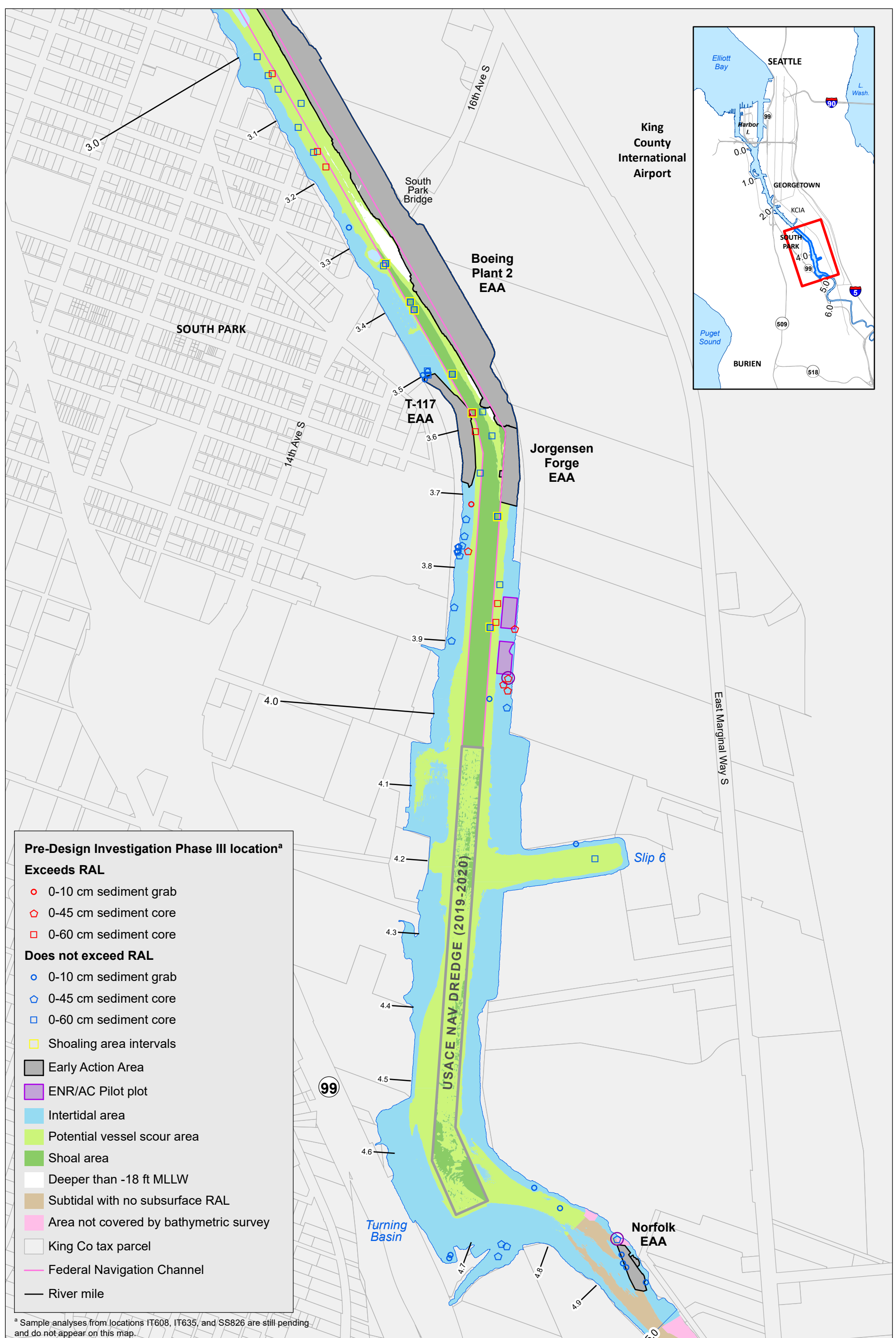


Prepared by craigh_327225_W:\Projects\Duwamish_AOC4\GIS\Maps and Analyses\Phase III\Fieldwork\PHill Data Package\Map 1_7234 Phase III PDI Locations.mxd



Pre-Design Investigation Phase III location^a

Exceeds RAL

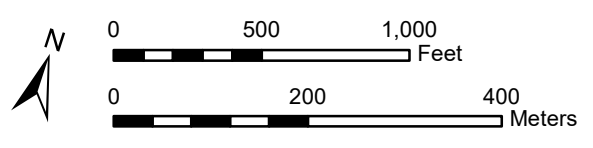
- 0-10 cm sediment grab
- ◇ 0-45 cm sediment core
- 0-60 cm sediment core

