetry data. FS data show a decrease in chemical concentrations.	
6	A	3.77	Yes	Yes	PCB cPAH SQS	No	No	Yes	Yes	Yes	Yes	No	No	Mixed. PCBs 40-380 µg/kg dw, BEHP 460-750 µg/kg dw	Dredge	cPAH surface RAL exceedance (>900 µg TEQ/kg dw). Predicted year 10 CSL surface exceedance, but new FS data show some recovery.
	B	4.71	Yes	Yes	PCB Arsenic cPAH SQS	No	No	Yes	No	Yes	No	No	No	Mixed. SPI above SQS for 3 chemicals, PCBs = 435 µg/kg dw, cPAH = 600 µg TEQ/kg dw; D/D PCB 130-440 µg/kg dw	Dredge	Predicted year 10 CSL surface and PCB surface RAL exceedance (>2,200 µg/kg dw), but new FS data show recovery to below CSL. Buried utilities located within the SMA; the contractor should dredge around utilities. Design level analysis needed. Source control needed.
	C	5.90	Yes	Yes	PCB cPAH SQS	No	No	No	No	No	Yes	No	No	No. SPI above SQS, PCBs = 304 µg/kg dw, cPAH = 400 µg TEQ/kg dw; D/D PCB 330-370 µg/kg dw	Dredge	Predicted year 10 SQS surface and PCB surface RAL exceedance (>700 µg/kg dw). Year 0 CSL surface exceedance, but point exceedance is isolated. Area predicted to recover with suitable for ENR.
	D	1.28	Yes	Yes	PCB cPAH SQS	No	Yes	No	No	Yes	No	No	No	Mixed. PCBs 150-600 µg/kg dw	Dredge	Predicted year 10 CSL surface exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.
	E	1.78	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	Yes	No	No	No	-	Dredge	Interpolated cPAH surface RAL exceedance (>600 µg TEQ/kg dw (Beach 3)) Predicted year 10 SQS surface exceedance. Source control may be an issue (near outfall), all exceedances driven by interpolation.

Table G-6: Alternative 5 - Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and Newer Data		Section 5: Remedial Action Decision			
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does SMA require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does site require remediation due to beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action	Notes	
7	A	2.31	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	Yes	No	No	No	-	Dredge	Predicted year 10 CSL surface and cPAH surface RAL exceedance (>3,100 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Area not predicted to recover with ENR. Beach and potential assumed tribal clamming located within area, requires elevation restoration after dredging.
	B	4.17	Yes	Yes	PCB SQS	No	No	No	Yes	No	Yes	No	No	No	-	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Area predicted to recover with suitable for ENR. Beach and potential assumed tribal clamming located within area.
	C	0.86	Yes	Yes	PCB cPAH SQS	No	No	No	Yes	No	No	No	No	No	-	Dredge	CSL surface RAL exceedance for fluoranthene, concentration is 1.2 times CSL threshold. Bathymetry criteria not met for capping. Area predicted to recover with ENR. Potential Assumed tribal clamming located within area. Evidence of vessel scour observed in bathymetry data.
	D	2.70	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	No	No	No	No	-	Dredge	cPAH surface RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). Area predicted to recover with ENR.
	E	0.77	Yes	Yes	PCB SQS	No	No	Yes	No	No	Yes	Yes	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.
	F	1.08	No	Yes	SQS	No	No	No	Yes	No	No	Yes	No	No	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.
8	A	1.60	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR. Beach and potential assumed tribal clamming located within area.	
	B	4.06	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.	
	C	2.17	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	-	Dredge	Predicted year 10 SQS exceedance from data >10 years old. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.	
9	A	3.57	Yes	Yes	PCB cPAH SQS	No	Yes	Yes	Yes	No	No	No	No	-	Dredge	CSL Toxicity exceedance. PCB subsurface RAL exceedance (>2,200 µg/kg dw), but Flood scour predicted to be <1 cm.	
	B	2.27	No	No	-	No	No	Yes	No	No	Yes	No	No	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.	
10	A	2.07	Yes	Yes	PCB Arsenic cPAH SQS	Yes	No	No	Yes	Yes	No	No	No	-	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. CSL Contamination exists below the top 3 ft of sediment.	
	B	5.46	Yes	Yes	PCB cPAH SQS	Yes	No	No	Yes	No	No	No	No	-	Dredge	Year 0 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.	

Table G-6: Alternative 5 - Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and Newer Data		Section 5: Remedial Action Decision		
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does SMA require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does site require remediation due to beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action	Notes
11	A	4.39	Yes	No	PCB	Yes	No	No	Yes	No	Yes	No	No	Mixed. below SQS for PCBs = 173 µg/kg dw, exceed SQS for 2 PAHs, cPAH = 1,000 µg/kg dw.	Dredge	PCB subsurface RAL exceedance (>240 µg/kg dw). Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.
	B	1.07	Yes	Yes	PCB cPAH SQS	Yes	No	No	No	No	No	No	No	-	Dredge	CSL surface exceedance for fluoranthene, Pyrene, and total HPAH, greatest concentration is 2.7 times CSL. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Evidence of vessel scour observed in bathymetry data. Contamination exists below the top 3 ft of sediment.
	C	2.98	Yes	Yes	PCB D/F SQS	Yes	No	No	No	Yes	No	No	No	Yes. below SQS for all chemicals, PCBs = 140 µg/kg dw, cPAH = 300 µg TEQ/kg dw	Dredge	PCB surface (>3,000 µg/kg dw) 3x CSL and Dioxins/Furans (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data on the east side of SMA not in Navigation Channel.
12		0.44	Yes	Yes	PCB Arsenic SQS	No	No	Yes	Yes	No	No	No	No	-	Dredge	CSL toxicity and Hg Mercury surface CSL (RAL) exceedance. Area expected to recover with ENR.
13		2.73	Yes	Yes	PCB SQS	No	No	No	No	No	No	No	No	-	Dredge	CSL toxicity exceedance and year 0 CSL surface exceedance. Depth criteria not met for capping. Area predicted to recover with ENR.
14	A	2.74	Yes	Yes	PCB Arsenic cPAH SQS	Yes	No	No	Yes	Yes	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge	Arsenic surface RAL (>300 mg/kg dw) 3x CSL and predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
	B	1.03	Yes	Yes	PCB Arsenic SQS	Yes	No	No	No	No	Yes	No	No	-	Dredge	Year 0 SQS surface and PCB subsurface (>240 µg/kg dw) exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
15		2.43	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	No	No	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	Dredge	Year 0 CSL surface and CSL toxicity exceedance. New FS data show some/mixed recovery. Area predicted to recover with ENR.
16	A	4.29	Yes	Yes	-PCB -Arsenic -cPAH -D/F -SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge	Dioxins/furans surface RAL (>120 ng TEQ/kg dw) exceedance. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Potential Assumed tribal clamming located within area, dredging requires restoration of elevation. Evidence of vessel scour observed in bathymetry data.
	B	2.64	Yes	Yes	PCB Arsenic cPAH SQS	Yes	No	No	No	No	Yes	No	No	Yes. below SQS, PCB = 170 µg/kg dw; cPAH = 380 µg/kg dw.	Dredge	Arsenic subsurface RAL exceedance (>93 mg/kg dw), but new FS data show some recovery and most of the cores have been dredged. Year 0 SQS surface exceedance. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Area predicted to recover with ENR.
17		2.35	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	-	Dredge	PCB surface RAL exceedance (>240 µg/kg dw). Predicted net sedimentation rates > 2 cm and no scour predicted or observed. Area predicted to recover with suitable for ENR. Bathymetry criteria not met for capping (potential assumed tribal clamming area).

Table G-6: Alternative 5 - Considerations Affecting Technology Assignments

		Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and Newer Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does SMA require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does site require remediation due to beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action	Notes
18	A	1.73	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	No	No	-	Dredge	Zinc CSL surface exceedance, concentration is 1.6 times the CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Area predicted to recover with ENR, Empirical data show recovery. Net sedimentation ranges from 2 - 3 cm/yr.
	B	2.35	Yes	Yes	PCB SQS	Yes	No	No	Yes	No	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.
19		3.12	Yes	Yes	PCB SQS	Yes	No	No	Yes	No	No	Yes	Yes	-	Dredge	PCB subsurface RAL exceedance (>1,300 µg/kg dw) and some vessel scour observed, but most area dredged and resampled data shows recovery. Bathymetry criteria not met for capping. Evidence of vessel scour observed in bathymetry data.
20		0.80	Yes	Yes	PCB SQS	Yes	No	No	Yes	No	No	No	No	Mixed. T115 samples elevated for cPAHs, PCB (above SQS), dioxin/furans, and BEHP. SPI below SQS for PCBs (237 µg/kg dw); 1 SQS exceedance; 1 CSL exceedance; cPAH = 360 µg TEQ/kg dw.	Dredge	Predicted year 10 CSL surface exceedance. Evidence of vessel scour observed in bathymetry data. Dredge event planned for area. Contamination is limited to the top 3 ft of sediment.
21		0.93	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	No	No	-	Dredge	CSL toxicity and PCB subsurface RAL exceedance (>2,200 µg/kg dw), but STM flood scour only predicted to be 2.4 cm. Bathymetry criteria not met for capping. Contamination exists below the top 3 ft of sediment.
22	A	0.72	Yes	Yes	PCB SQS	No	No	Yes	Yes	No	Yes	Yes	Yes	-	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Area contains CSL chemical exceedance for BEHP with toxicity pass nearby.
	B	0.95	Yes	Yes	PCB SQS	No	No	No	No	No	Yes	No	No	-	Dredge	PCB surface RAL exceedance (>240 µg/kg dw). Flood scour STM predicts flood scour under high-flow event, but subsurface exceedance located outside scour footprint. Bathymetry criteria not met for capping, area periodically dredged.
23		1.50	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge	cPAH surface RAL exceedance in potential assumed tribal clamming and beach area (>1,500 µg TEQ/kg dw). Area expected to recover with ENR.
24		4.19	Yes	Yes	PCB cPAH SQS	No	No	Yes	Yes	No	No	Yes	Yes	Yes for all chemicals decrease by 11%-43% and below SQS; PCB = 176 µg/kg dw; cPAH 265 µg TEQ/kg dw	Dredge	cPAH surface RAL exceedance (>900 µg TEQ/kg dw). New FS data show recovery. Area predicted to recover with suitable for ENR.
25		1.77	Yes	Yes	PCB Arsenic cPAH SQS	No	No	No	Yes	No	No	No	No	-	Dredge	CSL toxicity exceedance, Bathymetry criteria not met for capping. Area predicted to recover with ENR.
26		2.14	Yes	Yes	PCB D/F SQS	Yes	No	No	Yes	Yes	No	No	No	No. ICS data have CSL exceedances; SPI PCBs=1,600 µg/kg dw	Dredge	PCB surface RAL (>5,000 µg/kg dw). greater than 3x CSL. STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. New FS data do not show recovery.
	A	0.72	Yes	Yes	PCB D/F SQS	Yes	No	No	Yes	No	Yes	No	Yes	-	Dredge	Dioxins/furans RAL exceedance (>28 ng TEQ/kg dw). Area predicted to recover with ENR. Evidence of vessel scour observed in bathymetry data, RI data show mixed recovery. Contamination exists below the top 3 ft of sediment. Source control needed.

Table G-6: Alternative 5 - Considerations Affecting Technology Assignments

		Section 1: Chemical RAL Exceedance						Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and Newer Data		Section 5: Remedial Action Decision	
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does SMA require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does site require remediation due to beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action	Notes
27	B	2.99	Yes	Yes	PCB cPAH SQS	Yes	No	No	Yes	No	No	Yes	Yes	-	Dredge	PCB surface RAL exceedance (>480 µg/kg dw), but isolated. Time 0 SQS surface exceedance, accompanied with a Toxicity pass. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data..
	C	0.62	Yes	Yes	cPAH SQS	No	No	No	Yes	No	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour STM predicts scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.
28		1.83	No	Yes	SQS	Yes	No	No	Yes	No	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered. Vessel scour observed.
29		0.74	Yes	Yes	PCB SQS	No	No	No	No	No	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered. Evidence of vessel scour observed in bathymetry data.
30	A	0.68	Yes	Yes	cPAH SQS	No	Yes	No	Yes	No	No	No	Yes	-	Dredge	cPAH surface RAL exceedance for beaches (>900 µg TEQ/kg dw). Area predicted to recover with ENR.
	B	2.95	Yes	Yes	PCB cPAH SQS	Yes	Yes	No	Yes	No	No	No	No	Yes. below SQS for PCBs (97 µg/kg dw); above SQS for benzyl alcohol (RI data was above CSL); cPAH = 220 µg TEQ/kg dw	Dredge	cPAH RAL exceedance for potential assumed tribal clamming area (>1,500 µg TEQ/kg dw). STM predicts scour under high-flow conditions evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
31		4.15	Yes	Yes	PCB cPAH SQS	No	Yes	No	Yes	No	No	No	No	-	Dredge	CSL toxicity, PCB and Hg Mercury CSL surface, and cPAH surface RAL exceedance for potential assumed tribal clamming (>1,500 µg TEQ/kg dw). Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
32		4.35	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	Mixed. cPAH, BEHP, PCB increase by 110%, 250%, 820%; As decreases by 20%; but all still below SQS and cPAH = 130 µg TEQ/kg dw	Dredge	Predicted year 10 SQS surface exceedance from data >10 years old. Area expected to have already recovered. Area suitable for ENR. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data. New FS data show slight increase.
33		3.67	Yes	Yes	PCB cPAH SQS	Yes	Yes	No	Yes	Yes	Yes	No	Yes	-	Dredge	PCB surface RAL (>1,300 µg/kg dw) and cPAH RAL exceedance for potential tribal clamming (>1,500 µg TEQ/kg dw), but newer, resampled data show recovery. Year 0 SQS surface exceedance in 2006 (newest) data. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Potential Assumed tribal clamming located within area must be returned to elevation after dredge.
34		0.29	No	Yes	SQS - - -SQS	No	No	No	Yes	No	No	Yes	Yes	-	Dredge	Predicted year 10 SQS surface exceedance from data >10 years old. Area expected to have already recovered.
	A	0.27	Yes	Yes	PCB SQS	No	No	No	Yes	No	Yes	No	No	-	Dredge	Predicted year 10 CSL surface exceedance. STM predicts flood scour under high-flow conditions. Depth criteria not met for capping. capping requires partial dredge and cap. Contamination is limited to the top 3 ft of sediment.

