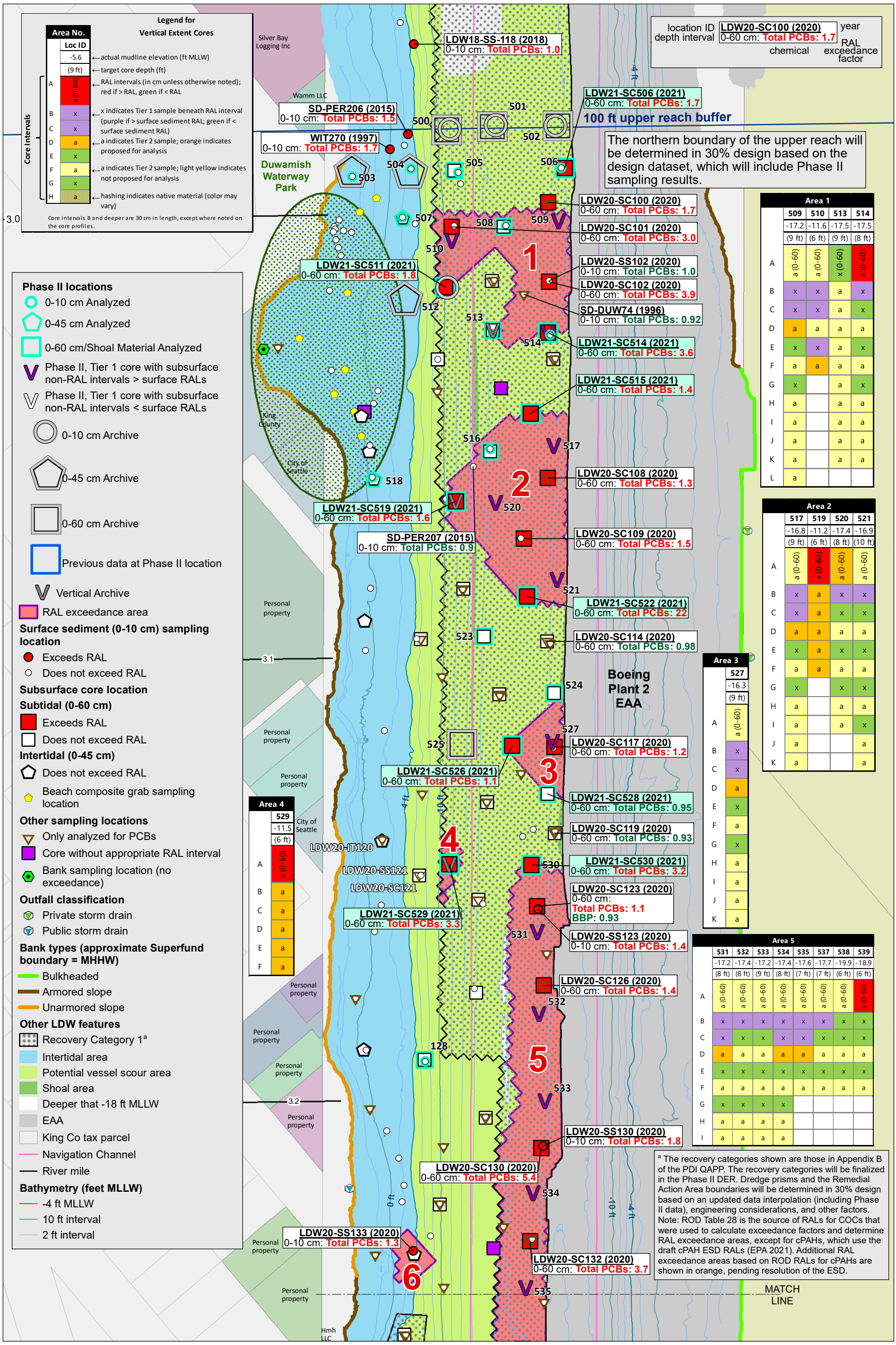
PRELIMINARY DATA - WORK IN PROGRESS



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ANCHOR QEA

Lower Duwamish Waterway Group

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

0 100 200 Feet

0 25 50 Meters

Phase II preliminary data, RM 3.0 to RM 3.2

DRAFT

Prepared by nicolase, 9/20/2021; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\Phase II\Field Work\Prelim Data\7172a Upper Reach Ph2 Prelim Data - RM 3.0-3.2.mxd

PRELIMINARY DATA - WORK IN PROGRESS

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0 100 200 Feet
0 25 50 Meters

Phase II preliminary data, RM 3.2 to RM 3.5

DRAFT

Prepared by nicolase, 9/20/2021; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\Phase II\Field Work\Prelim Data\7172b Upper Reach Ph2 Prelim Data - RM 3.2-3.5.mxd