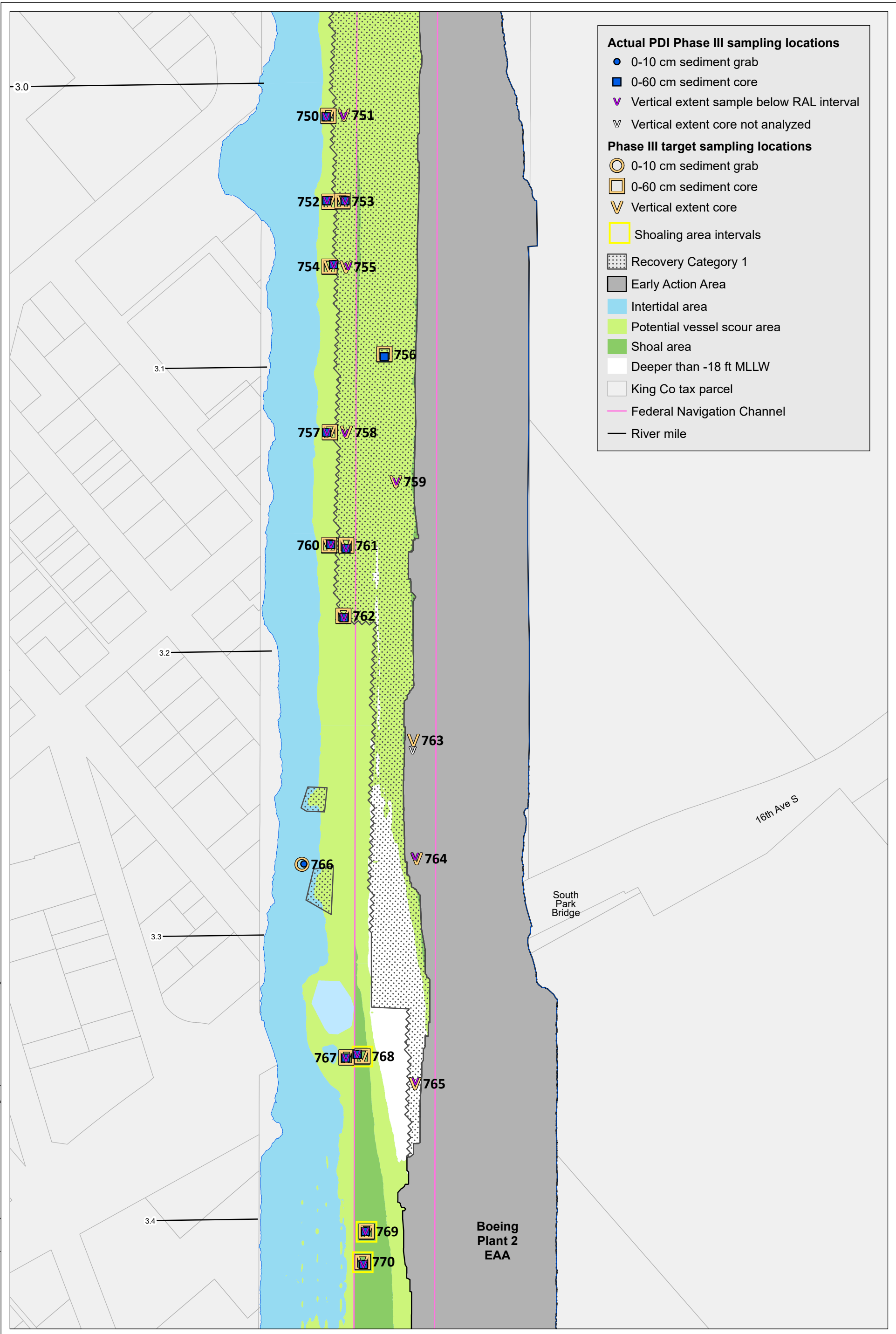
Does not exceed RAL

- 0-10 cm sediment grab
- ◇ 0-45 cm sediment core
- 0-60 cm sediment core
- Shoaling area intervals

- Early Action Area
- ENR/AC Pilot plot
- Intertidal area
- Potential vessel scour area
- Shoal area
- Deeper than -18 ft MLLW
- Subtidal with no subsurface RAL
- Area not covered by bathymetric survey
- King Co tax parcel
- Federal Navigation Channel
- River mile

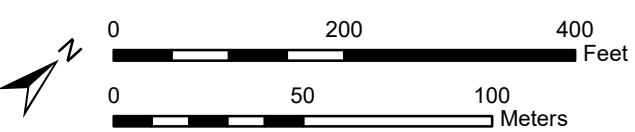
^a Sample analyses from locations IT608, IT635, and SS826 are still pending and do not appear on this map.

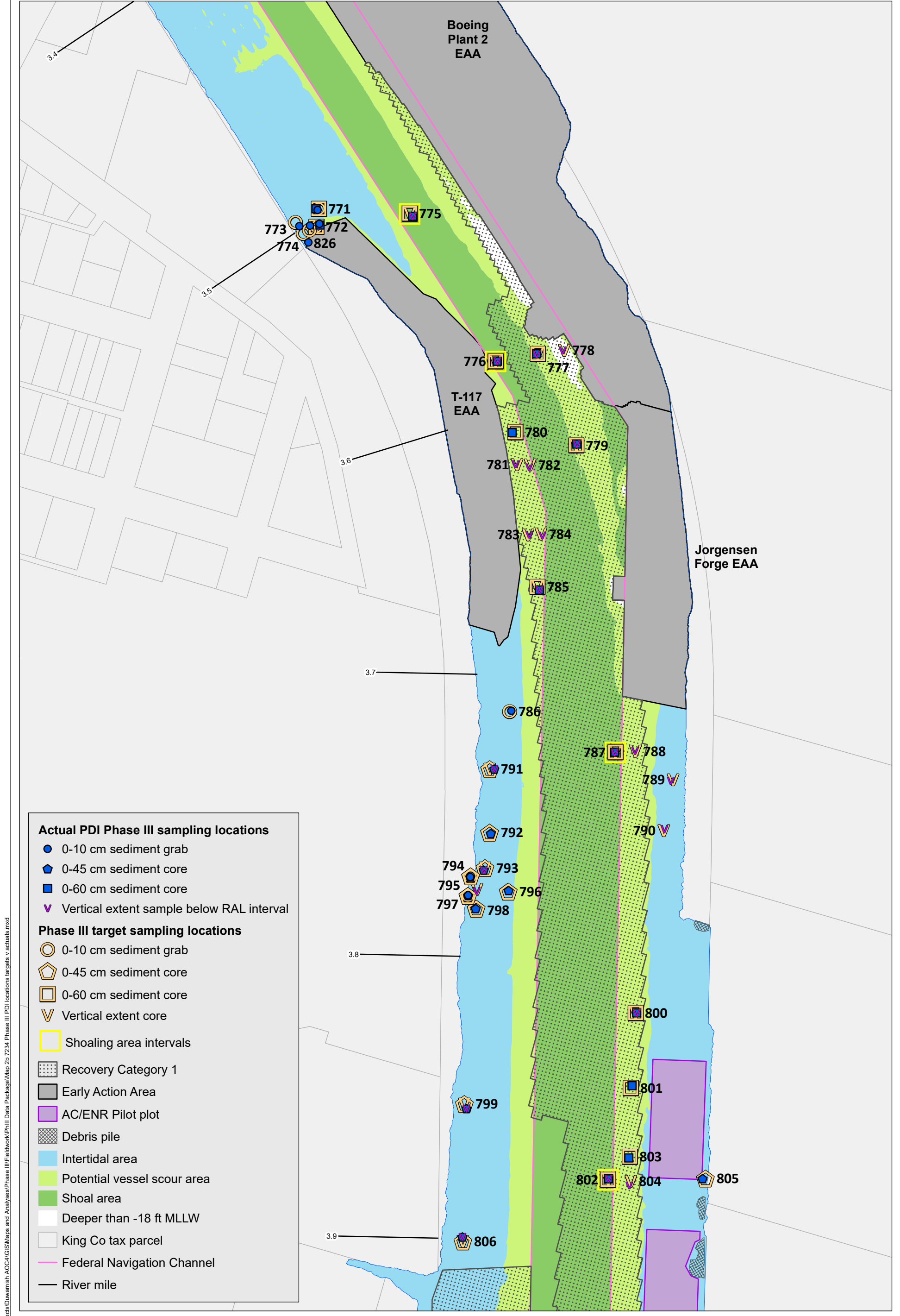




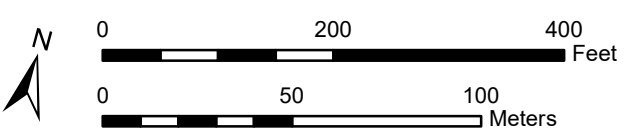
- Actual PDI Phase III sampling locations**
- 0-10 cm sediment grab
 - 0-60 cm sediment core
 - ∇ Vertical extent sample below RAL interval
 - ∇ Vertical extent core not analyzed
- Phase III target sampling locations**
- 0-10 cm sediment grab
 - 0-60 cm sediment core
 - ∇ Vertical extent core
 - Shoaling area intervals
 - ▨ Recovery Category 1
 - Early Action Area
 - Intertidal area
 - Potential vessel scour area
 - Shoal area
 - Deeper than -18 ft MLLW
 - King Co tax parcel
 - Federal Navigation Channel
 - River mile

Prepared by craigh_327225_W:\Projects\Duwamish_AOC4\GIS\Maps and Analyses\Phase III\Fieldwork\PHIII Data Package\Map 2a 7234 Phase III PDI locations targets v actuals.mxd

