HALEY & ALDRICH, INC.
465 Medford Street, Suite 2200
Boston, MA 02129
(617) 886.7400

20 November 2019
File No. 130319-005

US Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square – Suite 100 (OEP06-01)
Boston, MA 02109-3912

Attention: Shauna Little, EPA/OEP RGP Applications Coordinator

Subject: Notice of Intent (NOI)
Temporary Construction Dewatering
Seaport Square Parcel N/P
391 Congress Street
Boston, Massachusetts

Dear Ms. Little:

On behalf of our client, Seaport N/P Title Holder LLC, and in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts, MAG910000, this letter submits a Notice of Intent (NOI) and the applicable documentation as required by the US Environmental Protection Agency (EPA) for temporary construction site dewatering under the RGP. Haley & Aldrich, Inc. (Haley & Aldrich) has prepared this submission to facilitate off-site discharge of temporary dewatering during construction activities at the Seaport Square Parcel N/P site, located at 391 Congress Street, in Boston, Massachusetts.

Site Location and Historical Site Usage

The Seaport Square Parcel N/P site is currently a paved parking lot bordered to the north by Congress Street; to the east by the at-grade I-90 East Bound Ramp C and the I-93 North and South Bound Ramp I; to the west by West Service Road Ext/Boston Wharf Road and to the south by the United States Postal Service lot. The Summer Street Bridge runs east-west above the south side of the site. The site gradually slopes from approximately El. 20[1] at the east side of the site to approximately El. 16 at the south end of the site. The Summer Street Bridge is elevated above the site at El. 40 above West Service Road and sloping to El. 43 above the I-90/I-93 Ramps. The general site location and adjacent site conditions are included in Figure 1 and Figure 2. The area is surrounded by public infrastructure, commercial and residential buildings, and proposed future development parcels.

[1] Elevations used herein are in feet and referenced to Boston City Base (BCB).

Haley & Aldrich assessed past and present usage and filling history of the Site through a review of available historical records including Sanborn maps dated 1888 to 2002, aerial photographs from 1938 to 2008 and documentation in "Gaining Ground: A History of Landmaking in Boston".

The subject site was originally part of the South Boston tidal flats and was filled in the 1870s. The area was filled with material dredged from Boston Harbor and covered with several feet of sand and gravel at the surface. The property and vicinity were developed with a railroad terminal yard including rail spurs, platforms, and freight warehouses in the 1880s. The historical alignment of Congress Street (currently abutting the site to the north) intersected the north and northeast portions of the site. The rail spurs and railroad buildings were removed from the subject site by the mid-1980s, and the property remained vacant until it was paved for use as a parking lot in the late 1980s.

The site was mainly used for parking, but also served as a construction staging area during the Central Artery Tunnel (CA/T) highway construction in the early 1990s. Congress Street has shifted through the site over time and was used as a temporary road during the CA/T project as shown on the attached aerial photographs.

Support of the elevated Summer Street also changed over time. A steel viaduct for Summer Street was constructed over the southern portion of the site by 1899. A truss bridge was visible in the 1938 aerial photograph. The 1969 aerial photograph shows the bridge partially demolished around the time of the railyard decommissioning. Summer Street was subsequently re-constructed as a soil embankment-supported road as shown on the 1978 aerial photograph. Removal of the embankment and construction of the current Summer Street bridge were conducted in conjunction with the CA/T project during the late 1990s-early 2000s.

Proposed Construction

The subject site is located within the Seaport Square Master Plan in South Boston, Massachusetts. Below-grade space (mostly parking garage) and foundations will be constructed across the subject site. The building proposed to be constructed above a portion of the subject site includes a high-rise tower with commercial space. New building loads will be supported on reinforced concrete foundations consisting of footings and mat foundations bearing on undisturbed, naturally deposited Marine Deposits, as well as load bearing elements (LBEs) that extend into sound, competent bedrock.

The lowest level (P3) floor slab is planned at El. -18.5. Construction of the underground garage and foundations will require excavations extending from current ground surface down to approximately El. -24.75, corresponding to excavation depths of about 45 ft below current site grades. The excavations are expected to extend through Fill, Organic Soils, Marine (sand) Deposits, and terminate within the Marine (clay) Deposits. The garage foundation walls will be concrete diaphragm walls constructed by the slurry trench excavation method (i.e.; slurry wall) on all sides which will serve as temporary earth support during construction and the permanent foundation wall.

A 4-story, air right portion of the building proposed to be constructed spans over the at-grade I-90 East Bound Ramp C, the I-93 North and South Bound Ramp I, Massport Haul Road, and land just west of the existing Vent Building No. 5. It is planned to span from the eastern edge of the proposed slurry wall to the foundations historically installed during the CA/T Project. The existing foundations consist of caissons (drilled shafts) bearing in rock or column bases bearing on the walls of the below-grade CA/T tunnels.

The “back-of-house” portion of building will be constructed below the existing Summer Street Bridge to provide space for storage, loading docks, a rainwater tank, trash and recycling management and similar uses. A one-level garage will be constructed on the west side with a finished floor elevation of El. 1.5, within the existing steel sheeting installed during the CA/T construction and will connect to the proposed garage north of the Summer Street bridge. The east side of the back-of-house building will be constructed on shallow foundations over the existing soil and CA/T and pump house tunnels.

Regulatory Status

RTN 3-14803

A portion of the subject site is a listed Disposal Site assigned release tracking number (RTN) 3-14803 due to the discovery of two Underground Storage tanks (USTs) and related petroleum impacts in 1997 during the CA/T construction. The tanks were removed, and petroleum impacted soil was excavated and removed from the site. A Response Action Outcome Statement (RAO) was filed with the Massachusetts Department of Environmental Protection (MassDEP) in April 1997 to achieve regulatory closure. The RAO concluded that sources of contamination related to the release had been controlled, a condition of “No Significant Risk” which did not rely on an Activity and Use Limitation (AUL) was achieved, and no additional response actions, operations, or monitoring were needed. The RAO indicated that residual levels of petroleum impacted soil remain in the vicinity of the former USTs which exceed background concentrations but are below MCP S-1 residential soil standards. No groundwater impacts were previously identified. During the recent prechacterization program, results of analytical testing of soil samples in the vicinity of the former USTs were generally consistent with those addressed in the April 1997 RAO.

RTN 3-35801

Recent precharacterization programs were conducted at the project Site during March and April 2019 to obtain geotechnical information and representative environmental soil and groundwater quality data. The test results of the soil samples collected during the precharacterization program detected volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), petroleum hydrocarbons and metals (arsenic, antimony, lead, and mercury) exceeding MCP RCS-1 Reportable Concentrations in soil in granular fill and cohesive fill. These data are believed to relate to typical urban fill and historic site use in this part of Boston. The recent exploration data were judged to constitute a new 120-day reporting condition under the MCP, relative to conditions previously identified under RTN 3-14803 and considered by the 1997 RAO. Accordingly, a BWSC 103 Release Notification Form (RNF) was submitted via eDEP on 27 August 2019 for the Site and RTN 3-35801 was issued by MassDEP.

Groundwater Quality Data

On 25 April 2019, a groundwater sample was collected from observation well HA19-D2(OW). The collected sample was submitted to Alpha Analytical Laboratory (Alpha) of Westborough, MA, for chemical analysis of 2017 NPDES Remediation General Permit parameters including volatile organic compounds, semi-volatile organic compounds, polycyclic aromatic hydrocarbons, total metals, total petroleum hydrocarbons, pesticides, polychlorinated biphenyls, total suspended solids, chloride, total cyanide, total phenolics, and total residual chlorine.

Refer to Table I for a summary of groundwater analytical data. The recent groundwater analyses did not detect concentrations of chemical constituents above applicable Massachusetts Contingency Plan RCGW-2 reportable concentrations. The construction dewatering effluent at the Site will be managed under an RGP. The location of the observation well HA19-D2(OW) is shown on Figure 2.

Receiving Water Quality Information and Dilution Factor

On 25 April 2019, Haley & Aldrich collected a receiving water sample from Boston Inner Harbor and Fort Point Channel using a disposable polyethylene bailer. The surface water samples were collected and submitted to Alpha for chemical analysis of pH, ammonia, and salinity. Field parameters, including pH and temperature, were collected from surface water sample at the time of sampling. The results of water quality testing are summarized in Table I.

The pH and temperature readings collected in the field were used to calculate the site Water Quality Based Effluent Limitations (WQBELs). It is our understanding that since the receiving water is a saltwater body, hardness does not need to be analyzed on either the effluent water or receiving water. We have additionally confirmed with the MassDEP that the dilution factor for the receiving waters is 1.

Effluent Criteria Determination

The EPA suggested WQBEL Calculation spreadsheet was used to calculate the effluent criteria for the site. Groundwater and Receiving Water data were input and the resulting criteria was tabulated in the attached Table I. As requested by EPA, the Microsoft Excel spreadsheet for the WQBEL calculation will be submitted to the EPA via email, for their review upon submission of this NOI.

Dewatering System and Off-site Discharge

During the remedial activities, it will be necessary to perform temporary dewatering to control surface water runoff from precipitation, groundwater seepage and construction-generated water to enable remedial excavations in-the-dry. Dewatering activities are anticipated to start in November 2019 and is anticipated to be required for up to 18 months. On average, we estimate effluent discharge rates of about 75 gallons per minute (gpm), with occasional peak flows of approximately 100 gpm during significant precipitation events. Temporary dewatering will be conducted from sumps located in excavations or from dewatering wells installed at the site.

Construction dewatering includes piping and discharging to storm drains located on or near the site that discharge to either the Boston Inner Harbor or the Fort Point Channel, as shown on Figure 3. An effluent treatment system has been designed by the Contractor to meet the 2017 NPDES RGP Discharge Effluent Criteria. Prior to discharge, collected water is routed through a sedimentation tank and a bag filter and other necessary treatment components, to remove suspended solids and undissolved chemical constituents, as shown on Figure 4.

National Marine Fisheries Service Eligibility

Based on our review of the National Marine Fisheries Service (NMFS) criterion, it is the opinion of Haley & Aldrich that related activities under the NPDES RGP are not likely to adversely affect federally threatened

or endangered listed species or critical habitat under the jurisdiction of NMFS and should not result in a take of listed species.

According to Appendix I: Endangered Species Act (ESA) Guidance and Eligibility Criteria in the NPDES RGP, and reference footnoted below[2], the Atlantic Sturgeon and the Shortnose Sturgeon are the only ESA-listed species under the NMFS jurisdiction that may have a critical habitat in Massachusetts Bay. The Shortnose Sturgeon mainly occupy deep channel sections of large coastal rivers and nearshore marine waters.