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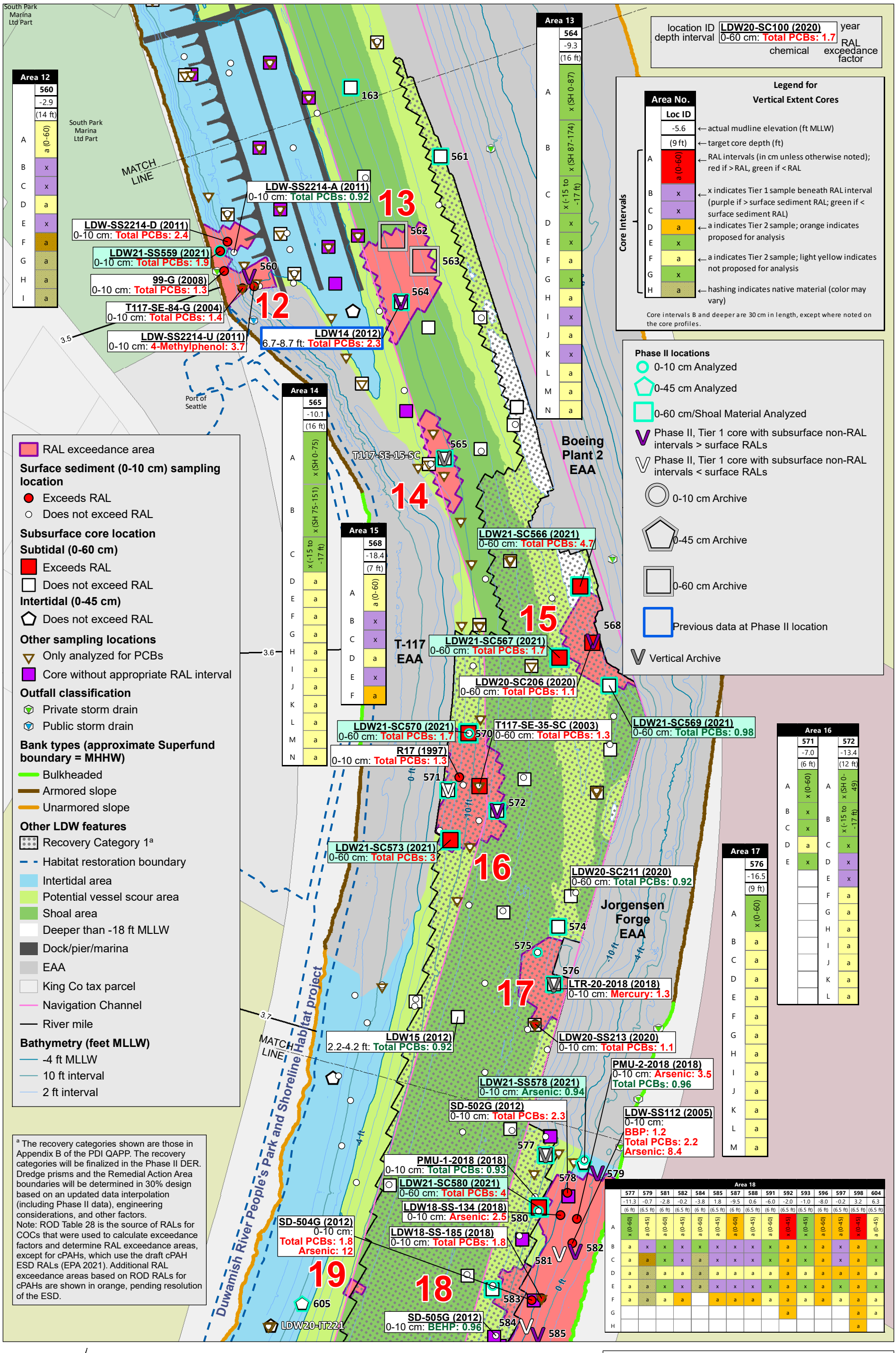

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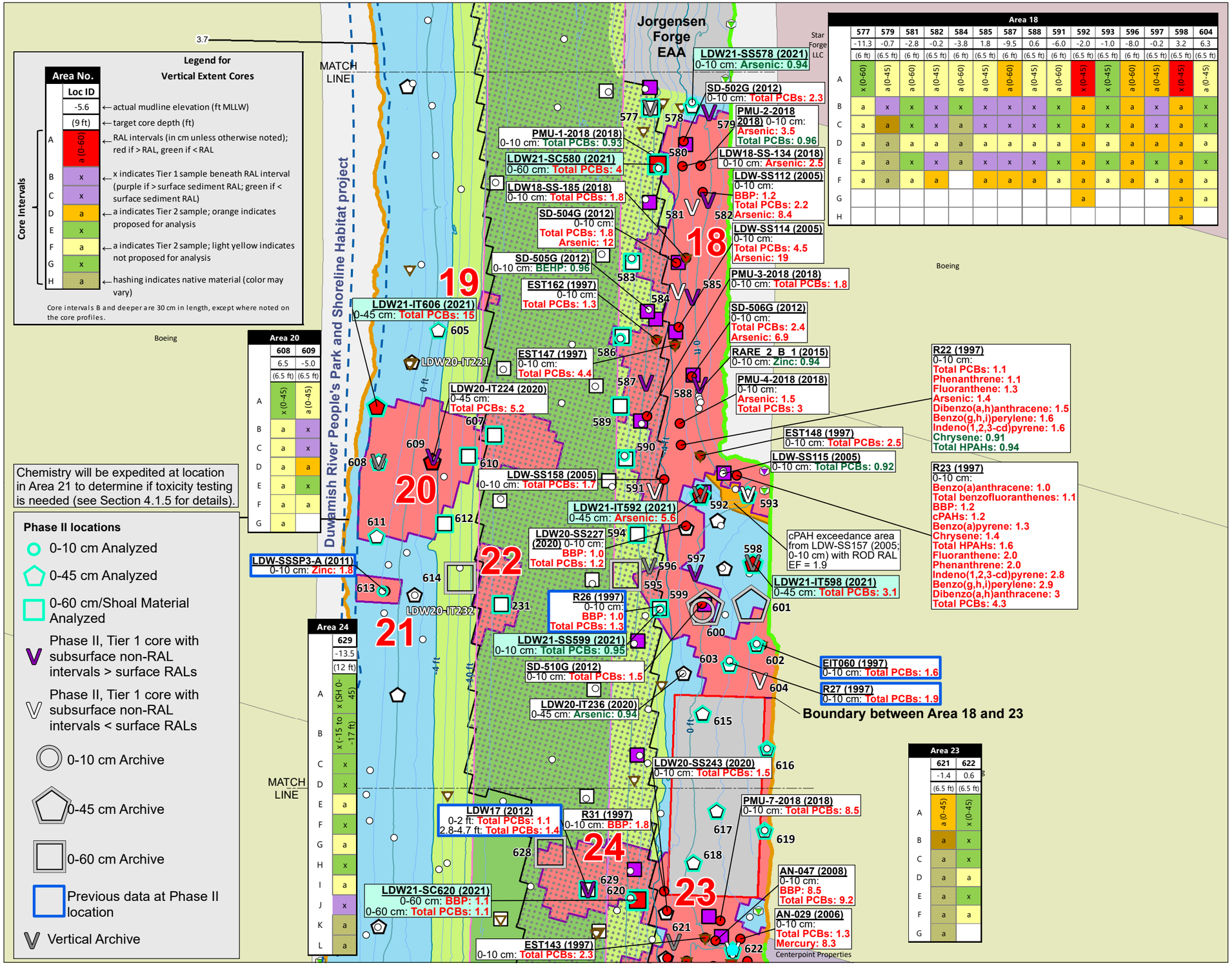
0 100 200 Feet

