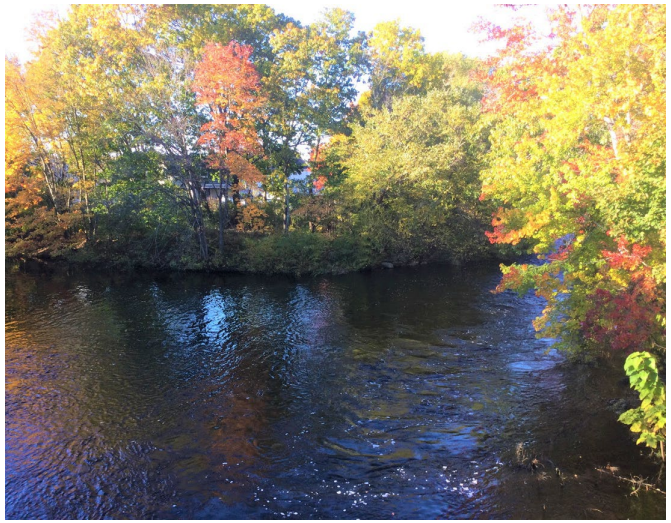


DATA EVALUATION SUMMARY MEMORANDUM – PHASE 1

LOWER NEPONSET RIVER SUPERFUND SITE

MARCH 2025

SEMS Doc ID 100034823

AGENDA

- Introduction and Example of TASC Support
- Status Update for the Lower Neponset River Superfund Site
- Overview of the Memorandum
- Sample Collection Activities
- Sample Analysis
- Data Interpretation
- Conclusions
- Engineering Evaluation/Cost Analysis
- Discussion

This presentation is funded by the EPA's TASC program; its contents do not necessarily reflect the policies, actions or positions of the EPA

Data Evaluation Summary Memorandum – Phase 1

AECOM

AECOM
250 Apollo Drive
Chelmsford, MA 01824
aecom.com

Project name: Lower Neponset River Superfund Site

Project ref: 68HE0318D0002

From: AECOM Document Technical Lead

Date:
November 1, 2024

To:
Pluta, Alexander
pluta.alexander@epa.gov,
Burgo, Natalie
Burgo.Natalie@epa.gov

CC:
AECOM Project Manager

Data Evaluation Summary Memorandum – Phase 1

AECOM conducted activities within the Phase 1 Reach of the Lower Neponset River Superfund Site between June and November of 2023. The Lower Neponset River Superfund Site (the Site) consists of a 3.7-mile section of the Neponset River between its confluence with the Mother Brook (in Hyde Park, Massachusetts) and the Walter Baker Chocolate Dam (in Dorchester/Milton, Massachusetts) (see **Figure 1**). The Phase 1 Reach of the Site includes the upper one mile stretch of the site between the Mother Brook and Neponset River confluence and the Tileston and Hollingsworth (T&H) Dam (see **Figure 1**). The data from activities conducted within the Phase 1 Reach will be used to support the comprehensive Remedial Investigation/Feasibility Study (RI/FS) for the 3.7-mile Site that will be conducted in the future. In addition, these data are being used to complete the engineering evaluation and cost analysis (EE/CA) for the Phase 1 Reach. The EE/CA will support a potential non-time critical removal action (NTCRA) of sediment contaminated with polychlorinated biphenyls (PCBs) within the Phase 1 Reach.

Activities completed within the Phase 1 Reach included:

- Sediment coring attempted at 70 locations between June 22nd and June 29th, 2023. Of the 70 locations where coring was attempted, it was possible to collect samples from 63 of the locations (7 locations were abandoned);
- Probing of sediment to refusal at 23 locations between June 23rd and June 30th, 2023;
- Floodplain soil boring attempted at 120 locations between July 18th and August 11th, 2023. Of the 120 locations where borings were attempted, it was possible to collect samples from 109 of the locations (11 locations were abandoned);
- Surface water sampling completed at 70 locations co-located with sediment locations, between October 16th and October 26th, 2023;
- Pore water sampling attempted at six locations co-located with sediment locations between October 25th and October 27th, 2023. Of the six locations where sampling was attempted, it was possible to collect samples from five of the locations; and
- Water level monitoring conducted using a transducer installed 500 feet upstream of the T&H Dam between March 30th and October 6th, 2023.

Phase 1 activities also included the following activities in reference locations (outside of the Site boundary):

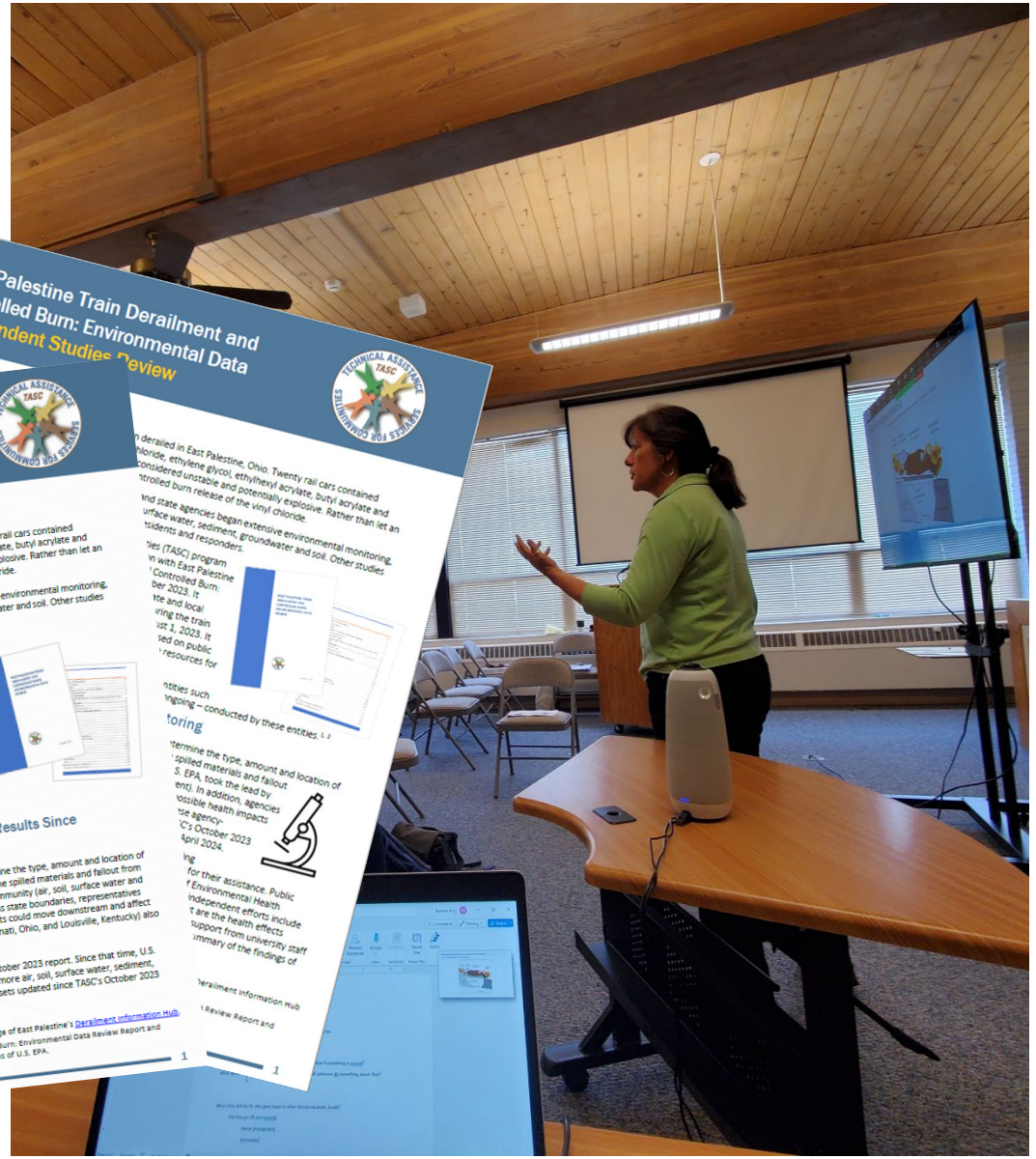
- Surface sediment grab sampling attempted at 12 locations in the Mother Brook and 12 locations in the Upper Neponset River between October 30th and October 31st, 2023, and November 8th and November 10th, 2023. Of the 24 locations where surface grab sampling was attempted, it was possible to collect samples from the 12 locations in the Mother Brook and 10 of the 12 locations in the Upper Neponset River; and
- Surface water sampling completed at 12 locations co-located with sediment locations in the Mother Brook and 12 locations co-located with sediment locations in the Upper Neponset River between November 8th and November 10th, 2023.

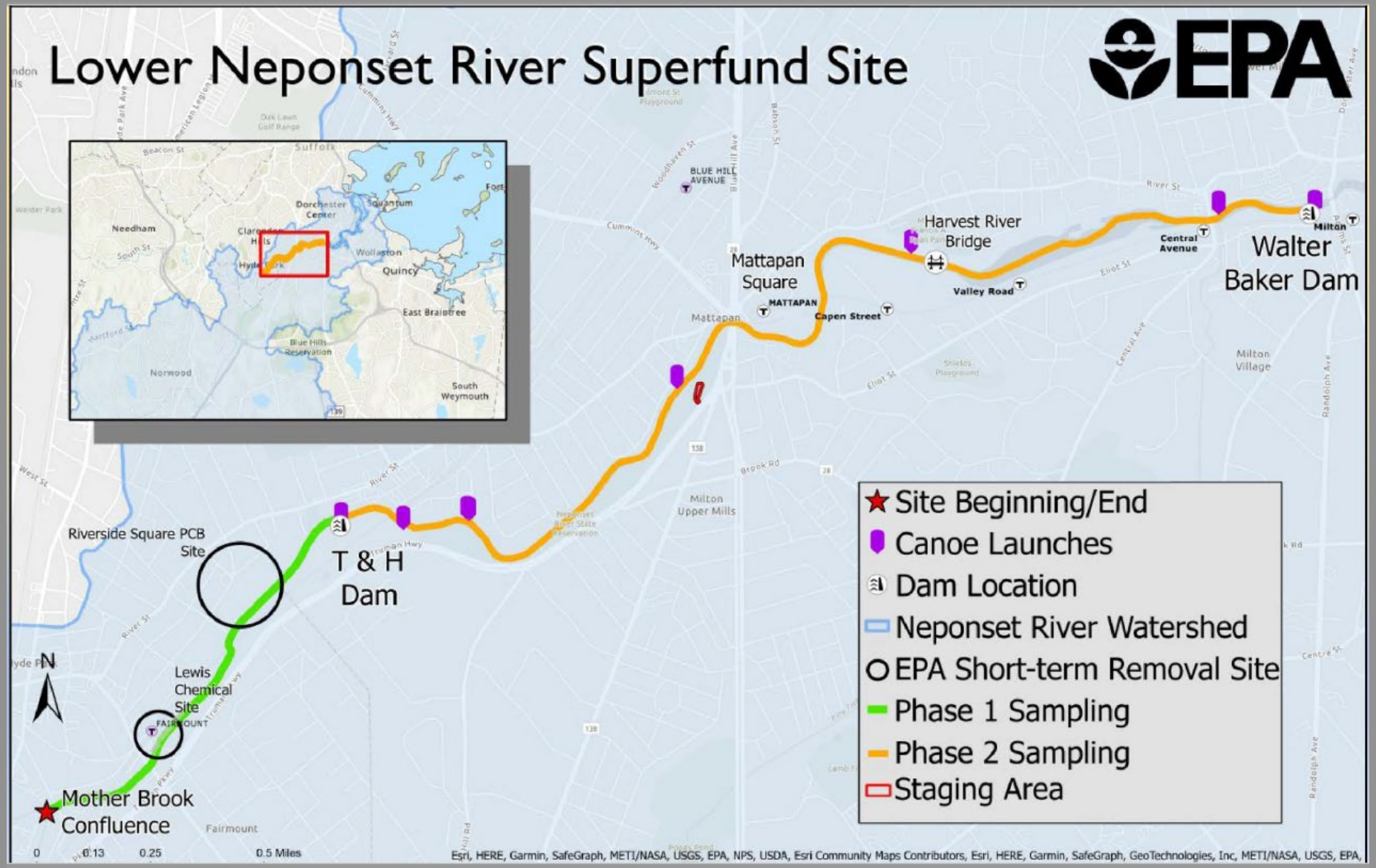
1

SEMS Doc ID 100032178

INTRODUCTION AND EXAMPLE OF TASC SUPPORT

- Officials in East Palestine, Ohio, asked TASC to review and consolidate information as it becomes available
- TASC is here tonight to summarize the "Data Evaluation Summary Memorandum – Phase 1" for the Lower Neponset River Superfund site
- TASC provides a 'third-party review' and can help people understand the information in the memorandum