The outfall to be used for the Parcel N/P discharge is not situated adjacent to large coastal rivers and is not expected to affect the Shortnose Sturgeon population. The closest river to the outfall is the Charles River, which is approximately 1.25 miles from the site. Similarly, the Atlantic Sturgeon is more commonly found in large rivers and brackish waters; adults who live in coastal waters are typically found in shallow areas with sand and gravel substrates. The outfall proposed for discharge is not located in an area where Atlantic Sturgeon may be found, and the discharge is similarly not expected to affect its population. Furthermore, according the CRWA and NRWA references below[3], resident populations of Sturgeon no longer exist in the Charles River.

Owner and Operator Information

Owner:
Seaport N/P Title Holder LLC
33 Boylston Street, Suite 3000
Chestnut Hill, MA 02467
Contact: Daniel Preysman
Vice President

Operator:
Suffolk Construction
65 Allerton Street
Boston, MA 02219
Contact: Peter Knudsen
Title: Senior Superintendent

Appendices

The completed "Suggested Notice of Intent" form as provided in the RGP is enclosed in Appendix A. The site owner is the Seaport N/P Title Holder LLC. Seaport N/P Title Holder LLC has hired Suffolk Construction as the general contractor conducting the site work, including dewatering activities. The excavation subcontractor will operate the dewatering system. Haley & Aldrich is monitoring the Contractor's dewatering activities on behalf of Seaport N/P Title Holder LLC in accordance with the requirements for this NOI submission.

Appendices B and C include the National Register of Historic Places and ESA Documentation, respectively. Appendix D provides a copy of the Boston Water and Sewer Commission (BWSC) Dewatering Permit provided by the BWSC as part of the previous RGP submission. Copies of the groundwater testing laboratory data reports are provided in Appendix E. Appendix F provides the Site Contractor's dewatering submittal which includes details of the dewatering system. A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, will be available at the site and is not being submitted with this NOI as requested by EPA.

[2] https://www3.epa.gov/region1/npdes/remediation/RGPNMFSletter.pdf
[3] http://blog.crwa.org/blog/5-migratory-fish-found-in-the-charles-river-ecosystem
https://www.neponset.org/your-watershed/natural-history/aquatic-habitat/aquatic-life/migratory-fish/

Closing

Thank you very much for your consideration. Please feel free to contact us should you wish to discuss the information contained herein or if you need additional information.

Sincerely yours,
HALEY & ALDRICH, INC

Keila T. Munz
Scientist

Elliot I. Steinberg, P.E., LSP
Senior Associate

Attachments:

Table I – Summary of Groundwater Quality Data
Figure 1 – Site Locus
Figure 2 – Site and Subsurface Location Plan
Figure 3 – Proposed Discharge Route
Figure 4 – Proposed Treatment System Schematic

Appendix A – NOI for RGP
Appendix B – National Register of Historic Places and Massachusetts Historical Commission Documentation
Appendix C – Endangered Species Act Documentation
Appendix D – BWSC Permit Application
Appendix E – Laboratory Data Reports
Appendix F – Contractor Dewatering Submittal

c: Ali Ribeiro, WS Development

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TABLE I
SUMMARY OF ANALYTICAL RESULTS
SEAPORT PARCEL N/P
BOSTON, MA
FILE NO. 130319

Precharacterization Grid	Action Level				
Location Name	MCP		HA19-D2-NPDES	HA19-BOSTON HARBOR	HA19-FORT POINT
Sample Name	Reportable	NPDES Project	HA19-D2-NPDES-20190425	HA19-BOSTON HARBOR_04252019	HA19-FORT POINT_04252019
Sample Date	Concentration	Specific Criteria	04/25/2019	04/25/2019	04/25/2019
Sample Type	RCGW-2		Primary	Primary	Primary
Lab Sample ID	2014		L1917160-01	L1917161-01	L1917161-02
Volatile Organic Compounds (ug/L)					
1,1,1-Trichloroethane	4000	200	ND (2)	-	-
1,1,2-Trichloroethane	900	5	ND (1.5)	-	-
1,1-Dichloroethane	2000	70	ND (1.5)	-	-
1,1-Dichloroethene	80	3.2	ND (1)	-	-
1,2-Dibromoethane (Ethylene Dibromide)	2	0.05	ND (0.01)	-	-
1,2-Dichlorobenzene	2000	600	ND (5)	-	-
1,2-Dichloroethane	5	5	ND (1.5)	-	-
1,3-Dichlorobenzene	6000	320	ND (5)	-	-
1,4-Dichlorobenzene	60	5	ND (5)	-	-
Acetone	50000	7.97	ND (10)	-	-
Benzene	1000	5	ND (1)	-	-
Carbon tetrachloride	2	4.4	ND (1)	-	-
cis-1,2-Dichloroethene	20	70	ND (1)	-	-
Ethylbenzene	5000	NA	ND (1)	-	-
Methyl Tert Butyl Ether	5000	70	ND (10)	-	-
Methylene chloride	2000	4.6	ND (1)	-	-
Tert-Amyl Methyl Ether (TAME)	NA	90	ND (20)	-	-
Tert-Butyl Alcohol (tert-Butanol)	NA	120	ND (100)	-	-
Tetrachloroethene	50	5	ND (1)	-	-
Toluene	40000	NA	ND (1)	-	-
Trichloroethene	5	5	ND (1)	-	-
Vinyl chloride	2	2	ND (1)	-	-
Xylene (total)	3000	NA	ND (1)	-	-
SUM Volatile Organic Compounds	NA	NA	ND	-	-
Semi-Volatile Organic Compounds (ug/L)					
bis(2-Ethylhexyl)phthalate	50000	101	ND (2.2)	-	-
Butyl benzylphthalate	10000	NA	ND (5)	-	-
Diethyl phthalate	9000	NA	ND (5)	-	-
Dimethyl phthalate	50000	NA	ND (5)	-	-
Di-n-butylphthalate	5000	NA	ND (5)	-	-
Di-n-octyl phthalate	100000	NA	ND (5)	-	-
SUM Semi-Volatile Organic Compounds	NA	NA	ND	-	-
Semi-Volatile Organic Compounds (SIM) (ug/L)					
Acenaphthene	6000	NA	ND (0.1)	-	-
Acenaphthylene	40	NA	ND (0.1)	-	-
Anthracene	30	NA	ND (0.1)	-	-
Benzo(a)anthracene	1000	1	ND (0.1)	-	-
Benzo(a)pyrene	500	1	ND (0.1)	-	-
Benzo(b)fluoranthene	400	1	ND (0.1)	-	-
Benzo(g,h,i)perylene	20	NA	ND (0.1)	-	-
Benzo(k)fluoranthene	100	1	ND (0.1)	-	-
Chrysene	70	1	ND (0.1)	-	-
Dibenz(a,h)anthracene	40	1	ND (0.1)	-	-
Fluoranthene	200	NA	ND (0.1)	-	-
Fluorene	40	NA	ND (0.1)	-	-
Indeno(1,2,3-cd)pyrene	100	1	ND (0.1)	-	-
Naphthalene	700	20	ND (0.1)	-	-
Pentachlorophenol	200	1	ND (1)	-	-
Phenanthrene	10000	NA	ND (0.1)	-	-
Pyrene	20	NA	ND (0.1)	-	-
Total Petroleum Hydrocarbons (ug/L)					
Petroleum hydrocarbons	5000	5000	ND (4000)	-	-
Inorganic Compounds (ug/L)					
Chromium VI (Hexavalent), Dissolved	300	323	ND (10)	-	-
Antimony, Total	8000	206	ND (4)	-	-
Arsenic, Total	900	104	4.72	-	-
Cadmium, Total	4	10.2	ND (0.2)	-	-
Chromium, Total	300	NA	ND (1)	-	-
Copper, Total	100000	242	ND (1)	-	-
Cyanide, Total	30	178000	ND (5)	-	-
Hardness, Total	NA	NA	326000	-	-
Iron, Total	NA	5000	**40700**	-	-
Lead, Total	10	160	ND (1)	-	-
Mercury, Total	20	0.739	ND (0.2)	-	-
Nickel, Total	200	1450	3.64	-	-
Selenium, Total	100	235.8	ND (5)	-	-
Silver, Total	7	35.1	ND (0.4)	-	-
Zinc, Total	900	86	**153.6**	-	-

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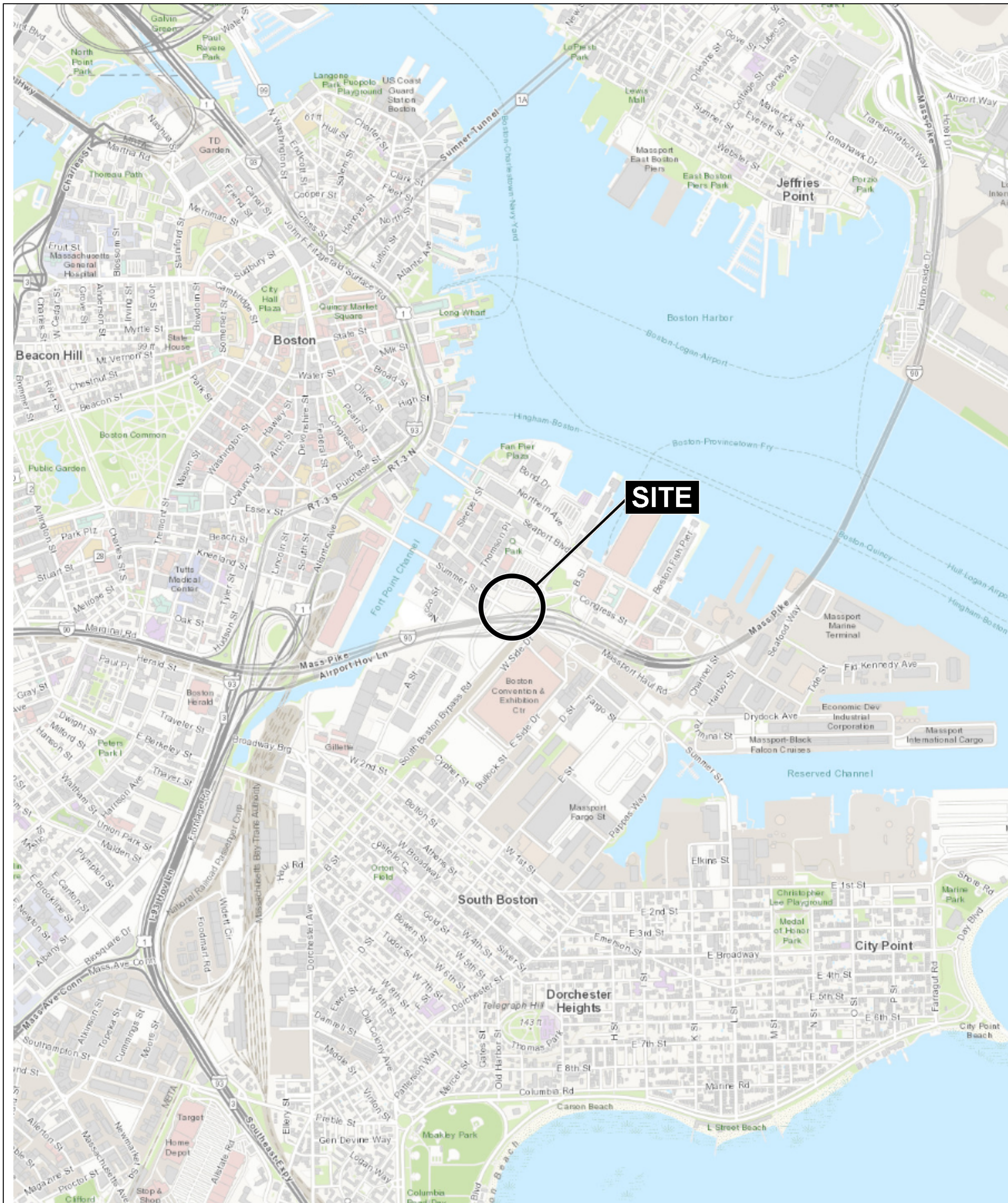
SEAPORT PARCEL N/P
BOSTON, MA
FILE NO. 130319