0 25 50 Meters

Phase II preliminary data, RM 3.5 to RM 3.7

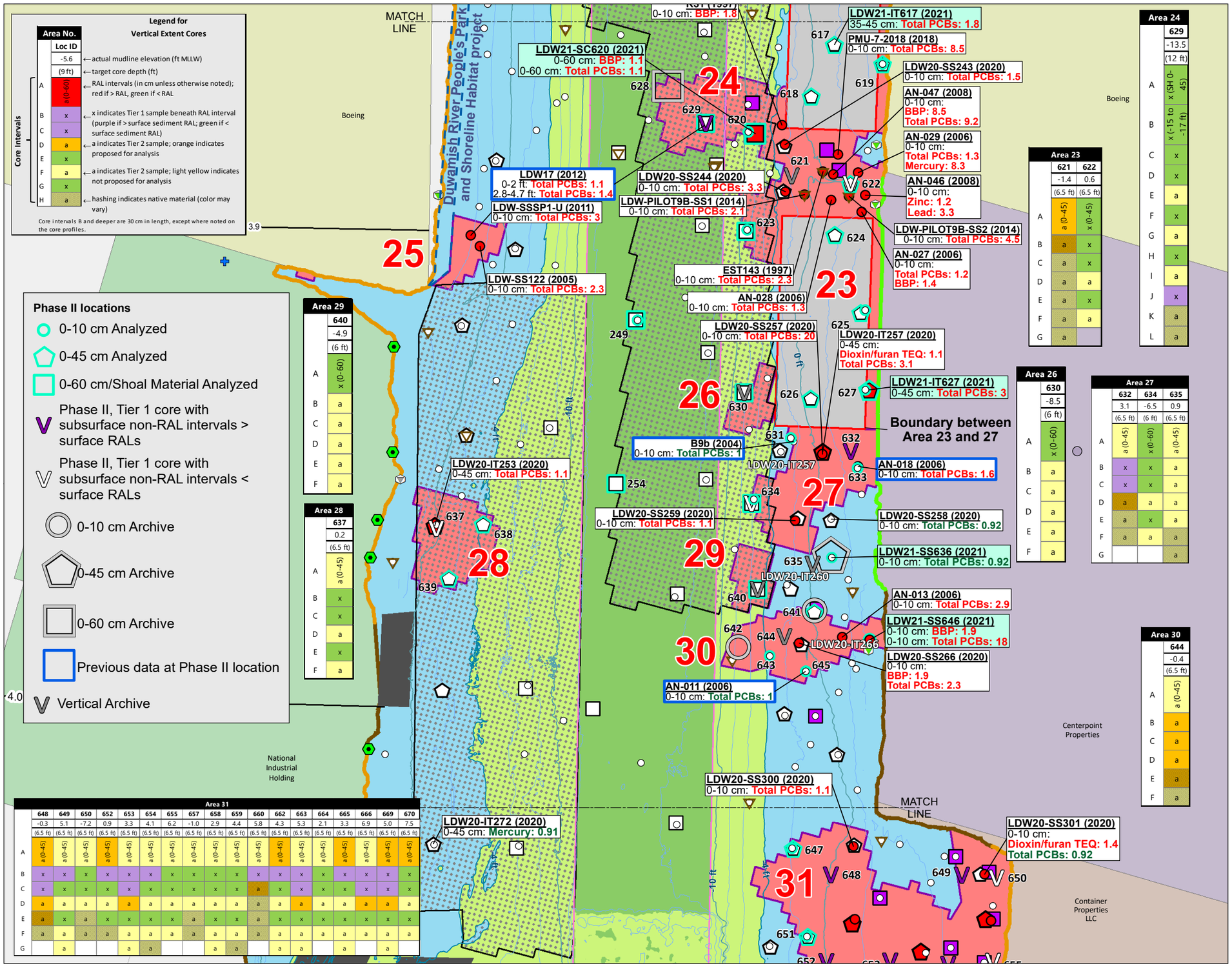
DRAFT

PRELIMINARY DATA - WORK IN PROGRESS



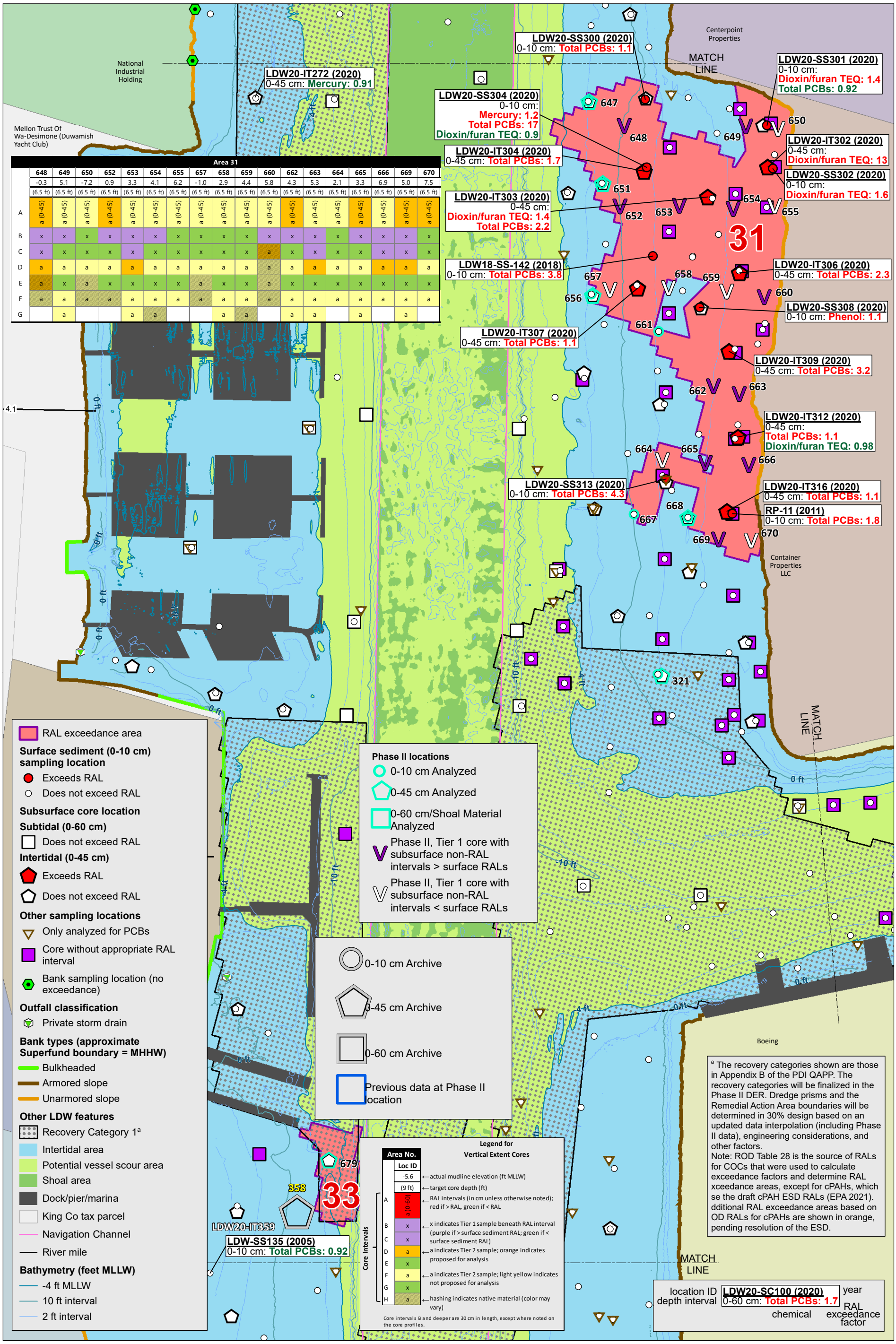
Prepared by nicolase, 9/20/2021; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\Phase II\Field Work\Prelim Data\7172d Upper Reach Ph2 Prelim Data - RM 3.7-3.85.mxd

PRELIMINARY DATA - WORK IN PROGRESS



Prepared by nicolase, 9/20/2021; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\Phase II\Field Work\Prelim Data\7172e Upper Reach Ph2 Prelim Data - RM 3.85-4.05.mxd

PRELIMINARY DATA - WORK IN PROGRESS



Area 31																		
	648	649	650	652	653	654	655	657	658	659	660	662	663	664	665	666	669	670
	-0.3	5.1	-7.2	0.9	3.3	4.1	6.2	-1.0	2.9	4.4	5.8	4.3	5.3	2.1	3.3	6.9	5.0	7.5
	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)
A	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)
B	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
C	x	x	x	x	x	x	x	x	x	x	a	x	x	x	x	x	x	x
D	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
E	a	x	a	x	x	x	x	a	x	x	a	x	x	x	x	x	x	x
F	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
G		a			a	a			a	a		a	a		a		a	