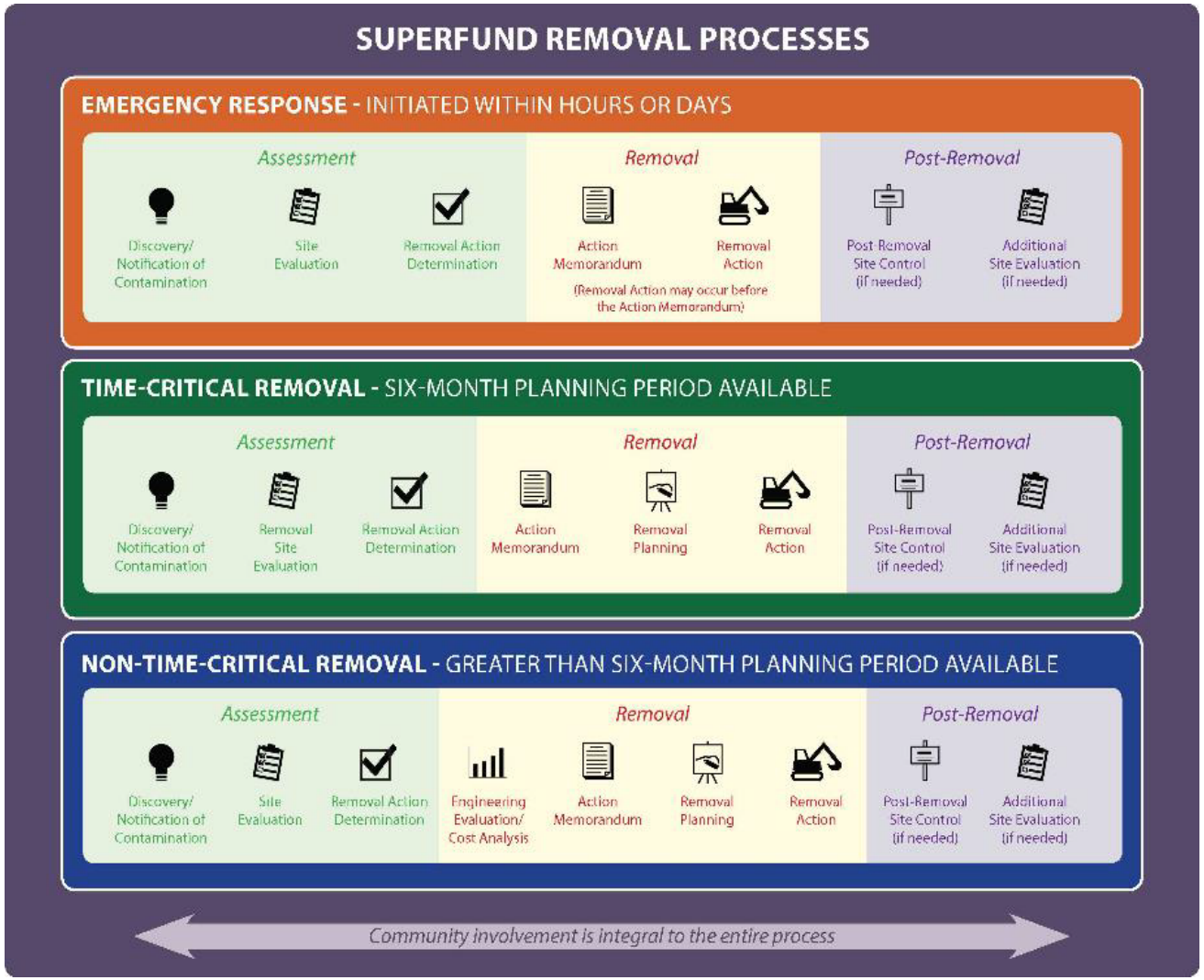

Lower Neponset River Superfund Site
EPA
Harvest River Bridge
Mattapan Square
Walter Baker Dam
Valley Road
Central Avenue
Milton
MATTAPAN
Capen Street
Mattapan
BLUE HILL AVENUE
Riverside Square PCB Site
T & H Dam
Lewis Chemical Site
FAIRMOUNT
Mother Brook Confluence
Fairmount
Milton Upper Mills
Milton Village
Needham
Dorchester Center
Squantum
Wollaston
Quincy
East Braintree
Blue Hills Reservation
Norwood
South Weymouth
Site Beginning/End
Canoe Launches
Dam Location
Neponset River Watershed
EPA Short-term Removal Site
Phase 1 Sampling
Phase 2 Sampling
Staging Area
N
0
0.13
0.25
0.5 Miles
Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA,

WHAT ARE THE GOALS OF SUPERFUND?

SUPERFUND REMOVAL AND REMEDIAL ACTIONS

SUPERFUND REMOVAL PROCESSES

- Emergency Responses:
  - Start within hours or days
- Time-Critical Removals:
  - Six-month planning period available
- Non-Time-Critical Removals
  - Greater-than-six-month planning period available

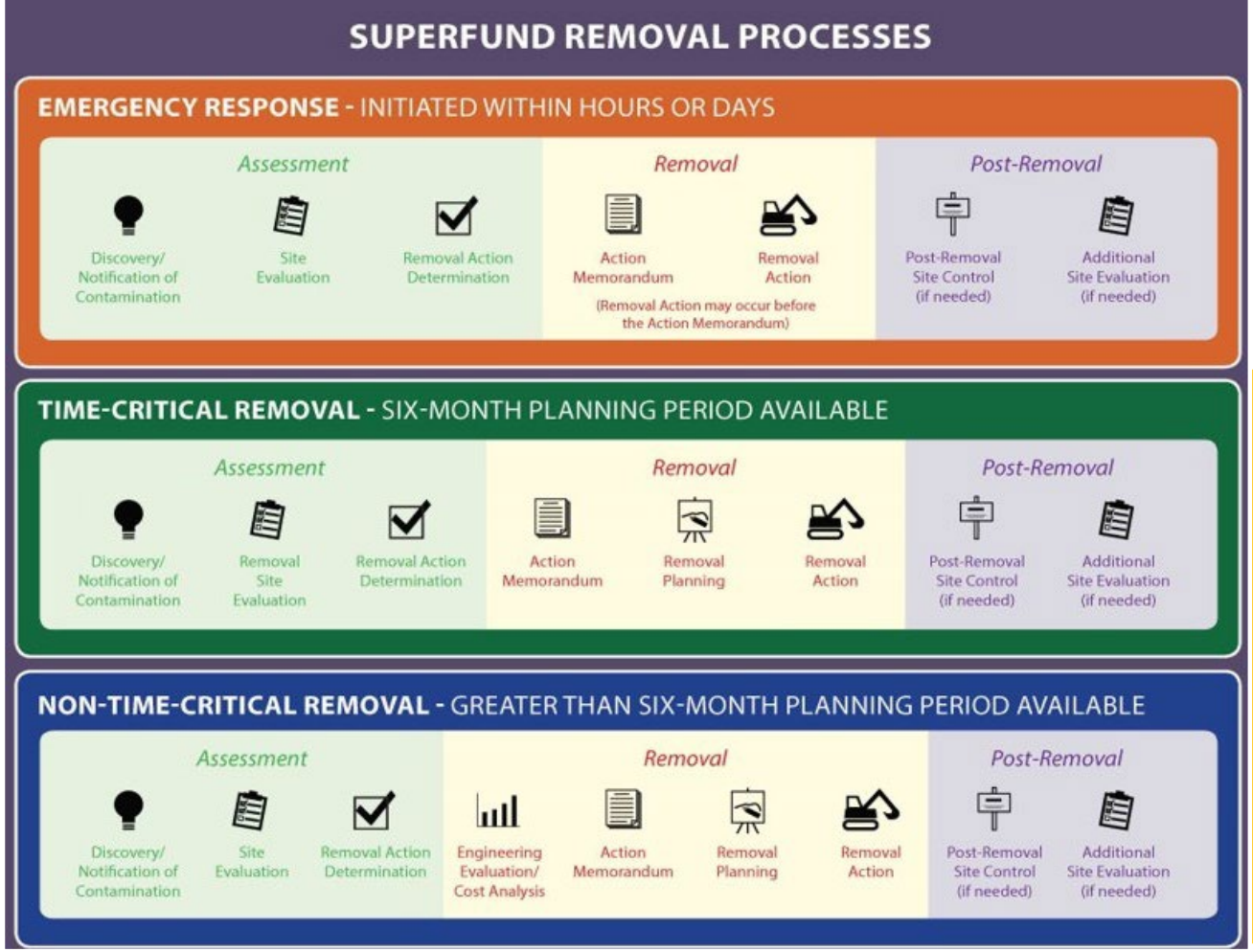


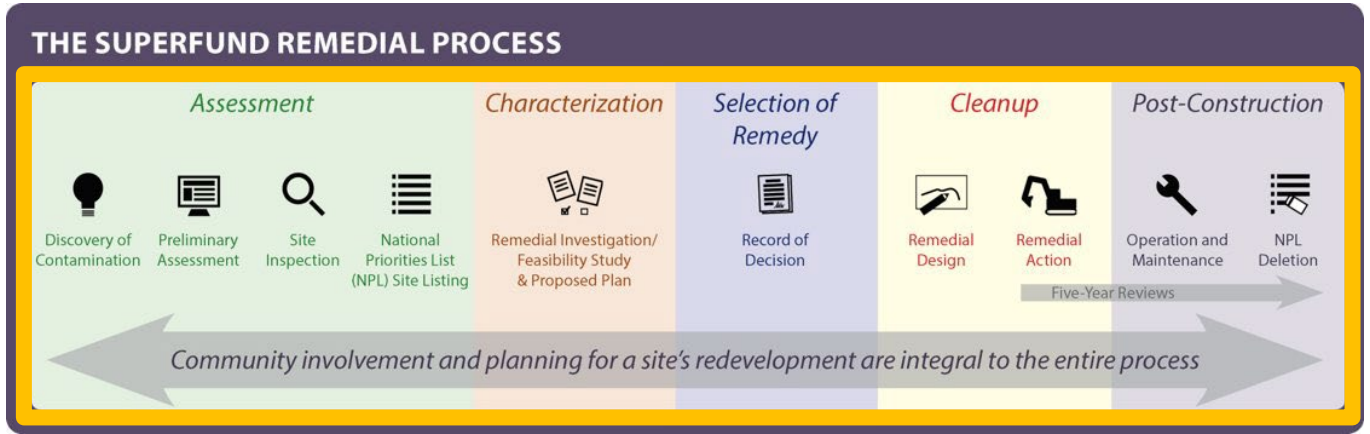
Superfund Processes Vary, Based on the Type of Action

Riverside Square and Lewis Chemical

Lower Neponset River Phase I Area

Lower Neponset River (full 3.7 miles)





DATA EVALUATION SUMMARY MEMORANDUM – PHASE 1

United States Environmental Protection Agency

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Site: LOWER NEPONSET RIVER (EPA ID: MAN000102204)

Collection ID: 39491 Collection Description: Publicly Available Documents - Lower Neponset River

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The memorandum and its attachments, data and GIS files are all available to the public on the EPA's webpage for the site

Please reach out to TASC if you need help finding documents or have questions

11/01/2024	DATA EVALUATION SUMMARY MEMORANDUM - PHASE 1 (615 pp, 33.98 MB)	100032178	(AECOM)	PLUTA, ALEXANDER (US EPA REGION 1); BURGO, NATALIE (US EPA REGION 1)	33.98 MB
11/01/2024	DATA EVALUATION SUMMARY MEMORANDUM - PHASE 1, ATTACHMENTS (2183 pp, 352.96 MB)	100032179	(AECOM)	BURGO, NATALIE (US EPA REGION 1); PLUTA, ALEXANDER (US EPA REGION 1)	352.96 MB
11/01/2024	LOWER NEPONSET SITE PHASE 1 DATA TABLES (32 pp, 101.71 MB)	100032188			101.71 MB
11/01/2024	DATA EVALUATION SUMMARY MEMORANDUM - PHASE 1, GIS FILES (7610 pp, 15.43 MB)	100032189	(AECOM)	(US EPA REGION 1)	15.43 MB