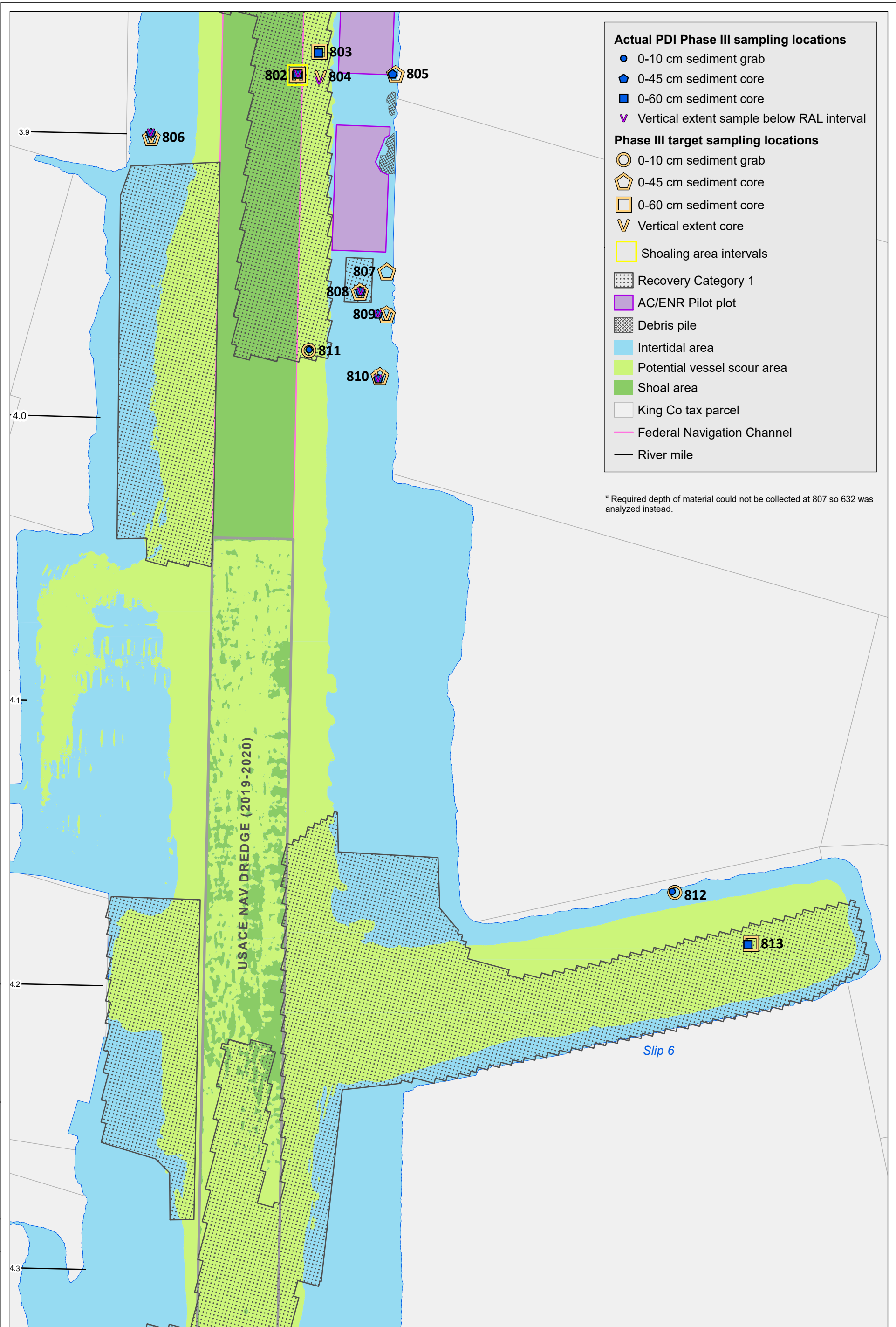




- Actual PDI Phase III sampling locations**
- 0-10 cm sediment grab
 - ◆ 0-45 cm sediment core
 - 0-60 cm sediment core
 - ∇ Vertical extent sample below RAL interval
- Phase III target sampling locations**
- 0-10 cm sediment grab
 - ◇ 0-45 cm sediment core
 - 0-60 cm sediment core
 - ∇ Vertical extent core
- Other features:**
- Shoaling area intervals
 - ▨ Recovery Category 1
 - Early Action Area
 - AC/ENR Pilot plot
 - ▨ Debris pile
 - Intertidal area
 - Potential vessel scour area
 - Shoal area
 - Deeper than -18 ft MLLW
 - King Co tax parcel
 - Federal Navigation Channel
 - River mile



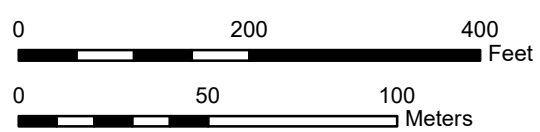
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Prepared by craigh_32725; W:\Projects\Duwamish_AOC4\GIS\Maps and Analyses\Phase III\Fieldwork\PHIII Data Package\Map 2c 7254 Phase III PDI locations targets v actuals.mxd



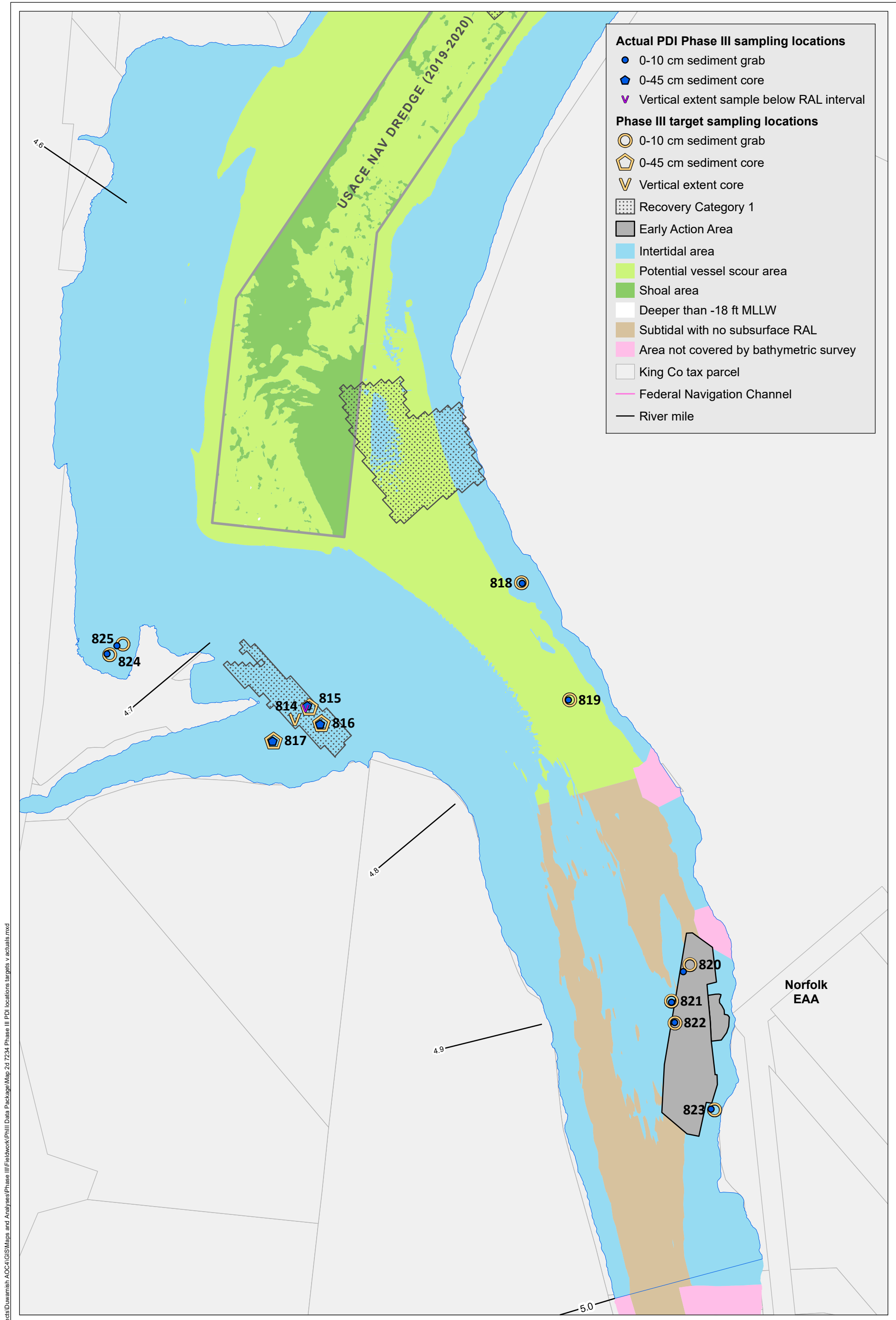
Lower Duwamish Waterway Group
 Port of Seattle / City of Seattle / King County / The Boeing Company