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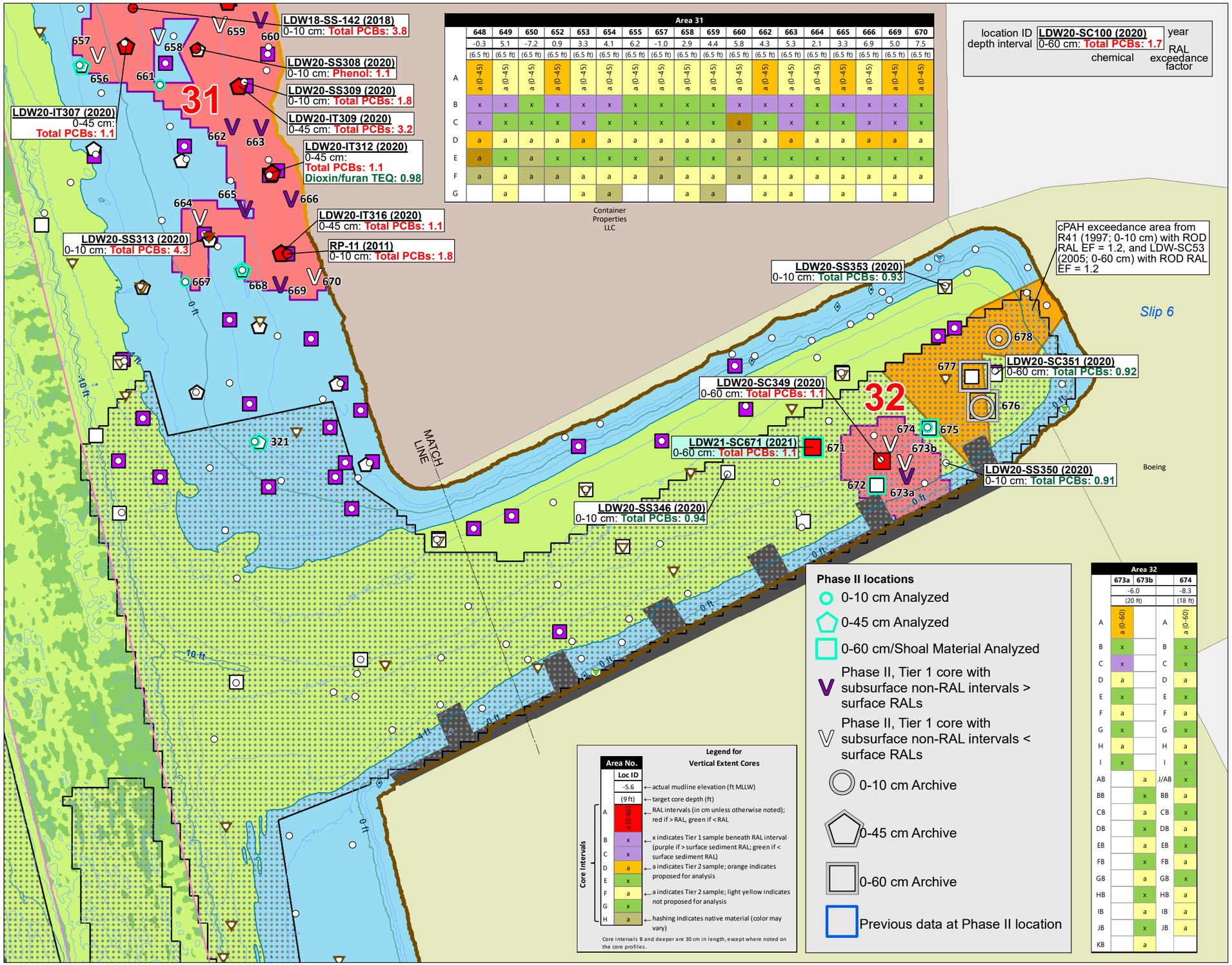
Phase II preliminary data, RM 4.05 to RM 4.3

DRAFT

PRELIMINARY DATA - WORK IN PROGRESS



RAL exceedance area
Additional exceedance area using cPAH ROD RALs

Surface sediment (0-10 cm) sampling location
- Exceeds RAL
- Does not exceed RAL

Subsurface core location

Subtidal (0-60 cm)
- Exceeds RAL
- Does not exceed RAL

Intertidal (0-45 cm)
- Exceeds RAL
- Does not exceed RAL

Other sampling locations
- Only analyzed for PCBs
- Core without appropriate RAL interval

Outfall classification
- Private storm drain
- Public storm drain
- Abandoned/inactive

Bank types (approximate Superfund boundary = MHHW)
- Armored slope
- Unarmored slope

Other LDW features
- Recovery Category 1[a]
- Intertidal area
- Potential vessel scour area
- Shoal area
- Dock/pier/marina
- King Co tax parcel
- Navigation Channel
- River mile

Bathymetry (feet MLLW)
- -4 ft MLLW
- 10 ft interval
- 2 ft interval

[a] The recovery categories shown are those in Appendix B of the PDI QAPP. The recovery categories will be finalized in the Phase II DER. Dredge prisms and the Remedial Action Area boundaries will be determined in 30% design based on an updated data interpolation (including Phase II data), engineering considerations, and other factors. Note: ROD Table 28 is the source of RALs for COCs that were used to calculate exceedance factors and determine RAL exceedance areas, except for cPAHs, which use the draft cPAH ESD RALs (EPA 2021). Additional RAL exceedance areas based on ROD RALs for cPAHs are shown in orange, pending resolution of the ESD.