MEMORANDUM OVERVIEW

THE PURPOSE OF PHASE I DATA COLLECTION ACTIVITIES

Data Evaluation Summary Memorandum – Phase 1

AECOM

AECOM
250 Apollo Drive
Chelmsford, MA 01824
aecom.com

Project name: Lower Neponset River Superfund Site

Project ref: 68HE0318D0002

To:
Pluta, Alexander
pluta.alexander@epa.gov,
Burgo, Natalie
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From: AECOM Document Technical Lead

Date:
November 1, 2024

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AECOM Project Manager

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1

SEMS Doc ID 100032178

- Phase 1 Reach data will support the site's comprehensive remedial investigation and feasibility study, which will be conducted in the future
- These data are also being used to complete the engineering evaluation and cost analysis for the Phase 1 Reach
- The EE/CA will support a potential non-time-critical removal action for sediment contaminated with polychlorinated biphenyls in the Phase 1 Reach

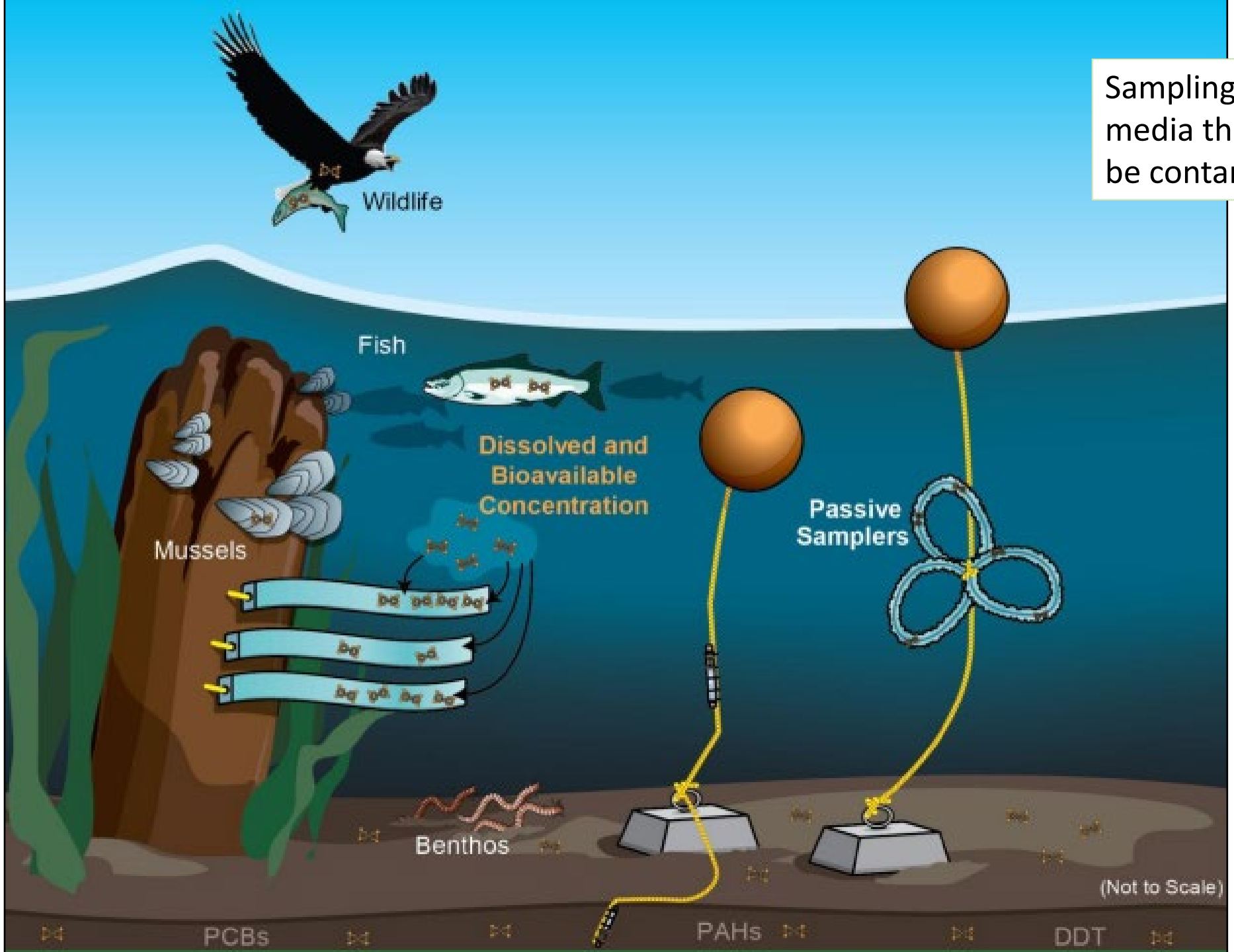
MEMORANDUM FORMAT

- 13 pages of text
- 576 pages of tables:
  - Example: Table 11, Sediment Analytical Results, is 180 pages long
- Figures and attachments

Table 11
Sediment Analytical Results
Phase 1 Data Evaluation Summary Memorandum
Lower Neponset River
Boston, Massachusetts

				Location	23A-0001-PLC1
				Sample Name	23A-0001-PLC1-AS
				Sample Date	6/29/2023
				Sample Type	N
				Depth Interval	0 - 0.5 ft
Analyte	CAS Number	Units	Human Health PAL	Ecological PAL	
TCL Pesticides					
ALDRIN	309-00-2	ug/kg	39	29	< 2.0 UJ
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	ug/kg	86	0.3	< 2.0 UJ
ALPHA ENDOSULFAN (ENDOSULFAN I)	959-98-8	ug/kg	47000		< 2.0 UJ
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	ug/kg	300	5	< 2.0 UJ
BETA ENDOSULFAN (ENDOSULFAN II)	33213-65-9	ug/kg	47000	0.9	< 3.9 UJ
cis-Chlordane (alpha-Chlordane)	5103-71-9	ug/kg	3600		< 2.0 UJ
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	ug/kg	86		**7.5 J**
DIELDRIN	60-57-1	ug/kg	34	1.9	< 3.9 UJ
ENDOSULFAN SULFATE	1031-07-8	ug/kg	38000	0.7	< 3.9 UJ
ENDRIN	72-20-8	ug/kg	1900	2.22	< 3.9 UJ
ENDRIN ALDEHYDE	7421-93-4	ug/kg	1900		< 3.9 UJ
ENDRIN KETONE	53494-70-5	ug/kg	1900		< 3.9 UJ
GAMMA BHC (LINDANE)	58-89-9	ug/kg	570	2.4	**2.7 J**
HEPTACHLOR	76-44-8	ug/kg	130	0.6	< 2.0 UJ
HEPTACHLOR EPOXIDE	1024-57-3	ug/kg	70	2.47	< 2.0 UJ
METHOXYCHLOR	72-43-5	ug/kg	32000	30	< 20 UJ
P,P'-DDD (4,4'-DDD)	72-54-8	ug/kg	2300	3.5	< 3.9 UJ
P,P'-DDE (4,4'-DDE)	72-55-9	ug/kg	2000	1.4	< 3.9 UJ
P,P'-DDT (4,4'-DDT)	50-29-3	ug/kg	1900	1	**3.7 J**
TOXAPHENE	8001-35-2	ug/kg	490	0.1	< 200 UJ
Trans-Chlordane (Gamma-Chlordane)	5103-74-2	ug/kg	3600		< 2.0 UJ
Grain Size					
%CLAY	%CLAY	%			-
%COARSE SAND >.5-1MM (USDA classification)	%COARSESAND	%			-
%FINE SAND >.125-.25 mm (USDA classification)	%FINE SAND	%			-
%MEDIUM SAND >.25-5 mm (USDA classification)	%MEDIUM SAND	%			-
Gravel	GRAVEL	%			-
Hydrometer, Reading 1, Percent Passing	HYD01	%			-

SAMPLE COLLECTION ACTIVITIES



Sampling targets media that may be contaminated

What did EPA sample for During Phase I?

Media	Analytical Group
Sediment	**Surface samples:** Volatile organic compounds, semi-volatile organic compounds, pesticides, PCB congeners, polychlorinated dioxins and furans, metals, cyanide, total organic carbon, grain size, and acid volatile sulfide/simultaneous extracted metals. **Subsurface samples**: Volatile organic compounds, semi-volatile organic compounds, pesticides, PCB congeners, polychlorinated dioxins and furans, metals, cyanide, total organic carbon, and Grain Size.
Surface Water	**Samples from all depth intervals:** Volatile organic compounds, semi-volatile organic compounds, Pesticides, PCB congeners, polychlorinated dioxins and furans, hexavalent chromium, total and dissolved metals, and cyanide.
Pore Water	**Samples from target depth intervals:** PCB congeners, polychlorinated dioxins and furans, metals, Polycyclic aromatic hydrocarbons, total and dissolved metals, and dissolved organic carbon.
Soil	**Surface and subsurface samples:** PCB congeners, polychlorinated dioxins and furans, volatile organic compounds, Semi-volatile organic compounds, metals, and asbestos.
The Phase I Data Evaluation Memo and associated attachments are publicly available.	

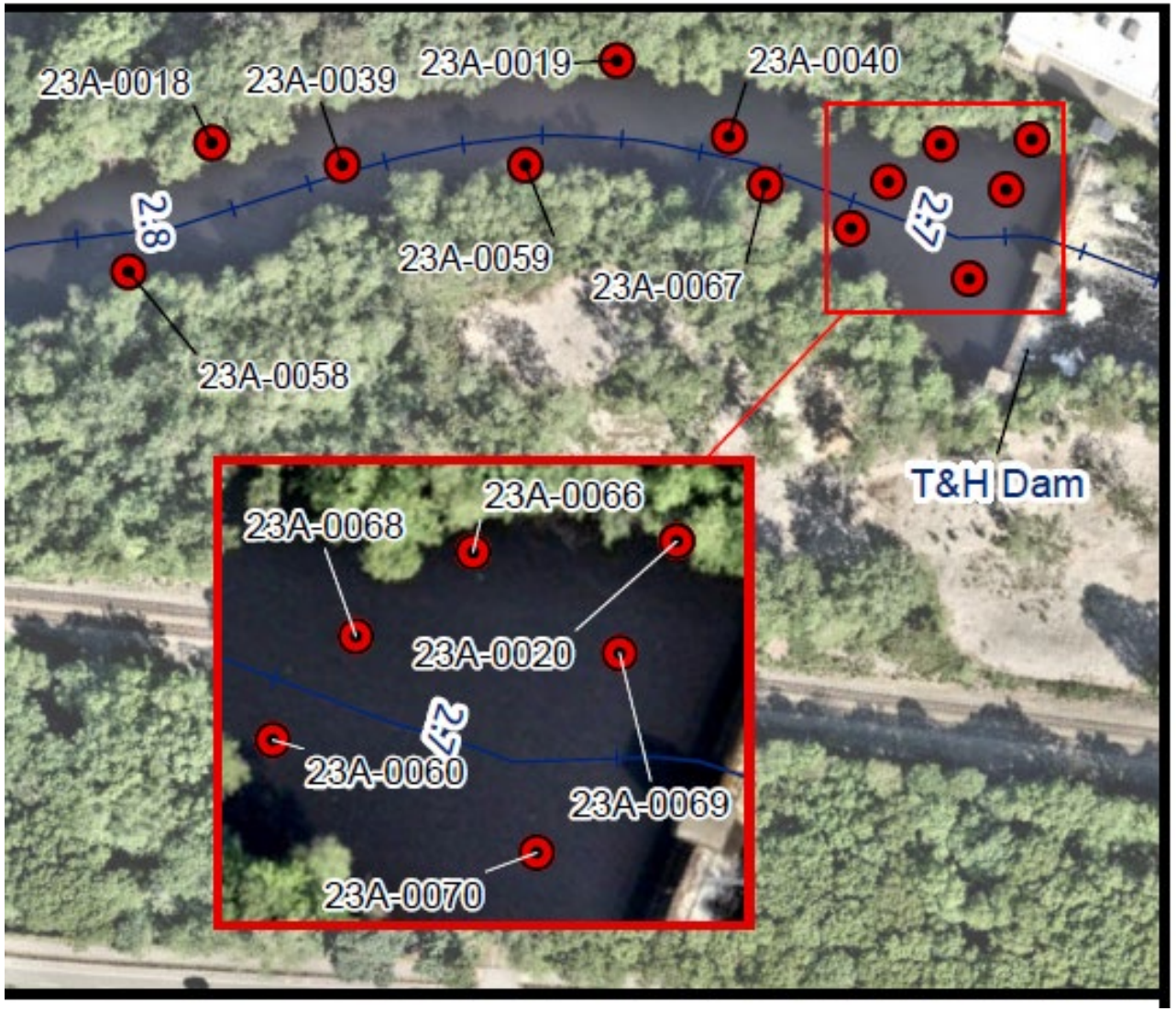
To look up chemical specific information, please refer to the ATSDR Index