Map 2c. Actual Phase III PDI sediment sample locations relative to targeted locations, RM 3.9 to RM 4.3

PRE-DESIGN INVESTIGATION PHASE III DATA PACKAGE FOR THE LDW UPPER REACH

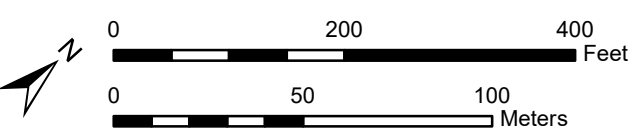
DRAFT
 MARCH 27, 2023



Prepared by craigh_327225_W\Projects\Duwamish_AOC4\GIS\Maps and Analyses\Phase III\Fieldwork\PHill Data Package\Map 2d 7234 Phase III PDI locations targets v actuals.mxd



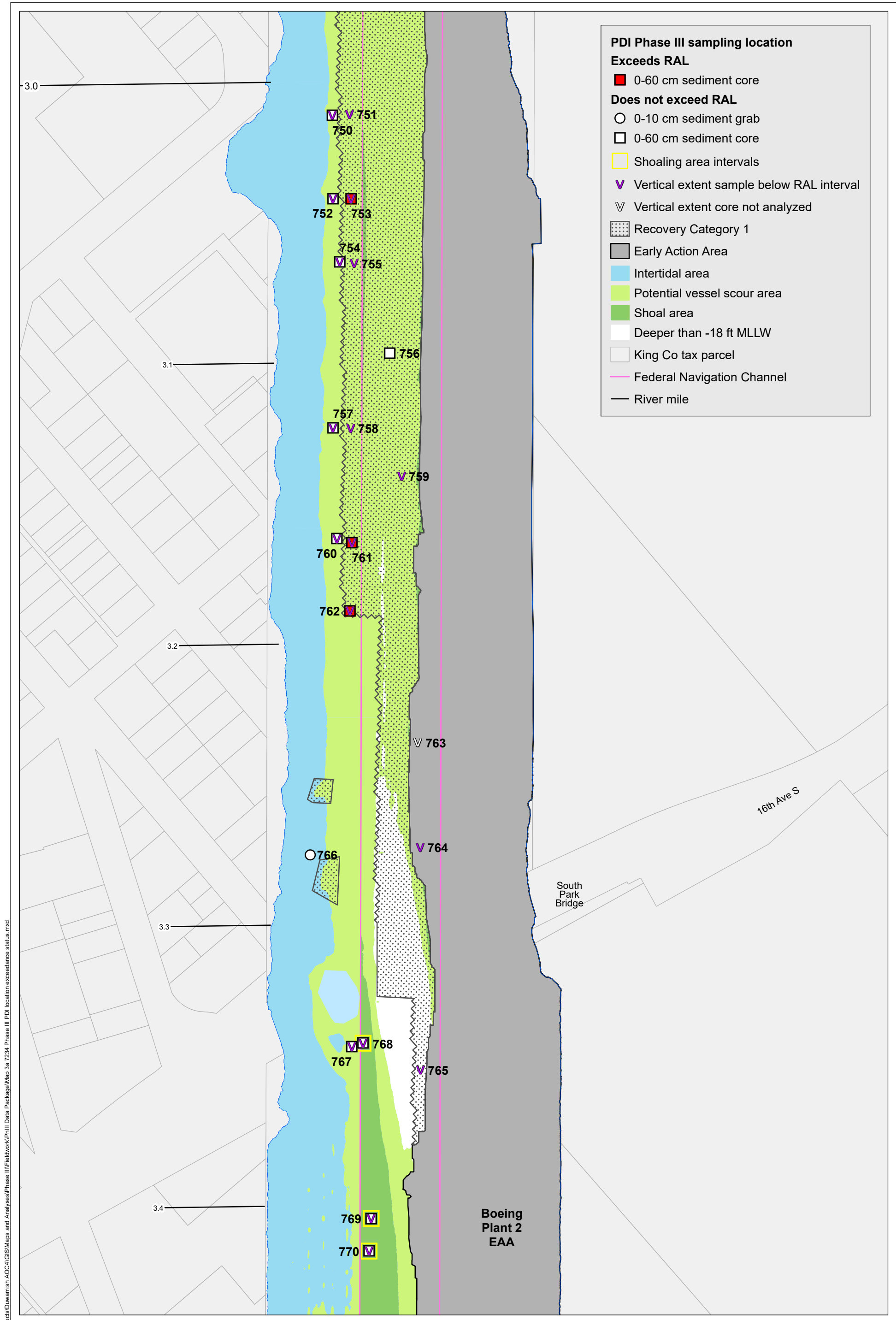
Lower Duwamish Waterway Group
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Map 2d. Actual Phase III PDI sediment sample locations relative to targeted locations, RM 4.6 to RM 5.0

PRE-DESIGN INVESTIGATION PHASE III DATA PACKAGE FOR THE LDW UPPER REACH

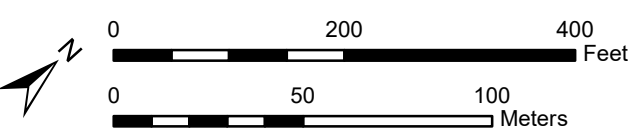
DRAFT
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Prepared by craigh_327225_W:\Projects\Duwamish_AOC4\GIS\Maps and Analyses\Phase III\Fieldwork\PHill Data Package\Map 3a 7234 Phase III PDI location exceedance status.mxd