N

0 100 200 Feet

0 25 50 Meters

Phase II preliminary data, Slip 6

DRAFT

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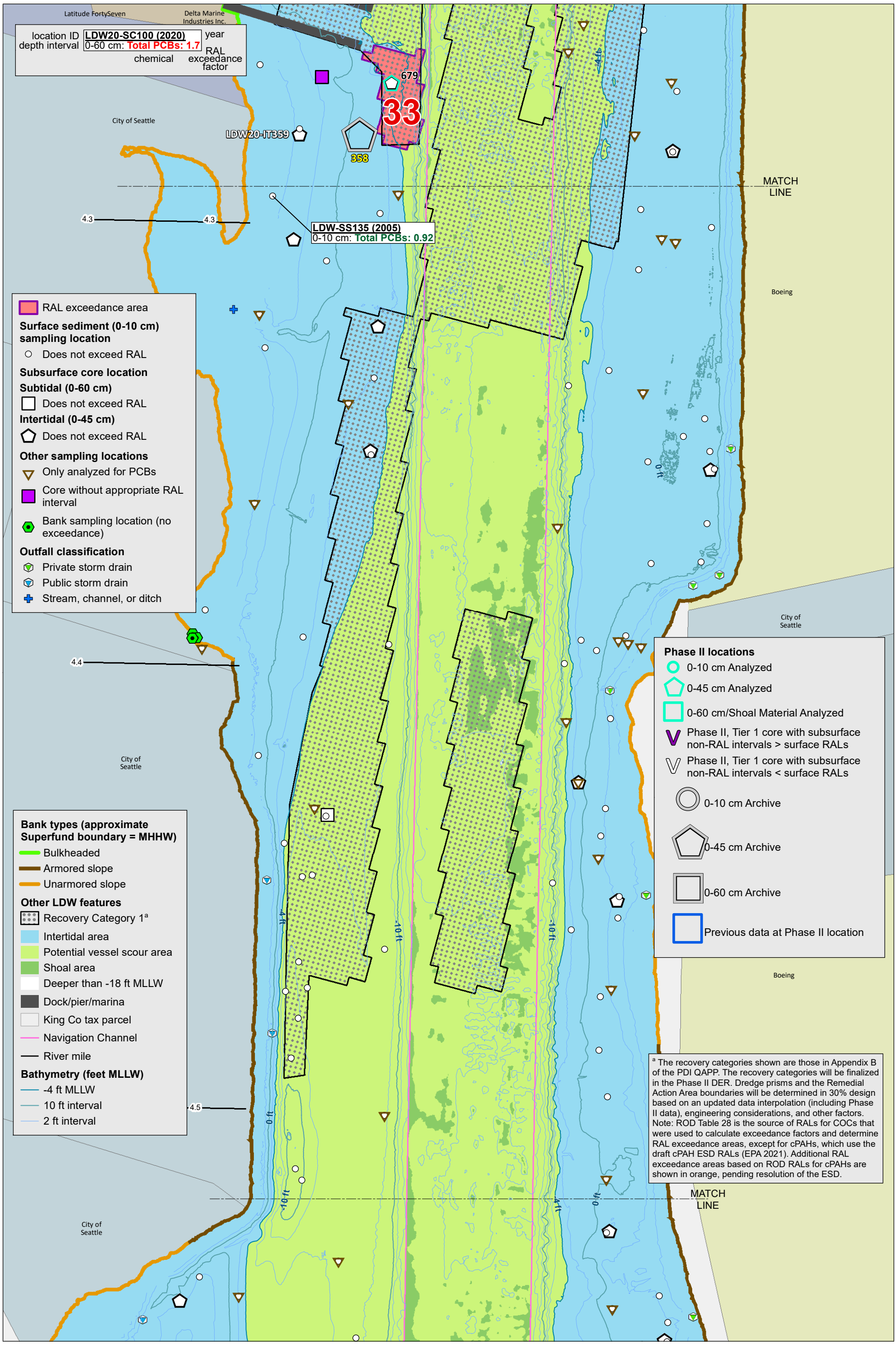
PRELIMINARY DATA - WORK IN PROGRESS



[a] The recovery categories shown are those in Appendix B of the PDI QAPP. The recovery categories will be finalized in the Phase II DER. Dredge prisms and the Remedial Action Area boundaries will be determined in 30% design based on an updated data interpolation (including Phase II data), engineering considerations, and other factors. Note: ROD Table 28 is the source of RALs for COCs that were used to calculate exceedance factors and determine RAL exceedance areas, except for cPAHs, which use the draft cPAH ESD RALs (EPA 2021). Additional RAL exceedance areas based on ROD RALs for cPAHs are shown in orange, pending resolution of the ESD.