DATA QUALITY OBJECTIVES

- Collect sediment samples for analysis of PCBs and physical properties in areas of known hot spots and to identify more hot spots to complete the EE/CA for a potential non-time-critical removal action of sediments contaminated with PCBs
- Use newly collected PCB sediment data as well as historical data, when appropriate, to perform a streamlined risk evaluation; the streamlined risk evaluation will focus on PCBs only and identify current or potential exposures that could be prevented by a non-time-critical removal action of PCB hot spots in sediment
- Collect floodplain soil samples throughout the area of investigation to evaluate the presence or absence of target constituents, evaluate potential data gaps and support the evaluation of receptor pathways
- Collect sediment, surface water, pore water and floodplain soil samples throughout the area of investigation and sediment and surface water in reference areas to develop a dataset that can be used to support the comprehensive remedial investigation and feasibility study, including a risk assessment, that will be completed in the future

EXAMPLE DATA QUALITY OBJECTIVE

- Collect sediment samples for analysis of PCBs and physical properties in areas of known hot spots to complete the EE/CA for a potential non-time-critical removal action of sediments contaminated with PCBs that are impounded behind the T&H Dam and in other sediment hot spots in the Phase 1 Reach



EXAMPLE: SUMMARY OF RIVERBANK SOILS SAMPLING

- Sampling included 60 unbiased boring locations in the floodplain along the northern bank and 60 unbiased locations along the southern bank of the Phase 1 Reach
- Of the 120 floodplain soil sampling locations proposed, soil samples were collected from 109 of 120 locations and 11 locations were abandoned
- Borings depths range from 0.15 feet to 4 feet
- A field geologist visually logged borings for lithologic characteristics, screening them with a photoionization detector and photographing them
- From each boring, samples were collected from surface soil (0 feet to 1 feet) and subsurface soil from the deepest 1 foot of the boring, when possible
- Samples were submitted for analysis of PCB congeners, polychlorinated dibenzodioxins and polychlorinated dibenzofurans, metals and mercury, semi-volatile organic compounds, volatile organic compounds and asbestos

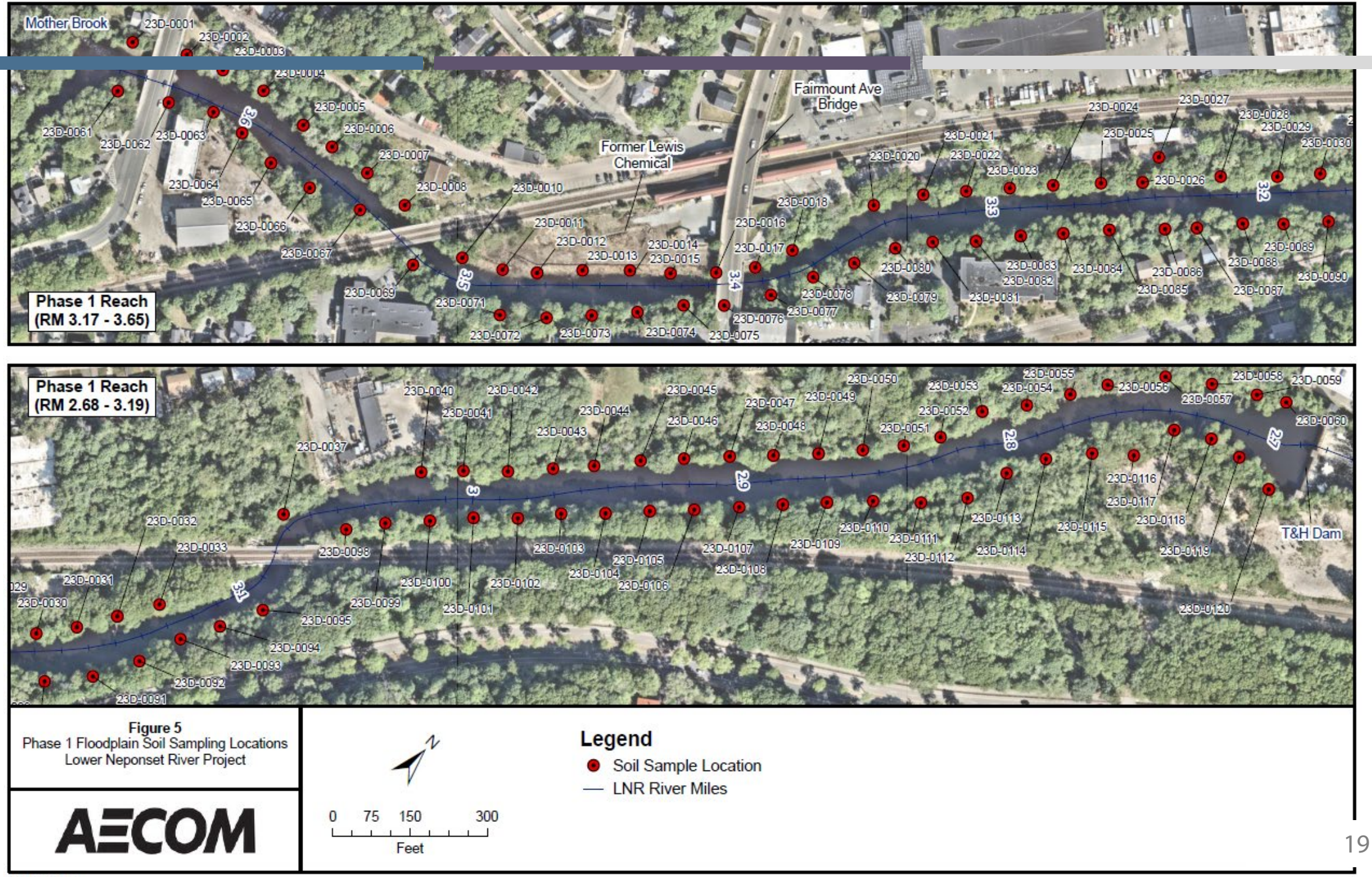


Figure 5
Phase 1 Floodplain Soil Sampling Locations
Lower Neponset River Project

AECOM

EXAMPLE: SUMMARY OF RIVERBANK SURFACE WATER SAMPLING

- Sampling included 94 surface water sampling locations that were co-located with the 94 sediment sampling locations
- Surface water samples were collected using a peristaltic pump; water depth was measured to determine the sampling depths:
  - If the depth was less than 6 feet, a single sample was collected from the midpoint of the water column (this applied to 56 locations)
  - If the water depth was greater than or equal to 6 feet, then samples were collected from a depth of 1 foot and from a depth of 2 feet above the sediment-water interface (this applied to 14 locations)
- During purging, field parameters (dissolved oxygen, pH, oxidation reduction potential, conductivity, temperature) were measured
- Quality assurance/quality control samples consisting of sample duplicates, matrix spile/matrix spike duplicates, equipment blanks, trip blanks and ambient blanks were collected

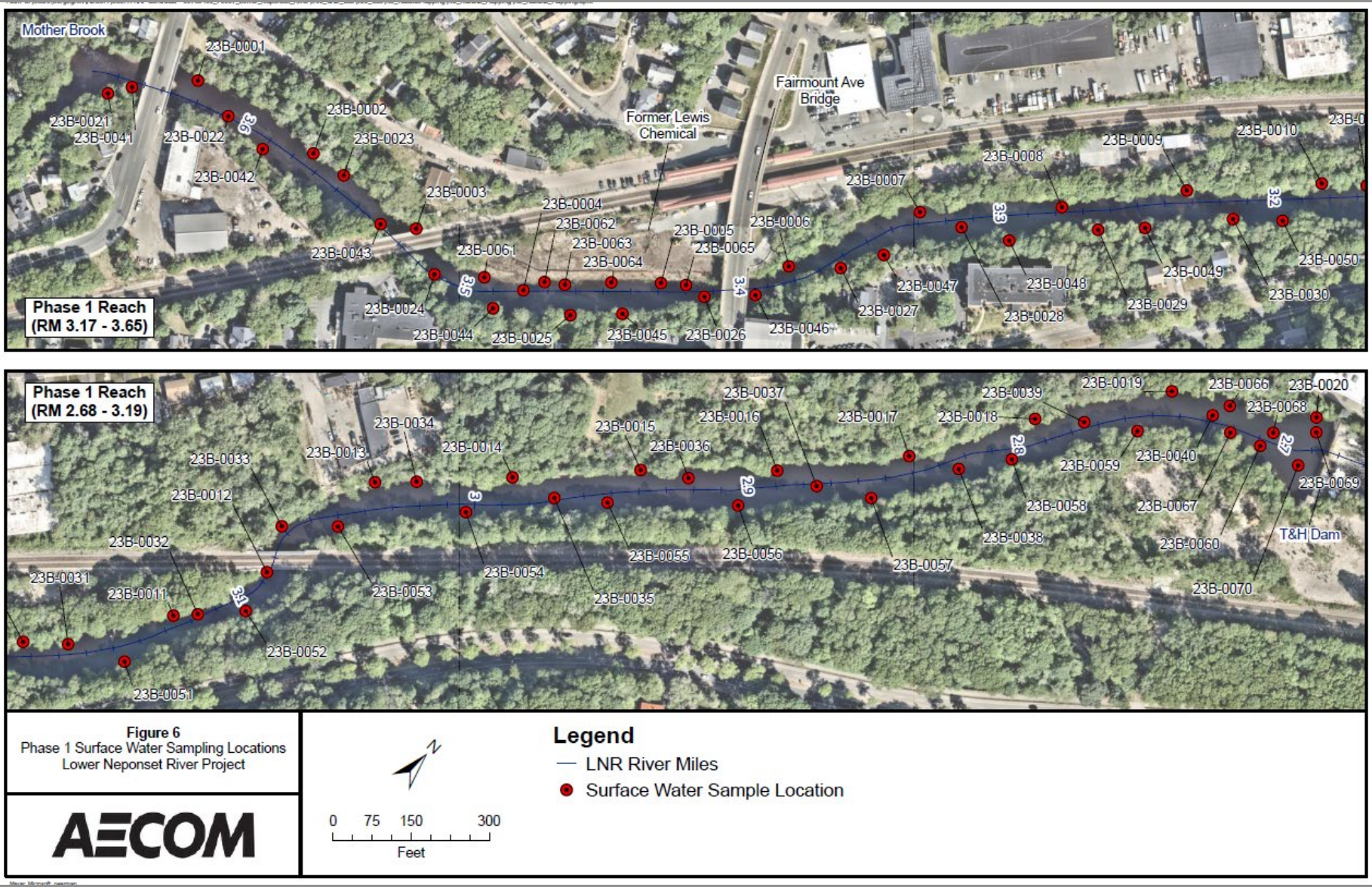


Figure 6
Phase 1 Surface Water Sampling Locations
Lower Neponset River Project

AECOM

SAMPLE ANALYSIS

LABORATORY ANALYSIS COMPLETED

Table 4
Analytical Program Summary
Phase 1 Data Evaluation Summary Memorandum
Lower Neponset River
Boston, Massachusetts

Analyte Group	Method
Sediment	
TCL VOCs	SFAM01.1
TCL SVOCs	SFAM01.1
TCL Pesticides	SFAM01.1
PCB Congeners	USEPA 1628
PCDD/F	USEPA 1613B
Total Cyanide	SFAM01.1
TOC	Lloyd Kahn
TAL Metals (ICP-MS) Mercury (CVAA)	SFAM01.1
AVS/SEM (applies to surface sediment from the Phase 1 reach only)	AVS/SEM
Grain Size	ASTM D422 Modified

AVS/SEM – simultaneously extracted metals/acid-volatile sulfide
CVAA – cold vapor atomic absorption
DOC – dissolved organic carbon
ICP-MS – inductively coupled plasma mass spectrometry
PAH – polycyclic aromatic hydrocarbon
PCB – polychlorinated biphenyl
PCDD/F – dibenzodioxins/furans
PFAS – per- and polyfluoroalkyl substances
SVOCs – semi-volatile organic compounds
TCL – target compound list
TOC – total organic carbon
VOCs – volatile organic compounds
USEPA – United States Environmental Protection Agency

EXAMPLE SUITES OF ANALYSIS (SURFACE SAMPLES OF SEDIMENT)

- Volatile organic compounds
- Semi-volatile organic compounds
- Pesticides
- **PCB congeners**
- Polychlorinated dioxins and furans
- Metals
- Cyanide
- Total organic carbon
- Grain size
- Acid volatile sulfide/simultaneous extracted metals

PCB-001 through PCB-209 (and totals) were analyzed

PCB Congeners	
PCB-001	2051-60-7
PCB-002	2051-61-8
PCB-003	2051-62-9
PCB-004/010	PCB-4/10
PCB-005/008	PCB-5/8
PCB-006	25569-80-6
PCB-007/009	PCB-7/9
PCB-011	2050-67-1
PCB-012/013	PCB-12/13
PCB-014	34883-41-5
PCB-015	2050-68-2
PCB-016/032	PCB-16/32
PCB-017	37680-66-3
PCB-018	37680-65-2
PCB-019	38444-73-4
PCB-020/021/033	PCB-20/21/33
PCB-022	38444-85-8
PCB-023/034	PCB-23/34
PCB-024/027	PCB-24/27
PCB-025	55712-37-3
PCB-026	38444-81-4
PCB-028	7012-37-5
PCB-029	15862-07-4

EXAMPLE SUITES OF ANALYSIS (SURFACE SAMPLES OF SEDIMENT) (CONT.)