Precharacterization Grid	Action Level				
Location Name	MCP		HA19-D2-NPDES	HA19-BOSTON HARBOR	HA19-FORT POINT
Sample Name	Reportable	NPDES Project	HA19-D2-NPDES-20190425	HA19-BOSTON HARBOR_04252019	HA19-FORT POINT_04252019
Sample Date	Concentration	Specific Criteria	04/25/2019	04/25/2019	04/25/2019
Sample Type	RCGW-2		Primary	Primary	Primary
Lab Sample ID	2014		L1917160-01	L1917161-01	L1917161-02
Other					
pH (lab), Total (pH units)	NA	NA	-	7.7	7.8
Salinity, Total (SU)	NA	NA	-	19	18
Ammonia, Total (ug/L)	NA	Report	2800	201	92
Chloride, Total (ug/L)	NA	Report	1400000	-	-
Chlorine, residual, Total (ug/L)	NA	7.5	ND (20)	-	-
Chromium III (Trivalent), Total (ug/L)	600	323	ND (10)	-	-
Total phenols (ug/L)	NA	1080	ND (30)	-	-
Total Suspended Solids (TSS) (ug/L)	NA	30000	10000	-	-
Pesticides and PCBs (ug/L)					
Aroclor-1016 (PCB-1016)	5	NA	ND (0.25)	-	-
Aroclor-1221 (PCB-1221)	5	NA	ND (0.25)	-	-
Aroclor-1232 (PCB-1232)	5	NA	ND (0.25)	-	-
Aroclor-1242 (PCB-1242)	5	NA	ND (0.25)	-	-
Aroclor-1248 (PCB-1248)	5	NA	ND (0.25)	-	-
Aroclor-1254 (PCB-1254)	5	NA	ND (0.25)	-	-
Aroclor-1260 (PCB-1260)	5	NA	ND (0.2)	-	-
SUM PCBs	NA	0.000064	ND	-	-
Volatile Organic Compounds SIM (ug/L)					
1,4-Dioxane	6000	200	ND (50)	-	-

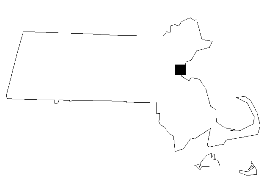
ABBREVIATIONS AND NOTES:
-: Not Analyzed
µg/L: micrograms per liter
MCP: 310 CMR 40.0000 Massachusetts Contingency Plan effective 25 April 2014; revisions 23 May 2014.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory detection limit
RC: MCP Reportable Concentration

- Analytes detected in at least one sample are reported herein. For a complete list of analytes see the laboratory data sheets.
- Bold values indicate an exceedance of the NPDES RGP criteria.
- Groundwater samples analyzed for dissolved metals were filtered in the field with a 0.45 micrometer filter.



MAP SOURCE: ESRI

SITE COORDINATES: 42°20'56"N, 71°2'48"W



HALEY ALDRICH

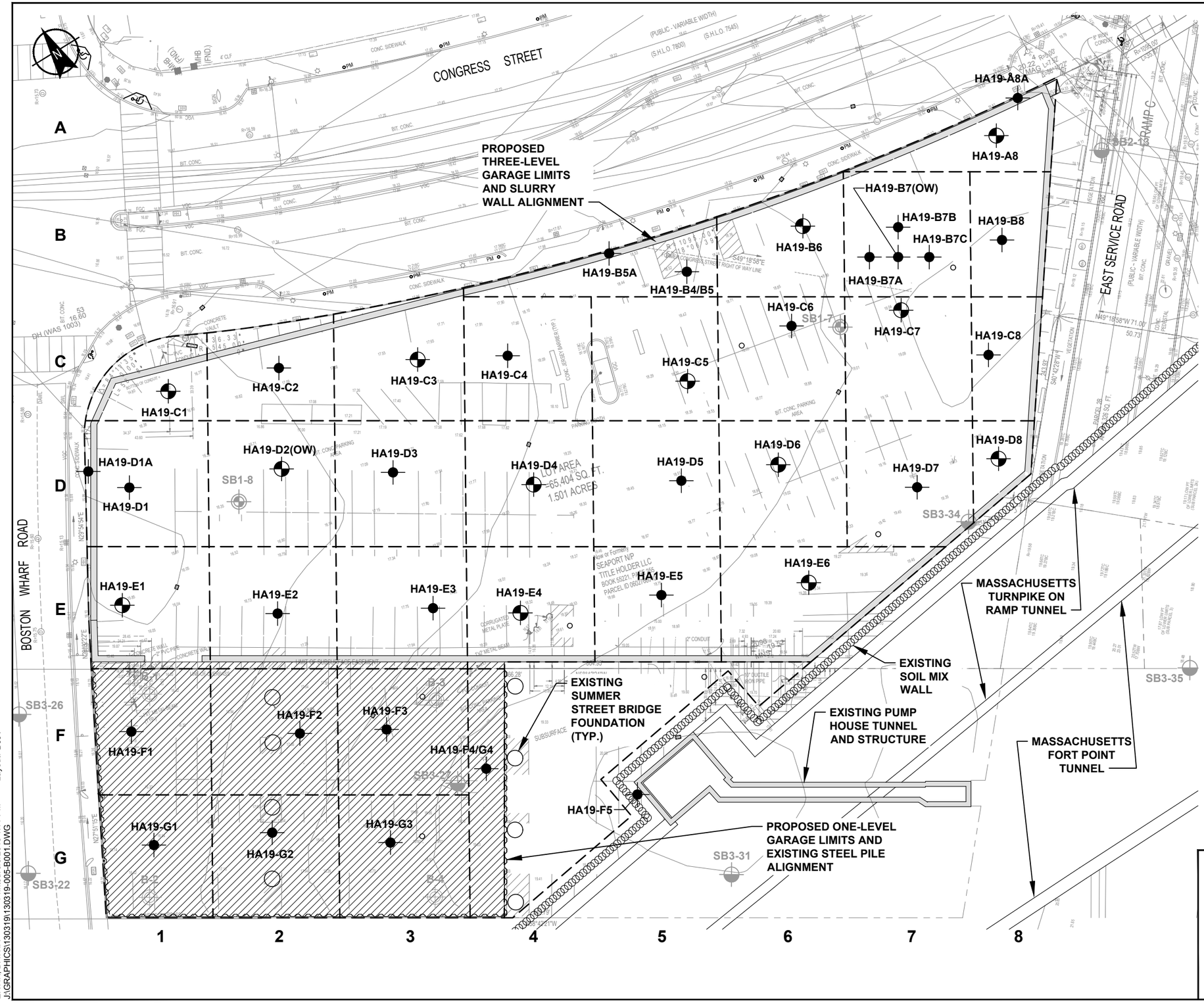
350 AND 400 SUMMER STREET
BOSTON, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
NOVEMBER 2019

FIGURE 1

130319-002_1_LOCUS.PDF



LEGEND

HA19-A8	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING PERFORMED BY GEOLOGIC-EARTH EXPLORATION, INC. UNDER THE TECHNICAL OBSERVATION OF HALEY & ALDRICH, INC. DURING MARCH AND APRIL 2019.
HA19-B8	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE PERFORMED BY GEOLOGIC-EARTH EXPLORATION, INC. UNDER THE TECHNICAL OBSERVATION OF HALEY & ALDRICH, INC. DURING MARCH AND APRIL 2019.
B-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORINGS DRILLED FROM 21 SEPTEMBER TO 23 SEPTEMBER 1969 AS REPORTED IN REPORT TITLED "FINAL GEOTECHNICAL DATA REPORT, CENTRAL ARTERY (I-93)/TUNNEL (I-90) PROJECT, DESIGN SECTIONS - D001A AND D001B, BOSTON, MASSACHUSETTS, VOLUME II OF III" PREPARED BY HALEY & ALDRICH, INC. AND DATED 7 DECEMBER 1992.
SB3-34	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORINGS PERFORMED BY GUILD DRILLING CO., INC. FOR THE CENTRAL ARTERY (I-93)/TUNNEL (I-90) PROJECT, FROM MARCH 1990 TO SEPTEMBER 1991 UNDER THE TECHNICAL OBSERVATION OF HALEY & ALDRICH, INC.
SB1-7	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORINGS PERFORMED BY GUILD DRILLING CO., INC. FOR THE CENTRAL ARTERY (I-93)/TUNNEL (I-90) PROJECT, FROM DECEMBER 1988 TO FEBRUARY 1989 UNDER THE TECHNICAL OBSERVATION OF HALEY & ALDRICH, INC.
C-1	DESIGNATION AND APPROXIMATE LOCATION OF PRECHARACTERIZATION GRID (A1)

NOTES

1. BASE PLAN AND PROPOSED SLURRY WALL LOCATION TAKEN FROM AN ELECTRONIC FILE TITLED "PARCEL_P_PARKING_LEVEL_1_04092019.dwg", PROVIDED BY STANTEC ARCHITECTURE ON 9 APRIL 2019.
2. ELEVATIONS ARE IN BOSTON CITY BASE (BCB).