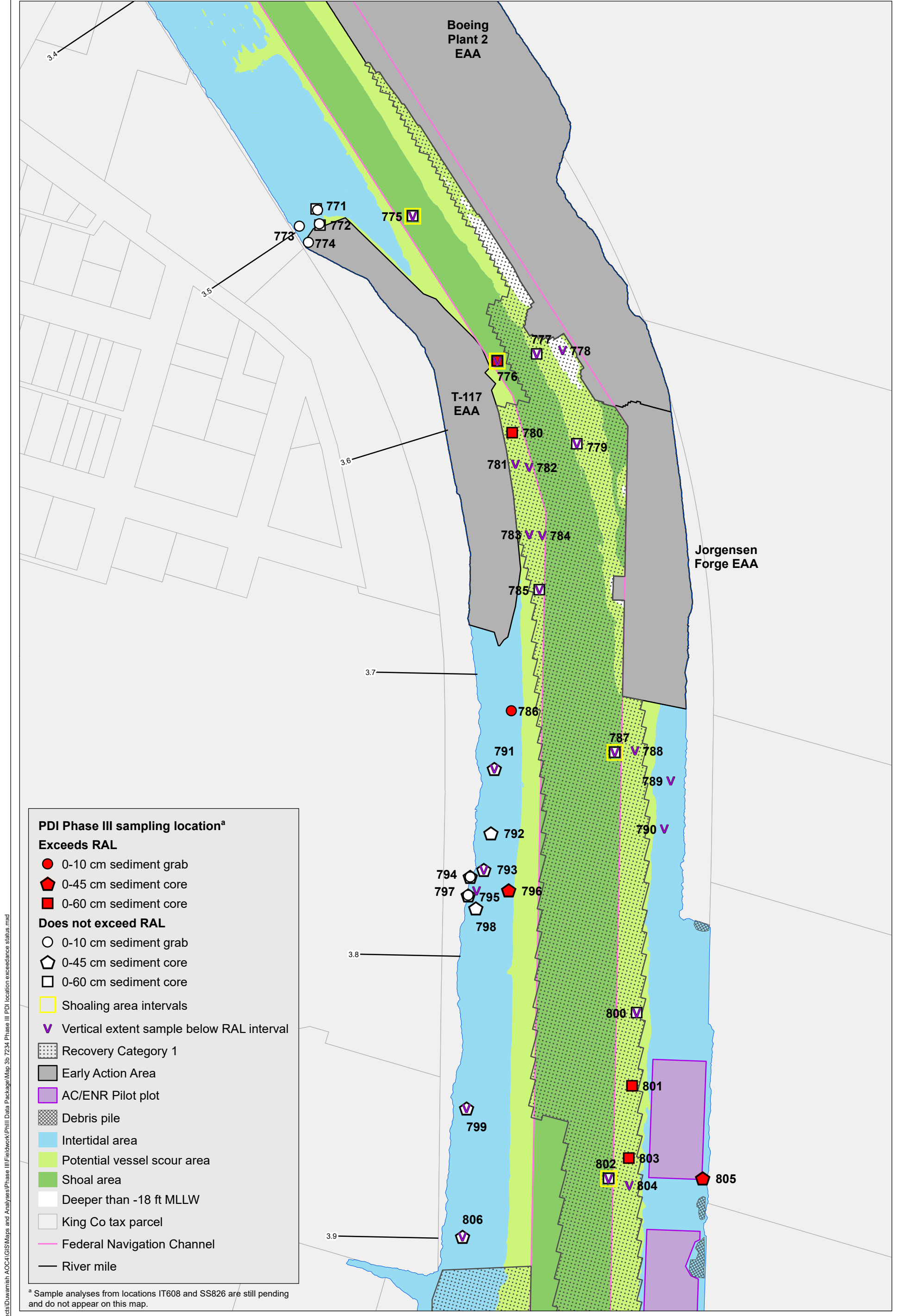
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Map 3a. Phase III PDI sediment sampling location RAL exceedance status, RM 3.0 to RM 3.4

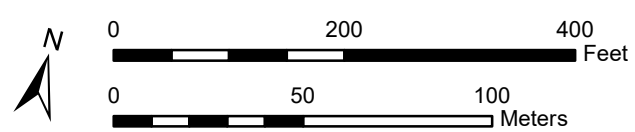
PRE-DESIGN INVESTIGATION PHASE III DATA PACKAGE FOR THE LDW UPPER REACH

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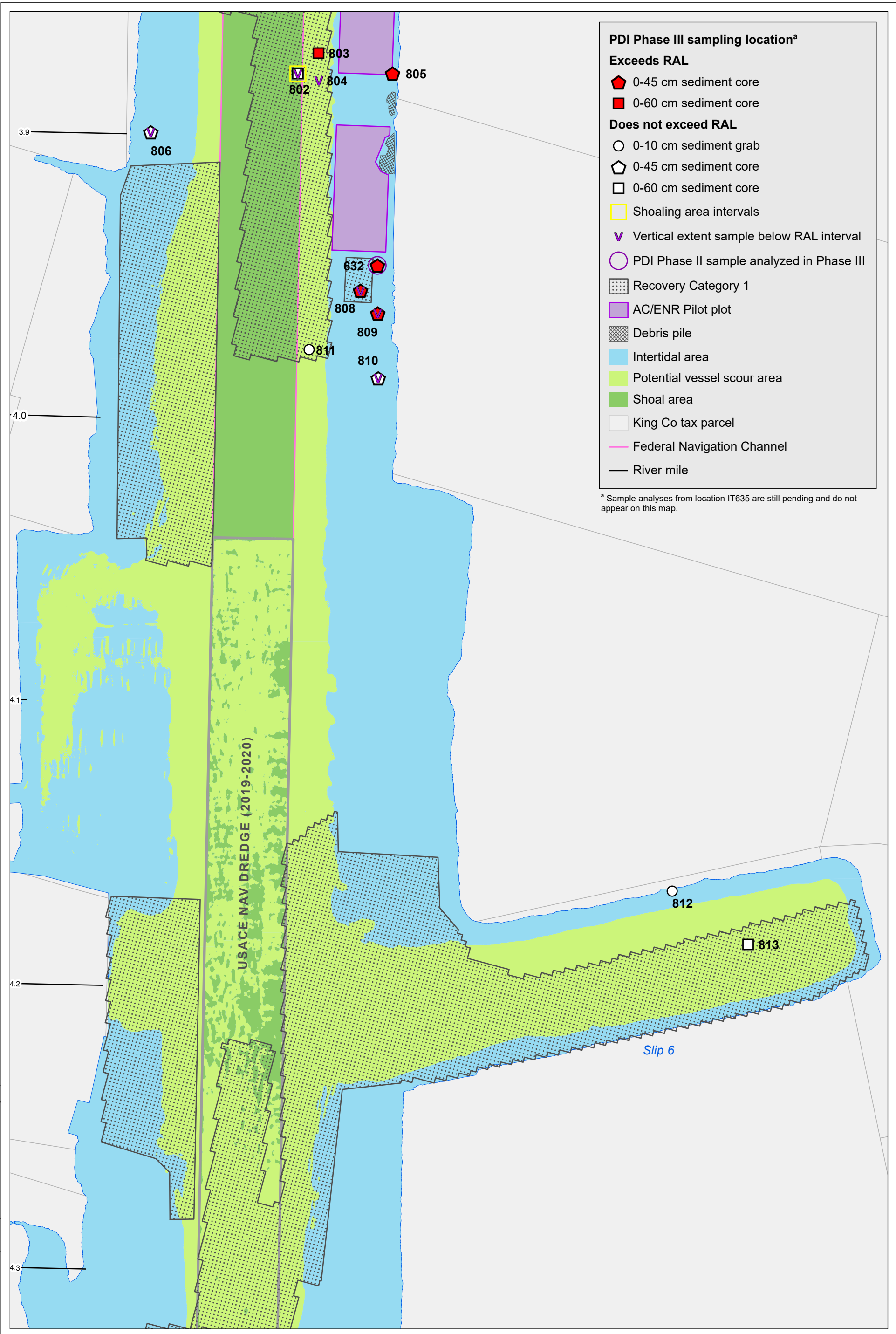