- Volatile organic compounds
- Semi-volatile organic compounds
- Pesticides
- PCB congeners
- Polychlorinated dioxins and furans
- **Metals (23 different metals)**
- Cyanide
- Total organic carbon
- Grain size
- Acid volatile sulfide/simultaneous extracted metals

TAL Metals and Mercury	
Aluminum	7429-90-5
Calcium	7440-70-2
Iron	7439-89-6
Magnesium	7439-95-4
Potassium	7440-09-7
Sodium	7440-23-5
Antimony	7440-36-0
Arsenic	7440-38-2
Barium	7440-39-3
Beryllium	7440-41-7
Cadmium	7440-43-9
Chromium, Total	7440-47-3
Cobalt	7440-48-4
Copper	7440-50-8
Lead	7439-92-1
Manganese	7439-96-5
Nickel	7440-02-0
Selenium	7782-49-2
Silver	7440-22-4
Thallium	7440-28-0
Vanadium	7440-62-2
Zinc	7440-66-6
Mercury	7439-97-6

EXAMPLE SUITES OF ANALYSIS (SURFACE SAMPLES OF SEDIMENT) (CONT.)

- Volatile organic compounds
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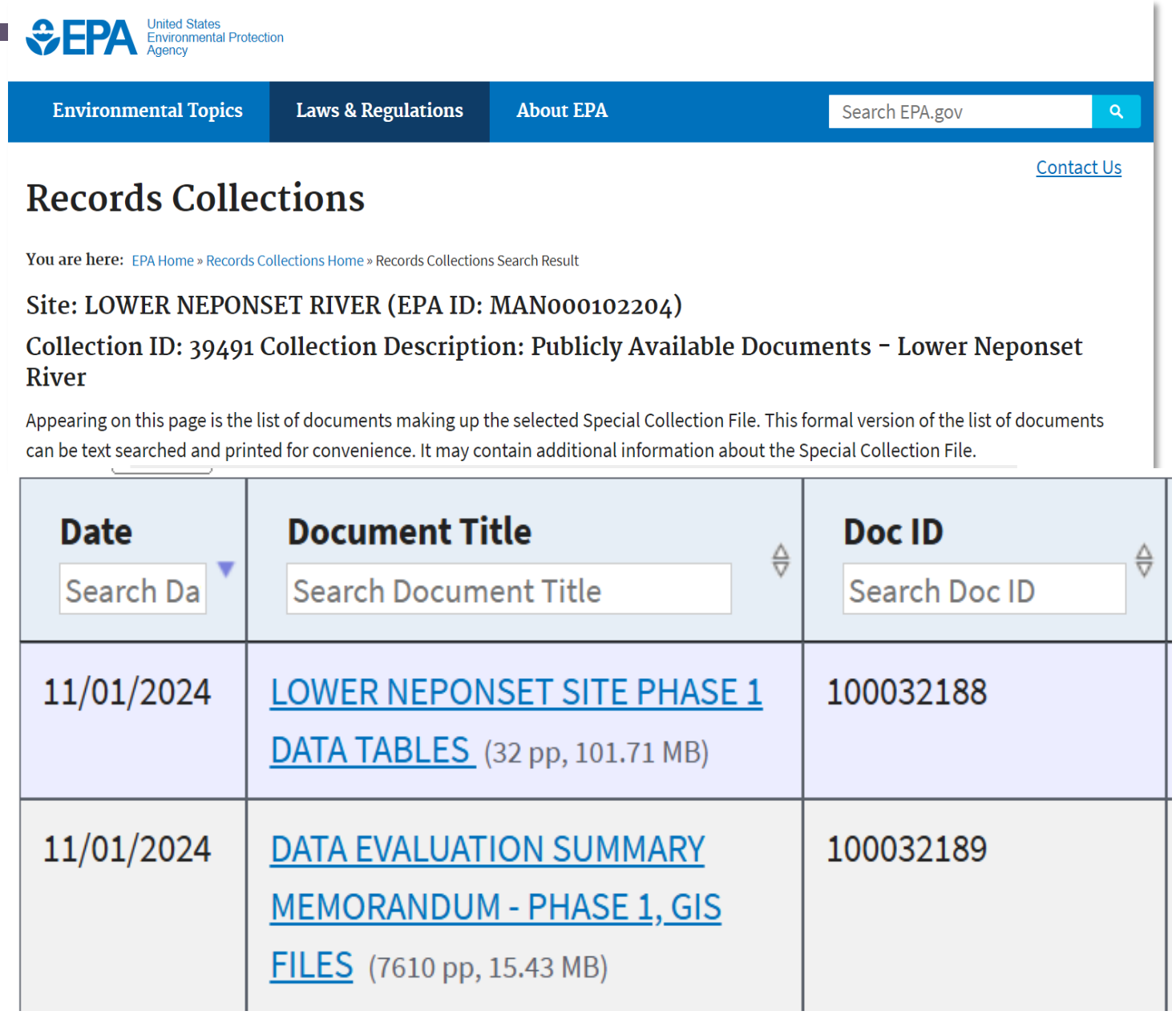
- Pesticides
- PCB congeners
- Polychlorinated dioxins and furans
- Metals
- Cyanide
- Total organic carbon
- Grain size
- **Acid volatile sulfide/simultaneous extracted metals**

AVS/SEM		
Acid Volatile Sulfide	AVS	umol/g
Cadmium	7440-43-9	umol/g
Copper	7440-50-8	umol/g
Lead	7439-92-1	umol/g
Nickel	7440-02-0	umol/g
Silver	7440-22-4	umol/g
Zinc	7440-66-6	umol/g
Mercury	7439-97-6	umol/g

ANALYTICAL RESULTS

- AECOM validated the data
- Tables in the document show the results of sediment, floodplain soil, surface water and pore water
- Summary statistics, including number of samples, number of detections and minimum, maximum and average detected values, are provided



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Search Da	Search Document Title	Search Doc ID
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11/01/2024	DATA EVALUATION SUMMARY MEMORANDUM - PHASE 1, GIS FILES (7610 pp, 15.43 MB)	100032189

DATA INTERPRETATION

COMPARISON OF ANALYTICAL RESULTS TO PROJECT ACTION LIMITS

- PALs represent the lowest of relevant human health and ecological screening levels that may be used during this stage or later stages of the remedial investigation and feasibility study process
- Analytical results were compared to the PALs for information purposes; the comparison is not an indication of risk

Media	Human Health	Ecological
Sediment	EPA regional screening levels for residential soil based on a hazard quotient of 0.1 and a target risk level of 1E-06	EPA Region 4 ecological screening values for freshwater sediment
Soil	EPA regional screening levels for residential soil	The lower of the ecological soil screening levels for soil invertebrates, plants, birds and mammals and the EPA Region 4 soil screening values for invertebrates, plants, birds and mammals
Surface Water	The lower of Massachusetts surface water quality standards, human health criteria for drinking water plus fish and shellfish consumption, Massachusetts maximum contaminant levels, national recommended water quality criteria for human health for consumption of water and organisms, EPA maximum contaminant levels and EPA regional screening levels for tap water	The lower of the Massachusetts surface water quality standards, aquatic life criterion continuous concentration values for freshwater, national recommended water quality criteria aquatic life criterion continuous concentration values for freshwater, and EPA Region 4 freshwater chronic screening values

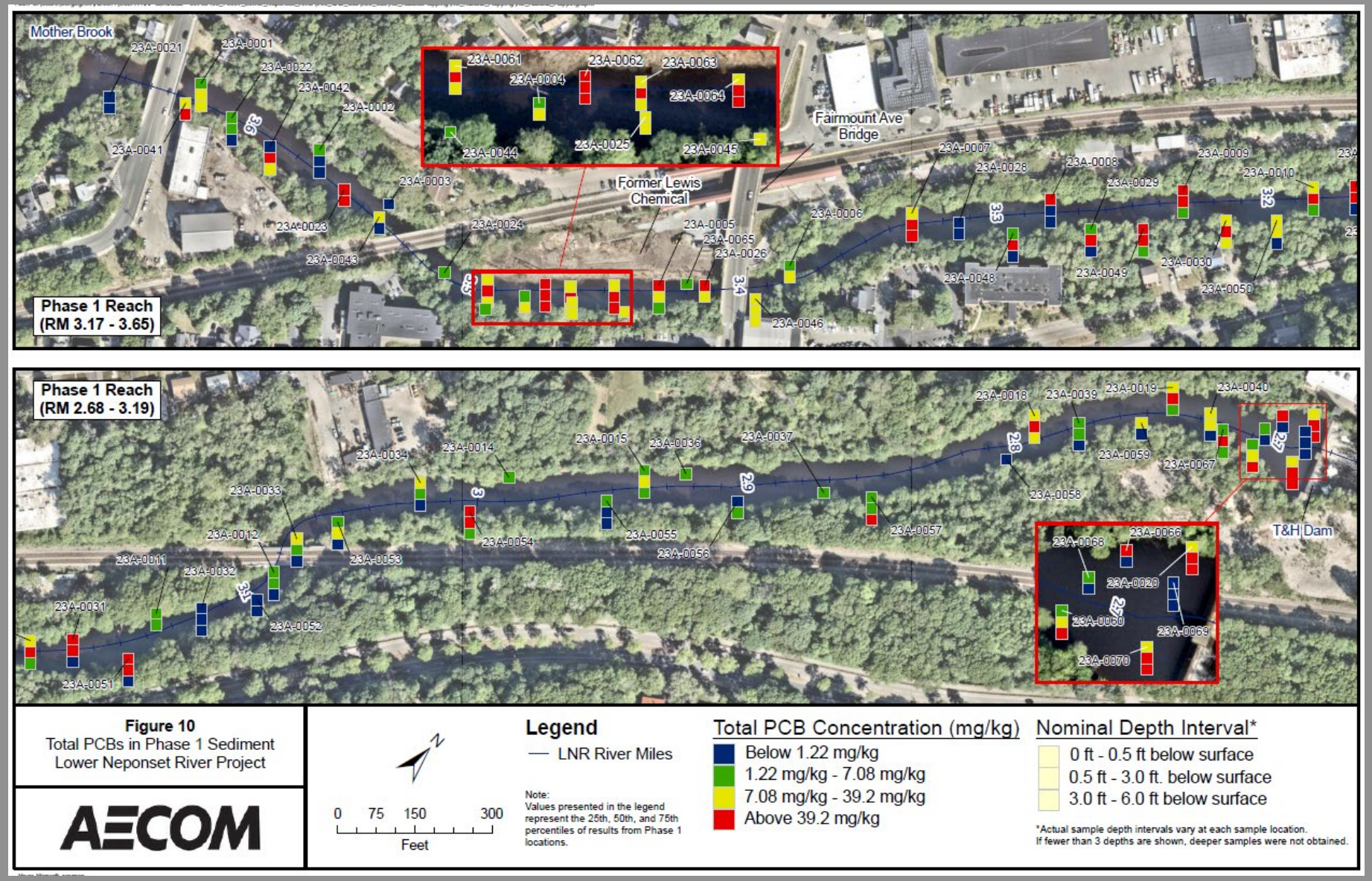
EXAMPLE ANALYTICAL RESULTS INTERPRETATION – SEDIMENT / METALS