0 40 80
SCALE IN FEET

HALEY ALDRICH

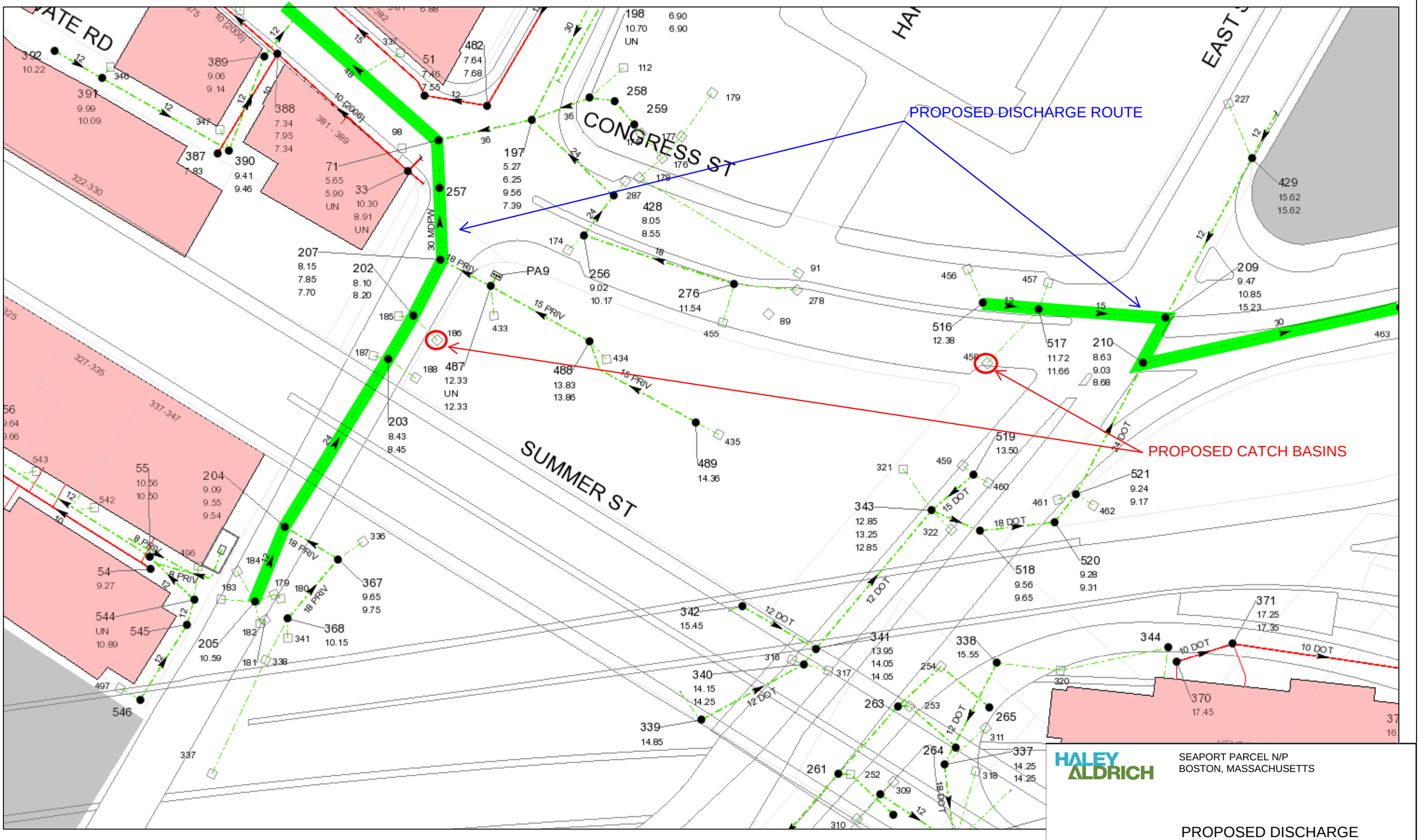
BOSTON SEAPORT PARCEL P
400 SUMMER STREET
BOSTON, MASSACHUSETTS

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN

SCALE: AS SHOWN
NOVEMBER 2019

FIGURE 2

ERVIN, DAYNA
J:\GRAPHICS\130319\130319-005-B001.DWG
Printed: 5/9/2019 1:11 PM
Layout: B001