Table G-6: Alternative 5 - Considerations Affecting Technology Assignments

		Section 1: Chemical RAL Exceedance					Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and Newer Data		Section 5: Remedial Action Decision		
SMA	Sub SMA	Size (Acres)	Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does SMA require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does site require remediation due to beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action	Notes
35	B	0.57	Yes	Yes	PCB SQS	No	No	Yes	Yes	Yes	No	Yes	Yes	-	Dredge	PCB surface RAL exceedance (>480 µg/kg dw). Predicted year 10 SQS surface exceedance from data >10 years old; but resampled data show some recovery. STM predicts flood scour under high-flow conditions.
	C	0.59	Yes	Yes	PCB SQS	No	No	Yes	Yes	No	No	Yes	Yes	-	Dredge	Nearby toxicity pass. Predicted year 10 SQS surface exceedance from data >10 years old. STM predicts flood scour under high-flow conditions. Area expected to have already recovered.
	D	0.71	Yes	No	PCB	No	No	No	Yes	No	No	Yes	No	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.
36		0.67	Yes	Yes	PCB SQS	No	No	No	No	No	No	Yes	Yes	-	Dredge	Year 0 SQS exceedance from data >10 years old. Area expected to have already recovered. STM predicts flood scour under high-flow conditions. No core data in isolated SMA.
37	A	0.68	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	No	Sampling at T117 will redefine boundary and expand EAA to cover most of the areas of concern for these SMAs.	Dredge	Year 0 SQS surface exceedance, but boundary being confirmed by EAA. PCB surface RAL exceedance (>480 µg/kg dw), driven by interpolation from EAA. Area expected to have already recovered.
	B	0.59	Yes	Yes	PCB SQS	No	No	No	Yes	Yes	Yes	No	No	-	Dredge	Year 0 SQS surface RAL exceedance for Phenol, concentration is at SQS limit. Potential Assumed tribal clamming located within area. STM predicts scour under high-flow conditions.
38		0.93	Yes	-	PCB	Yes	No	No	No	Yes	No	No	Yes. below SQS. 4 surface sediment samples PCB <200 µg/kg dw	-	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw) by interpolation; newer FS data show PCB surface recovery (<240 µg/kg dw) for this point. PCB subsurface RAL exceedance (>700 µg/kg dw). STM predicts flood scour under high-flow conditions. Bathymetry criteria not met for capping, capping requires partial dredge and cap. Contamination exists below the top 3 ft of sediment.
39		0.60	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions.
40		0.43	No	Yes	SQS	No	No	Yes	Yes	No	No	Yes	Yes	-	Dredge	Nearby toxicity pass. Year 0 SQS surface exceedance. Area expected to have already recovered. STM predicts flood scour under high-flow conditions and evidence of vessel scour observed in bathymetry data.
41		4.50	Yes	Yes	PCB Arsenic cPAH SQS	Yes	Yes	Yes	Yes	Yes	No	No	No	No. 22 of 28 samples > SQS for PCBs; CSL exceedance for Hg.	Dredge	Predicted year 10 CSL surface and PCB subsurface RAL exceedance (>2,200 µg/kg dw). STM predicts flood scour under high-flow conditions. Potential Assumed tribal clamming located within area. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment.
42	A	1.55	Yes	Yes	PCB cPAH SQS	Yes	No	No	Yes	No	No	No	No	-	Dredge	PCB subsurface RAL exceedance (>2,200 µg/kg dw). CSL exceedance for Benzoic Acid, concentration 1.4 times CSL threshold. Evidence of vessel scour observed in bathymetry data. Bathymetry criteria not met for capping (potential assumed tribal clamming area). Dredging requires area be restored to existing elevations due to potential tribal clamming area. Contamination is limited to the top 3 ft of sediment.
	B	3.56	Yes	Yes	PCB cPAH SQS	Yes	No	No	Yes	No	No	No	No	-	Dredge	Predicted year 10 CSL surface exceedance for 3 chemicals. Bathymetry criteria not met for capping. Contamination is limited to the top 3 ft of sediment. Evidence of vessel scour observed in bathymetry data.

Table G-6: Alternative 5 - Considerations Affecting Technology Assignments

SMA	Sub SMA	Size (Acres)	Section 1: Chemical RAL Exceedance				Section 2: Physical Considerations		Section 3: Recovery Potential			Section 4: Age and Newer Data		Section 5: Remedial Action Decision	
			Is there a RAL exceedance in surface sediment?	Do surface sediments exceed at SQS Year 0?	For Which Risk Driver is there a chemical exceedance?	Does SMA require active remediation due to scour and subsurface (0-2 ft) RAL exceedances?	Does site require remediation due to beach play or potential tribal clamming areas?	Does the SMA provide the 5 ft clearance necessary for isolation capping?	Is SMA or part of SMA located above -10 ft MLLW elevation (for habitat maintenance)?	Does SMA exceed SQS Year 10 after ENR?	Is SMA predicted to recover below SQS in 10 years and empirical data show recovery (Category 2 SMAs)?	Based on age of data, has SMA likely recovered or predicted to naturally recover before remediation begins (Category 3)?	Does SMA contain data greater than 10 years old?	Do the newer FS data show recovery, and what are the trends of the newer data?	Action
43	0.36	Yes	Yes	PCB SQS	No	No	No	Yes	Yes	No	Yes	Yes	-	Dredge	Area expected to recover when outfall loads are redistributed in the BCM.
44	0.16	Yes	Yes	PCB cPAH SQS	No	No	No	Yes	No	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.
45	0.56	Yes	Yes	PCB SQS	No	No	No	Yes	No	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.
46	1.35	Yes	Yes	PCB SQS	Yes	No	No	Yes	No	No	No	No	-	Dredge	CSL toxicity and CSL year 0 surface exceedance. STM predicts flood scour under high-flow conditions observed. Bathymetry criteria not met for capping. Potential Assumed tribal clamming and beach located within area, dredging requires area to be restored to existing elevations. Contamination is limited to the top 3 ft of sediment.
47	0.89	Yes	Yes	PCB SQS	No	No	No	Yes	No	Yes	No	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.
48	1.00	Yes	Yes	PCB Arsenic cPAH SQS	No	No	Yes	Yes	-	No	No	No	-	Dredge	PCB surface RAL exceedance (>5,000 µg/kg dw), greater than 3x CSL.
49	0.21	No	Yes	SQS	No	No	No	Yes	-	No	Yes	Yes	-	Dredge	Year 0 SQS surface exceedance. Area expected to have already recovered.
50	188.00	Yes	Yes	PCB SQS	Yes	No	No	No	-	-	-	Yes	-	Dredge	PCB RAL exceedance (>100 µg/kg dw).

1. Criteria for active remediation (PCB > 100 µg/kg dw, As > 30 mg/kg dw, cPAH > (LDW wide [900 µg TEQ/kg dw], Beach 6 [600 µg TEQ/kg dw], Beach 3 [400 µg TEQ/kg dw]), and D/F > 28 ng TEQ/kg.

YELLOW - Active; Active Remedy Needed due to chemical or toxicity RAL exceedance

GREEN - Capping; Bathymetry and habitat criteria satisfied for capping

Updated: 4/22/09 MLS

Table G-7a Relevant Chemical Data for Each SMA

SMA	Sub SMA	Size (Acres)	Comparison of Chemical Concentrations to Remedial Action Levels (RALs)								Scour Analysis				Analysis of Post-RI Data (FS Data)		Additional Comments						
			Maximum PCB RAL Exceeded (PCB RALs are 100, 240, 480, 700, 1,300, and 2,200 µg/kg dw.)		Maximum As RAL Exceeded (As RALs are 30, 57, 88, and 93 mg/kg dw.)		Maximum cPAH RAL Exceeded (cPAH RALs are 400 for beach 6, 600 for Beach 3, 900, 1,500, 1,700 and 3,100 µg TEQ/kg dw.)		Is cPAH RAL exceeded in clamming areas?	Is cPAH RAL exceeded in beaches?	Maximum Dioxin/Furan RAL Exceeded (D/F RALs are 28, 49, and 120 ng TEQ/kg dw.)	Measured / Predicted Surface Sediment Exceedance for any detected SMS chemical ³				What is the 30-yr high-flow scour depth (cm)?		Is vessel scour observed?	Is there a subsurface (0-2ft) CSL exceedance in a scour area?	Is there a subsurface (0-2ft) SQS exceedance in a scour area?	Compilation of Sediment Data Collected after the RI Baseline Dataset was Finalized ⁴		
			Interpolated surface sediment	Upper 2 ft of cores	Interpolated surface sediment	Upper 2 ft of cores	Interpolated surface sediment	Upper 2 ft of cores				Surface and Subsurface Sediment Points	CSL Year 0?	CSL Year 10?	SQS Year 0?	SQS Year 10?					Minimum (cm)	Maximum (cm)	Are there post-RI data in the SMA?
1	A	2.56	240	2200	—	—	1700	600	not in clamming area	not in beach	—	Yes	No	Yes	No	no scour	No	NA	NA	No	—		
	B	2.34	—	—	—	—	400	—				No	No	Yes	No								
2		1.32	1300	1300	93	93	400	—	not in clamming area	not in beach	—	Yes	Yes	Yes	Yes	0	0.06	No	No	Yes	No	—	
3		2.21	240	480	—	57	900	—				No	No	Yes	No	no scour	Yes	No	Yes	No	—		
4	A	1.36	240	1300	—	—	1700	1700	No	No	—	No	No	Yes	No	no scour	No	NA	NA	SPI co-located with RI sample (<10 ft). Location is outside, but near SMA.	No. Values 4 to 11 times larger for PCBs and BEHP. Arsenic decreases nominally and cPAH increases 40%.		
	B	1.46	240	—	—	—	600	—				No	No	Yes	No								
	C	0.45	—	700	—	—	—	—				No	No	Yes	No								
5		6.23	240	2200	—	30	1500	400	not in clamming area	not in beach	—	Yes	Yes	Yes	Yes	no scour	Yes	No	No	SPI co-located with RI sample (<10 ft)	Yes. PCBs and cPAH decrease by 42% and 10%, but BEHP and arsenic increase by 40% and 7%. SQS exceedance for phenol and benzyl alcohol.		
6	A	3.77	700	1300	—	—	900	400				Yes	Yes	Yes	Yes								
	B	4.71	2200	2200	30	30	900	—				Yes	Yes	Yes	Yes								
6	C	5.90	700	—	—	—	900	—	Yes	No	Yes	Yes	no scour	No	NA	NA	SPI data, not co-located with RI; D/D perimeter 2006, 2007 data	No. SPI above SQS, PCBs = 304 µg/kg dw, cPAH = 400 µg TEQ/kg dw; D/D PCB 330-370 µg/kg dw					
	D	1.28	1300	1300	—	—	1700	1500	Yes	Yes	Yes	Yes											
	E	1.78	2200	—	—	—	400	—	No	No	Yes	Yes											
7	A	2.31	700	2200	—	—	1700	1700	Yes	Yes	—	—	no scour	No	NA	NA	D/D perimeter 2006, 2007 data	Mixed. PCBs 40-380 µg/kg dw, BEHP 460-750 µg/kg dw					
	B	4.17	500	—	—	—	—	—	No	No	Yes	No											
	C	0.86	700	—	—	—	900	—	No	No	Yes	Yes											
	D	2.70	—	240	—	—	1500	—	Yes	No	Yes	Yes											
	E	0.77	—	—	—	—	—	—	not in clamming area	not in beach	—	—							No	No	Yes	No	
	F	1.08	—	—	—	—	—	—	No	No	Yes	No											
8	A	1.60	500	—	—	—	900	—	No	Yes	—	—	no scour	No	NA	NA	No	—					
	B	4.06	240	—	—	—	—	—	No	No	Yes	No											
	C	2.17	240	—	—	—	—	—	No	No	Yes	Yes											
9	A	3.57	500 700	2200	—	—	600	—	Yes	Yes Beach 3	—	—	0.05	0.75	No	Yes	Yes	No	—				
	B	2.27	—	—	—	—	—	400	No	—	—	—	0	0.45	No	No data	No data	No	—				
10	A	2.07	240	700	300	93	1700	1700	not in clamming area	not in beach	—	—	Yes	Yes	Yes	Yes	Yes	Yes	No	—			
	B	5.46	240	240	—	30	1700	600	not in clamming area	not in beach	—	—	Yes	No	Yes	Yes	Yes	Yes	No	—			
11	A	4.39	—	240	—	—	600	400	No	not in beach	—	No	No	No	No	no scour	Yes	No	Yes, PCB >240, but not >12 mg/kg OC	SPI data, not co-located with RI	Mixed. below SQS for PCBs = 173 µg/kg dw, exceed SQS for 2 PAHs, cPAH = 1,000 µg/kg dw.		
	B	1.07	240	240	—	—	900	400				Yes	No	Yes	Yes								
	C	2.98	5000	2200	—	—	600	—				not in clamming area	not in beach	120	Yes							Yes	Yes
12		0.44	—	—	30	—	600	—	not in clamming area	not in beach	—	Yes	No	Yes	No	no scour	No	NA	NA	No	—		
13		2.73	500	—	—	—	400	—				Yes, toxicity	No	Yes	No	no scour	No	NA	NA	No	—		

Table G-7a Relevant Chemical Data for Each SMA

SMA	Sub SMA	Size (Acres)	Comparison of Chemical Concentrations to Remedial Action Levels (RALs)								Scour Analysis					Analysis of Post-RI Data (FS Data)		Additional Comments					
			Maximum PCB RAL Exceeded (PCB RALs are 100, 240, 480, 700, 1,300, and 2,200 µg/kg dw.)		Maximum As RAL Exceeded (As RALs are 30, 57, 88, and 93 mg/kg dw.)		Maximum cPAH RAL Exceeded (cPAH RALs are 400 for beach 6, 600 for Beach 3, 900, 1,500, 1,700 and 3,100 µg TEQ/kg dw.)		Is cPAH RAL exceeded in clamming areas?	Is cPAH RAL exceeded in beaches?	Maximum Dioxin/Furan RAL Exceeded (D/F RALs are 28, 49, and 120 ng TEQ/kg dw.)	Measured / Predicted Surface Sediment Exceedance for any detected SMS chemical ³				What is the 30-yr high-flow scour depth (cm)?			Is vessel scour observed?	Is there a subsurface (0-2ft) CSL exceedance in a scour area?	Is there a subsurface (0-2ft) SQS exceedance in a scour area?	Compilation of Sediment Data Collected after the RI Baseline Dataset was Finalized ⁴	
			Interpolated surface sediment	Upper 2 ft of cores	Interpolated surface sediment	Upper 2 ft of cores	Interpolated surface sediment	Upper 2 ft of cores				Surface and Subsurface Sediment Points	CSL Year 0?	CSL Year 10?	SQS Year 0?	SQS Year 10?	Minimum (cm)					Maximum (cm)	Are there post-RI data in the SMA?
14	A	2.74	240	240	300	93	1500	900	not in clamming area	not in beach	—	Yes	Yes	Yes	Yes	no scour		Yes	Yes	Yes	2 SPI locations co-located with RI sample (<10 ft)	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	
	B	1.03	—	240	30	30	600	400	—		—	No	No	Yes	No	no scour		Yes	No	Yes	No	—	
15		2.43	500	2200	—	—	400	—	No		—	Yes, toxicity	No	Yes	No	no scour		No	NA	NA	2 SPI locations co-located with RI sample (<10 ft)	Mixed. yes for PCBs; no for cPAH, BEHP, As, but below SQS	
16	A	2.64	700	—	93	—	1500	—	Yes		120	Yes	No	Yes	Yes	no scour		Yes	No	Yes	No	—	
	B	4.29	—	240	30	93	900	600	No		—	No	No	Yes	No	no scour		Yes	No data	No data	SPI data, not co-located with RI	Yes. below SQS, PCB = 170 µg/kg dw; cPAH = 380 µg/kg dw.	
17		2.35	240	—	—	—	400	—	No		—	No	No	Yes	No	no scour		No	NA	NA	No	—	
18	A	1.73	500	—	—	—	400	—	No		—	Yes	No	Yes	Yes	no scour		Yes	No data	No data	No	—	
	B	2.35	240	700	—	30	400	600	No		—	No	No	Yes	No	no scour		Yes	No	Yes, but dredged	No	—	
19		3.12	—	1300	—	30	—	600	No		—	No	No	Yes	No	no scour		Yes	Yes	Yes	No	—	
20		0.80	—	240	—	—	600	600	not in clamming area		—	Yes	Yes	Yes	Yes	0.66	1.61	Yes	Yes	Yes	T115 DMMU cores and 1 SPI location (not co-located with RI)	Mixed. T115 samples elevated for cPAHs, PCB (above SQS), dioxin/furans, and BEHP. SPI below SQS for PCBs (237 µg/kg dw); 1 RQS exceedance; 1 CSL exceedance; cPAH = 360 µg TEQ/kg dw.	Proposed berth dredging would remove some of these sediments.
21		0.93	240	2200	—	30	600	—	No	—	Yes, toxicity	No	Yes	No	0.93	2.40	No	Yes	Yes	No	—		
22	A	0.72	500	240	—	—	400	—	not in clamming area	—	Yes	No	Yes	No	0.02	1.00	No	No	Yes	No	—		
	B	0.95	240	700	—	—	—	—	—	—	No	No	Yes	No	1.00	4.87	No	No data	No data	No	—		
23		1.50	240	700	—	—	1700	—	Yes	Yes	No	No	Yes	No	no scour		No	—	—	No	—		
24		4.19	240	240	—	—	900	—	not in clamming area	not in beach	—	No	No	Yes	No	no scour		No	NA	NA	SPI co-located with RI sample (<10 ft)	Yes for all chemicals decrease by 11%-43% and below SQS; PCB = 176 µg/kg dw; cPAH 265 µg TEQ/kg dw	
25		1.77	240	700	57	93	900	1700	—	—	Yes, toxicity	No	Yes	No	no scour		No	—	—	No	—		
26		2.14	2200	100	—	—	600	—	No	No	120	Yes	Yes	Yes	Yes	0.04	5.00	No	No	Yes	ICS Containers and SPI (not co-located)	No. ICS data have CSL exceedances; SPI PCBs=1,600 µg/kg dw	
27	A	0.72	480	240	—	—	600	—	No	not in beach	28	No	No	Yes	No	no scour		Yes	No	Yes	No	—	
	B	2.99	—	100	—	—	900	—	No	No	—	No	No	Yes	No	0.04	5.00	Yes	No data	No data	No	—	
	C	0.62	—	—	—	—	900	—	No	No	—	No	No	Yes	No	0	4.47	Yes	No data	No data	No	—	
28		1.83	—	240	—	—	400	400	not in clamming area	not in beach	—	No	No	Yes	No	0	0.44	Yes	No	Yes, but most cores dredged	No	—	
29		0.74	240	—	—	—	400	—	—	—	No	No	Yes	No	no scour		Yes	No data	No data	No	—		
30	A	0.68	—	—	—	—	900	—	No	Yes	—	No	No	Yes	No	no scour		No	NA	NA	No	—	
	B	2.95	240	100	—	—	1700	1700	Yes	Yes	—	Yes	No	Yes	No	0.06	5.12	Yes	No	Yes, but most cores dredged	SPI data, not co-located with RI	Yes. below SQS for PCBs (97 µg/kg dw); above SQS for benzyl alcohol (RI data was above CSL); cPAH = 220 µg TEQ/kg dw	
31		4.15	1300	700	—	—	1500	—	Yes	Yes Beach 6	—	Yes	No	Yes	Yes	0.11	4.40	No	No	Yes	No	—	
32		4.35	240	—	—	—	—	—	No	No	—	No	No	Yes	Yes	0.02	15.03	Yes	No data	No data	SPI co-located with previous RI sample (<10 ft)	Mixed. cPAH, BEHP, PCB increase by 110%, 250%, 820%; As decreases by 20%; but all still below SQS and cPAH = 130 µg TEQ/kg dw	
33		3.67	1300	700	—	—	600	1700	Yes	not in beach	—	Yes	No	Yes	Yes	0	5.00	Yes	No	Yes, but most cores dredged	No	—	
34		0.29	—	—	—	—	—	—	No	No	—	No	No	Yes	Yes	0.13	0.19	No	No data	No data	No	—	
35	A	0.27	—	—	—	—	—	—	No	No	—	Yes	Yes	Yes	Yes	0.16	7.42	No	No data	No data	No	—	
	B	0.57	500	—	—	—	—	—	No	No	—	No	No	Yes	Yes	0.81	16.91	No	No data	No data	No	—	
	C	0.59	240	—	—	—	—	—	No	No	—	No	No	Yes	Yes	1.50	5.00	No	No data	No data	No	—	
	D	0.71	—	700	—	—	—	—	No	No	—	No	No	No	No	0	0.27	No	No	Yes	No	—	