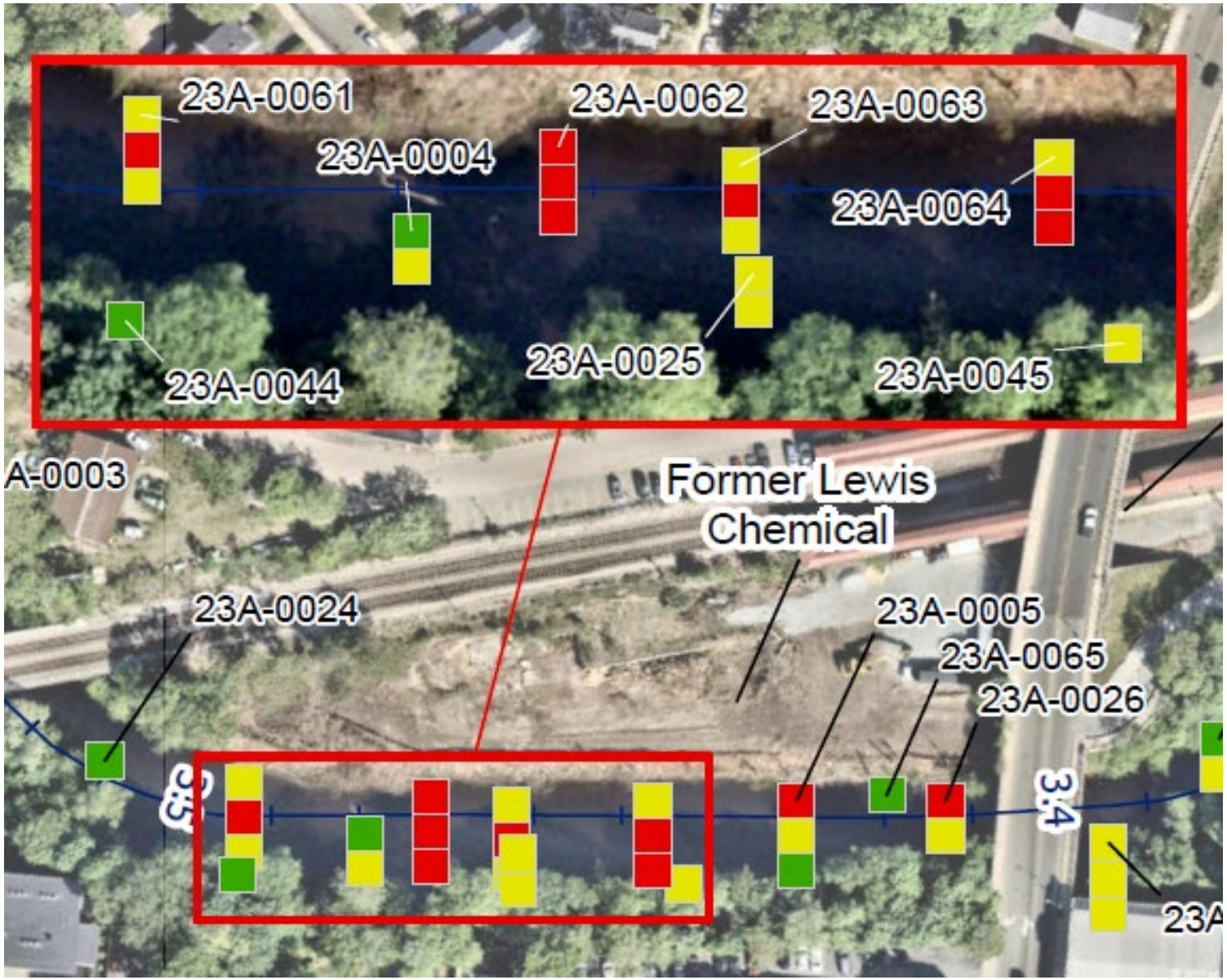
- Of the 23 metals analyzed for, 13 metals were detected above their respective human health PALs and 13 metals were detected above their respective ecological PALs
- The metals responsible for the most exceedances of their human health PALs were total chromium (170 samples exceeded the PAL out of 170 samples collected (170/170), arsenic (170/170), iron (167/170) and cobalt (166/170).
- The metal responsible for the most exceedances of its ecological PAL was barium; 140 out of 170 samples exceeded the ecological PAL

Table 11
Sediment Analytical Results
Phase 1 Data Evaluation Summary Memorandum
Lower Neponset River
Boston, Massachusetts

				Location	23A-0001-PLC1	23A-0001-PLC1
				Sample Name	23A-0001-PLC1-AS	23A-0001-PLC1-BS
				Sample Date	6/29/2023	6/29/2023
				Sample Type	N	N
				Depth Interval	0 - 0.5 ft	0.5 - 1.7 ft
Analyte	CAS Number	Units	Human Health PAL	Ecological PAL		
TAL Metals and Mercury						
Aluminum	7429-90-5	mg/kg	7700	25000	**3200**	**4100**
Calcium	7440-70-2	mg/kg			**1100**	**1600**
Iron	7439-89-6	mg/kg	5500	20000	**15000**	**18000**
Magnesium	7439-95-4	mg/kg			**1400**	**1800**
Potassium	7440-09-7	mg/kg			**170 J**	**170 J**
Sodium	7440-23-5	mg/kg			**69 J**	**140 J**
Antimony	7440-36-0	mg/kg	3.1	2	**0.89**	< 0.94 U
Arsenic	7440-38-2	mg/kg	0.68	9.8	**2.8 J**	**7.7 J+**
Barium	7440-39-3	mg/kg	1500	20	**56**	**210**
Beryllium	7440-41-7	mg/kg	16		**0.27 J**	**3.0**
Cadmium	7440-43-9	mg/kg	0.71	1	**0.30 J**	**0.57**
Chromium, Total	7440-47-3	mg/kg	0.3	43.4	**18 JEB**	**20 EB**
Cobalt	7440-48-4	mg/kg	2.3	50	**6.0**	**4.9**
Copper	7440-50-8	mg/kg	310	31.6	**52 J**	**51 J**
Lead	7439-92-1	mg/kg	200	35.8	**74**	**310**
Manganese	7439-96-5	mg/kg	180	460	**240 EB**	**950 EB**
Nickel	7440-02-0	mg/kg	140	22.7	**14 J**	**12**
Selenium	7782-49-2	mg/kg	39	11	< 2.1 U	**1.6 J**
Silver	7440-22-4	mg/kg	39	1	**0.071 J**	**0.21 J**
Thallium	7440-28-0	mg/kg	0.078		< 0.42 U	< 0.47 U
Vanadium	7440-62-2	mg/kg	39		**25**	**31 J**
Zinc	7440-66-6	mg/kg	2300	121	**220 JEB**	**340 EB**
Mercury	7439-97-6	mg/kg	2.3	0.18	**0.075 J**	**0.094 J**
Total Cyanide						
CYANIDE	57-12-5	mg/kg	2.3		< 0.58 R	< 0.57 R
TCL VOCs						
1,1,1-Trichloroethane (TCA)	71-55-6	ug/kg	810000	70	-	< 6.9 U
1,1,2,2-TETRACHLOROETHANE	79-34-5	ug/kg	600	250	-	< 6.9 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	ug/kg	670000		-	< 6.9 U
1,1,2-Trichloroethane	79-00-5	ug/kg	150	538	-	< 6.9 U
1,1-Dichloroethane	75-34-3	ug/kg	3600	20	-	< 6.9 U
1,1-Dichloroethene	75-35-4	ug/kg	23000	100	-	< 6.9 U
1,2,3-Trichlorobenzene	87-61-6	ug/kg	6300	113	-	< 6.9 U
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	5.1		-	< 6.9 U
1,2,4-TRICHLOROBENZENE	120-82-1	ug/kg	5800	11	-	< 6.9 U
1,2,4-Trimethylbenzene	95-63-6	ug/kg	30000	97	-	< 6.9 U
1,2-Dibromo-3-Chloropropane	96-12-8	ug/kg	5.3		-	< 6.9 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	ug/kg	36		-	< 6.9 U
1,2-Dichlorobenzene	95-50-1	ug/kg	180000	95	-	< 6.9 U
1,2-Dichloroethane	107-06-2	ug/kg	460	986	-	< 6.9 U
1,2-DICHLOROPROPANE	78-87-5	ug/kg	1600	428	-	< 6.9 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	ug/kg	27000	164	-	< 6.9 U
1,3-DICHLOROBENZENE	541-73-1	ug/kg	2600	89	-	< 6.9 U
1,4-DICHLOROBENZENE	106-46-7	ug/kg	2600	30	-	< 6.9 U
2-HEXANONE	591-78-6	ug/kg	20000	45	-	< 14 U
ACETONE	67-64-1	ug/kg	7000000	65	-	**71**
Benzene	71-43-2	ug/kg	1200	10	-	< 6.9 U
BROMOCHLOROMETHANE	74-97-5	ug/kg	15000		-	< 6.9 U
BROMODICHLOROMETHANE	75-27-4	ug/kg	290	210	-	< 6.9 U

CONCLUSIONS


Mother Brook
Phase 1 Reach
(RM 3.17 - 3.65)
Fairmount Ave
Bridge
Former Lewis
Chemical
Phase 1 Reach
(RM 2.68 - 3.19)
T&H Dam
Figure 10
Total PCBs in Phase 1 Sediment
Lower Neponset River Project
AECOM
0 75 150 300
Feet
Legend
LNR River Miles
Note:
Values presented in the legend represent the 25th, 50th, and 75th percentiles of results from Phase 1 locations.
Total PCB Concentration (mg/kg)
Below 1.22 mg/kg
1.22 mg/kg - 7.08 mg/kg
7.08 mg/kg - 39.2 mg/kg
Above 39.2 mg/kg
Nominal Depth Interval*
0 ft - 0.5 ft below surface
0.5 ft - 3.0 ft. below surface
3.0 ft - 6.0 ft below surface
*Actual sample depth intervals vary at each sample location.
If fewer than 3 depths are shown, deeper samples were not obtained.



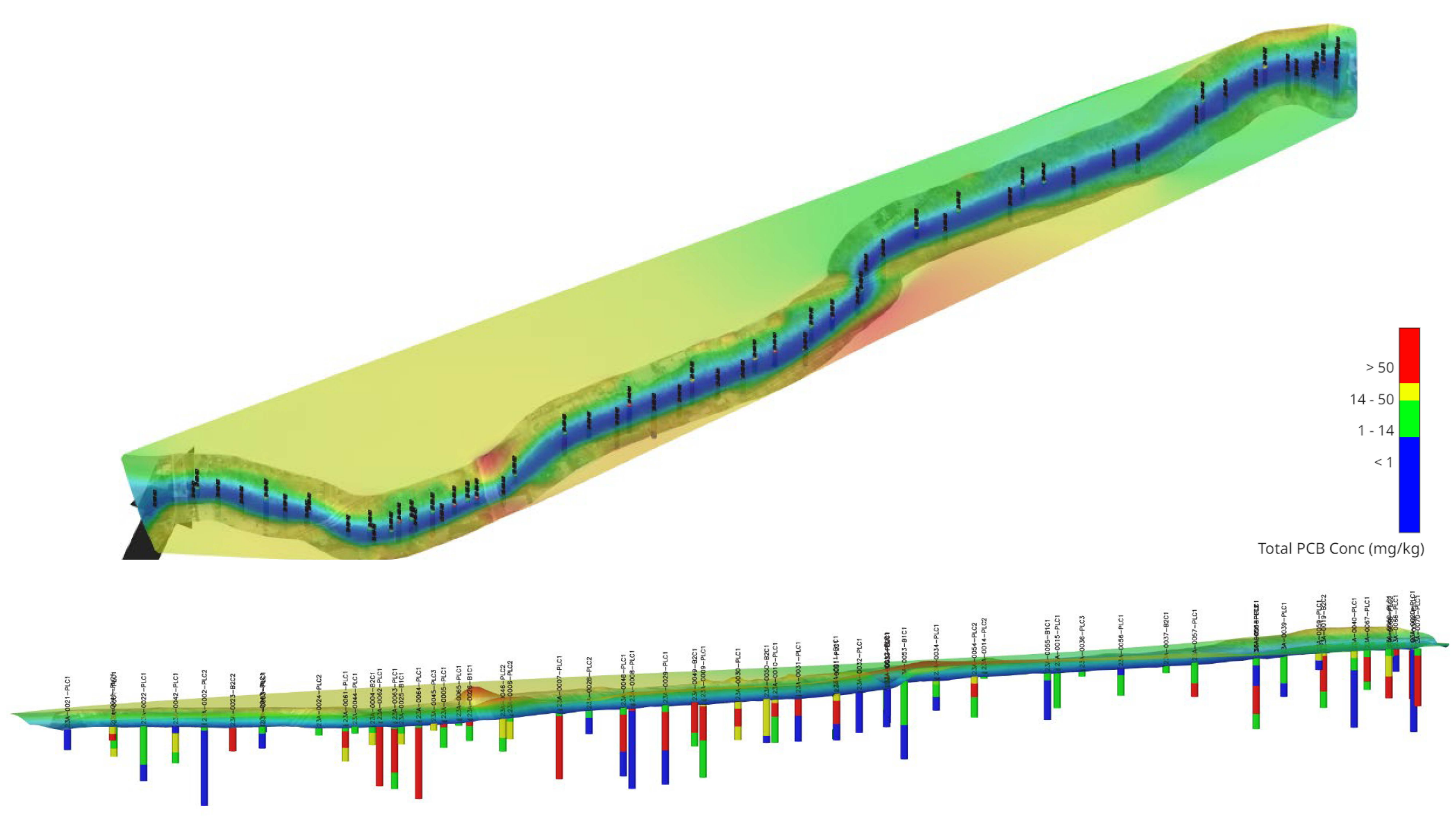
Total PCB Concentration (mg/kg)

- Below 1.22 mg/kg
- 1.22 mg/kg - 7.08 mg/kg
- 7.08 mg/kg - 39.2 mg/kg
- Above 39.2 mg/kg

Nominal Depth Interval*

- 0 ft - 0.5 ft below surface
- 0.5 ft - 3.0 ft. below surface
- 3.0 ft - 6.0 ft below surface

*Actual sample depth intervals vary at each sample location.
If fewer than 3 depths are shown, deeper samples were not obtained.