BOSTON WATER AND SEWER

N
W E
S

0 30 60 120 180 240 Feet

HALEY ALDRICH

SEAPORT PARCEL N/P
BOSTON, MASSACHUSETTS

PROPOSED DISCHARGE ROUTE

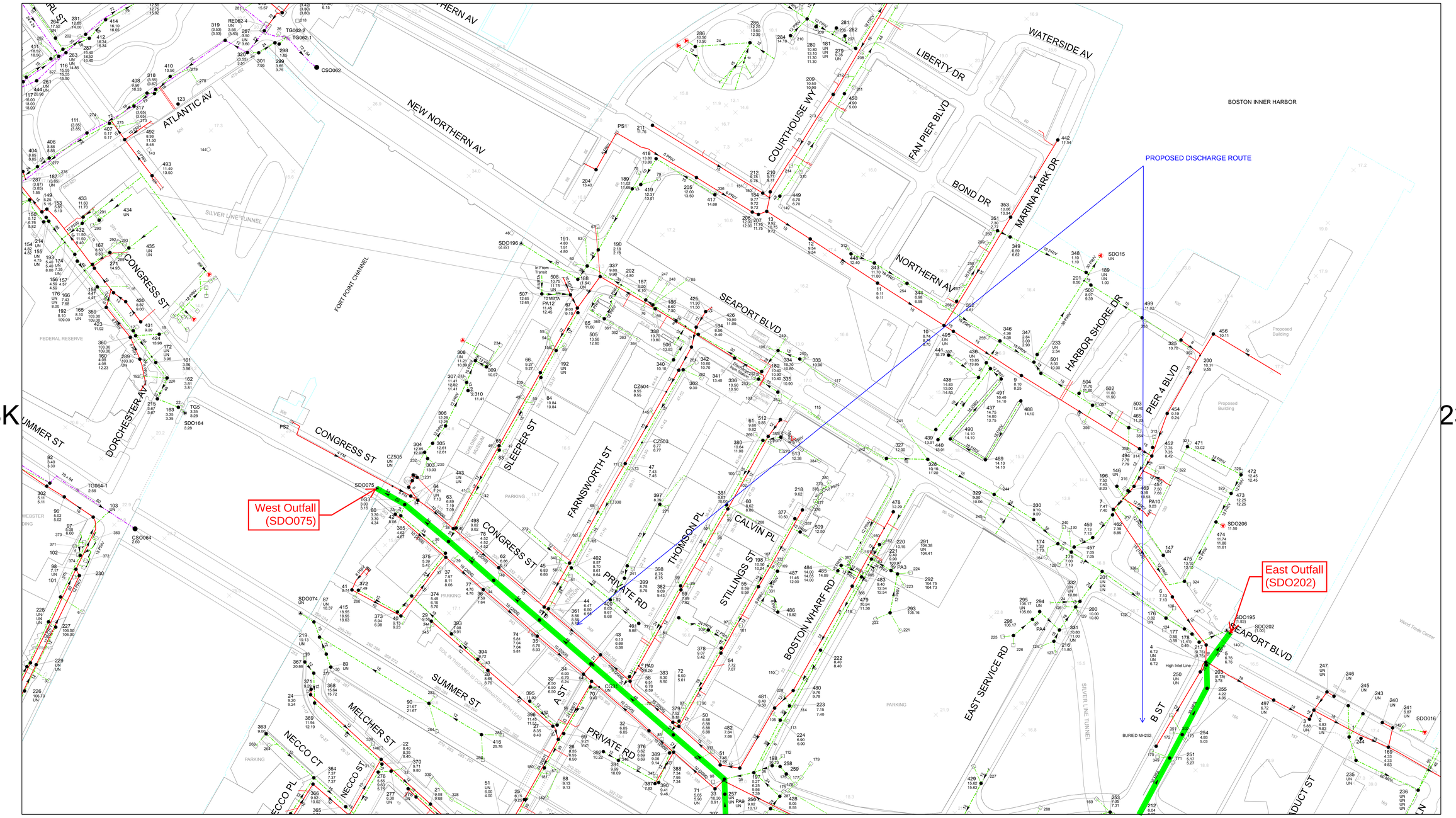
NOVEMBER 2019

FIGURE 3a

24K 24L 24M

23K 23M

22K 22L 22M



NOTE: Spot Elevations shown are plotted in Boston City Base

DATE OF PHOTOGRAPHY - MARCH 30, APRIL 1 & 17, 1995
VERTICAL DATUM BASED ON THE BOSTON CITY BASE

THE LANDBASE ON THIS MAP WAS COMPILED TO MEET THE ASPRS STANDARD FOR CLASS 1 MAP ACCURACY

Date Produced:
1/26/2017

BOSTON WATER AND SEWER COMMISSION

HALEY ALDRICH

SEAPORT PARCEL N/P
BOSTON, MASSACHUSETTS

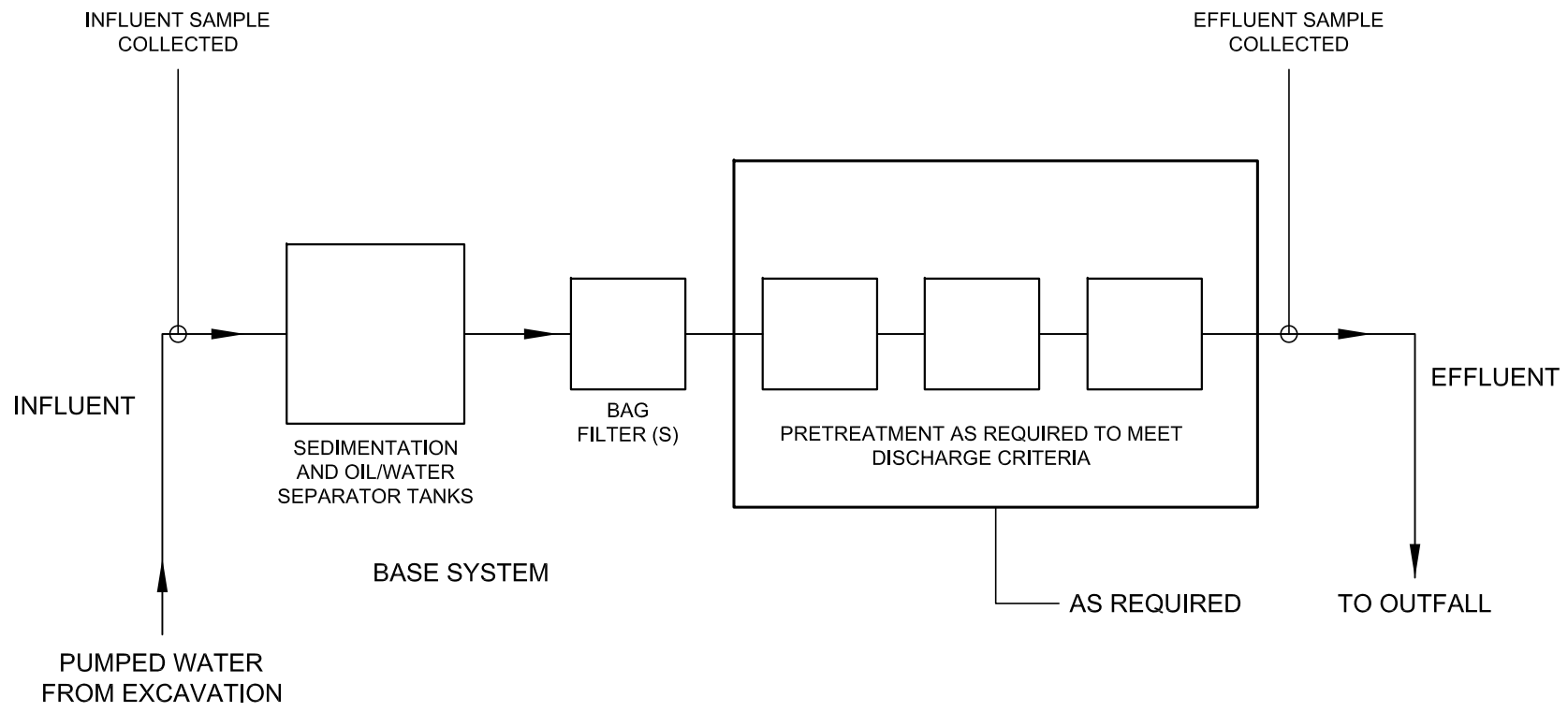
PROPOSED DISCHARGE ROUTE

OCTOBER 2019

FIGURE 3b

SHEET NO.
23L

G:\38625\NPDES\FIGURES\COPY-A142.DWG



LEGEND:

→ DIRECTION OF FLOW

NOTE:

1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE SELECTED BY CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

HALEY ALDRICH

SEAPORT PARCEL N/P
BOSTON, MASSACHUSETTS

PROPOSED TREATMENT SYSTEM SCHEMATIC

SCALE: NONE
NOVEMBER 2019

FIGURE 4

APPENDIX A

NOI for RGP

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site: Seaport Square Parcel N/P</td><td colspan="3">Site address:
Street: 391 Congress Street/400 Summer Street</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02110</td></tr>
<tr><td rowspan="4">2. Site owner
Seaport N/P Title Holder LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ☒ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Daniel Preysman</td></tr>
<tr><td colspan="2">Telephone: 617-646-3130</td><td>Email: Daniel.Preysman@wsdevelopment.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 33 Boylston Street, Suite 3000</td></tr>
<tr><td>City: Chestnut Hill</td><td>State: MA</td><td>Zip: 02467</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Suffolk Construction</td><td colspan="3">Contact Person: Jason Seaburg</td></tr>
<tr><td colspan="2">Telephone: 617-445-3500</td><td>Email: JSeaburg@suffolk.com</td></tr>
<tr><td colspan="3">Mailing address: 65 Allerton Street
Street:</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02119</td></tr>
<tr><td>4. NPDES permit number assigned by EPA: N/A

NPDES permit is (check all that apply: ☐ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
☒ MA Chapter 21e; list RTN(s): RTN 3-35801
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Fort Point Channel / Boston Inner Harbor	MA70-02	SB

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ☒ Yes ☐ No

Are sensitive receptors present near the site? (check one): ☐ Yes ☒ No
If yes, specify:

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. No

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	N/A - Receiving water is an ocean
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	1 - Receiving water is an ocean

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ☐ Yes ☒ No
If yes, indicate date confirmation received:

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☒ Yes ☐ No

C. Source water information:

1. Source water(s) is (check any that apply):

☒ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☒ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☒ Other; if so, specify: Although "Contaminated Groundwater" is listed, see table for compounds actually detected

2. Source water contaminants: Total suspended solids, iron, zinc	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ☒ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ☐ Yes ☒ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ☒ New discharge ☐ New source	
Outfall(s): 1) SDO075, 2) SDO202	Outfall location(s): (Latitude, Longitude) 1) 42.350697 -71.042631 2) 42.350697 -71.042631
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ☒ Indirect discharge, if so, specify: ☐ A private storm sewer system ☒ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ☒ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ☒ No, if so, explain, with an estimated timeframe for obtaining permission: BWSC permit application being submitted concurrently with this NOI Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☒ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): November 2018 - March 2021 Indicate if the discharge is expected to occur over a duration of: ☐ less than 12 months ☒ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ☒ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
☒ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>☒ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

☒ A. Inorganics
*☒ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
*☒ D. Non-Halogenated Semi-Volatile Organic Compounds
*☒ E. Halogenated Semi-Volatile Organic Compounds
*☒ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

*detected in soil only

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		X	1	4500NH3-BH	75	2800	2800	Report mg/L	---
Chloride		X	1	300.0	50000	1400000	1400000	Report µg/l	---
Total Residual Chlorine	X		1	4500CL	20	ND	ND	0.2 mg/L	7.5 ug/L
Total Suspended Solids		X	1	2540D	5000	10000	10000	30 mg/L	—
Antimony Total		X*	1	200.8	4	ND	ND	206 µg/L	640
Arsenic Total		X	1	200.8	1	4.72	4.72	104 µg/L	36
Cadmium Total		X*	1	200.8	0.2	ND	ND	10.2 µg/L	8.9
Chromium III	X		1	NA	10	ND	ND	323 µg/L	100
Chromium VI	X		1	200.8	10	ND	ND	323 µg/L	50
Copper Total	X		1	200.8	1	ND	ND	242 µg/L	3.7
Iron Total		X	1	200.7	50	40700	40700	5,000 µg/L	
Lead Total		X*	1	200.8	1	ND	ND	160 µg/L	8.5
Mercury Total		X*	1	245.1	0.2	ND	ND	0.739 µg/L	1.11
Nickel Total		X	1	200.8	2	3.64	3.64	1,450 µg/L	8.3
Selenium Total		X*	1	200.8	5	ND	ND	235.8 µg/L	71
Silver Total		X*	1	200.8	0.4	ND	ND	35.1 µg/L	2.2
Zinc Total		X	1	200.8	10	153.6	153.6	420 µg/L	86
Cyanide Total	X		1	4500CN	0.005	ND	ND	178 mg/L	1.0
B. Non-Halogenated VOCs									
Total BTEX		X*	1	624.1	NA	ND	ND	100 µg/L	---
Benzene		X*	1	624.1	1	ND	ND	5.0 µg/L	---
1,4 Dioxane	X		1	8260C-SIM	50	ND	ND	200 µg/L	---
Acetone		X*	1	624.1	10	ND	ND	7.97 mg/L	---
Phenol	X		1	420.1	30	ND	ND	1,080 µg/L	300

X* - detected in soil only

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	X		1	624.1	1.0	ND	ND	4.4 µg/L	1.6
1,2 Dichlorobenzene	X		1	624.1	5.0	ND	ND	600 µg/L	---
1,3 Dichlorobenzene	X		1	624.1	5.0	ND	ND	320 µg/L	---
1,4 Dichlorobenzene	X		1	624.1	5.0	ND	ND	5.0 µg/L	---
Total dichlorobenzene	X		1	624.1	NA	NA	NA	763 µg/L in NH	---
1,1 Dichloroethane	X		1	624.1	1.5	ND	ND	70 µg/L	---
1,2 Dichloroethane		X*	1	624.1	1.5	ND	ND	5.0 µg/L	---
1,1 Dichloroethylene	X		1	624.1	1.0	ND	ND	3.2 µg/L	---
Ethylene Dibromide	X		1	504.1	0.01	ND	ND	0.05 µg/L	---
Methylene Chloride	X		1	624.1	1.0	ND	ND	4.6 µg/L	---
1,1,1 Trichloroethane	X		1	624.1	2.0	ND	ND	200 µg/L	---
1,1,2 Trichloroethane	X		1	624.1	1.5	ND	ND	5.0 µg/L	---
Trichloroethylene	X		1	624.1	1.0	ND	ND	5.0 µg/L	---
Tetrachloroethylene		X*	1	624.1	1.0	ND	ND	5.0 µg/L	3.3
cis-1,2 Dichloroethylene	X		1	624.1	1.0	ND	ND	70 µg/L	---
Vinyl Chloride	X		1	624.1	1.0	ND	ND	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	X		1	625.1	NA	ND	ND	190 µg/L	
Diethylhexyl phthalate	X		1	625.1	2.2	ND	ND	101 µg/L	2.2
Total Group I PAHs		X*	1	625.1	NA	ND	ND	1.0 µg/L	---
Benzo(a)anthracene		X*	1	625.1 SIM	0.1	ND	ND	As Total PAHs	0.0038
Benzo(a)pyrene		X*	1	625.1 SIM	0.1	ND	ND		0.0038
Benzo(b)fluoranthene		X*	1	625.1 SIM	0.1	ND	ND		0.0038
Benzo(k)fluoranthene		X*	1	625.1 SIM	0.1	ND	ND		0.0038
Chrysene		X*	1	625.1 SIM	0.1	ND	ND		0.0038
Dibenzo(a,h)anthracene		X*	1	625.1 SIM	0.1	ND	ND		0.0038
Indeno(1,2,3-cd)pyrene		X*	1	625.1 SIM	0.1	ND	ND		0.0038

X* - detected in soil only

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		X*	1	625.1 SIM	NA	ND	ND	100 µg/L	---
Naphthalene		X*	1	625.1 SIM	0.1	ND	ND	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs		X*	1	608.3	NA	ND	ND	0.000064 µg/L	---
Pentachlorophenol	X		1	625.1 SIM	1	ND	ND	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons		X*	1	1664A	4.0	ND	ND	5.0 mg/L	---
Ethanol	X							Report mg/L	---
Methyl-tert-Butyl Ether	X		1	624.1	10	ND	ND	70 µg/L	
tert-Butyl Alcohol	X		1	624.1	100	ND	ND	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	X		1	624.1	20	ND	ND	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
Hardness		X	1	200.7	660	622000	622000	ug/L	
See Attached Table 1									