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N

0 100 200 Feet

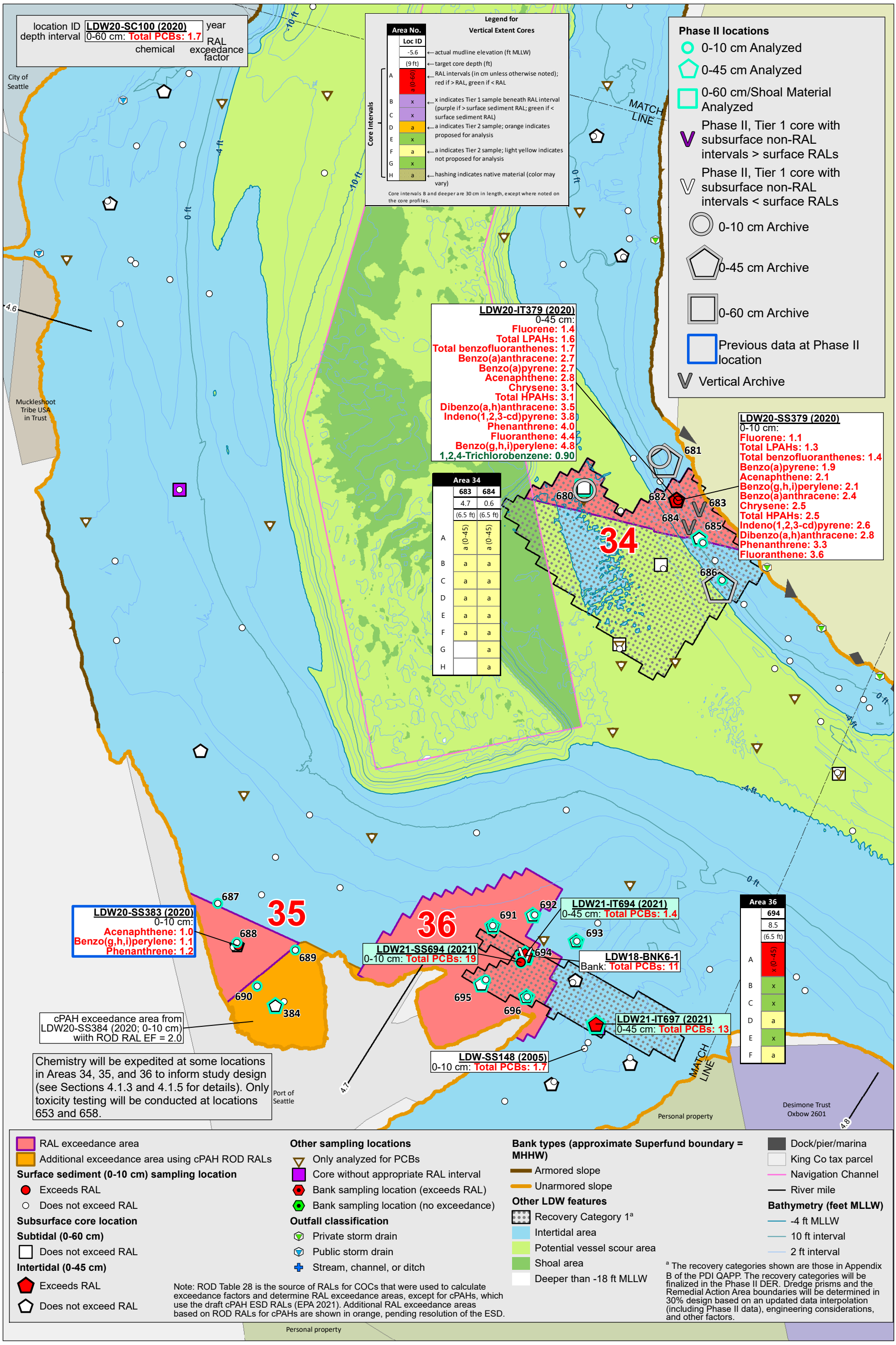
0 25 50 Meters

Phase II preliminary data, RM 4.3 to RM 4.55

DRAFT

Prepared by nicolase, 9/20/2021; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\Phase II\Field Work\Prelim Data\7172h Upper Reach Ph2 Prelim Data - RM 4.3-4.5.mxd

PRELIMINARY DATA - WORK IN PROGRESS



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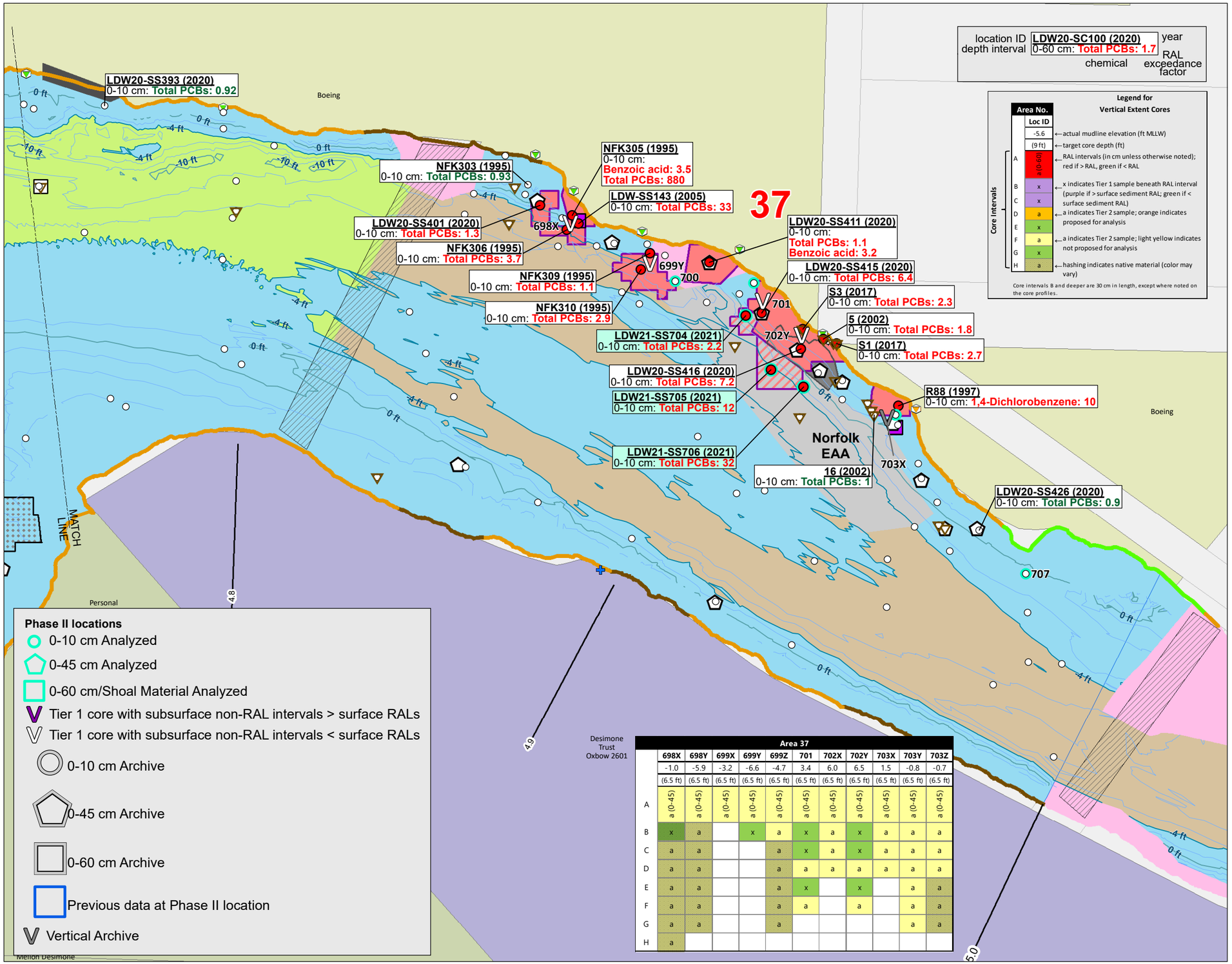
0 100 200 Feet
0 25 50 Meters