Table G-7a Relevant Chemical Data for Each SMA

SMA	Sub SMA	Size (Acres)	Comparison of Chemical Concentrations to Remedial Action Levels (RALs)								Scour Analysis					Analysis of Post-RI Data (FS Data)		Additional Comments							
			Maximum PCB RAL Exceeded (PCB RALs are 100, 240, 480, 700, 1,300, and 2,200 µg/kg dw.)		Maximum As RAL Exceeded (As RALs are 30, 57, 88, and 93 mg/kg dw.)		Maximum cPAH RAL Exceeded (cPAH RALs are 400 for beach 6, 600 for Beach 3, 900, 1,500, 1,700 and 3,100 µg TEQ/kg dw)		Is cPAH RAL exceeded in clamming areas? ¹	Is cPAH RAL exceeded in beaches? ²	Maximum Dioxin/Furan RAL Exceeded (D/F RALs are 28, 49, and 120 ng TEQ/kg dw.)	Measured / Predicted Surface Sediment Exceedance for any detected SMS chemical ³				What is the 30-yr high-flow scour depth (cm)?			Is vessel scour observed?	Is there a subsurface (0-2ft) CSL exceedance in a scour area?	Is there a subsurface (0-2ft) SQS exceedance in a scour area?	Compilation of Sediment Data Collected after the RI Baseline Dataset was Finalized ⁴			
			Interpolated surface sediment	Upper 2 ft of cores	Interpolated surface sediment	Upper 2 ft of cores	Interpolated surface sediment	Upper 2 ft of cores				Surface and Subsurface Sediment Points	CSL Year 0?	CSL Year 10?	SQS Year 0?	SQS Year 10?	Minimum (cm)					Maximum (cm)	Are there post-RI data in the SMA?	Do the post-RI data show recovery?	
36		0.67	240	—	—	—	—	—	not in clamming area	not in beach	—	No	No	Yes	No	15.03	22.21	No	No data	No data	No	—			
37	A	0.68	480	240	—	—	—	—	No			No	No	Yes	No	no scour	No	NA	NA	No	NA	NA	Future T117 sampling	Sampling at T117 will redefine boundary and	
	B	0.59	—	—	—	—	—	—	No			No	Yes	No	1.10	15.28	No	No data	No data	No	No data	No data	No	—	
38		0.93	5000	700	—	10 --	600	—	not in clamming area	not in beach	—	—	—	—	—	15.00	19.71	No	Yes	Yes	BP2 boundary (not co-located), analyzed for PCBs only	Yes. below SQS, 4 surface sediment samples PCB <200 µg/kg dw			
39		0.60	240	—	—	—	—	—	No			No	Yes	No	1.39	10.19	No	No data	No data	No	No data	No data	No	—	
40		0.43	—	—	—	—	—	—	No			No	Yes	No	3.02	10.00	Yes	No data	No data	Yes	No data	No data	No	—	
41		4.50	700	2200	300	300	1700	1700	Yes	not in beach	—	Yes	Yes	Yes	Yes	0.39	17.28	No	Yes	Yes	Pacaar, 8801 E Marginal	No. 22 of 28 samples > SQS for PCBs; CSL exceedance for Hg.			
42	A	1.55	700	2200	—	—	900	600	No			Yes	No	Yes	No	0	0.13	Yes	Yes	Yes	Yes	Yes	No	—	
	B	3.56	—	100	—	—	1700	1700	No			Yes	Yes	Yes	Yes	no scour	Yes	Yes	Yes	Yes	Yes	Yes	No	—	
43		0.36	240	—	—	—	—	—	No	not in beach	—	No	No	Yes	Yes	no scour	No	NA	NA	No	—				
44		0.16	—	—	—	—	900	—	No			No	No	Yes	No	no scour	No	NA	NA	No	NA	NA	No	—	
45		0.56	240	—	—	—	—	—	No			No	No	Yes	No	no scour	No	NA	NA	No	NA	NA	No	—	
46		1.35	500	240	—	—	—	—	No	not in beach	—	Yes, toxicity	No	Yes	No	0	13.74	No	No	Yes	No	—			
47		0.89	—	—	—	—	—	—	No			Yes	—	Yes	—	0	0.58	No	No data	No data	No	NA	NA	No	—
48		1.00	5000	—	—	—	900	900	No			Yes	—	Yes	—	Upstream of STM	No	NA	NA	No	NA	NA	No	—	
49		0.21	—	—	—	—	400	—	No	No	—	—	—	—	—	—	—	No	NA	NA	No	—			
Duwamish Diagonal ENR		4.39	RI baseline data were collected prior to remediation. See FS data.						In clamming area	Beach 3	RI baseline data were collected prior to remediation. See FS data.				no scour		No	NA	NA	post-remedy cap, thin-layer cap and perimeter data	Yes. 2007 data: < SQS for PCBs and BEHP				
Duwamish Diagonal Dredge Area		6.67	RI baseline data were collected prior to remediation. See FS data.						In clamming area	Beach 3	data collected around cap after placement range from 1 to 21 (not in RI dataset)	RI baseline data were collected prior to remediation. See FS data.				no scour		No	NA	NA	Mixed. 2007 data: one sample > CSL for BEHP, all PCB samples <SQS				
Norfolk CSO		0.63	240	no post-remedy cores	—	no post-remedy cores	—	no post-remedy cores	not in clamming area	not in beach	—	No	No	Yes	No	Upstream of STM.		Upstream of bathymetry data.	NA	NA	RI data are post remedy data.	-			
Boeing South Storm Drain		0.06	RI baseline data were collected prior to remediation. See FS data.						RI baseline data were collected prior to remediation. See FS data.				Upstream of STM.		No	NA	NA	post-remedy cap data for PCB only	Yes.2007 data: < SQS for PCBs						

Note:
¹ cPAH RAL for clamming areas is 1,500 µg TEQ/kg dw. - No data or not applicable.
² cPAH RAL for 6 of the 8 beaches is 900 µg TEQ/kg dw. RAL for Beach 3 is 600 µg TEQ/kg dw. RAL for Beach 6 is 400 µg TEQ/kg dw. -- No RAL exceeded.
³ SQS and CSL exceedances include toxicity results. If a station passes for toxicity, it is not counted as a chemical exceedance. NA - not applicable
⁴ "Recovery" is based on a direct comparison with a co-located surface station. Co-location is defined as two locations within 10 feet of each other. If a co-located location is not available, the concentrations of the newer data are simply reported as general change from SMA-wide chemistry. CSL exceedances for 2,4-dimethylphenol are widespread in the SPI dataset and not reported here on an SMA basis.

Table G-7b Relevant Point Data for Each SMA

SMA	Sub SMA	Size (Acres)	Number of Surface Sediment PCB Points Above RAL (µg/kg dw)							Max PCB Point Concentration (µg/kg dw)		Number of Surface Sediment As Points Above RAL (mg/kg dw)							Max Arsenic Point Concentration (mg/kg dw)		Number of Surface Sediment cPAH Points Above RAL (µg TEQ/kg dw)							Maximum cPAH Point Concentration (µg TEQ/kg dw)		Number of Surface and Subsurface Dioxin/Furan Points Above RAL (ng TEQ/kg dw)				Maximum Dioxin/Furan Point Concentration
			RAL:	> 5000	> 2200	> 1300	> 700	> 240	> 100	Total Data Points	Surface	Subsurface (upper 2 ft) ¹	> 300	> 93	> 88	> 80	> 57	> 30	Total Data Points	Surface	Subsurface (upper 2 ft) ¹	> 1900	> 1500	> 900	> 600	> 400	Total Data Points	Surface	Subsurface (upper 2 ft) ¹	> 120	> 49	> 28	Total Data Points	Surface and Subsurface
1	A	2.56	0	0	0	0	1	3	4	320	6700	0	0	0	0	0	0	3	15	22	1	1	1	2	3	3	2200	620	—	—	—	—	—	
	B	2.34	0	0	0	0	0	1	2	210	—	0	0	0	0	0	0	2	15	—	0	0	0	1	2	2	810	—	—	—	—	—	—	
2		1.32	0	0	1	1	2	2	3	1920	1380	0	1	1	2	3	3	3	123	190	0	0	0	2	2	3	840	69	—	—	—	—	—	
3		2.21	0	0	0	0	1	1	1	270	490	0	0	0	0	0	0	1	12	63	0	0	0	0	1	1	600	360	—	—	—	—	—	
4	A	1.36	0	0	0	0	0	2	3	230	1387	0	0	0	0	0	0	2	15	22	1	1	2	2	2	2	1900	1900	0	0	0	1	5.9	
	B	1.46	0	0	0	0	1	1	4	350	63	0	0	0	0	0	0	3	12	4.1	0	0	0	0	1	3	600	60	—	—	—	—	—	
	C	0.45	—	—	—	—	—	—	—	—	910	—	—	—	—	—	—	—	—	28	—	—	—	—	—	—	—	132	0	0	0	1	1.6	
5		6.23	0	0	0	0	5	9	12	370	2600	0	0	0	0	0	0	9	17	44	0	1	1	3	8	9	1700	590	—	—	—	—	—	
6	A	3.77	0	0	0	0	6	10	10	570	1300	0	0	0	0	0	0	9	24	17	0	0	1	5	9	9	1010	420	0	0	0	1	0.9	
	B	4.71	0	2	4	5	9	12	12	4610	3600	0	0	0	0	0	3	11	41	30	0	0	2	3	4	11	970	230	0	0	0	1	25.1	
	C	5.90	0	0	0	1	4	7	8	710	—	0	0	0	0	0	0	6	20	—	0	0	1	3	3	6	1180	—	—	—	—	—	—	
	D	1.28	0	0	0	1	5	6	9	860	1340	0	0	0	0	0	0	9	30	19	1	1	3	6	7	9	1910	1560	0	0	0	1	21.1	
	E	1.78	0	0	0	0	0	0	3	35	—	0	0	0	0	0	0	1	7.2	—	0	0	0	0	0	1	210	—	—	—	—	—	—	
7	A	2.31	0	0	0	2	4	6	6	1010	3000	0	0	0	0	0	0	4	21	28	2	2	3	3	3	4	4200	4400	0	0	0	1	16.0	
	B	4.17	0	0	0	0	3	3	6	660	—	0	0	0	0	0	0	4	12	—	0	0	0	0	0	4	200	—	—	—	—	—	—	
	C	0.86	0	0	0	1	2	2	3	780	—	0	0	0	0	0	0	2	29	—	0	0	1	1	1	2	1300	—	—	—	—	—	—	
	D	2.70	0	0	0	0	0	1	2	131	350	0	0	0	0	0	0	1	9.8	20	0	1	1	1	1	1	1600	290	—	—	—	—	—	
	E	0.77	0	0	0	0	0	1	2	150	—	0	0	0	0	0	0	1	17	—	0	0	0	0	0	1	40	—	—	—	—	—	—	
	F	1.08	0	0	0	0	0	0	1	56	—	0	0	0	0	0	0	1	5.8	—	0	0	0	0	0	1	220	—	—	—	—	—	—	
8	A	1.60	0	0	0	0	1	3	4	540	—	0	0	0	0	0	0	3	13	—	0	0	1	1	1	3	1100	—	0	0	0	1	8.9	
	B	4.06	0	0	0	0	1	4	5	340	—	0	0	0	0	0	0	2	20	—	0	0	0	0	0	2	210	—	0	0	0	1	11.7	
	C	2.17	0	0	0	0	0	1	1	230	—	0	0	0	0	0	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
9	A	3.57	0	0	0	1	3	5	6	790	4500	0	0	0	0	0	0	5	17	24	0	0	0	0	0	5	380	590	0	0	0	1	10.2	
	B	2.27	0	0	0	0	0	0	1	17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10	A	2.07	0	0	0	0	2	3	4	350	1220	1	2	2	2	2	2	3	725	170	1	1	1	1	2	3	2200	2000	—	—	—	—	—	
	B	5.46	0	0	0	0	5	6	7	698	520	0	0	0	0	0	0	4	17	30	1	1	1	2	4	4	3000	690	0	0	0	1	13.0	
11	A	4.39	0	0	0	0	0	1	4	120	280	0	0	0	0	0	0	2	18	20	0	0	0	0	2	2	580	580	0	0	0	1	27.1	
	B	1.07	0	0	0	0	1	2	2	280	250	0	0	0	0	0	0	2	16	20	0	0	1	1	2	2	1300	420	0	0	0	1	16.4	
	C	2.98	1	1	1	1	3	3	3	5100	3200	0	0	0	0	0	0	3	18	20	0	0	0	0	0	3	240	140	1	1	1	3	124	
12		0.44	0	0	0	0	0	1	2	230	56	0	0	0	0	0	1	1	31	12	0	0	0	1	1	1	660	130	—	—	—	—	—	
13		2.73	0	0	0	0	2	2	3	510	—	0	0	0	0	0	0	2	17	—	0	0	0	0	1	2	530	—	—	—	—	—	—	
14	A	2.74	0	0	0	0	1	4	9	290	440	1	3	3	3	4	5	9	807	280	0	1	4	5	6	9	1600	1200	0	0	0	1	19.9	
	B	1.03	0	0	0	0	0	0	1	18	280	0	0	0	0	0	0	1	24	30	0	0	0	0	0	1	200	500	0	0	0	1	18.2	
15		2.43	0	0	0	0	3	6	6	590	3300	0	0	0	0	0	0	5	16	19	0	0	0	0	3	5	490	330	—	—	—	—	—	
16	A	2.64	0	0	0	3	5	7	9	810	33	0	1	1	1	1	7	9	161	14	0	1	2	2	6	9	1700	150	3	4	5	5	2100	
	B	4.29	0	0	0	0	0	2	3	220	630	0	0	0	0	0	1	3	40	181	0	0	0	2	2	3	670	590	—	—	—	—	—	
17		2.35	0	0	0	0	2	3	3	310	—	0	0	0	0	0	0	3	26	—	0	0	0	0	1	3	430	—	—	—	—	—	—	
18	A	1.73	0	0	0	0	3	5	10	690	12.9	0	0	0	0	0	0	9	27	3	0	0	0	0	3	9	500	30	0	0	0	1	10.1	
	B	2.35	0	0	0	0	0	0	3	93	1010	0	0	0	0	0	0	1	6	49	0	0	0	0	0	1	160	700	0	0	0	1	8.1	
19		3.12	0	0	0	0	0	3	7	240	1720	0	0	0	0	0	0	5	12	40	0	0	0	0	0	5	230	660	—	—	—	—	—	
20		0.80	0	0	0	0	0	2	3	172	280	0	0	0	0	0	0	3	18	20	0	0	0	1	3	3	880	660	—	—	—	—	—	
21		0.93	0	0	0	0	4	4	4	350	4700	0	0	0	0	0	0	3	17	56	0	0	0	0	3	3	580	350	—	—	—	—	—	
22	A	0.72	0	0	0	0	2	3	3	520	370	0	0	0	0	0	0	3	13	18	0	0	0	0	1	3	410	290	—	—	—	—	—	
	B	0.95	0	0	0	0	1	1	2	260	720	0	0	0	0	0	0	2	10	12	0	0	0	0	0	2	120	86	—	—	—	—	—	
23		1.50	0	0	0	0	2	5	6	300	710	0	0	0	0	0	0	4	17	11	1	1	1	1	1	4	1900	260	—	—	—	—	—	
24		4.19	0	0	0	0	4	8	8	420	240	0	0	0	0	0	0	6	18	13	0	0	1	3	3	6	1200	350	0	0	0	1	11.0	
25		1.77	0	0	0	0	2	4	5	250	950	0	0	0	1	1	1	4	81	150	0	0	1	3	4	4	940	7000	—	—	—	—	—	
26		2.14	1	3	4	4	4	7	8	23000	160	0	0	0	0	0	0	5	12	7	0	0	0	1	3	5	750	51	1	1	1	1	412	