- PDI Phase III sampling location^a**
- Exceeds RAL**
- 0-10 cm sediment grab
 - ◆ 0-45 cm sediment core
 - 0-60 cm sediment core
- Does not exceed RAL**
- 0-10 cm sediment grab
 - ◡ 0-45 cm sediment core
 - 0-60 cm sediment core
 - Shoaling area intervals
 - ▼ Vertical extent sample below RAL interval
- Recovery Category 1
 ■ Early Action Area
 ■ AC/ENR Pilot plot
 ■ Debris pile
 ■ Intertidal area
 ■ Potential vessel scour area
 ■ Shoal area
 ■ Deeper than -18 ft MLLW
 ■ King Co tax parcel
 ■ Federal Navigation Channel
 — River mile

^a Sample analyses from locations IT608 and SS826 are still pending and do not appear on this map.



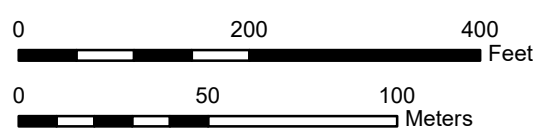
Prepared by craigh_327225_W:\Projects\Duwamish_AOC4\GIS\Maps and Analyses\Phase III\Fieldwork\PHIII Data Package\Map_3b_7234_Phase III PDI location exceedance status.mxd



Prepared by craigh_32725; W:\Projects\Duwamish_AOC4\GIS\Maps and Analyses\Phase III\Fieldwork\PHIII Data Package\Map_3c_7254 Phase III PDI location exceedance status.mxd



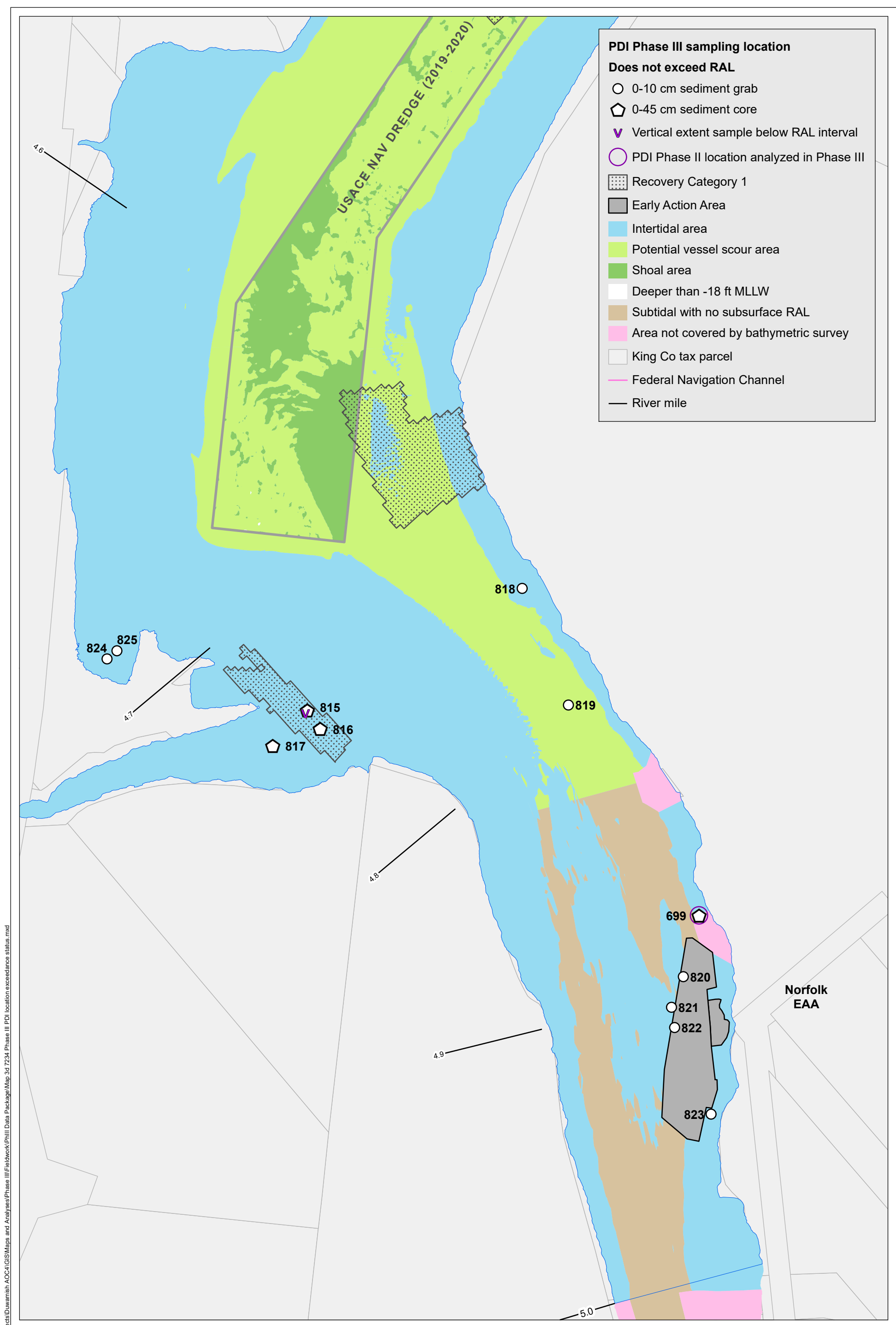
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Map 3c. Phase III PDI sediment sampling location RAL exceedance status, RM 3.9 to RM 4.3

PRE-DESIGN INVESTIGATION PHASE III DATA PACKAGE FOR THE LDW UPPER REACH

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PDI Phase III sampling location