> 50
14 - 50
1 - 14
< 1
Total PCB Conc (mg/kg)

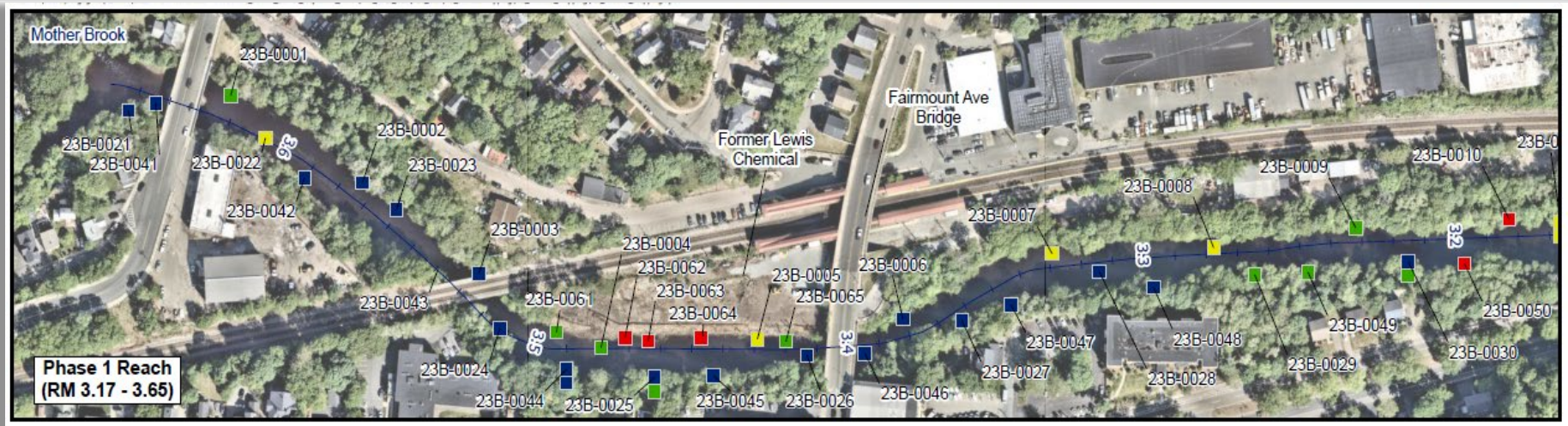


Figure 14
Total PCBs in Phase 1 Surface Water
Lower Neponset River Project

AECOM

0 75 150 300
Feet

Legend

— LNR River Miles

Total PCB Concentration (ng/L)

- Below 6.71 ng/L
- 6.71 ng/L - 8.56 ng/L
- 8.56 ng/L - 10.65 ng/L
- Above 10.65 ng/L

Note:
At each location the water depth was measured in order to determine the sampling depth(s). For locations in the Phase 1 reach, if the water depth was less than 6 feet then a single sample was collected from the mid-point of the water column. If the water depth was greater than or equal to 6 feet then samples were collected from a depth of one foot and also from a depth 2 feet above the sediment water interface. Samples drawn with two result values on the figure above indicate areas where two samples were taken.

Values presented in the legend represent the 25th, 50th, and 75th percentiles of results from Phase 1 locations.

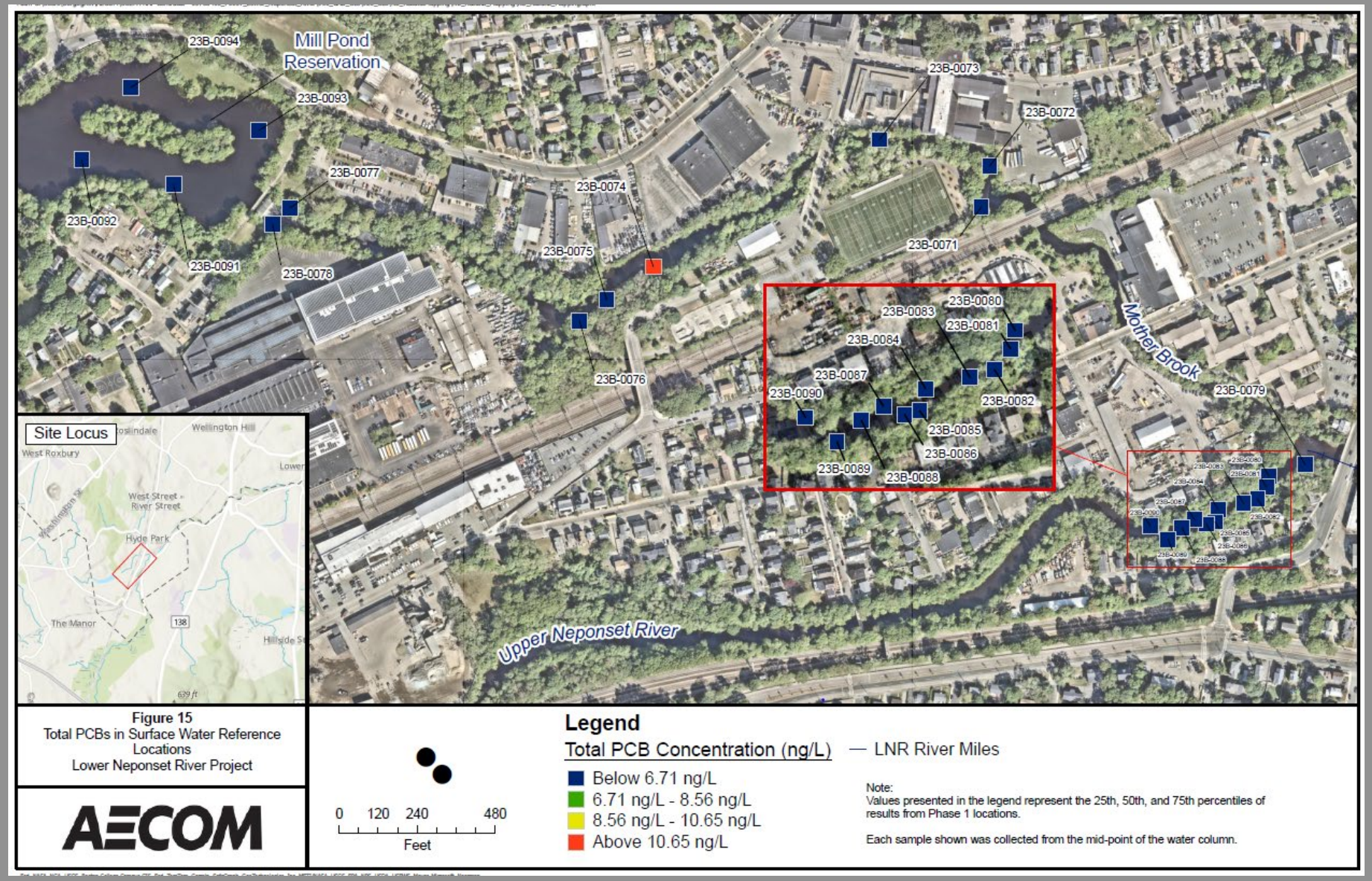


Figure 15
Total PCBs in Surface Water Reference Locations
Lower Neponset River Project

AECOM

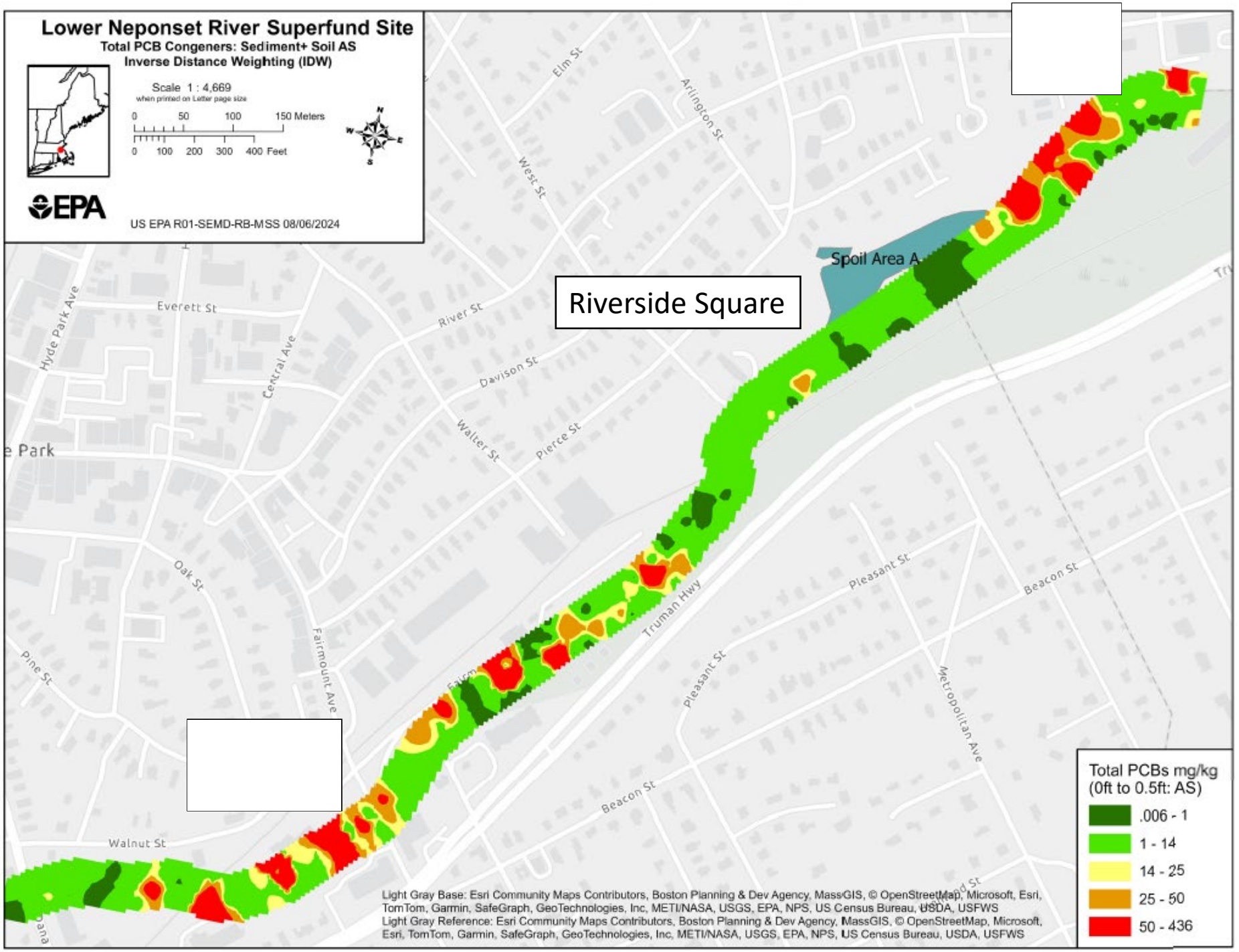
ENGINEERING EVALUATION AND COST ANALYSIS INFORMATION

Surface Sediment PCBs (0 feet to 0.5 feet)