Table G-7b Relevant Point Data for Each SMA

SMA	Sub SMA	Size (Acres)	Number of Surface Sediment PCB Points Above RAL (µg/kg dw)							Max PCB Point Concentration (µg/kg dw)		Number of Surface Sediment As Points Above RAL (mg/kg dw)							Max Arsenic Point Concentration (mg/kg dw)		Number of Surface Sediment cPAH Points Above RAL (µg TEQ/kg dw)						Maximum cPAH Point Concentration (µg TEQ/kg dw)				Number of Surface and Subsurface Dioxin/Furan Points Above RAL (ng TEQ/kg dw)				Maximum Dioxin/Furan Point Concentration
			RAL:	> 5000	> 2200	> 1300	> 700	> 240	> 100	Total Data Points	Surface	Subsurface (upper 2 ft) ¹	> 300	> 93	> 88	> 80	> 57	> 30	Total Data Points	Surface	Subsurface (upper 2 ft) ¹	> 1900	> 1500	> 900	> 600	> 400	Total Data Points	Surface	Subsurface (upper 2 ft) ¹	> 120	> 49	> 28	Total Data Points	Surface and Subsurface	
27	A	0.72	0	0	0	0	0	1	2	157	370	0	0	0	0	0	0	2	18	20	0	0	0	1	2	2	790	290	0	0	1	1	33.3		
	B	2.99	0	0	0	0	2	2	3	630	150	0	0	0	0	0	0	2	8	6	0	0	0	0	0	2	120	100	—	—	—	—	—		
	C	0.62	0	0	0	0	0	0	2	75	—	0	0	0	0	0	0	2	10	—	0	0	1	1	1	2	1400	—	—	—	—	—	—		
28		1.83	0	0	0	0	0	0	4	38	240	0	0	0	0	0	0	3	5	20	0	0	0	0	0	3	420	570	—	—	—	—	—		
29		0.74	0	0	0	0	2	3	3	390	—	0	0	0	0	0	0	2	14	—	0	0	0	0	1	2	440	—	—	—	—	—	—		
30	A	0.68	0	0	0	0	0	0	1	93	—	0	0	0	0	0	0	1	11	—	0	0	1	1	1	1	990	—	—	—	—	—	—		
	B	2.95	0	0	0	0	1	4	5	300	214	0	0	0	0	0	0	5	17	16	1	2	4	4	4	5	3100	2800	0	0	0	1	3.9		
31		4.15	0	0	1	2	5	11	16	1800	880	0	0	0	0	0	0	10	27	16	0	1	1	1	3	10	1600	240	—	—	—	—	—		
32		4.35	0	0	0	0	1	8	16	430	65	0	0	0	0	0	0	8	14	6	0	0	0	0	0	8	360	340	—	—	—	—	—		
33		3.67	0	0	1	2	7	21	25	1700	980	0	0	0	0	0	0	3	14	16	0	0	0	0	1	3	500	3400	—	—	—	—	—		
34		0.29	0	0	0	0	0	0	2	100	—	0	0	0	0	0	0	1	7	—	0	0	0	0	0	1	47	—	—	—	—	—	—		
35	A	0.27	0	0	0	0	0	1	2	104	—	0	0	0	0	0	0	2	9	—	0	0	0	0	0	2	110	—	—	—	—	—	—		
	B	0.57	0	0	0	0	1	1	3	660	—	0	0	0	0	0	0	1	11	—	0	0	0	0	0	1	90	—	—	—	—	—	—		
	C	0.59	0	0	0	0	1	2	2	280	—	0	0	0	0	0	0	2	12	—	0	0	0	0	0	2	230	—	0	0	0	1	2.2		
	D	0.71	0	0	0	0	0	1	1	110	712	—	—	—	—	—	—	—	—	8	—	—	—	—	—	—	76	—	—	—	—	—	—		
36		0.67	0	0	0	0	1	1	1	270	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
37	A	0.68	0	0	0	0	3	7	8	660	265	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	B	0.59	0	0	0	0	0	4	5	210	—	0	0	0	0	0	0	5	14	—	0	0	0	0	0	5	320	—	—	—	—	—	—		
38		0.93	0	0	0	0	0	0	0	—	750	0	0	0	0	0	0	0	—	13	0	0	0	0	0	0	—	270	—	—	—	—	—		
39		0.60	0	0	0	0	1	1	1	380	—	0	0	0	0	0	0	1	15	—	0	0	0	0	0	1	190	—	—	—	—	—	—		
40		0.43	0	0	0	0	0	0	2	62	—	0	0	0	0	0	0	1	12	—	0	0	0	0	0	1	170	—	—	—	—	—	—		
41		4.50	0	0	0	4	13	27	32	1060	3000	2	2	2	2	3	5	20	1100	707	5	5	6	6	11	20	6600	2200	0	0	0	2	11.0		
42	A	1.55	0	0	0	1	1	2	6	1250	2500	0	0	0	0	0	0	13	14	10	0	0	1	1	1	6	1200	880	—	—	—	—	—		
	B	3.56	0	0	0	0	0	8	22	220	190	0	0	0	0	0	0	33	20	20	0	0	6	10	13	19	1200	2100	0	0	0	2	13.5		
43		0.36	0	0	0	0	1	2	2	340	—	0	0	0	0	0	0	1	10	—	0	0	0	0	0	1	4	—	—	—	—	—	—		
44		0.16	0	0	0	0	0	1	1	105	—	0	0	0	0	0	0	1	10.5	—	0	0	1	1	1	1	1400	—	—	—	—	—	—		
45		0.56	0	0	0	0	2	2	3	270	—	0	0	0	0	0	0	3	11	—	0	0	0	0	0	3	120	—	—	—	—	—	—		
46		1.35	0	0	0	0	1	1	3	520	330	0	0	0	0	0	0	2	16	7	0	0	0	0	0	2	230	190	—	—	—	—	—		
47		0.89	0	0	0	0	0	1	4	162	—	0	0	0	0	0	0	4	11	—	0	0	0	0	0	4	120	—	—	—	—	—	—		
48		1.00	2	3	4	4	13	18	27	220000	80	0	0	0	0	0	1	11	51	10	0	0	1	1	3	21	1060	1460	0	0	0	1	4.7		
49		0.21	0	0	0	0	0	0	1	32	—	0	0	0	0	0	0	1	10	—	0	0	0	0	1	1	500	—	—	—	—	—	—		

Notes:
 "0" = No detected sample above concentration level
 "-" = No data, no sample in SMA

¹Subsurface max concentration includes data from all intervals of cores that include a portion of the 0-2 ft interval. For example, a 0-2 ft interval is clearly included, a 1-2ft interval is included, a 0-6 ft interval is also included, and a 2-4ft interval is not included.

Table G-7c Relevant Physical Data for Each SMA

SMA	Evaluation of:		Capping			Enhanced Natural Recovery (ENR) and Monitored Natural Recovery (MNR)									
	Sub SMA	Size (Acres)	What is the authorized navigation or permitted berthing depth? ^a (ft MLLW)	Is the bathymetry deeper than 5 ft below the required depth or below -10 ft MLLW? ^b	Does the SMA have any surface sediment slopes > 20 degrees? ^c	STM-Predicted Net Sedimentation Rate (cm/yr)		BCM-Predicted Chemical Concentration After ENR and 10 Years ^e			Is recovery demonstrated by RI empirical data? ^f	Is recovery predicted by the BCM? ^g	Are the RI data greater than 10 years old?	Do post-RI data (FS data) demonstrate recovery?	Is recovery predicted and has it been demonstrated by FS and/or RI Data?
						minimum	maximum	PCB (µg/kg dw)	As (mg/kg dw)	cPAH (µg TEQ/kg dw)					
1	A	2.56	?	?	No	1.2	1.4	91	11	441	No	No	No	—	No
	B	2.34	?	?	No	0.8	1.4	91	12	287	—	Yes	Yes	—	Yes
2		1.32	-25	No	Yes	0.4	0.8	454	34	308	No	No	No	—	No
3		2.21	-25	No	Yes	0.8	1.0	97	11	316	No	No	No	—	No
4	A	1.36	—	No	No	1.2	1.4	91	11	403	No	No	No	No	No
	B	1.46	—	No	No	1.3	1.4	95	10	315	—	Yes	No	—	—
	C	0.45	—	No	No	1.2	1.3	117	11	434	—	Yes	No	—	—
5		6.23	-40	Yes	Yes	1.2	1.4	168	12	679	No	No	No	Yes	No
6	A	3.77	—	Yes	No	1.1	1.3	210	12	382	No	No	No	Mixed	No
	B	4.71	-30	Yes	No	1.1	1.4	635	16	302	No	No	No	Mixed	No
	C	5.90	-30	No	No	1.3	1.9	138	12	311	—	No	No	No	No
	D	1.28	—	No	No	1.5	2.1	657	12	803	No	No	No	Mixed	No
	E	1.78	—	No	No	1.5	1.9	691	11	263	—	No	No	—	No
7	A	2.31	—	No	No	1.2	1.4	170	11	656	No	No	No	—	No
	B	4.17	—	No	No	0.9	1.5	142	10	233	—	Yes	No	—	—
	C	0.86	—	No	No	1.5	1.5	127	12	291	—	No	No	—	No
	D	2.70	—	No	No	1.4	1.9	78	11	331	No	No	No	—	No
	E	0.77	—	Yes	No	1.4	1.5	66	11	328	—	Yes	Yes	—	—
	F	1.08	—	No	No	1.3	2.1	57	10	190	—	Yes	No	—	—
8	A	1.60	—	No	No	0.8	1.1	131	12	309	—	No	No	—	No
	B	4.06	—	No	No	0.8	1.0	97	12	189	—	Yes	Yes	—	—
	C	2.17	—	No	No	0.8	1.4	122	10	204	—	No	Yes	—	No
9	A	3.57	-30 (in navigation channel)	Yes	Yes	0.0	1.7	239	11	282	No	No	No	—	No
	B	2.27	—	Yes	Yes	0.2	2.0	139	10	205	—	Yes	No	—	—
10	A	2.07	-20	No	No	2.0	2.0	100	61	333	No	No	No	—	No
	B	5.46	-20	No	No	3.7	4.4	109	12	428	No	No	No	—	No
11	A	4.39	-32	No	Yes	1.0	1.8	69	11	225	Yes	No	No	Mixed	No
	B	1.07	-30	No	Yes	1.4	1.8	131	11	290	No	No	No	—	No
	C	2.98	-30	No	No	1.4	2.2	594	11	233	No	No	No	Yes	No
12		0.44	—	Yes	No	2.4	2.4	91	11	327	Yes	No	No	—	No
13		2.73	-30	No	No	1.5	2.3	100	13	223	Yes	Yes	No	—	Yes
14	A	2.74	-25	No	Yes	1.7	2.3	79	64	295	No	No	No	No	No
	B	1.03	-25	No	No	1.9	1.9	63	13	228	Yes	Yes	No	—	Yes
15		2.43	-17	No	Yes	2.0	2.7	85	10	209	No	Yes	No	No	No
16	A	2.64	—	No	No	2.0	2.6	163	16	582	Yes	No	No	—	No
	B	4.29	-40	No	Yes	2.3	2.9	92	12	334	Yes	Yes	No	Yes	Yes
17		2.35	-30 (in navigation channel)	No	No	1.9	2.7	76	11	224	—	Yes	Yes	—	—
18	A	1.73	-32	No	Yes	2.5	2.7	84	11	204	Yes	No	No	—	No
	B	2.35	-32	No	No	2.4	3.0	74	11	210	Yes	Yes	Yes	—	Yes
19		3.12	-17	No	No	2.3	2.6	64	10	192	Yes	Yes	Yes	—	Yes
20		0.80	-14	No	Yes	0.5	3.9	145	12	576	No	No	No	No	No
21		0.93	—	No	No	1.7	5.4	78	10	247	No	Yes	No	—	No
22	A	0.72	—	Yes	No	2.8	3.5	80	10	240	No	Yes	Yes	—	No
	B	0.95	-30	No	No	2.8	3.5	66	10	203	No	Yes	No	—	No
23		1.50	-15	No	No	3.5	4.4	62	10	232	No	No	No	—	No
24		4.19	-18	Yes	No	2.4	4.7	84	10	317	No	No	Yes	Yes	No
25		1.77	-18	No	Yes	1.9	2.1	67	15	227	No	No	No	—	No
26		2.14	—	No	No	1.4	4.1	521	10	202	No	No	No	No	No
27	A	0.72	-13	No	No	1.4	4.6	63	10	209	No	Yes	Yes	—	No
	B	2.99	-10 (along shore)	No	No	1.4	4.6	75	10	209	No	Yes	Yes	—	No
	C	0.62	-10	No	No	2.7	4.2	56	10	219	—	Yes	Yes	—	—
28		1.83	-10	No	No	4.4	6.0	58	10	195	Yes	Yes	Yes	—	Yes
29		0.74	-16	No	No	2.4	6.6	68	10	200	—	Yes	Yes	—	—
30	A	0.68	—	No	No	3.3	6.3	60	10	223	—	Yes	Yes	—	—
	B	2.95	-20	No	No	0.2	5.9	84	11	424	No	No	No	Yes	No
31		4.15	—	No	No	0.1	6.8	167	11	515	No	No	No	—	No