X* - detected in soil only

Additional compounds detected in soil only:

VOCs
1,2,4-Trimethylbenzene
1,2-Dichloroethane
1,3,5-Trimethylbenzene
2-Butanone (Methyl Ethyl Ketone)
2-Phenylbutane (sec-Butylbenzene)
Acetone
Benzene
Carbon disulfide
Cymene (p-Isopropyltoluene)
Ethylbenzene
Isopropylbenzene (Cumene)
Naphthalene
n-Butylbenzene
Tetrachloroethene
Tetrahydrofuran
Toluene
Xylene (total)

SVOCs
2-Methylnaphthalene
3&4-Methylphenol
Acenaphthene
Acenaphthylene
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
bis(2-Ethylhexyl)phthalate
Butyl benzylphthalate
Chrysene
Dibenz(a,h)anthracene
Dibenzofuran
Fluoranthene
Fluorene
Indeno(1,2,3-cd)pyrene
Naphthalene
Phenanthrene
Pyrene

Metals
Barium
Beryllium
Chromium
Vanadium

Other
Lead TCLP
Aroclor-1254 (PCB-1254)
Aroclor-1260 (PCB-1260)
Total Solids (%)
Reactive Sulfide (mg/kg)
Conductivity (umhos/cm)

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ☒ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption

☒ Ion Exchange ☒ Precipitation/Coagulation/Flocculation ☒ Separation/Filtration ☐ Other; if so, specify:

Following will be applied IF REQUIRED per effluent monitoring sampling

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.

Prior to discharge, collected water will be routed through a sedimentation tank and a bag filter and other necessary treatment components (potentially: Ion exchange, GAC, oil/water seperator), to remove suspended solids and undissolved chemical constituents, as shown on Figure 4 of the NPDES permit application.

Identify each major treatment component (check any that apply):

☒ Fractionation tanks☐ Equalization tank ☒ Oil/water separator ☐ Mechanical filter ☒ Media filter

☐ Chemical feed tank ☐ Air stripping unit ☒ Bag filter ☐ Other; if so, specify:

Indicate if either of the following will occur (check any that apply):

☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Flow meter Is use of a flow meter feasible? (check one): ☒ Yes ☐ No, if so, provide justification:	
Provide the proposed maximum effluent flow in gpm. 100 gpm	
Provide the average effluent flow in gpm. 75 gpm	
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ☒ Yes ☐ No

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☒ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☒ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:

2. Provide the following information for each chemical/additive, using attachments, if necessary:

a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

See attached manufacturers cut sheets and SDSs for equipment which may be utilized if necessary. This information is only included as a contingency and is not currently needed based on groundwater data. Exact specifications on frequency, duration, quantity, and method of application are not known at this time. If the system eventually requires chemical additives, these details will be provided to EPA.

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ☐ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive? (check one): ☐ Yes ☐ No See above

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

☐ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

☒ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ☐ No; if no, is consultation underway? (check one): ☐ Yes ☐ No

☐ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ☐ the operator ☐ EPA ☐ Other; if so, specify:

☒ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ☐ Yes ☐ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ☒ Yes ☐ No

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ☒ Yes ☐ No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

☒ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

☐ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ☒ Yes ☐ No

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ☒ N/A

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Refer to attached Haley & Aldrich, Inc. letter

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ☒ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ☒ Yes ☐ No

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
BMPP certification statement: A BMPP meeting the requirements of this general permit will be implemented upon initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required. Check one: Yes ☐ No ☐ N/A
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested. Check one: Yes ☒ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested. Check one: Yes ☒ No ☐ NA ☐ **BWSC Permit being submitted concurrently with this NOI** Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission. Check one: Yes ☐ No ☒ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify: Check one: Yes ☐ No ☐ NA ☒
Signature:  Date: 11/19/19
Print Name and Title: Jason Seaburg, Vice president, Operations

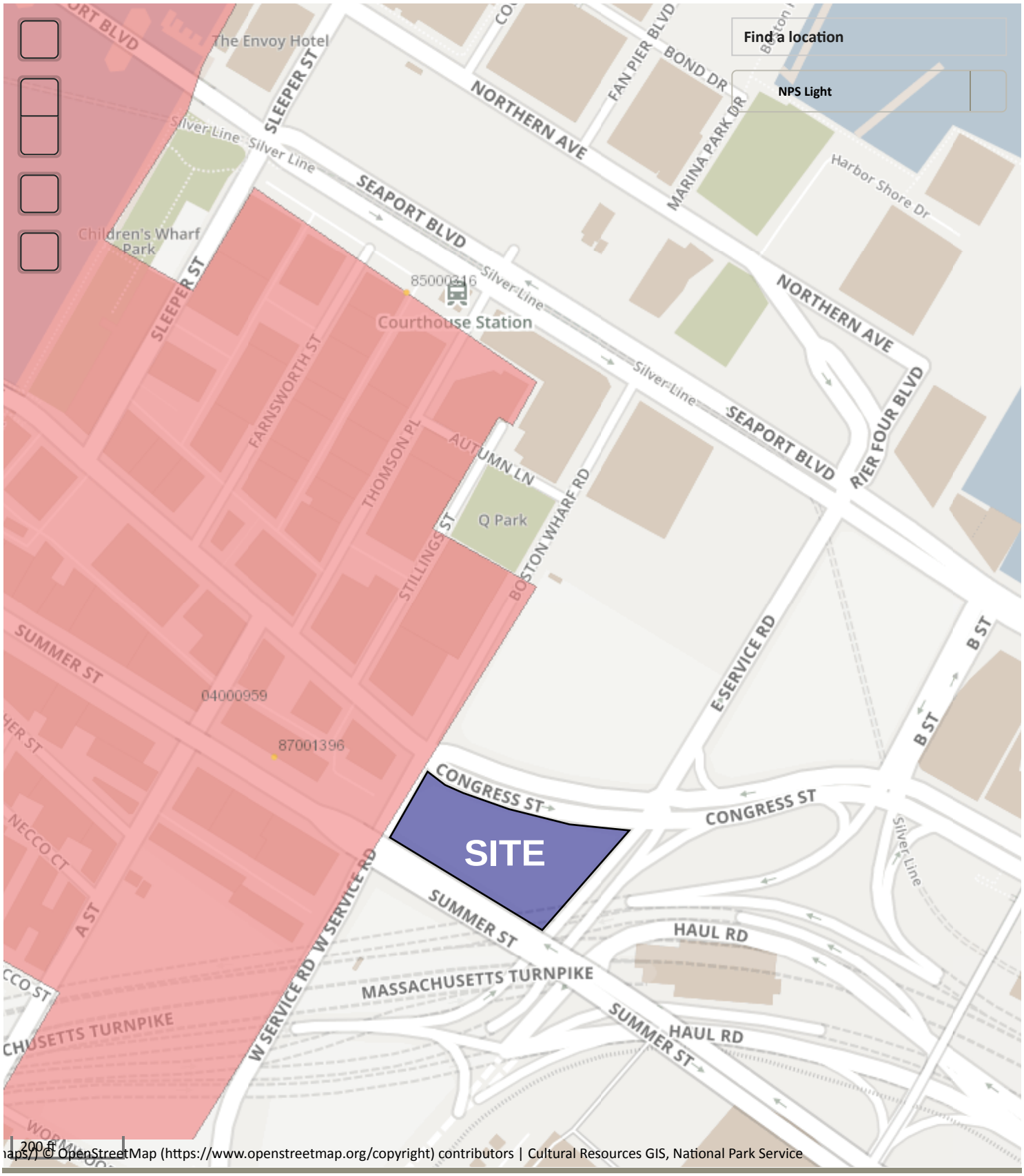
APPENDIX B

National Register of Historic Places and
Massachusetts Historical Commission Documentation

National Register of Histori...

National Park Service
U.S. Department of the Interior

Public, non-restricted data depicting National Register spatial data proce...