Phase II preliminary data, RM 4.55 to RM 4.8

DRAFT

Prepared by nicolase, 9/20/2021; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\Phase II\Field Work\Prelim Data\7172\ Upper Reach Ph2 Prelim Data - RM 4.6-4.8.mxd

PRELIMINARY DATA - WORK IN PROGRESS



location ID | year
depth interval | RAL exceedance factor
0-60 cm: Total PCBs: 1.7 | chemical

Legend for Vertical Extent Cores

Area No.		
	Loc ID	
	-5.6	← actual mudline elevation (ft MLLW)
	(9 ft)	← target core depth (ft)
Core Intervals A	a (0-60)	← RAL intervals (in cm unless otherwise noted); red if > RAL, green if < RAL
B	x	← x indicates Tier 1 sample beneath RAL interval (purple if > surface sediment RAL; green if < surface sediment RAL)
C	x	
D	a	← a indicates Tier 2 sample; orange indicates proposed for analysis
E	x	
F	a	← a indicates Tier 2 sample; light yellow indicates not proposed for analysis
G	x	
H	a	← hashing indicates native material (color may vary)

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

Phase II locations
- 0-10 cm Analyzed
- 0-45 cm Analyzed
- 0-60 cm/Shoal Material Analyzed
- Tier 1 core with subsurface non-RAL intervals > surface RALs
- Tier 1 core with subsurface non-RAL intervals < surface RALs
- 0-10 cm Archive
- 0-45 cm Archive
- 0-60 cm Archive
- Previous data at Phase II location
- Vertical Archive

Area 37

	698X	698Y	699X	699Y	699Z	701	702X	702Y	703X	703Y	703Z
	-1.0	-5.9	-3.2	-6.6	-4.7	3.4	6.0	6.5	1.5	-0.8	-0.7
	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)	(6.5 ft)
A	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)	a (0-45)
B	x	a		x	a	x	a	x	a	a	a
C	a	a			a	x	a	x	a	a	a
D	a	a			a	a	a	a	a	a	a
E	a	a			a	x		x		a	a
F	a	a			a	a		a		a	a
G	a	a			a					a	a
H	a										

RAL exceedance area
RAL exceedance area on the Norfolk EAA

Surface sediment (0-10 cm) sampling location
- Exceeds RAL
- Does not exceed RAL

Subsurface core location

Subtidal (0-60 cm)
- Does not exceed RAL

Intertidal (0-45 cm)
- Does not exceed RAL

Other sampling locations
- Only analyzed for PCBs
- Core without appropriate RAL interval

Outfall classification
- CSO/storm drain
- Private storm drain
- Abandoned/inactive
- Stream, channel, or ditch

Bank types (approximate Superfund boundary = MHHW)
- Bulkheaded
- Armored slope
- Unarmored slope
- King Co tax parcel
- River mile

Other LDW features
- Recovery Category 1[a]
- Intertidal area
- Potential vessel scour area
- Subtidal with no subsurface RAL
- Area not covered by bathymetric survey
- Bridge
- Dock/pier/marina
- Boeing South Storm Drain removal area
- EAA

Bathymetry (feet MLLW)
- -4 ft MLLW
- 10 ft interval
- 2 ft interval

[a] The recovery categories shown are those in Appendix B of the PDI QAPP. The recovery categories will be finalized in the Phase II DER. Dredge prisms and the Remedial Action Area boundaries will be determined in 30% design based on an updated data interpolation (including Phase II data), engineering considerations, and other factors. Note: ROD Table 28 is the source of RALs for COCs that were used to calculate exceedance factors and determine RAL exceedance areas, except for cPAHs, which use the draft cPAH ESD RALs (EPA 2021). Additional RAL exceedance areas based on ROD RALs for cPAHs are shown in orange, pending resolution of the ESD.

N

0 100 200 Feet

0 25 50 Meters

Phase II preliminary data, RM 4.8 to RM 5.0

DRAFT

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