Table G-7c Relevant Physical Data for Each SMA

Evaluation of:		Capping				Enhanced Natural Recovery (ENR) and Monitored Natural Recovery (MNR)									
SMA	Sub SMA	Size (Acres)	What is the authorized navigation or permitted berthing depth? ^a (ft MLLW)	Is the bathymetry deeper than 5 ft below the required depth or below -10 ft MLLW? ^b	Does the SMA have any surface sediment slopes > 20 degrees? ^c	STM-Predicted Net Sedimentation Rate (cm/yr)		BCM-Predicted Chemical Concentration After ENR and 10 Years ^e			Is recovery demonstrated by RI empirical data? ^f	Is recovery predicted by the BCM? ^g	Are the RI data greater than 10 years old?	Do post-RI data (FS data) demonstrate recovery?	Is recovery predicted and has it been demonstrated by FS and/or RI Data?
						minimum	maximum	PCB (µg/kg dw)	As (mg/kg dw)	cPAH (µg TEQ/kg dw)					
	32	4.35	-18	No	No	0.0	6.0	144	11	232	—	No	Yes	No	No
	33	3.67	-15	No	No	0.7	6.0	482	11	589	Yes	Yes	Yes	—	Yes
	34	0.29	—	No	No	0.1	0.1	66	10	121	—	No	Yes	—	No
35	A	0.27	—	No	No	0.0	0.0	66	10	188	No	No	No	—	No
	B	0.57	—	Yes	No	0.0	1.5	236	10	182	—	No	Yes	—	No
	C	0.59	—	Yes	No	0.0	1.5	121	11	185	—	No	Yes	—	No
	D	0.71	—	No	No	1.9	5.8	60	10	188	Yes	Yes	No	—	Yes
	36	0.67	-15	No	No	0.8	1.8	110	10	190	—	Yes	Yes	—	—
37	A	0.68	-8	No	No	5.7	10.9	104	10	184	Yes	Yes	No	—	Yes
	B	0.59	—	No	No	0.1	0.7	238	11	191	Yes	No	No	—	No
	38	0.93	-15	No	No	-0.3	2.1	1154	10	233	No	No	No	Yes	No
	39	0.60	—	No	No	0.1	1.3	143	11	189	—	Yes	Yes	—	—
	40	0.43	—	Yes	No	0.8	3.4	58	10	200	—	Yes	Yes	—	—
	41	4.50	—	Yes	No	0.1	5.3	299	329	1134	No	No	No	No	No
42	A	1.55	—	No	No	2.6	13.1	67	10	224	Yes	Yes	No	—	Yes
	B	3.56	-18	No	Yes	2.2	6.4	114	11	503	No	No	No	—	No
	43	0.36	—	No	No	6.3	10.2	317	11	1323	Yes	No	Yes	—	No
	44	0.16	—	No	No	0.0	11.0	53	10	194	—	Yes	Yes	—	—
	45	0.56	—	No	No	13.7	32.3	55	10	175	—	Yes	Yes	—	—
	46	1.35	—	No	No	27.7	145.0	51	10	174	No	Yes	No	—	No
	47	0.89	—	No	No	37.0	55.4	n/a	n/a	n/a	—	Yes	Yes	—	—
	48	1.00	—	Yes	No	—	—	Upstream of BCM			No	Upstream of BCM	No	—	No
	49	0.21	—	No	No	—	—	Upstream of BCM			—		Yes	—	—
Duwamish/Diagonal ENR Area		4.39	-30	small area of <-30 on east side nav channel	No	1	2	N/A. BCM uses pre-remedy data			N/A. RI data are pre-remedy	N/A. BCM uses pre-remedy data	No	Yes	—
Duwamish/Diagonal Dredge Area		6.67	—	—	No	1	4	Upstream of BCM			post-cap RI data show recovery	Upstream of BCM	No	Mixed	—
Norfolk CSO		0.63	—	—	No	—	—	Upstream of BCM			N/A. RI data are pre-remedy	Upstream of BCM	No	Newest data are RI data	—
Boeing South Storm Drain		0.06	—	—	No	—	—	Upstream of BCM			N/A. RI data are pre-remedy	Upstream of BCM	No	Yes	—

Notes:
^a Depth is based on permitted berthing area depth or authorized navigation channel depth, which ever is deeper. The navigation channel is maintained at: -30 ft MLLW from RM 0 to 2.1, -20 ft MLLW from RM 2.1 to 2.9, and -15 ft MLLW from RM 2.9 to 4.

^b Capping is possible where: 1) the bathymetry is 5 feet deeper than the permitted berthing depth or authorized navigation channel depth to ensure the cap is not removed at a future time, or 2) the bathymetry is less than -10 ft MLLW to ensure that habitat area is not reduced in the process of capping. This data is based on the 2003 bathymetric survey.

^c Based on slope stability calculations, the maximum bed angle that can support a sand cap is 20 degrees. Areas of greater than 20 degrees were identified on GIS. All SMAs with any slope greater than 20 degrees were identified.

^d Underwater utilities are shown in FS Section 2.

^e This calculation begins with the interpolated surface sediment concentration in 10ft x 10ft grid cells. It assumes that the post-ENR bed concentration will equal the average of the initial bed concentration and a bed replacement concentration (PCB = 75 µg/kg dw, As = 13 mg/kg dw, and cPAH 170 µg TEQ/kg dw). Next, the year 10 concentration is calculated using the bed composition model (BCM), which predicts the percentage of bed sediment from upstream sediment, lateral sediment, and the pre-existing bed sediment for each grid cell in 10 years time (see Section 5). The recommended (mid) chemical concentrations are used for upstream and lateral sediment concentration, and the interpolated surface sediment concentration is used for the existing bed sediment concentration. A weighted average of these concentrations (weighted with the BCM percentages) predicts the year 10 concentration. Finally, the grid cell with the highest year 10 concentration is reported for each SMA.

^f Empirical data include resampled surface sediment stations and chemical trends with depth in cores.

^g Year 10 predicted recovery is based on a similar calculation to footnote 5 above, but without the initial ENR adjustment to Year 0 data.

- No data or not applicable.

? - permitted berthing depth information not available or not published.

Table G-8: Alternative 2 – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas									Containment Material Volume (CY)				Monitoring Area	
			Above -10 ft MLLW				Below -10 ft MLLW				Total	Isolation Capping Sand		ENR Sand		MNR	Verification Monitor
			Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
1	4.9	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	2.6	2.3
2	1.3	0.2	0.2	2,244	—	2,244	0.9	11,174	—	1,602	13,418	0.0	1,374	—	—	0.0	0.0
3	2.2	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	2.2	0.0
4	3.3	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	2.8	0.5
5	6.2	1.1	0.0	0	—	0	5.1	68,281	—	7,540	68,281	0.0	6,258	—	—	0.0	0.0
6	17.4	0.6	0.2	860	—	860	0.6	6,920	—	1,545	7,781	0.0	3,145	—	—	16.2	0.0
7	11.9	0.0	2.3	13,056	—	13,056	0.0	0	—	2,798	13,056	0.0	0	—	—	7.7	1.8
8	7.8	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	1.6	6.2
9	5.8	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	3.6	2.3
10	7.5	0.3	0.4	8,569	—	8,569	1.5	30,981	—	2,509	39,549	0.0	1,496	—	—	5.5	0.0
11	8.4	0.0	0.0	0	—	0	3.0	48,752	—	3,603	48,752	0.0	0	—	—	5.5	0.0
12	0.4	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.4	0.0
13	2.7	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	2.7	0.0
14	3.8	0.2	0.3	6,020	—	6,020	2.2	40,912	—	3,313	46,931	0.0	1,216	—	—	1.0	0.0
15	2.4	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	2.4	0.0
16	6.9	0.8	3.0	18,036	—	18,036	0.6	3,935	—	5,191	21,971	0.0	4,309	—	—	2.6	0.0
17	2.4	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	2.4	0.0
18	4.1	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	1.7	2.3
19	3.1	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	3.1	0.0
20	0.8	0.1	0.3	2,371	—	2,371	0.4	2,833	—	974	5,205	0.0	705	—	—	0.0	0.0
21	0.9	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.9	0.0
22	1.7	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	1.7	0.0
23	1.5	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	1.5	0.0
24	4.2	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	4.2	0.0
25	1.8	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	1.8	0.0
26	2.1	0.0	1.5	11,539	—	11,539	0.6	3,861	—	2,591	15,400	0.0	0	—	—	0.0	0.0
27	4.3	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.7	3.6
28	1.8	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	1.8
29	0.7	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.7
30	3.6	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	3.6	0.0
31	4.2	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	4.2	0.0
32	4.4	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	4.4	0.0
33	3.7	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	3.7	0.0
34	0.3	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.3
35	2.1	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.8	1.3
36	0.7	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.7
37	1.3	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.6	0.7
38	0.9	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.9	0.0
39	0.6	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.6
40	0.4	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.4
41	4.5	0.0	3.9	39,085	—	39,085	0.6	4,751	—	5,446	43,836	0.0	0	—	—	0.0	0.0
42	5.1	0.1	1.9	10,991	—	10,991	1.6	9,042	—	4,304	20,033	0.0	304	—	—	1.5	0.0
43	0.4	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.4
44	0.2	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.2
45	0.6	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.6
46	1.4	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	1.4	0.0
47	0.9	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.9
48	1.0	0.0	1.0	4,022	—	4,022	0.0	0	—	1,208	4,022	0.0	0	—	—	0.0	0.0
49	0.2	0.0	0.0	0	—	0	0.0	0	—	0	0	0.0	0	—	—	0.0	0.2
Total	193	3	15	116,793	—	116,793	17	231,442	—	42,622	348,236	0	18,806	—	—	96	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.
 CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-9: Alternative 3A – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Actively Managed Area	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas									Containment Material Volume (CY)				Monitoring Area		
				Above -10 ft MLLW				Below -10 ft MLLW				Total	Isolation Capping Sand			ENR Sand		MNR	Verification Monitor
				Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area Above -10 ft MLLW (Acres)	Area Below 10 ft MLLW (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)
EAA	34	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
1	4.9	0.7	0.0	0.2	1,732	0.0	1,732	0.5	5,817	0.0	833	7,549	0.0	0.0	0	0.0	0	0.0	2.3
2	1.3	0.7	0.2	0.0	0	0.0	0	0.6	7,320	0.0	669	7,320	0.0	0.0	856	0.0	0	0.0	0.0
3	2.2	2.2	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	2.2	0.0
4	3.3	0.4	0.0	0.4	2,565	0.0	2,565	0.0	0	0.0	431	2,565	0.0	0.0	0	0.0	0	1.5	0.5
5	6.2	4.1	1.1	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	3.0	22,996	0.0	0	0.0	0.0
6	17.4	6.0	0.3	0.1	551	0.0	551	0.5	6,238	0.0	714	6,789	0.0	0.0	1,672	0.0	0	16.2	0.0
7	11.9	2.9	0.0	2.6	17,265	0.0	17,265	0.2	2,145	0.0	3,461	19,410	0.0	0.0	194	0.0	0	4.2	1.8
8	7.8	1.0	0.0	0.0	233	0.0	233	0.0	0	0.0	50	233	0.0	0.0	0	0.0	0	0.0	6.2
9	5.8	0.4	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.1	0.3	2,294	0.0	0	0.0	2.3
10	7.5	6.3	0.3	0.3	11,449	0.3	11,449	1.5	65,550	3.9	2,172	76,998	0.0	0.0	25,472	0.0	0	0.0	0.0
11	8.4	8.2	0.0	0.0	1,548	0.2	1,548	2.7	52,617	0.9	3,300	54,166	0.0	0.0	6,041	0.0	0	4.4	0.0
12	0.4	0.4	0.0	0.3	2,659	0.0	2,659	0.1	790	0.0	542	3,449	0.0	0.0	0	0.0	0	0.0	0.0
13	2.7	1.3	0.0	0.0	0	0.0	0	1.3	20,290	0.0	1,631	20,290	0.0	0.0	0	0.0	0	0.0	0.0
14	3.8	2.3	0.2	0.3	6,047	0.0	6,047	1.8	34,721	0.0	2,636	40,768	0.0	0.0	946	0.0	0	1.0	0.0
15	2.4	0.5	0.0	0.3	2,354	0.0	2,354	0.2	2,197	0.0	583	4,551	0.0	0.0	0	0.0	0	0.0	0.0
16	6.9	5.8	0.7	2.9	17,366	0.0	17,366	0.5	3,460	0.0	4,033	20,826	0.0	0.0	3,720	0.0	0	2.6	0.0
17	2.4	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	2.4	0.0
18	4.1	0.2	0.1	0.1	518	0.0	518	0.0	0	0.0	100	518	0.0	0.0	596	0.0	0	0.0	2.3
19	3.1	3.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	3.1	0.0
20	0.8	0.5	0.0	0.2	1,228	0.0	1,228	0.3	2,535	0.0	586	3,763	0.0	0.0	156	0.0	0	0.0	0.0
21	0.9	0.4	0.2	0.0	896	0.1	896	0.0	1,019	0.1	0	1,915	0.0	0.0	2,307	0.0	0	0.0	0.0
22	1.7	0.2	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	1.7	0.0
23	1.5	0.6	0.0	0.4	4,064	0.0	4,064	0.2	1,903	0.0	661	5,967	0.0	0.0	130	0.0	0	0.0	0.0
24	4.2	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	4.2	0.0
25	1.8	0.9	0.2	0.4	3,286	0.0	3,286	0.3	4,206	0.0	781	7,492	0.0	0.0	1,244	0.0	0	0.0	0.0
26	2.1	1.4	0.0	1.2	9,284	0.0	9,284	0.2	969	0.0	1,642	10,253	0.0	0.0	0	0.0	0	0.0	0.0
27	4.3	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.7	3.6
28	1.8	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	1.8
29	0.7	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.7
30	3.6	2.4	1.0	1.0	7,320	0.0	7,320	0.4	3,283	0.0	1,700	10,604	0.0	0.0	5,691	0.0	0	0.0	0.0
31	4.2	1.4	0.0	1.3	13,405	0.0	13,405	0.1	602	0.0	1,700	14,008	0.0	0.0	0	0.0	0	0.0	0.0
32	4.4	0.5	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	4.4	0.0
33	3.7	1.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	3.7	0.0
34	0.3	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.3
35	2.1	0.4	0.0	0.1	584	0.0	584	0.0	0	0.0	75	584	0.0	0.0	0	0.0	0	0.6	1.3
36	0.7	0.4	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.7
37	1.3	0.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.6	0.7
38	0.9	0.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.9	0.0
39	0.6	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.6
40	0.4	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.4
41	4.5	1.7	0.0	1.3	16,735	0.0	16,735	0.4	3,132	0.0	2,056	19,867	0.0	0.0	0	0.0	0	0.0	0.0
42	5.1	1.7	0.0	1.3	7,535	0.0	7,535	0.4	2,209	0.0	2,086	9,744	0.0	0.0	0	0.0	0	0.0	0.0
43	0.4	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.4
44	0.2	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.2
45	0.6	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.6
46	1.4	0.9	0.0	0.9	6,281	0.0	6,281	0.0	0	0.0	1,078	6,281	0.0	0.0	0	0.0	0	0.0	0.0
47	0.9	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.9
48	1.0	0.2	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.2	0.0	1,348	0.0	0	0.0	0.0
49	0.2	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.2
Total	193	63	4	16	134,906	0.6	134,906	12	221,004	4.9	33,519	355,910	0	3	75,665	0	0	54	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.
 CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-13: Alternative 4A – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Under Pier and Other Overwater Structures Area (Acres)	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas							Containment Material Volume (CY)				Monitoring Area	
			Above -10 ft MLLW			Below -10 ft MLLW			Total	Isolation Capping Sand		ENR Sand		MNR	Verification Monitor
			Dredge Area (Acres)	Dredge Volume (CY)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)	Area (Acres)
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	
1	4.9	0.2	0.4	3,677	3,677	2.0	21,188	2,433	24,865	0.0	1,085	—	—	0.0	2.3
2	1.3	0.2	0.2	2,244	2,244	0.9	11,174	1,057	13,418	0.0	1,374	—	—	0.0	0.0
3	2.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	2.2	0.0
4	3.3	0.0	1.0	7,220	7,220	0.5	3,699	559	10,919	0.0	0	—	—	1.5	0.5
5	6.2	1.1	0.0	0	0	5.1	68,281	6,199	68,281	0.0	6,258	—	—	0.0	0.0
6	17.4	0.6	0.2	860	860	0.6	6,920	685	7,781	0.0	3,145	—	—	16.2	0.0
7	11.9	0.0	5.4	37,923	37,923	0.4	3,750	457	41,673	0.0	259	—	—	4.2	1.8
8	7.8	0.0	1.6	8,918	8,918	0.0	0	0	8,918	0.0	0	—	—	0.0	6.2
9	5.8	0.0	0.4	2,433	2,433	3.2	56,252	3,868	58,685	0.0	0	—	—	0.0	2.3
10	7.5	0.6	0.7	11,976	11,976	6.3	112,898	7,606	124,874	0.0	3,143	—	—	0.0	0.0
11	8.4	0.0	0.2	3,068	3,068	3.9	66,776	4,681	69,844	0.0	0	—	—	4.4	0.0
12	0.4	0.0	0.3	2,646	2,646	0.1	784	120	3,430	0.0	0	—	—	0.0	0.0
13	2.7	0.0	0.0	0	0	2.7	38,001	3,307	38,001	0.0	0	—	—	0.0	0.0
14	3.8	0.2	0.3	6,020	6,020	2.2	40,912	2,655	46,931	0.0	1,216	—	—	1.0	0.0
15	2.4	0.0	0.8	7,133	7,133	1.6	17,288	1,994	24,422	0.0	0	—	—	0.0	0.0
16	6.9	0.8	3.0	18,036	18,036	0.6	3,935	669	21,971	0.0	4,309	—	—	2.6	0.0
17	2.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	2.4	0.0
18	4.1	0.7	0.7	5,149	5,149	0.3	2,091	391	7,240	0.0	3,747	—	—	0.0	2.3
19	3.1	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	3.1	0.0
20	0.8	0.1	0.3	2,371	2,371	0.4	2,833	453	5,205	0.0	705	—	—	0.0	0.0
21	0.9	0.4	0.1	1,010	1,010	0.4	3,331	439	4,342	0.0	2,411	—	—	0.0	0.0
22	1.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	1.7	0.0
23	1.5	0.1	0.9	8,671	8,671	0.5	5,983	649	14,654	0.0	664	—	—	0.0	0.0
24	4.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	4.2	0.0
25	1.8	0.4	0.5	4,416	4,416	0.9	12,351	1,111	16,767	0.0	2,528	—	—	0.0	0.0
26	2.1	0.0	1.5	11,539	11,539	0.6	3,861	737	15,400	0.0	0	—	—	0.0	0.0
27	4.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.7	3.6
28	1.8	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	1.8
29	0.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.7
30	3.6	1.1	1.5	10,558	10,558	1.0	8,575	1,268	19,133	0.0	6,198	—	—	0.0	0.0
31	4.2	0.0	3.3	32,262	32,262	0.9	8,165	1,047	40,427	0.0	0	—	—	0.0	0.0
32	4.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	4.4	0.0
33	3.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	3.7	0.0
34	0.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.3
35	2.1	0.0	0.3	2,501	2,501	0.0	0	0	2,501	0.0	0	—	—	0.6	1.3
36	0.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.7
37	1.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.6	0.7
38	0.9	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.9	0.0
39	0.6	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.6
40	0.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.4
41	4.5	0.0	3.9	39,085	39,085	0.6	4,751	720	43,836	0.0	0	—	—	0.0	0.0
42	5.1	0.1	3.5	19,696	19,696	1.6	9,042	1,971	28,739	0.0	304	—	—	0.0	0.0
43	0.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.4
44	0.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.2
45	0.6	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.6
46	1.4	0.0	1.4	9,289	9,289	0.0	0	0	9,289	0.0	0	—	—	0.0	0.0
47	0.9	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.9
48	1.0	0.0	1.0	4,022	4,022	0.0	0	0	4,022	0.0	0	—	—	0.0	0.0
49	0.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.2
Total	193	7	33	262,727	262,727	37	512,840	45,077	775,567	0	37,345	0	0	54	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft over dredge allowance.

CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-10: Alternative 3B – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Actively Managed Area	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas									Containment Material Volume (CY)					Monitoring Area	
				Above -10 ft MLLW				Below -10 ft MLLW				Total	Isolation Capping Sand			ENR Sand		MNR	Verification Monitor
				Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area Above -10 ft MLLW (Acres)	Area Below -10 ft MLLW (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	4.9	0.7	0.0	0.2	1,732	0.0	1,732	0.5	5,817	0.0	833	7,549	0.0	0.0	0	0.0	0	0.0	2.3
2	1.3	0.9	0.2	0.1	1,255	0.0	1,255	0.7	9,104	0.0	906	10,359	0.0	0.0	894	0.0	0	0.0	0.0
3	2.2	2.2	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	2.2	0.0
4	3.3	0.4	0.0	0.4	2,565	0.0	2,565	0.0	0	0.0	431	2,565	0.0	0.0	0	0.0	0	1.5	0.5
5	6.2	4.3	1.1	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	3.2	24,163	0.0	0	0.0	0.0
6	17.4	11.4	0.5	0.1	739	0.0	739	0.5	6,606	0.0	803	7,345	0.0	0.0	2,593	10.6	12,837	5.5	0.0
7	11.9	4.2	0.0	3.5	25,590	0.0	25,590	0.2	2,145	0.0	4,450	27,735	0.0	0.0	194	0.0	0	4.2	1.8
8	7.8	2.9	0.0	0.7	3,928	0.0	3,928	0.0	0	0.0	842	3,928	0.0	0.0	0	0.0	0	0.0	6.2
9	5.8	3.5	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.3	1.7	11,019	0.0	0	0.0	2.3
10	7.5	6.3	0.3	0.3	11,469	0.3	11,469	1.5	65,550	3.9	2,172	77,019	0.0	0.0	25,641	0.0	0	0.0	0.0
11	8.4	8.2	0.0	0.0	1,548	0.2	1,548	2.8	53,914	0.9	3,400	55,462	0.0	0.0	6,041	0.0	0	4.4	0.0
12	0.4	0.4	0.0	0.3	2,659	0.0	2,659	0.1	790	0.0	542	3,449	0.0	0.0	0	0.0	0	0.0	0.0
13	2.7	1.3	0.0	0.0	0	0.0	0	1.3	20,290	0.0	1,631	20,290	0.0	0.0	0	0.0	0	0.0	0.0
14	3.8	2.4	0.2	0.3	6,047	0.0	6,047	1.9	35,393	0.0	2,683	41,439	0.0	0.0	972	0.0	0	1.0	0.0
15	2.4	0.5	0.0	0.3	2,354	0.0	2,354	0.2	2,197	0.0	583	4,551	0.0	0.0	0	0.0	0	0.0	0.0
16	6.9	5.8	0.7	2.9	17,366	0.0	17,366	0.5	3,460	0.0	4,033	20,826	0.0	0.0	3,720	0.0	0	2.6	0.0
17	2.4	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	2.4	0.0
18	4.1	0.5	0.1	0.1	1,029	0.0	1,029	0.0	403	0.0	217	1,432	0.0	0.0	596	0.0	0	0.0	2.3
19	3.1	3.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	3.1	0.0
20	0.8	0.5	0.0	0.2	1,228	0.0	1,228	0.3	2,535	0.0	586	3,763	0.0	0.0	156	0.0	0	0.0	0.0
21	0.9	0.4	0.2	0.0	896	0.1	896	0.0	1,019	0.1	0	1,915	0.0	0.0	2,307	0.0	0	0.0	0.0
22	1.7	0.2	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	1.7	0.0
23	1.5	0.7	0.0	0.4	4,064	0.0	4,064	0.2	1,903	0.0	661	5,967	0.0	0.0	130	0.0	0	0.0	0.0
24	4.2	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	4.2	0.0
25	1.8	0.9	0.2	0.4	3,286	0.0	3,286	0.3	4,206	0.0	781	7,492	0.0	0.0	1,244	0.0	0	0.0	0.0
26	2.1	1.4	0.0	1.2	9,452	0.0	9,452	0.2	1,195	0.0	1,717	10,647	0.0	0.0	0	0.0	0	0.0	0.0
27	4.3	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.7	3.6
28	1.8	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	1.8
29	0.7	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.7
30	3.6	2.4	1.0	1.0	7,320	0.0	7,320	0.4	3,283	0.0	1,700	10,604	0.0	0.0	5,691	0.0	0	0.0	0.0
31	4.2	2.0	0.0	1.9	19,115	0.0	19,115	0.1	738	0.0	2,442	19,854	0.0	0.0	0	0.0	0	0.0	0.0
32	4.4	1.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	4.4	0.0
33	3.7	1.5	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	3.7	0.0
34	0.3	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.3
35	2.1	1.2	0.0	0.1	584	0.0	584	0.0	0	0.0	75	584	0.0	0.0	0	0.0	0	0.6	1.3
36	0.7	0.4	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.7
37	1.3	0.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.6	0.7
38	0.9	0.7	0.0	0.0	0	0.0	0	0.0	6,274	0.7	0	6,274	0.0	0.0	3,993	0.0	0	0.0	0.0
39	0.6	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.6
40	0.4	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.4
41	4.5	2.3	0.0	1.9	24,437	0.0	24,437	0.4	3,712	0.0	2,761	28,149	0.0	0.0	0	0.0	0	0.0	0.0
42	5.1	1.9	0.0	1.4	7,755	0.0	7,755	0.5	3,034	0.0	2,308	10,790	0.0	0.0	13	0.0	0	0.0	0.0
43	0.4	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.4
44	0.2	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.2
45	0.6	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.6
46	1.4	0.9	0.0	0.9	6,281	0.0	6,281	0.0	0	0.0	1,078	6,281	0.0	0.0	0	0.0	0	0.0	0.0
47	0.9	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.9
48	1.0	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.3	0.0	1,672	0.0	0	0.0	0.0
49	0.2	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.2
Total	193	80	4	18	162,701	1	162,701	13	233,568	6	37,633	396,269	1	5	91,039	11	12,837	43	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.
 CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-14: Alternative 4B – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas							Containment Material Volume (CY)				Monitoring Area	
			Above -10 ft MLLW			Below -10 ft MLLW			Total	Isolation Capping Sand		ENR Sand		MNR	Verification Monitor
			Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	4.9	0.2	0.4	3,677	3,677	2.0	21,188	2,433	24,865	0.0	1,085	—	—	0.0	2.3
2	1.3	0.2	0.2	2,244	2,244	0.9	11,174	1,057	13,418	0.0	1,374	—	—	0.0	0.0
3	2.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	2.2	0.0
4	3.3	0.0	1.0	7,220	7,220	0.5	3,699	559	10,919	0.0	0	—	—	1.5	0.5
5	6.2	1.1	0.0	0	0	5.1	68,281	6,199	68,281	0.0	6,258	—	—	0.0	0.0
6	17.4	0.6	0.2	860	860	11.2	152,031	13,527	152,891	0.0	3,145	—	—	5.5	0.0
7	11.9	0.0	5.4	37,923	37,923	0.4	3,750	457	41,673	0.0	259	—	—	4.2	1.8
8	7.8	0.0	1.6	8,918	8,918	0.0	0	0	8,918	0.0	0	—	—	0.0	6.2
9	5.8	0.0	0.4	2,433	2,433	3.2	56,252	3,868	58,685	0.0	0	—	—	0.0	2.3
10	7.5	0.6	0.7	11,976	11,976	6.3	112,898	7,606	124,874	0.0	3,143	—	—	0.0	0.0
11	8.4	0.0	0.2	3,068	3,068	3.9	66,776	4,681	69,844	0.0	0	—	—	4.4	0.0
12	0.4	0.0	0.3	2,646	2,646	0.1	784	120	3,430	0.0	0	—	—	0.0	0.0
13	2.7	0.0	0.0	0	0	2.7	38,001	3,307	38,001	0.0	0	—	—	0.0	0.0
14	3.8	0.2	0.3	6,020	6,020	2.2	40,912	2,655	46,931	0.0	1,216	—	—	1.0	0.0
15	2.4	0.0	0.8	7,133	7,133	1.6	17,288	1,994	24,422	0.0	0	—	—	0.0	0.0
16	6.9	0.8	3.0	18,036	18,036	0.6	3,935	669	21,971	0.0	4,309	—	—	2.6	0.0
17	2.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	2.4	0.0
18	4.1	0.7	0.7	5,149	5,149	0.3	2,091	391	7,240	0.0	3,747	—	—	0.0	2.3
19	3.1	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	3.1	0.0
20	0.8	0.1	0.3	2,371	2,371	0.4	2,833	453	5,205	0.0	705	—	—	0.0	0.0
21	0.9	0.4	0.1	1,010	1,010	0.4	3,331	439	4,342	0.0	2,411	—	—	0.0	0.0
22	1.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	1.7	0.0
23	1.5	0.1	0.9	8,671	8,671	0.5	5,983	649	14,654	0.0	664	—	—	0.0	0.0
24	4.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	4.2	0.0
25	1.8	0.4	0.5	4,416	4,416	0.9	12,351	1,111	16,767	0.0	2,528	—	—	0.0	0.0
26	2.1	0.0	1.5	11,539	11,539	0.6	3,861	737	15,400	0.0	0	—	—	0.0	0.0
27	4.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.7	3.6
28	1.8	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	1.8
29	0.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.7
30	3.6	1.1	1.5	10,558	10,558	1.0	8,575	1,268	19,133	0.0	6,198	—	—	0.0	0.0
31	4.2	0.0	3.3	32,262	32,262	0.9	8,165	1,047	40,427	0.0	0	—	—	0.0	0.0
32	4.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	4.4	0.0
33	3.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	3.7	0.0
34	0.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.3
35	2.1	0.0	0.3	2,501	2,501	0.0	0	0	2,501	0.0	0	—	—	0.6	1.3
36	0.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.7
37	1.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.6	0.7
38	0.9	0.0	0.0	0	0	0.9	8,525	1,122	8,525	0.0	0	—	—	0.0	0.0
39	0.6	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.6
40	0.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.4
41	4.5	0.0	3.9	39,085	39,085	0.6	4,751	720	43,836	0.0	0	—	—	0.0	0.0
42	5.1	0.1	3.5	19,696	19,696	1.6	9,042	1,971	28,739	0.0	304	—	—	0.0	0.0
43	0.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.4
44	0.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.2
45	0.6	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.6
46	1.4	0.0	1.4	9,289	9,289	0.0	0	0	9,289	0.0	0	—	—	0.0	0.0
47	0.9	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.9
48	1.0	0.0	1.0	4,022	4,022	0.0	0	0	4,022	0.0	0	—	—	0.0	0.0
49	0.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.2
Total	193	7	33	262,727	262,727	49	666,476	59,040	929,203	0	37,345	—	—	43	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.
CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-11: Alternative 3C – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Actively Managed Area	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas									Containment Material Volume (CY)					Monitoring Area	
				Above -10 ft MLLW				Below -10 ft MLLW				Total	Isolation Capping Sand			ENR Sand		MNR	Verification Monitor
				Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area Above -10 ft MLLW (Acres)	Area Below -10 ft MLLW (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	4.9	1.5	0.2	0.2	2,422	0.0	2,422	1.0	10,987	0.0	1,539	13,408	0.0	0.0	1,063	0.0	0	0.0	2.3
2	1.3	1.2	0.2	0.2	1,892	0.0	1,892	0.8	9,818	0.0	1,169	11,711	0.0	0.0	1,270	0.0	0	0.0	0.0
3	2.2	2.2	0.2	0.3	2,894	0.0	2,894	1.7	17,317	0.0	2,378	20,211	0.0	0.0	1,322	0.0	0	0.0	0.0
4	3.3	1.1	0.0	0.7	4,963	0.0	4,963	0.4	3,349	0.0	1,342	8,312	0.0	0.0	0	0.0	0	1.5	0.5
5	6.2	4.3	1.1	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	3.2	24,163	0.0	0	0.0	0.0
6	17.4	12.7	0.5	0.1	766	0.0	766	0.5	6,606	0.0	808	7,373	0.6	1.8	15,983	10.6	12,837	1.8	0.0
7	11.9	4.3	0.0	3.6	26,109	0.0	26,109	0.2	2,145	0.0	4,561	28,254	0.0	0.0	194	4.2	5,045	0.0	1.8
8	7.8	3.6	0.0	1.4	7,972	0.0	7,972	0.0	0	0.0	1,708	7,972	0.0	0.0	0	0.0	0	0.0	6.2
9	5.8	3.5	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.3	1.7	11,019	0.0	0	0.0	2.3
10	7.5	6.5	0.3	0.3	11,469	0.3	11,469	1.5	66,629	4.0	2,172	78,098	0.0	0.0	26,341	0.0	0	0.0	0.0
11	8.4	8.2	0.0	0.0	1,548	0.2	1,548	2.8	53,914	0.9	3,400	55,462	0.0	0.0	6,041	0.0	0	4.4	0.0
12	0.4	0.4	0.0	0.3	2,659	0.0	2,659	0.1	790	0.0	542	3,449	0.0	0.0	0	0.0	0	0.0	0.0
13	2.7	1.3	0.0	0.0	0	0.0	0	1.3	20,290	0.0	1,631	20,290	0.0	0.0	0	0.0	0	0.0	0.0
14	3.8	2.6	0.2	0.3	6,047	0.0	6,047	2.1	38,969	0.0	2,906	45,016	0.0	0.0	1,089	0.0	0	1.0	0.0
15	2.4	0.5	0.0	0.3	2,354	0.0	2,354	0.2	2,197	0.0	583	4,551	0.0	0.0	0	0.0	0	0.0	0.0
16	6.9	6.9	0.8	3.0	18,040	0.0	18,040	0.6	3,927	0.0	4,278	21,967	0.0	0.0	4,265	0.0	0	2.6	0.0
17	2.4	0.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	2.4	0.0
18	4.1	0.5	0.1	0.1	1,029	0.0	1,029	0.0	403	0.0	217	1,432	0.0	0.0	596	0.0	0	0.0	2.3
19	3.1	3.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	3.1	0.0
20	0.8	0.5	0.0	0.2	1,228	0.0	1,228	0.3	2,535	0.0	586	3,763	0.0	0.0	156	0.0	0	0.0	0.0
21	0.9	0.4	0.2	0.0	896	0.1	896	0.0	1,019	0.1	0	1,915	0.0	0.0	2,307	0.0	0	0.0	0.0
22	1.7	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.1	0.2	1,854	0.0	0	0.9	0.0
23	1.5	0.8	0.0	0.4	4,064	0.0	4,064	0.3	3,234	0.0	803	7,298	0.0	0.0	130	0.0	0	0.0	0.0
24	4.2	1.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	4.2	5,069	0.0	0.0
25	1.8	0.9	0.2	0.4	3,286	0.0	3,286	0.3	4,206	0.0	781	7,492	0.0	0.0	1,244	0.0	0	0.0	0.0
26	2.1	1.5	0.0	1.2	9,620	0.0	9,620	0.2	1,328	0.0	1,772	10,948	0.0	0.0	0	0.0	0	0.0	0.0
27	4.3	2.3	0.0	0.0	6,294	0.7	6,294	0.0	0	0.0	0	6,294	0.0	0.0	4,006	0.0	0	0.0	3.6
28	1.8	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	1.8
29	0.7	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.7
30	3.6	2.9	1.0	1.2	8,874	0.0	8,874	0.6	5,630	0.0	2,258	14,503	0.0	0.0	5,691	0.0	0	0.0	0.0
31	4.2	2.1	0.0	2.0	19,619	0.0	19,619	0.1	944	0.0	2,525	20,563	0.0	0.0	0	0.0	0	0.0	0.0
32	4.4	1.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	4.4	0.0
33	3.7	1.6	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	3.7	0.0
34	0.3	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.3
35	2.1	1.2	0.0	0.1	584	0.0	584	0.0	0	0.0	75	584	0.4	0.1	3,163	0.0	0	0.0	1.3
36	0.7	0.4	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.7
37	1.3	0.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.6	0.7
38	0.9	0.7	0.0	0.0	0	0.0	0	0.0	6,335	0.7	0	6,335	0.0	0.0	4,031	0.0	0	0.0	0.0
39	0.6	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.6
40	0.4	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.4
41	4.5	2.6	0.0	2.2	27,255	0.0	27,255	0.4	3,936	0.0	3,192	31,191	0.0	0.0	0	0.0	0	0.0	0.0
42	5.1	2.5	0.0	1.7	10,030	0.0	10,030	0.7	3,992	0.0	2,956	14,021	0.0	0.0	169	0.0	0	0.0	0.0
43	0.4	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.4
44	0.2	0.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.2
45	0.6	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.6
46	1.4	0.9	0.0	0.9	6,281	0.0	6,281	0.0	0	0.0	1,078	6,281	0.0	0.0	0	0.0	0	0.0	0.0
47	0.9	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.9
48	1.0	0.4	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.4	0.0	2,346	0.0	0	0.0	0.0
49	0.2	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.2
Total	193	91	5	21	188,196	1	188,196	16	270,499	6	45,258	458,695	2	7	118,443	19	22,951	26	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.
 CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-15: Alternative 4C – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas							Containment Material Volume (CY)				Monitoring Area	
			Above -10 ft MLLW			Below -10 ft MLLW			Total	Isolation Capping Sand		ENR Sand		MNR	Verification Monitor
			Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)		Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area (Acres)	Volume (CY)		
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	4.9	0.2	0.4	3,677	3,677	2.0	21,188	2,433	24,865	0.0	1,085	—	—	0.0	2.3
2	1.3	0.2	0.2	2,244	2,244	0.9	11,174	1,057	13,418	0.0	1,374	—	—	0.0	0.0
3	2.2	0.2	0.3	2,903	2,903	1.7	17,312	2,013	20,215	0.0	1,349	—	—	0.0	0.0
4	3.3	0.0	1.0	7,220	7,220	0.5	3,699	559	10,919	0.0	0	—	—	1.5	0.5
5	6.2	1.1	0.0	0	0	5.1	68,281	6,199	68,281	0.0	6,258	—	—	0.0	0.0
6	17.4	0.6	0.8	5,364	5,364	14.3	183,464	17,347	188,828	0.0	3,145	—	—	1.8	0.0
7	11.9	0.0	9.6	60,824	60,824	0.4	3,750	457	64,574	0.0	259	—	—	0.0	1.8
8	7.8	0.0	1.6	8,918	8,918	0.0	0	0	8,918	0.0	0	—	—	0.0	6.2
9	5.8	0.0	0.4	2,433	2,433	3.2	56,252	3,868	58,685	0.0	0	—	—	0.0	2.3
10	7.5	0.6	0.7	11,976	11,976	6.3	112,898	7,606	124,874	0.0	3,143	—	—	0.0	0.0
11	8.4	0.0	0.2	3,068	3,068	3.9	66,776	4,681	69,844	0.0	0	—	—	4.4	0.0
12	0.4	0.0	0.3	2,646	2,646	0.1	784	120	3,430	0.0	0	—	—	0.0	0.0
13	2.7	0.0	0.0	0	0	2.7	38,001	3,307	38,001	0.0	0	—	—	0.0	0.0
14	3.8	0.2	0.3	6,020	6,020	2.2	40,912	2,655	46,931	0.0	1,216	—	—	1.0	0.0
15	2.4	0.0	0.8	7,133	7,133	1.6	17,288	1,994	24,422	0.0	0	—	—	0.0	0.0
16	6.9	0.8	3.0	18,036	18,036	0.6	3,935	669	21,971	0.0	4,309	—	—	2.6	0.0
17	2.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	2.4	0.0
18	4.1	0.7	0.7	5,149	5,149	0.3	2,091	391	7,240	0.0	3,747	—	—	0.0	2.3
19	3.1	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	3.1	0.0
20	0.8	0.1	0.3	2,371	2,371	0.4	2,833	453	5,205	0.0	705	—	—	0.0	0.0
21	0.9	0.4	0.1	1,010	1,010	0.4	3,331	439	4,342	0.0	2,411	—	—	0.0	0.0
22	1.7	0.0	0.3	2,117	2,117	0.4	2,627	446	4,744	0.0	0	—	—	0.9	0.0
23	1.5	0.1	0.9	8,671	8,671	0.5	5,983	649	14,654	0.0	664	—	—	0.0	0.0
24	4.2	0.5	0.1	773	773	3.6	26,201	4,367	26,974	0.0	2,619	—	—	0.0	0.0
25	1.8	0.4	0.5	4,416	4,416	0.9	12,351	1,111	16,767	0.0	2,528	—	—	0.0	0.0
26	2.1	0.0	1.5	11,539	11,539	0.6	3,861	737	15,400	0.0	0	—	—	0.0	0.0
27	4.3	0.0	0.7	9,765	9,765	0.0	0	0	9,765	0.0	0	—	—	0.0	3.6
28	1.8	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	1.8
29	0.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.7
30	3.6	1.1	1.5	10,558	10,558	1.0	8,575	1,268	19,133	0.0	6,198	—	—	0.0	0.0
31	4.2	0.0	3.3	32,262	32,262	0.9	8,165	1,047	40,427	0.0	0	—	—	0.0	0.0
32	4.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	4.4	0.0
33	3.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	3.7	0.0
34	0.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.3
35	2.1	0.0	0.7	6,238	6,238	0.1	774	162	7,011	0.0	0	—	—	0.0	1.3
36	0.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.7
37	1.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.6	0.7
38	0.9	0.0	0.0	0	0	0.9	8,525	1,122	8,525	0.0	0	—	—	0.0	0.0
39	0.6	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.6
40	0.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.4
41	4.5	0.0	3.9	39,085	39,085	0.6	4,751	720	43,836	0.0	0	—	—	0.0	0.0
42	5.1	0.1	3.5	19,696	19,696	1.6	9,042	1,971	28,739	0.0	304	—	—	0.0	0.0
43	0.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.4
44	0.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.2
45	0.6	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.6
46	1.4	0.0	1.4	9,289	9,289	0.0	0	0	9,289	0.0	0	—	—	0.0	0.0
47	0.9	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.9
48	1.0	0.0	1.0	4,022	4,022	0.0	0	0	4,022	0.0	0	—	—	0.0	0.0
49	0.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.2
Total	193	7	40	309,425	309,425	58	744,824	69,849	1,054,248	0	41,313	—	—	26	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.

CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-12: Alternative 3D – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Actively Managed Area	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas									Containment Material Volume (CY)				Monitoring Area		
				Above -10 ft MLLW				Below -10 ft MLLW				Total	Isolation Capping Sand			ENR Sand		MNR	Verification Monitor
				Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Partial Dredge/Cap Area (Acres)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area Above -10 ft MLLW (Acres)	Area Below -10 ft MLLW (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	4.9	3.7	0.2	0.3	3,500	0.0	3,500	2.0	21,100	0.0	2,842	24,601	0.0	0.0	1,063	0.0	0	0.0	2.3
2	1.3	1.3	0.2	0.2	2,126	0.0	2,126	0.8	10,624	0.0	1,256	12,750	0.0	0.0	1,361	0.0	0	0.0	0.0
3	2.2	2.2	0.2	0.3	2,894	0.0	2,894	1.7	17,317	0.0	2,378	20,211	0.0	0.0	1,322	0.0	0	0.0	0.0
4	3.3	2.1	0.0	0.8	5,494	0.0	5,494	0.5	3,697	0.0	1,478	9,191	0.0	0.0	0	1.5	1,767	0.0	0.5
5	6.2	5.9	1.1	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	4.8	33,198	0.0	0	0.0	0.0
6	17.4	15.5	0.5	0.1	805	0.0	805	0.5	6,679	0.0	825	7,484	0.6	3.1	23,891	12.4	14,987	0.0	0.0
7	11.9	10.1	0.0	4.7	33,411	0.0	33,411	0.4	3,482	0.0	6,061	36,893	0.0	0.0	246	4.2	5,045	0.0	1.8
8	7.8	6.1	0.0	1.5	8,581	0.0	8,581	0.0	0	0.0	1,839	8,581	0.0	0.0	0	0.0	0	0.0	6.2
9	5.8	5.5	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.3	2.9	18,044	0.0	0	0.0	2.3
10	7.5	7.3	0.6	0.3	11,551	0.3	11,551	1.5	72,048	4.6	2,172	83,598	0.0	0.0	31,189	0.0	0	0.0	0.0
11	8.4	8.3	0.0	0.0	1,548	0.2	1,548	2.8	54,116	0.9	3,414	55,664	0.0	0.0	6,041	4.4	5,313	0.0	0.0
12	0.4	0.4	0.0	0.3	2,659	0.0	2,659	0.1	790	0.0	542	3,449	0.0	0.0	0	0.0	0	0.0	0.0
13	2.7	2.2	0.0	0.0	0	0.0	0	2.2	30,046	0.0	2,639	30,046	0.0	0.0	0	0.0	0	0.0	0.0
14	3.8	3.5	0.2	0.3	6,047	0.0	6,047	2.1	39,633	0.0	2,953	45,679	0.0	0.0	1,089	1.0	1,245	0.0	0.0
15	2.4	1.9	0.0	0.8	6,869	0.0	6,869	1.1	11,694	0.0	2,300	18,563	0.0	0.0	0	0.0	0	0.0	0.0
16	6.9	6.9	0.8	3.0	18,040	0.0	18,040	0.6	3,927	0.0	4,278	21,967	0.0	0.0	4,265	2.6	3,199	0.0	0.0
17	2.4	1.9	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	2.4	2,848	0.0	0.0
18	4.1	2.0	0.1	0.3	1,896	0.0	1,896	0.1	733	0.0	439	2,629	0.0	0.0	778	0.0	0	0.0	2.3
19	3.1	3.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	3.1	3,779	0.0	0.0
20	0.8	0.5	0.0	0.2	1,228	0.0	1,228	0.3	2,535	0.0	586	3,763	0.0	0.0	156	0.0	0	0.0	0.0
21	0.9	0.9	0.4	0.0	896	0.1	896	0.0	2,994	0.3	0	3,891	0.0	0.0	4,861	0.0	0	0.0	0.0
22	1.7	1.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.3	0.3	3,863	0.9	1,148	0.0	0.0
23	1.5	1.4	0.1	0.8	8,033	0.0	8,033	0.5	5,418	0.0	1,522	13,451	0.0	0.0	622	0.0	0	0.0	0.0
24	4.2	3.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	4.2	5,069	0.0	0.0
25	1.8	1.3	0.4	0.4	3,286	0.0	3,286	0.5	7,369	0.0	1,100	10,655	0.0	0.0	2,061	0.0	0	0.0	0.0
26	2.1	1.9	0.0	1.5	11,252	0.0	11,252	0.4	2,240	0.0	2,244	13,492	0.0	0.0	0	0.0	0	0.0	0.0
27	4.3	3.8	0.0	0.0	6,294	0.7	6,294	0.0	0	0.0	0	6,294	0.0	0.0	4,006	0.0	0	0.0	3.6
28	1.8	0.8	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	1.8
29	0.7	0.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.7
30	3.6	3.5	1.1	1.4	10,155	0.0	10,155	1.0	8,190	0.0	2,953	18,345	0.0	0.0	6,157	0.0	0	0.0	0.0
31	4.2	3.2	0.0	2.4	23,945	0.0	23,945	0.8	7,185	0.0	3,850	31,130	0.0	0.0	0	0.0	0	0.0	0.0
32	4.4	4.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	4.4	5,265	0.0	0.0
33	3.7	3.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	3.7	4,438	0.0	0.0
34	0.3	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.3
35	2.1	1.2	0.0	0.1	584	0.0	584	0.0	0	0.0	75	584	0.4	0.1	3,163	0.0	0	0.0	1.3
36	0.7	0.5	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.7
37	1.3	1.2	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.6	720	0.0	0.7
38	0.9	0.8	0.0	0.0	0	0.0	0	0.0	7,069	0.8	0	7,069	0.0	0.0	4,498	0.0	0	0.0	0.0
39	0.6	0.6	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.6
40	0.4	0.4	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.4
41	4.5	3.7	0.0	3.2	34,181	0.0	34,181	0.6	4,564	0.0	4,500	38,745	0.0	0.0	0	0.0	0	0.0	0.0
42	5.1	2.8	0.0	1.9	11,132	0.0	11,132	0.8	4,484	0.0	3,297	15,616	0.0	0.0	220	0.0	0	0.0	0.0
43	0.4	0.3	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.4
44	0.2	0.1	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.2
45	0.6	0.4	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.6
46	1.4	1.1	0.0	1.1	7,891	0.0	7,891	0.0	0	0.0	1,350	7,891	0.0	0.0	0	0.0	0	0.0	0.0
47	0.9	0.6	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.9
48	1.0	0.7	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.7	0.0	4,109	0.0	0	0.0	0.0
49	0.2	0.2	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0	0.0	0.2
Total	193	136	6	26	224,299	1	224,299	21	327,933	7	56,892	552,232	2	11	156,204	45	54,823	0	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.
 CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-16: Alternative 4D – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas							Containment Material Volume (CY)				Monitoring Area	
			Above -10 ft MLLW			Below -10 ft MLLW			Total	Isolation Capping Sand		ENR Sand		MNR	Verification Monitor
			Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	4.9	0.2	0.4	3,677	3,677	2.0	21,188	2,433	24,865	0.0	1,085	—	—	0.0	2.3
2	1.3	0.2	0.2	2,244	2,244	0.9	11,174	1,057	13,418	0.0	1,374	—	—	0.0	0.0
3	2.2	0.2	0.3	2,903	2,903	1.7	17,312	2,013	20,215	0.0	1,349	—	—	0.0	0.0
4	3.3	0.0	1.8	13,476	13,476	1.0	8,344	1,232	21,820	0.0	0	—	—	0.0	0.5
5	6.2	1.1	0.0	0	0	5.1	68,281	6,199	68,281	0.0	6,258	—	—	0.0	0.0
6	17.4	0.6	2.5	18,389	18,389	14.3	183,464	17,347	201,852	0.0	3,145	—	—	0.0	0.0
7	11.9	0.0	9.6	60,824	60,824	0.4	3,750	457	64,574	0.0	259	—	—	0.0	1.8
8	7.8	0.0	1.6	8,918	8,918	0.0	0	0	8,918	0.0	0	—	—	0.0	6.2
9	5.8	0.0	0.4	2,433	2,433	3.2	56,252	3,868	58,685	0.0	0	—	—	0.0	2.3
10	7.5	0.6	0.7	11,976	11,976	6.3	112,898	7,606	124,874	0.0	3,143	—	—	0.0	0.0
11	8.4	0.9	1.0	13,938	13,938	6.6	119,769	7,977	133,707	0.0	4,988	—	—	0.0	0.0
12	0.4	0.0	0.3	2,646	2,646	0.1	784	120	3,430	0.0	0	—	—	0.0	0.0
13	2.7	0.0	0.0	0	0	2.7	38,001	3,307	38,001	0.0	0	—	—	0.0	0.0
14	3.8	0.4	0.4	6,586	6,586	3.0	47,069	3,606	53,654	0.0	2,093	—	—	0.0	0.0
15	2.4	0.0	0.8	7,133	7,133	1.6	17,288	1,994	24,422	0.0	0	—	—	0.0	0.0
16	6.9	0.8	3.1	19,240	19,240	3.1	29,724	3,694	48,965	0.0	4,513	—	—	0.0	0.0
17	2.4	0.0	0.3	3,538	3,538	2.1	39,381	2,501	42,919	0.0	0	—	—	0.0	0.0
18	4.1	0.7	0.7	5,149	5,149	0.3	2,091	391	7,240	0.0	3,747	—	—	0.0	2.3
19	3.1	0.0	1.4	14,196	14,196	1.8	20,273	2,132	34,468	0.0	0	—	—	0.0	0.0
20	0.8	0.1	0.3	2,371	2,371	0.4	2,833	453	5,205	0.0	705	—	—	0.0	0.0
21	0.9	0.4	0.1	1,010	1,010	0.4	3,331	439	4,342	0.0	2,411	—	—	0.0	0.0
22	1.7	0.0	0.3	2,117	2,117	1.3	10,800	1,594	12,916	0.0	0	—	—	0.0	0.0
23	1.5	0.1	0.9	8,671	8,671	0.5	5,983	649	14,654	0.0	664	—	—	0.0	0.0
24	4.2	0.5	0.1	773	773	3.6	26,201	4,367	26,974	0.0	2,619	—	—	0.0	0.0
25	1.8	0.4	0.5	4,416	4,416	0.9	12,351	1,111	16,767	0.0	2,528	—	—	0.0	0.0
26	2.1	0.0	1.5	11,539	11,539	0.6	3,861	737	15,400	0.0	0	—	—	0.0	0.0
27	4.3	0.0	0.7	9,765	9,765	0.0	0	0	9,765	0.0	0	—	—	0.0	3.6
28	1.8	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	1.8
29	0.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.7
30	3.6	1.1	1.5	10,558	10,558	1.0	8,575	1,268	19,133	0.0	6,198	—	—	0.0	0.0
31	4.2	0.0	3.3	32,262	32,262	0.9	8,165	1,047	40,427	0.0	0	—	—	0.0	0.0
32	4.4	0.1	1.3	8,246	8,246	3.0	20,180	3,659	28,426	0.0	345	—	—	0.0	0.0
33	3.7	0.4	1.1	8,110	8,110	2.1	17,884	2,578	25,993	0.0	2,447	—	—	0.0	0.0
34	0.3	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.3
35	2.1	0.0	0.7	6,238	6,238	0.1	774	162	7,011	0.0	0	—	—	0.0	1.3
36	0.7	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.7
37	1.3	0.0	0.6	3,091	3,091	0.0	245	52	3,336	0.0	0	—	—	0.0	0.7
38	0.9	0.0	0.0	0	0	0.9	8,525	1,122	8,525	0.0	0	—	—	0.0	0.0
39	0.6	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.6
40	0.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.4
41	4.5	0.0	3.9	39,085	39,085	0.6	4,751	720	43,836	0.0	0	—	—	0.0	0.0
42	5.1	0.1	3.5	19,696	19,696	1.6	9,042	1,971	28,739	0.0	304	—	—	0.0	0.0
43	0.4	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.4
44	0.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.2
45	0.6	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.6
46	1.4	0.0	1.4	9,289	9,289	0.0	0	0	9,289	0.0	0	—	—	0.0	0.0
47	0.9	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.9
48	1.0	0.0	1.0	4,022	4,022	0.0	0	0	4,022	0.0	0	—	—	0.0	0.0
49	0.2	0.0	0.0	0	0	0.0	0	0	0	0.0	0	—	—	0.0	0.2
Total	193	9	48	378,525	378,525	74	940,543	89,863	1,319,068	0	50,175	—	—	0	28