National Register of Historic Places: Listed Properties
As of July 2015

Note: Not all properties are digitized

Reference Number	State	County	City	Resource Name	Address	Listed Date	Text Click me	Photos Cl;ick me
83000601	MASSACHUSETTS	Suffolk	Boston	Charles Street African Methodist Episcopal Church	551 Warren St.	19830901	Text	Photos
83000602	MASSACHUSETTS	Suffolk	Boston	Codman Square District	Norfolk, Talbot, Epping, Lithgow, Cer	19830623	Text	Photos
83000603	MASSACHUSETTS	Suffolk	Boston	Gardner, Isabella Stewart, Museum	280 The Fenway	19830127	Text	Photos
83000605	MASSACHUSETTS	Suffolk	Boston	Harvard Avenue Fire Station	16 Harvard Ave.	19830331	Text	Photos
83000606	MASSACHUSETTS	Suffolk	Boston	Lawrence Model Lodging Houses	79, 89, 99 and 109 E. Canton St.	19830922	Text	Photos
83000607	MASSACHUSETTS	Suffolk	Boston	Newspaper Row	322-328 Washington St., 5-23 Milk St	19830707	Text	Photos
82000486	MASSACHUSETTS	Suffolk	Boston	Wigglesworth Building	89-83 Franklin St.	19821021	Text	Photos
83004098	MASSACHUSETTS	Suffolk	Boston	Leather District	Roughly bounded by Atlantic Ave., K	19831221	Text	Photos
83004285	MASSACHUSETTS	Suffolk	Boston	Baker, Sarah J., School	33 Perrin St.	19830707	Text	Photos
79000370	MASSACHUSETTS	Suffolk	Boston	Washington Street Theatre District	511-559 Washington St.	19790319	Text	Photos
85000318	MASSACHUSETTS	Suffolk	Boston	Dorchester Pottery Works	101-105 Victory Rd.	19850221	Text	Photos
79000368	MASSACHUSETTS	Suffolk	Boston	Bedford Building	89-103 Bedford St.	19790821	Text	Photos
80000442	MASSACHUSETTS	Suffolk	Boston	Wirth, Jacob, Buildings	31-39 Stuart St.	19801209	Text	Photos
80000445	MASSACHUSETTS	Suffolk	Boston	Metropolitan Theatre	252-272 Tremont St.	19801209	Text	Photos
80000446	MASSACHUSETTS	Suffolk	Boston	Hayden Building	681-683 Washington St.	19801209	Text	Photos
80000448	MASSACHUSETTS	Suffolk	Boston	Dill Building	11-25 Stuart St.	19801209	Text	Photos
80000450	MASSACHUSETTS	Suffolk	Boston	Boylston Building	2-22 Boylston St.	19801209	Text	Photos
80000451	MASSACHUSETTS	Suffolk	Boston	Boston Young Men's Christian Union	48 Boylston St.	19801209	Text	Photos
80000453	MASSACHUSETTS	Suffolk	Boston	Boston Edison Electric Illuminating Company	25-39 Boylston St.	19801209	Text	Photos
80000455	MASSACHUSETTS	Suffolk	Boston	West Street District	West St.	19801209	Text	Photos
80000460	MASSACHUSETTS	Suffolk	Boston	Liberty Tree District	Roughly bounded by Harrison Ave., \	19801209	Text	Photos
80000462	MASSACHUSETTS	Suffolk	Boston	Beach-Knapp District	Roughly bounded by Harrison Ave., \	19801209	Text	Photos
80000465	MASSACHUSETTS	Suffolk	Boston	Oak Square School	35 Nonantum St.	19801110	Text	Photos
66000127	MASSACHUSETTS	Suffolk	Boston	Arnold Arboretum	22 Divinity Ave.	19661015	Text	Photos
73000313	MASSACHUSETTS	Suffolk	Boston	Arlington Street Church	Arlington and Boylston Sts.	19730504	Text	Photos
73000322	MASSACHUSETTS	Suffolk	Boston	Old Corner Bookstore	NW corner of Washington and Schoc	19730411	Text	Photos
75000299	MASSACHUSETTS	Suffolk	Boston	South Station Headhouse	Atlantic Ave. and Summer St.	19750213	Text	Photos
74000392	MASSACHUSETTS	Suffolk	Boston	Winthrop Building	7 Water St.	19740418	Text	Photos
80000668	MASSACHUSETTS	Suffolk	Boston	United Shoe Machinery Corporation Building	138-164 Federal St.	19800819	Text	Photos
75000300	MASSACHUSETTS	Suffolk	Boston	St. Stephen's Church	Hanover St. between Clark and Harri	19750414	Text	Photos
80000669	MASSACHUSETTS	Suffolk	Boston	Union Wharf	295-353 Commercial St.	19800622	Text	Photos
80000670	MASSACHUSETTS	Suffolk	Boston	Suffolk County Jail	215 Charles St.	19800423	Text	Photos
80000674	MASSACHUSETTS	Suffolk	Boston	Garrison, William Lloyd, School	20 Hutchings St.	19800416	Text	Photos
80001683	MASSACHUSETTS	Suffolk	Boston	Dillaway School	16-20 Kenilworth St.	19800409	Text	Photos
66000366	MASSACHUSETTS	Suffolk	Boston	Ether Dome, Massachusetts General Hospital	Fruit St.	19661015	Text	Photos
70000539	MASSACHUSETTS	Suffolk	Boston	Otis, (First) Harrison Gray, House	141 Cambridge St.	19701230	Text	Photos
73000314	MASSACHUSETTS	Suffolk	Boston	Armory of the First Corps of Cadets	97-105 Arlington St. and 130 Columb	19730522	Text	Photos
73000315	MASSACHUSETTS	Suffolk	Boston	Blackstone Block Historic District	Area bound by Union, Hanover, Blac	19730526	Text	Photos
72000145	MASSACHUSETTS	Suffolk	Boston	Crowninshield House	164 Marlborough St.	19720223	Text	Photos
72000146	MASSACHUSETTS	Suffolk	Boston	First Baptist Church	Commonwealth Ave. and Clarendon	19720223	Text	Photos
74000391	MASSACHUSETTS	Suffolk	Boston	John Adams Courthouse	Pemberton Sq.	19740508	Text	Photos
72000150	MASSACHUSETTS	Suffolk	Boston	Trinity Rectory	Clarendon and Newbury Sts.	19720223	Text	Photos
74000385	MASSACHUSETTS	Suffolk	Boston	Copp's Hill Burial Ground	Charter, Snowhill, and Hull Sts.	19740418	Text	Photos
74000393	MASSACHUSETTS	Suffolk	Boston	Youth's Companion Building	209 Columbus Ave.	19740502	Text	Photos
66000764	MASSACHUSETTS	Suffolk	Boston	Harding, Chester, House	16 Beacon St.	19661015	Text	Photos
74002044	MASSACHUSETTS	Suffolk	Boston	Howe, Samuel Gridley and Julia Ward, House	13 Chestnut St.	19740913	Text	Photos
74002045	MASSACHUSETTS	Suffolk	Boston	King's Chapel	Tremont and School Sts.	19740502	Text	Photos
70000682	MASSACHUSETTS	Suffolk	Boston	Massachusetts General Hospital	Fruit Street	19701230	Text	Photos
80000678	MASSACHUSETTS	Suffolk	Boston	All Saints' Church	211 Ashmont St.	19800616	Text	Photos
81000620	MASSACHUSETTS	Suffolk	Boston	Fields Corner Municipal Building	1 Arcadia St., 195 Adams St.	19811112	Text	Photos
66000770	MASSACHUSETTS	Suffolk	Boston	Massachusetts Historical Society Building	1154 Boylston St.	19661015	Text	Photos
66000771	MASSACHUSETTS	Suffolk	Boston	Massachusetts Statehouse	Beacon Hill	19661015	Text	Photos
76001979	MASSACHUSETTS	Suffolk	Boston	Nell, William C., House	3 Smith Ct.	19760511	Text	Photos
70000687	MASSACHUSETTS	Suffolk	Boston	Old City Hall	School and Providence Sts.	19701230	Text	Photos
70000690	MASSACHUSETTS	Suffolk	Boston	Old South Church in Boston	645 Boylston St.	19701230	Text	Photos
70000691	MASSACHUSETTS	Suffolk	Boston	Old West Church	131 Cambridge St.	19701230	Text	Photos
66000782	MASSACHUSETTS	Suffolk	Boston	Parkman, Francis, House	50 Chestnut St.	19661015	Text	Photos
80000444	MASSACHUSETTS	Suffolk	Boston	Shubert, Sam S., Theatre	263-265 Tremont St.	19801209	Text	Photos
80000458	MASSACHUSETTS	Suffolk	Boston	Piano Row District	Boston Common, Park Sq., Boylston	19801209	Text	Photos
80000443	MASSACHUSETTS	Suffolk	Boston	Wilbur Theatre	244-250 Tremont St.	19801209	Text	Photos
66000765	MASSACHUSETTS	Suffolk	Boston	Headquarters House	55 Beacon St.	19661015	Text	Photos
68000042	MASSACHUSETTS	Suffolk	Boston	Pierce-Hichborn House	29 North Sq.	19681124	Text	Photos
66000784	MASSACHUSETTS	Suffolk	Boston	Quincy Market	S. Market St.	19661113	Text	Photos