Total concentration range:
<1 parts per million to 436 ppm

Maximum concentrations are near Lewis Chemical and slightly downstream,
Riverside Square,
Doyle Park
and the T&H Dam

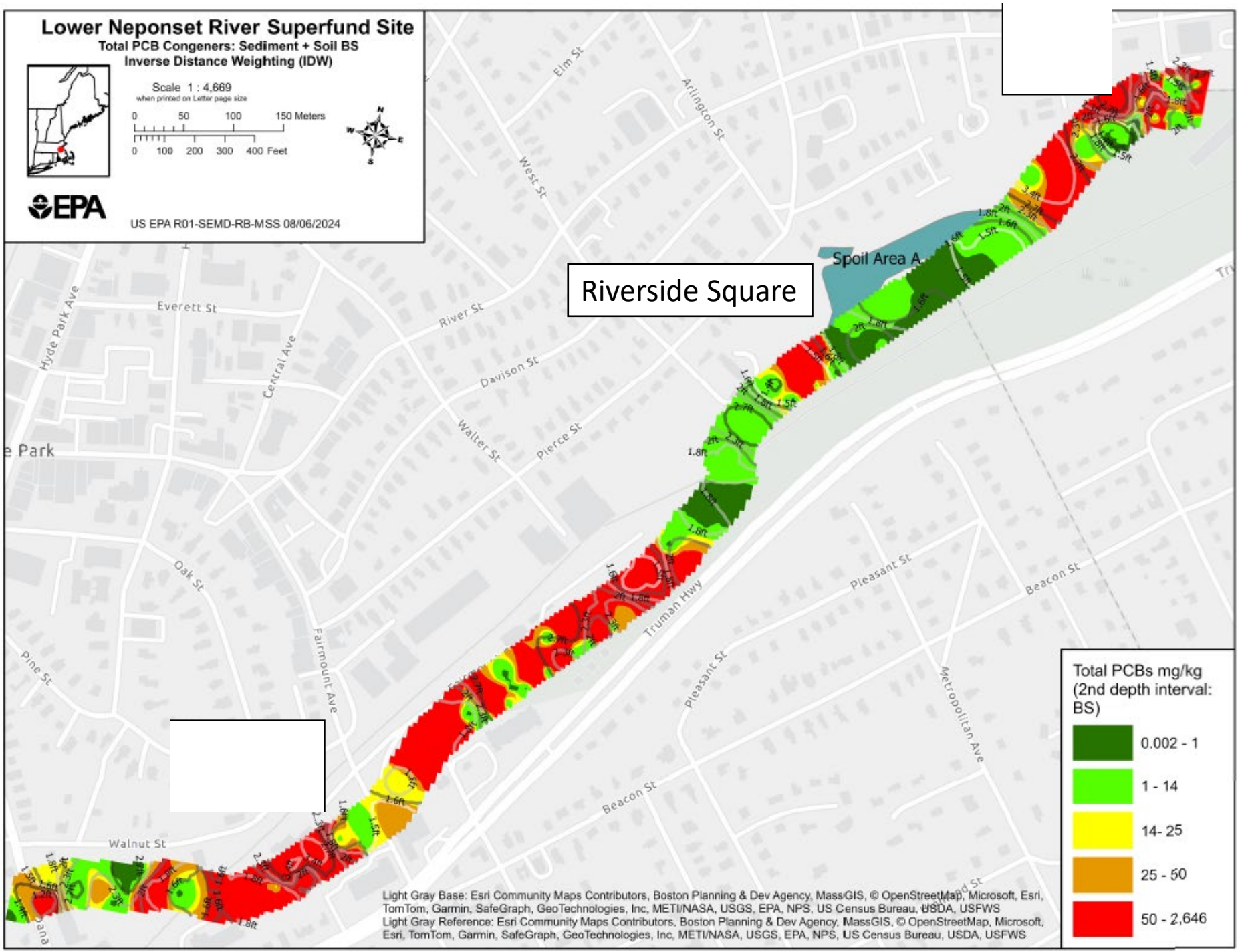
The average concentration is 37.9 ppm



Second Depth Interval of PCBs (0.5 feet to 3 feet)

Total concentration range:
<1 ppm to 2,646 ppm

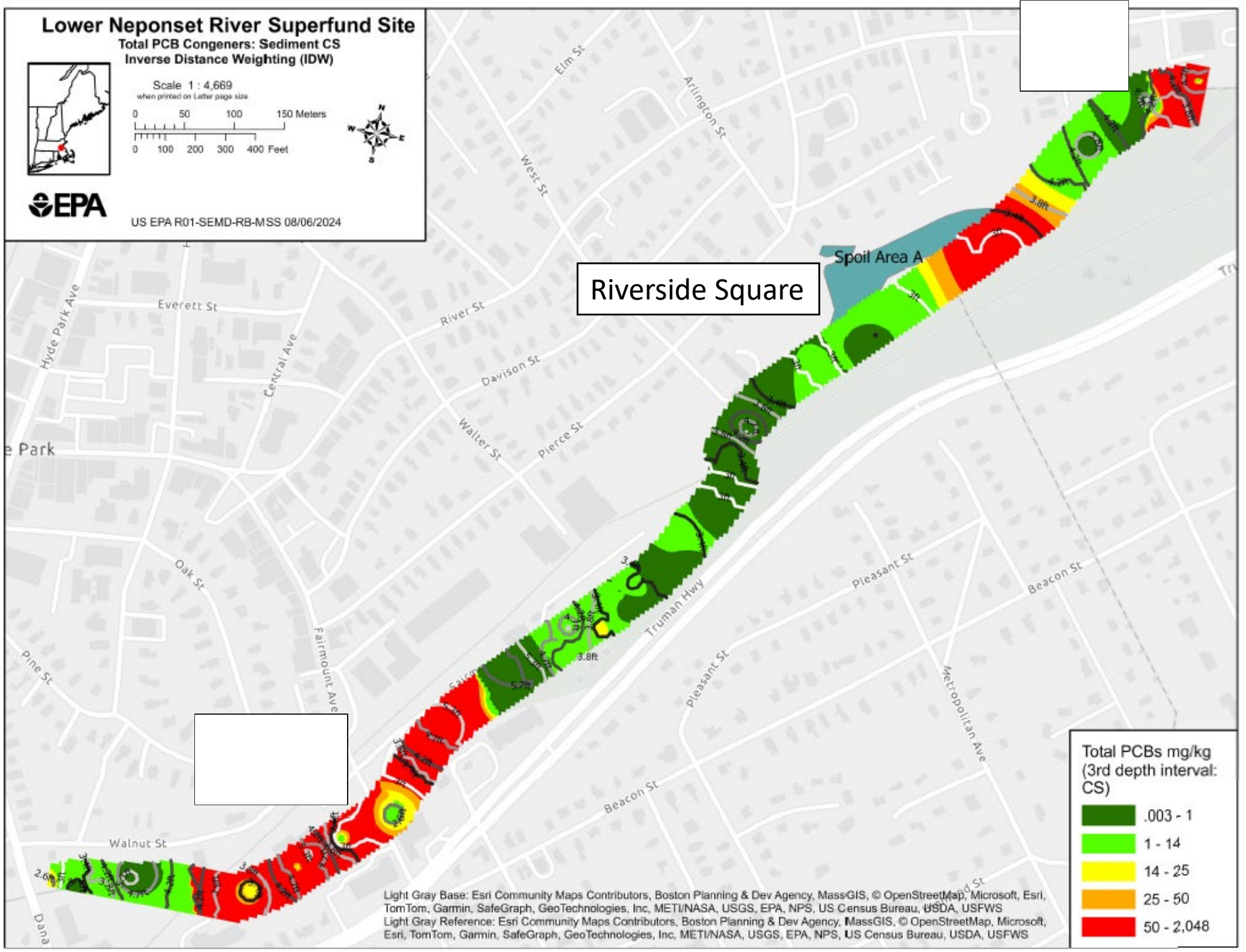
Maximum concentrations are near Mother Brook, Lewis Chemical and slightly downstream, Riverside Square, Doyle Park, and the T&H Dam



Third Depth Interval of PCBs (3 feet to 6.3 feet)

Total concentration range:
<1 ppm to 2,048 ppm

Maximum concentrations are near Lewis Chemical and slightly downstream, Riverside Square and the T&H Dam



QUESTIONS?

CONTACT INFORMATION

For more information on the TASC program:
www.epa.gov/superfund/technical-assistance-services-communities-tasc-program

TASC brochure with more information:
semspub.epa.gov/work/HQ/100002924.pdf

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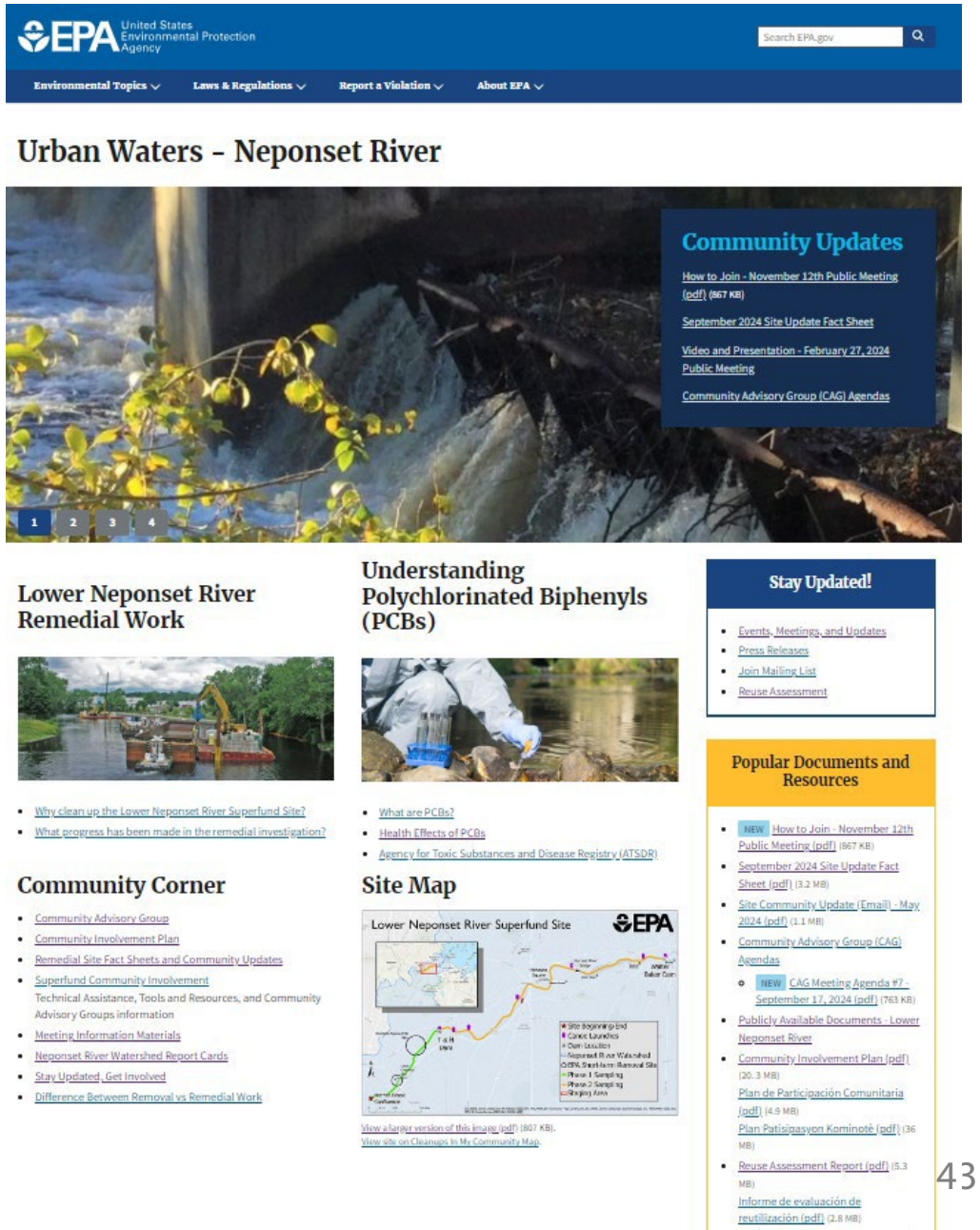
GET INVOLVED! STAY INFORMED!

- Get involved
- Ask your resources:
  - The EPA – Zanetta Purnell, Tristan Pluta and Natalie Burgo
  - TASC – Joe Cronin and Karmen King
- Access available resources:
  - The EPA's site profile page
    - www.epa.gov/neponsetriver
    - Site background and history
    - Documents



THANK YOU!