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.
 CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area

Table G-17: Alternative 5 – SMA Actions (Areas and Volumes)

SMA	Total SMA Area (Acres)	Under Pier and Other Overwater Structures	Dredge Volumes ^a , Backfill Volumes, Residuals Management Volumes, and Areas							Containment Material Volume (CY)				Monitoring Area	
			Above -10 ft MLLW			Below -10 ft MLLW			Total	Isolation Capping Sand		ENR Sand		MNR	Verification Monitor
			Area (Acres)	Dredge Area (Acres)	Dredge Volume (CY)	Backfill Sand Volume for Habitat Restoration (CY)	Dredge Area (Acres)	Dredge Volume (CY)	Residuals Management Sand Volume (CY)	Dredge Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)	Volume (CY)	Area (Acres)
EAA	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	4.9	0.2	0.7	8,361	8,361	4.0	42,457	4,800	50,817	0.0	1,085	—	—	0.0	0
2	1.3	0.2	0.2	2,244	2,244	0.9	11,174	1,057	13,418	0.0	1,374	—	—	0.0	0
3	2.2	0.2	0.3	2,903	2,903	1.7	17,312	2,013	20,215	0.0	1,349	—	—	0.0	0
4	3.3	0.0	2.2	18,507	18,507	1.0	8,344	1,232	26,851	0.0	0	—	—	0.0	0
5	6.2	1.1	0.0	0	0	5.1	68,281	6,199	68,281	0.0	6,258	—	—	0.0	0
6	17.4	0.6	2.5	18,389	18,389	14.3	183,464	17,347	201,852	0.0	3,145	—	—	0.0	0
7	11.9	0.0	10.7	67,962	67,962	1.1	11,315	1,385	79,277	0.0	259	—	—	0.0	0
8	7.8	0.0	7.8	44,755	44,755	0.0	0	0	44,755	0.0	0	—	—	0.0	0
9	5.8	0.0	1.2	17,817	17,817	4.7	85,840	5,654	103,657	0.0	0	—	—	0.0	0
10	7.5	0.6	0.7	11,976	11,976	6.3	112,898	7,606	124,874	0.0	3,143	—	—	0.0	0
11	8.4	0.9	1.0	13,938	13,938	6.6	119,769	7,977	133,707	0.0	4,988	—	—	0.0	0
12	0.4	0.0	0.3	2,646	2,646	0.1	784	120	3,430	0.0	0	—	—	0.0	0
13	2.7	0.0	0.0	0	0	2.7	38,001	3,307	38,001	0.0	0	—	—	0.0	0
14	3.8	0.4	0.4	6,586	6,586	3.0	47,069	3,606	53,654	0.0	2,093	—	—	0.0	0
15	2.4	0.0	0.8	7,133	7,133	1.6	17,288	1,994	24,422	0.0	0	—	—	0.0	0
16	6.9	0.8	3.1	19,240	19,240	3.1	29,724	3,694	48,965	0.0	4,513	—	—	0.0	0
17	2.4	0.0	0.3	3,538	3,538	2.1	39,381	2,501	42,919	0.0	0	—	—	0.0	0
18	4.1	0.7	0.8	5,598	5,598	2.6	16,207	3,176	21,805	0.0	3,747	—	—	0.0	0
19	3.1	0.0	1.4	14,196	14,196	1.8	20,273	2,132	34,468	0.0	0	—	—	0.0	0
20	0.8	0.1	0.3	2,371	2,371	0.4	2,833	453	5,205	0.0	705	—	—	0.0	0
21	0.9	0.4	0.1	1,010	1,010	0.4	3,331	439	4,342	0.0	2,411	—	—	0.0	0
22	1.7	0.0	0.3	2,117	2,117	1.3	10,800	1,594	12,916	0.0	0	—	—	0.0	0
23	1.5	0.1	0.9	8,671	8,671	0.5	5,983	649	14,654	0.0	664	—	—	0.0	0
24	4.2	0.5	0.1	773	773	3.6	26,201	4,367	26,974	0.0	2,619	—	—	0.0	0
25	1.8	0.4	0.5	4,416	4,416	0.9	12,351	1,111	16,767	0.0	2,528	—	—	0.0	0
26	2.1	0.0	1.5	11,539	11,539	0.6	3,861	737	15,400	0.0	0	—	—	0.0	0
27	4.3	0.0	2.1	21,752	21,752	2.3	16,026	2,730	37,778	0.0	0	—	—	0.0	0
28	1.8	0.3	0.3	1,113	1,113	1.3	12,341	1,583	13,455	0.0	1,502	—	—	0.0	0
29	0.7	0.0	0.0	0	0	0.7	4,204	900	4,204	0.0	0	—	—	0.0	0
30	3.6	1.1	1.5	10,558	10,558	1.0	8,575	1,268	19,133	0.0	6,198	—	—	0.0	0
31	4.2	0.0	3.3	32,262	32,262	0.9	8,165	1,047	40,427	0.0	0	—	—	0.0	0
32	4.4	0.1	1.3	8,246	8,246	3.0	20,180	3,659	28,426	0.0	345	—	—	0.0	0
33	3.7	0.4	1.1	8,110	8,110	2.1	17,884	2,578	25,993	0.0	2,447	—	—	0.0	0
34	0.3	0.0	0.3	2,122	2,122	0.0	0	0	2,122	0.0	0	—	—	0.0	0
35	2.1	0.1	1.7	19,416	19,416	0.3	2,687	383	22,103	0.0	563	—	—	0.0	0
36	0.7	0.0	0.0	0	0	0.7	5,514	806	5,514	0.0	0	—	—	0.0	0
37	1.3	0.0	1.1	7,925	7,925	0.1	1,088	173	9,013	0.0	0	—	—	0.0	0
38	0.9	0.0	0.0	0	0	0.9	8,525	1,122	8,525	0.0	0	—	—	0.0	0
39	0.6	0.0	0.4	2,460	2,460	0.2	1,059	195	3,518	0.0	0	—	—	0.0	0
40	0.4	0.0	0.4	2,220	2,220	0.0	165	37	2,386	0.0	0	—	—	0.0	0
41	4.5	0.0	3.9	39,085	39,085	0.6	4,751	720	43,836	0.0	0	—	—	0.0	0
42	5.1	0.1	3.5	19,696	19,696	1.6	9,042	1,971	28,739	0.0	304	—	—	0.0	0
43	0.4	0.0	0.4	1,966	1,966	0.0	0	0	1,966	0.0	0	—	—	0.0	0
44	0.2	0.0	0.2	817	817	0.0	0	0	817	0.0	0	—	—	0.0	0
45	0.6	0.0	0.6	2,945	2,945	0.0	0	0	2,945	0.0	0	—	—	0.0	0
46	1.4	0.0	1.4	9,289	9,289	0.0	0	0	9,289	0.0	0	—	—	0.0	0
47	0.9	0.0	0.9	5,866	5,866	0.0	0	0	5,866	0.0	0	—	—	0.0	0
48	1.0	0.0	1.0	4,022	4,022	0.0	0	0	4,022	0.0	0	—	—	0.0	0
49	0.2	0.0	0.2	866	866	0.0	0	0	866	0.0	0	—	—	0.0	0
50	88	0	0	0	0	88	1,388,500	106,480	1,624,249	0	0	—	—	0	0
Total	281	9	64	486,819	497,423	86	2,390,015	210,803	3,126,000	0	52,239	0	0	0	0

^aDredge volumes based on in-situ "neat" volume estimates to the bottom of contamination (>SQS) plus 2.5 ft overdredge allowance.
 CY = cubic yards; EAA = Early Action Areas; MLLW = Mean Lower Low Water; MNR = Monitored Natural Recovery; ENR = Enhanced Natural Recovery; SMA = Sediment Management Area