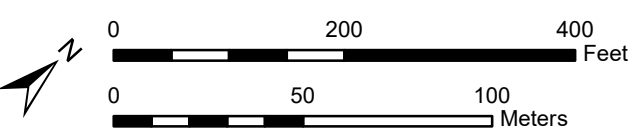
Does not exceed RAL

- 0-10 cm sediment grab
- ⬠ 0-45 cm sediment core
- ▼ Vertical extent sample below RAL interval
- PDI Phase II location analyzed in Phase III
- ▨ Recovery Category 1
- Early Action Area
- Intertidal area
- Potential vessel scour area
- Shoal area
- Deeper than -18 ft MLLW
- Subtidal with no subsurface RAL
- Area not covered by bathymetric survey
- King Co tax parcel
- Federal Navigation Channel
- River mile

Prepared by craigh_327225_W:\Projects\Duwamish_AOC4\GIS\Maps and Analyses\Phase III\Fieldwork\PHIII Data Package\Map_3d_7234_Phase III PDI location exceedance status.mxd




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Map 3d. Phase III PDI sediment sampling location RAL exceedance status, RM 4.6 to RM 5.0

PRE-DESIGN INVESTIGATION PHASE III DATA PACKAGE FOR THE LDW UPPER REACH

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PDI Phase III Vertical Core Profiles

Note: Archive intervals from vertical cores at 608, 635, and 789 are being analyzed and are not shown in these profiles.

Areas 1, 2, and 3 (RM 3 to 3.1)						
location ID:	750	751	752	753	754	755
mudline:	-6.3	-13.6	-7.5	-13.4	-9.7	-14.7
-6 to -7 ft						
-7 to -8 ft	A (0-60)		A (0-60)			
-8 to -9 ft	B		B			
-9 to -10 ft	C		C		A (0-60)	
-10 to -11 ft	D		D		B	
-11 to -12 ft	E		E		C	
-12 to -13 ft	F		F		D	
-13 to -14 ft	G	A (0-60)	G	A (0-60)	E	
-14 to -15 ft	H	B	H	B	F	A (0-60)
-15 to -17 ft MLLW	I	C	I	C	G	B
-17 to -18 ft		D		D	H	C
-18 to -19 ft		E		E		D
-19 to -20 ft		F		F		E
-20 to -21 ft		G		G		F
-21 to -22 ft		H		H		G
-22 to -23 ft		I		I		H
-23 to -24 ft		J		J		I
-24 to -25 ft		K		K		J
-25 to -26 ft		L		L		K
-26 to -27 ft		M		M		L
-27 to -28 ft		N		N		M
-28 to -29 ft						N
-29 to -30 ft						

Areas 4, 5, and 6 (RM 3.1 to 3.35 Subtidal)									
location ID:	757	758	759	760	761	762	763	764	765
mudline:	-8.8	-13.3	-17.0	-9.8	-12.9	-14.4	-16.0	-15.5	-21.2
-8 to -9 ft									
-9 to -10 ft	A (0-60)								
-10 to -11 ft	B			A (0-60)					
-11 to -12 ft	C			B					
-12 to -13 ft	D			C					
-13 to -14 ft	E			D	A (0-60)				
-14 to -15 ft	F	A (0-60)		E	B				
-15 to -17 ft MLLW	G	B		F	C	A (0-60)			
-17 to -18 ft	H	C		G	D	B	A (0-60)	A (0-60)	
-18 to -19 ft		D	A (0-60)	H	E	C	B	B	
-19 to -20 ft		E		I	F	D	C	C	
-20 to -21 ft		F			G	E	D	D	
-21 to -22 ft		G			H	F	E	E	
-22 to -23 ft		H			I	G	F	F	A (0-60)
-23 to -24 ft		I			J	H	G	G	B
-24 to -25 ft		J			K	I	H	H	C
-25 to -26 ft		K			L	J	I	I	D
-26 to -27 ft		L			M	K	J	J	E
-27 to -28 ft		M				L	K	K	F
-28 to -29 ft						M	L	L	G
							M	M	H
							N	N	I
							O		

Area 11 (RM 3.35 Subtidal)		
location ID:	767	768
mudline:	-6.6	-11.8
-6 to -7 ft		
-7 to -8 ft	A (0-60)	
-8 to -9 ft	B	
-9 to -10 ft	C	
-10 to -11 ft	D	
-11 to -12 ft	E	
-12 to -13 ft	F	A (SH)
-13 to -14 ft		B (SH)
-14 to -15 ft		
-15 to -17 ft MLLW		C (-15 to -17 ft)
-17 to -18 ft		D
-18 to -19 ft		E
-19 to -20 ft		F
-20 to -21 ft		G
-21 to -22 ft		H
-22 to -23 ft		I
-23 to -24 ft		J
-24 to -25 ft		K
-25 to -26 ft		L
-26 to -27 ft		M
-27 to -28 ft		
-28 to -29 ft		

RM 3.4 Subtidal		
location ID:	769	770
mudline:	-9.4	-9.1
-9 to -10 ft		
-10 to -11 ft	A (shoal)	A (shoal)
-11 to -12 ft		
-12 to -13 ft		
-13 to -14 ft	B (shoal)	B (shoal)
-14 to -15 ft		
-15 to -17 ft MLLW	C (-15 to -17 ft)	C (-15 to -17 ft)
-17 to -18 ft	D	D
-18 to -19 ft	E	E
-19 to -20 ft	F	F
-20 to -21 ft	G	G
-21 to -22 ft	H	H
-22 to -23 ft	I	I
-23 to -24 ft	J	J
-24 to -25 ft	K	K
-25 to -26 ft		L
-26 to -27 ft		
-27 to -28 ft		
-28 to -29 ft		

Area 14 and 17 (RM 3.6-3.7 E)			
location ID:	777	778	779
mudline:	-16.7	-19.5	-16.2
-15 to -17 ft MLLW			
-17 to -18 ft	A (0-60)		A (0-60)
-18 to -19 ft	B		B
-19 to -20 ft	C		C
-20 to -21 ft	D	A (0-60)	D
-21 to -22 ft	E		E
-22 to -23 ft	F	B	F
-23 to -24 ft	G	C	G
-24 to -25 ft	H	D	H
-25 to -26 ft	I	E	I
-26 to -27 ft	J	F	J
-27 to -28 ft	K	G	K
-28 to -29 ft	L		L
-29 to -30 ft	M		M
-30 to -31 ft			

Area 15/16 (RM 3.6-3.65 W)					
location ID:	781	782	783	784	785
mudline:	-8.9	-12.0	-9.8	-12.4	-11.2
-8 to -9 ft					
-9 to -10 ft	A (0-60)		A (0-60)		
-10 to -11 ft					
-11 to -12 ft	B		B		A (0-60)
-12 to -13 ft	C	A (0-60)	C	A (0-60)	
-13 to -14 ft	D		D		B
-14 to -15 ft	E	B	E		C
-15 to -17 ft MLLW	F	C	F	C	D
-17 to -18 ft	G	D	G	D	E
-18 to -19 ft	H	E	H	E	F
-19 to -20 ft		F		F	G
-20 to -21 ft		G		G	H
-21 to -22 ft		H		H	I
-22 to -23 ft		I		I	J
-23 to -24 ft		J		J	K
-24 to -25 ft		K		K	L
-25 to -26 ft		L		L	M
-26 to -27 ft		M		M	N
-27 to -28 ft		N		N	O
-28 to -29 ft		O		O	P
-29 to -30 ft		P		P	
-30 to -31 ft		Q			

Area 18 Subtidal (RM 3.7-3.85 E)		
location ID:	787	788
mudline:	-14.0	-11.9
-11 to -12 ft		
-12 to -13 ft		A (0-60)
-13 to -14 ft		
-14 to -15 ft	A (shoal)	B
-15 to -17 ft MLLW	B (-15 to -17 ft)	C
		D
-17 to -18 ft	C	E
-18 to -19 ft	D	F
-19 to -20 ft	E	G
-20 to -21 ft	F	H
-21 to -22 ft	G	
-22 to -23 ft	H	
-23 to -24 ft	I	
-24 to -25 ft	J	
-25 to -26 ft	K	
-26 to -27 ft	L	
-27 to -28 ft	M	

Area 18 Intertidal (RM 3.7-3.85 E)		
location ID:	789	790
mudline:	-0.1	1.0
+2 to +1 ft		
+1 to 0 ft		A (0-45)
0 to -1 ft	A (0-45)	B
-1 to -2 ft	B	C
-2 to -3 ft	C	D
-3 to -4 ft	D	E
-4 to -5 ft	E	F
-5 to -6 ft	F	G
-6 to -7 ft	G	H
-7 to -8 ft	H	I
-8 to -9 ft	I	J
-9 to -10 ft	J	K
-10 to -11 ft	K	L
-11 to -12 ft	L	M
-12 to -13 ft	M	
-13 to -14 ft	N	

Area 19/20 (RM 3.8 W)				
location ID:	791	793	795	799
mudline:	3.1	4.5	5.5	3.7
+7 to +6 ft				
+6 to +5 ft			A (0-45)	
+5 to +4 ft		A (0-45)	B	
+4 to +3 ft		B	C	A (0-45)
+3 to +2 ft	A (0-45)	C	D	B
+2 to +1 ft	B	D	E	C
+1 to 0 ft	C	E	F	D
0 to -1 ft	D	F	G	E
-1 to -2 ft	E			F
-2 to -3 ft	F			
-3 to -4 ft	G			
-4 to -5 ft	H			
-5 to -6 ft	I			
-6 to -7 ft				

Area 21 (RM 3.8)	
location ID:	800
mudline:	-7.9
-8 to -9 ft	A (0-60)
-9 to -10 ft	B
-10 to -11 ft	C
-11 to -12 ft	D
-12 to -13 ft	E
-13 to -14 ft	F
-14 to -15 ft	G
-15 to -16 ft	H

RM 3.9 Subtidal	
location ID:	802
mudline:	-12.9
-12 to -13 ft	
-13 to -14 ft	A (shoal)
-14 to -15 ft	
-15 to -17 ft MLLW	B (-15 to -17 ft)
-17 to -18 ft	C
-18 to -19 ft	D
-19 to -20 ft	E
-20 to -21 ft	F
-21 to -22 ft	G
-22 to -23 ft	H
-23 to -24 ft	I
-24 to -25 ft	J
-25 to -26 ft	K
-26 to -27 ft	L

Area 22 (RM 3.9 E)	
location ID:	804
mudline:	-8.2
-7 to -8 ft	
-8 to -9 ft	A (0-60)
-9 to -10 ft	B
-10 to -11 ft	C
-12 to -13 ft	D
-13 to -14 ft	E
-14 to -15 ft	F
-15 to -17 ft MLLW	G
-17 to -18 ft	H

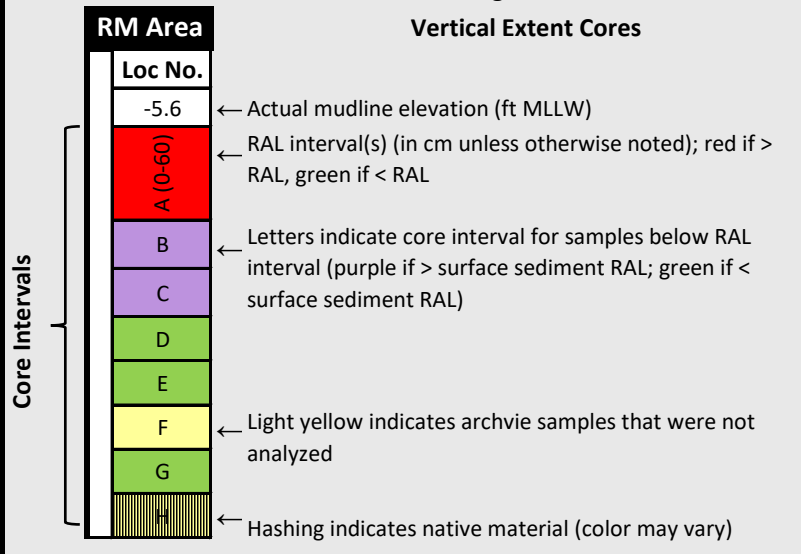
Area 23 (RM 3.9 W)	
location ID:	806
mudline:	3.2
+4 to +3 ft	
+3 to +2 ft	A (0-45)
+2 to +1 ft	B
+1 to 0 ft	C
0 to -1 ft	D
-1 to -2 ft	E
-2 to -3 ft	F
-3 to -4 ft	G
-4 to -5 ft	H

Area 24/25 and Area 26 (RM 3.95-4.0 E)				
location ID:	808	632	809	810
mudline:	0.4	3.1	1.8	1.5
+3 to +2 ft		A (0-45)		
+2 to +1 ft		B	A (0-45)	
+1 to 0 ft	A (0-45)	C	B	A (0-45)
0 to -1 ft	B	D	C	B
-1 to -2 ft	C	E	D	C
-2 to -3 ft	D	F	E	D
-3 to -4 ft	E	G	F	E
-4 to -5 ft	F	H	G	F
-5 to -6 ft	G	I		
-6 to -7 ft	H			
-7 to -8 ft				

Area 30/31 (RM 4.7 W)	
location ID:	814
mudline:	1.0
+2 to +1 ft	
+1 to 0 ft	A (0-45)
0 to -1 ft	B
-1 to -2 ft	C
-2 to -3 ft	D
-3 to -4 ft	
-4 to -5 ft	

Areas 32-25 (RM 4.8 to 5.0 E)	
location ID:	699X
mudline:	-3.2
+6 to +5 ft	
-1 to -2 ft	
-2 to -3 ft	
-3 to -4 ft	A (0-45)
-4 to -5 ft	
-5 to -6 ft	

**Legend for
Vertical Extent Cores**



Gray shading indicates the -15 to -17 ft MLLW depth.

Phase I shoaling cores identified the Z-samples as the "Z" interval. Phase II and III vertical cores identified the intervals alphabetically (i.e., B, C, or D depending on the number of shoaling intervals).

Core intervals B and deeper are 30 cm in length, except where noted on the core profiles.