70000730	MASSACHUSETTS	Suffolk	Boston	St. Paul's Church	136 Tremont St.	19701230	Text	Photos
70000731	MASSACHUSETTS	Suffolk	Boston	Sears, David, House	42 Beacon St.	19701230	Text	Photos
73001953	MASSACHUSETTS	Suffolk	Boston	Sumner, Charles, House	20 Hancock St.	19731107	Text	Photos
66000130	MASSACHUSETTS	Suffolk	Boston	Beacon Hill Historic District	Bounded by Beacon St., the Charles I	19661015	Text	Photos
73001955	MASSACHUSETTS	Suffolk	Boston	Otis, (Second) Harrison Gray, House	85 Mt. Vernon St.	19730727	Text	Photos
66000768	MASSACHUSETTS	Suffolk	Boston	Long Wharf and Customhouse Block	Foot of State St.	19661113	Text	Photos
66000132	MASSACHUSETTS	Suffolk	Boston	Boston Athenaeum	10 1/2 Beacon St.	19661015	Text	Photos
66000788	MASSACHUSETTS	Suffolk	Boston	Tremont Street Subway	Beneath Tremont, Boylston, and Wa	19661015	Text	Photos
70000733	MASSACHUSETTS	Suffolk	Boston	Trinity Church	Copley Sq.	19700701	Text	Photos
82004456	MASSACHUSETTS	Suffolk	Boston	Adams-Nervine Asylum	990-1020 Centre St.	19820601	Text	Photos
79000369	MASSACHUSETTS	Suffolk	Boston	International Trust Company Building	39-47 Milk St.	19790910	Text	Photos
74000388	MASSACHUSETTS	Suffolk	Boston	Eliot Burying Ground	Eustis and Washington Sts.	19740625	Text	Photos
80000463	MASSACHUSETTS	Suffolk	Boston	Russia Wharf Buildings	518-540 Atlantic Ave., 270 Congress	19801202	Text	Photos
71000087	MASSACHUSETTS	Suffolk	Boston	African Meetinghouse	8 Smith St.	19711007	Text	Photos
85002015	MASSACHUSETTS	Suffolk	Boston	Building at 138--142 Portland Street	138--142 Portland St.	19850905	Text	Photos
84000421	MASSACHUSETTS	Suffolk	Boston	Vermont Building	6-12 Thacher St.	19841113	Text	Photos
75000301	MASSACHUSETTS	Suffolk	Boston	Symphony and Horticultural Halls	Massachusetts and Huntington Aves	19750530	Text	Photos
73000324	MASSACHUSETTS	Suffolk	Boston	South End District	South Bay area between Huntington	19730508	Text	Photos
74000390	MASSACHUSETTS	Suffolk	Boston	Park Street District	Tremont, Park, and Beacon Sts.	19740501	Text	Photos
73000319	MASSACHUSETTS	Suffolk	Boston	Fulton-Commercial Streets District	Fulton, Commercial, Mercantile, Lew	19730321	Text	Photos
84002875	MASSACHUSETTS	Suffolk	Boston	Fenway-Boylston Street District	Fenway, Boylston, Westland, and He	19840904	Text	Photos
78000473	MASSACHUSETTS	Suffolk	Boston	Fenway Studios	30 Ipswich St.	19780913	Text	Photos
73000318	MASSACHUSETTS	Suffolk	Boston	Cyclorama Building	543-547 Tremont St.	19730413	Text	Photos
83004097	MASSACHUSETTS	Suffolk	Boston	Codman Building	55 Kilby St.	19831019	Text	Photos
80000676	MASSACHUSETTS	Suffolk	Boston	Charles Playhouse	74-78 Warenton St.	19800616	Text	Photos
74000382	MASSACHUSETTS	Suffolk	Boston	Ames Building	1 Court St.	19740426	Text	Photos
77001541	MASSACHUSETTS	Suffolk	Boston	Appleton, Nathan, Residence	39-40 Beacon St.	19771222	Text	Photos
66000134	MASSACHUSETTS	Suffolk	Boston	Boston Naval Shipyard	E of Chelsea St., Charlestown	19661115	Text	Photos
66000050	MASSACHUSETTS	Suffolk	Boston	Dorchester Heights National Historic Site	South Boston	19661015	Text	Photos
74002222	MASSACHUSETTS	Suffolk	Boston	Boston National Historical Park	Inner harbor at mouth of Charles Riv	19741026	Text	Photos
66000785	MASSACHUSETTS	Suffolk	Boston	Revere, Paul, House	19 North Sq.	19661015	Text	Photos
66000776	MASSACHUSETTS	Suffolk	Boston	Old North Church	193 Salem St.	19661015	Text	Photos
66000778	MASSACHUSETTS	Suffolk	Boston	Old South Meetinghouse	Milk and Washington Sts.	19661015	Text	Photos
66000368	MASSACHUSETTS	Suffolk	Boston	Faneuil Hall	Dock Sq.	19661015	Text	Photos
66000779	MASSACHUSETTS	Suffolk	Boston	Old State House	Washington and State Sts.	19661015	Text	Photos
85003074	MASSACHUSETTS	Suffolk	Boston	Dudley Station Historic District	Washington, Warren, and Dudley Sts	19851205	Text	Photos
86000140	MASSACHUSETTS	Suffolk	Boston	Christ Church	1220 River Rd.	19860130	Text	Photos
73000317	MASSACHUSETTS	Suffolk	Boston	Boston Public Library	Copley Sq.	19730506	Text	Photos
86001909	MASSACHUSETTS	Suffolk	Boston	Filene's Department Store	426 Washington St.	19860724	Text	Photos
86001913	MASSACHUSETTS	Suffolk	Boston	Second Brazer Building	25--29 State St.	19860724	Text	Photos
86001486	MASSACHUSETTS	Suffolk	Boston	Sears' Crescent and Sears' Block	38--68 and 70--72 Cornhill	19860809	Text	Photos
86001504	MASSACHUSETTS	Suffolk	Boston	Richardson Block	113--151 Pearl and 109--119 High Sts	19860809	Text	Photos
85003375	MASSACHUSETTS	Suffolk	Boston	Engine House No. 34	444 Western Ave.	19851024	Text	Photos
80000671	MASSACHUSETTS	Suffolk	Boston	Stearns, R. H., House	140 Tremont St.	19800616	Text	Photos
86001911	MASSACHUSETTS	Suffolk	Boston	Locke--Ober Restaurant	3--4 Winter Pl.	19860724	Text	Photos
80000677	MASSACHUSETTS	Suffolk	Boston	Berger Factory	37 Williams St.	19800409	Text	Photos
85000316	MASSACHUSETTS	Suffolk	Boston	Bigelow School	350 W. 4th St.	19850221	Text	Photos
84002890	MASSACHUSETTS	Suffolk	Boston	Moreland Street Historic District	Roughly bounded by Kearsarge, Blue	19840329	Text	Photos
70000921	MASSACHUSETTS	Suffolk	Boston	Fort Independence	Castle Island	19701015	Text	Photos
86000375	MASSACHUSETTS	Suffolk	Boston	Harriswood Crescent	60--88 Harold St.	19860313	Text	Photos
66000789	MASSACHUSETTS	Suffolk	Boston	U.S.S. CONSTITUTION	Boston Naval Shipyard	19661015	Text	Photos
87000757	MASSACHUSETTS	Suffolk	Boston	Harvard Stadium	60 N. Harvard St.	19870227	Text	Photos
72000144	MASSACHUSETTS	Suffolk	Boston	Boston Common and Public Garden	Beacon, Park, Tremont, Boylston, an	19720712	Text	Photos
87000760	MASSACHUSETTS	Suffolk	Boston	Boston Common	Beacon, Park, Tremont, Boylston, an	19870227	Text	Photos
87000761	MASSACHUSETTS	Suffolk	Boston	Boston Public Garden	Beacon, Charles, Boylston, and Arling	19870227	Text	Photos
87001128	MASSACHUSETTS	Suffolk	Boston	Monument Square Historic District	Monument Sq.	19870602	Text	Photos
66000138	MASSACHUSETTS	Suffolk	Boston	Bunker Hill Monument	Breed's Hill	19661015	Text	Photos
86000274	MASSACHUSETTS	Suffolk	Boston	Bulfinch Triangle Historic District	Roughly bounded by Canal, Market,	19860227	Text	Photos
80000675	MASSACHUSETTS	Suffolk	Boston	Dorchester-Milton Lower Mills Industrial District	Both sides of Neponset River	19800402	Text	Photos
86000084	MASSACHUSETTS	Suffolk	Boston	USS CASSIN YOUNG (destroyer)	Charlestown Navy Yard	19860114	Text	Photos
66000133	MASSACHUSETTS	Suffolk	Boston	Boston Light	Little Brewster Island, Boston Harbo	19661015	Text	Photos
87001481	MASSACHUSETTS	Suffolk	Boston	Long Island Head Light	Long Island	19870615	Text	Photos
87001394	MASSACHUSETTS	Suffolk	Boston	New Riding Club	52 Hemenway St.	19870820	Text	Photos
87001396	MASSACHUSETTS	Suffolk	Boston	Congress Street Fire Station	344 Congress St.	19870903	Text	Photos
87000885	MASSACHUSETTS	Suffolk	Boston	Abbotsford	300 Walnut Ave.	19870916	Text	Photos
87001889	MASSACHUSETTS	Suffolk	Boston	Sumner Hill Historic District	Roughly bounded by Seaverns Ave.,	19871022	Text	Photos
87001771	MASSACHUSETTS	Suffolk	Boston	Bunker Hill School	65 Baldwin St.	19871015	Text	Photos
87001398	MASSACHUSETTS	Suffolk	Boston	House at 17 Cranston Street	17 Cranston St.	19871120	Text	Photos
87001399	MASSACHUSETTS	Suffolk	Boston	Hoxie, Timothy, House	135 Hillside St.	19871120	Text	Photos
87001495	MASSACHUSETTS	Suffolk	Boston	Saint Augustine Chapel and Cemetery	Dorchester St. between W. Sixth and	19870918	Text	Photos

87002549	MASSACHUSETTS	Suffolk	Boston	District 13 Police Station	28 Seaverns Ave.	19880210	Text	Photos
85003323	MASSACHUSETTS	Suffolk	Boston	Boston Harbor Islands Archeological District	Address Restricted	19851221	Text	Photos
82004448	MASSACHUSETTS	Suffolk	Boston	Roughan Hall	15-18 City Sq.	19820415	Text	Photos
82004450	MASSACHUSETTS	Suffolk	Boston	McKay, Donald, House	78-80 White St.	19820602	Text	Photos
82004453	MASSACHUSETTS	Suffolk	Boston	Haffenreffer Brewery	Germania St.	19820502	Text	Photos
73000850	MASSACHUSETTS	Suffolk	Boston	Town Hill District	Bounded roughly by Rutherford Ave.	19730511	Text	Photos
74000907	MASSACHUSETTS	Suffolk	Boston	Phipps Street Burying Ground	Phipps St.	19740514	Text	Photos
74000911	MASSACHUSETTS	Suffolk	Boston	Clapp Houses	199 and 195 Boston St.	19740502	Text	Photos
74000915	MASSACHUSETTS	Suffolk	Boston	Dorchester North Burying Ground	Stroughton St. and Columbia Rd.	19740418	Text	Photos
80004396	MASSACHUSETTS	Suffolk	Boston	Boston African American National Historic Site	Museum of Afro American History, I	19801010	Text	Photos
66000141	MASSACHUSETTS	Suffolk	Boston	Brook Farm	670 Baker St.	19661015	Text	Photos
73000856	MASSACHUSETTS	Suffolk	Boston	Roxbury High Fort	Beech Glen St. at Fort Ave.	19730423	Text	Photos
73000855	MASSACHUSETTS	Suffolk	Boston	Kittredge, Alvah, House	12 Linwood St.	19730508	Text	Photos
73000854	MASSACHUSETTS	Suffolk	Boston	John Eliot Square District	John Eliot Sq.	19730423	Text	Photos
66000653	MASSACHUSETTS	Suffolk	Boston	Garrison, William Lloyd, House	125 Highland St.	19661015	Text	Photos
72000544	MASSACHUSETTS	Suffolk	Boston	Loring-Greenough House	12 South St.	19720426	Text	Photos
74000917	MASSACHUSETTS	Suffolk	Boston	Pierce House	24 Oakton Ave.	19740426	Text	Photos
70000540	MASSACHUSETTS	Suffolk	Boston	Fort Warren	Georges Island, Boston Harbor	19700829	Text	Photos
74002350	MASSACHUSETTS	Suffolk	Boston	Blake, James, House	735 Columbia Rd.	19740501	Text	Photos
83000604	MASSACHUSETTS	Suffolk	Boston	Loring, Harrison, House	789 E. Broadway St.	19830901	Text	Photos
88000908	MASSACHUSETTS	Suffolk	Boston	Goodwin, Ozias, House	7 Jackson Ave.	19880623	Text	Photos
88000957	MASSACHUSETTS	Suffolk	Boston	Greek Orthodox Cathedral of New England	520 Parker St.	19880630	Text	Photos
88000427	MASSACHUSETTS	Suffolk	Boston	Temple Place Historic District	11--55, 26--58 Temple Pl.	19880726	Text	Photos
88000959	MASSACHUSETTS	Suffolk	Boston	Eliot Hall	7A Eliot St.	19880715	Text	Photos
87001478	MASSACHUSETTS	Suffolk	Boston	Austin, Francis B., House	58 High St.	19881021	Text	Photos
89000004	MASSACHUSETTS	Suffolk	Boston	Mount Pleasant Historic District	Roughly bounded by Forest St. and M	19890209	Text	Photos
89000147	MASSACHUSETTS	Suffolk	Boston	Roxbury Highlands Historic District	Roughly bounded by Dudley St., Was	19890222	Text	Photos
73000325	MASSACHUSETTS	Suffolk	Boston	Hale, Edward Everett, House	12 Morley St.	19790321	Text	Photos
83004099	MASSACHUSETTS	Suffolk	Boston	LUNA (tugboat)	NDC Pier, Charles River	19831006	Text	Photos
89000974	MASSACHUSETTS	Suffolk	Boston	Massachusetts School of Art	364 Brookline Ave.	19890803	Text	Photos
89001747	MASSACHUSETTS	Suffolk	Boston	Mission Hill Triangle Historic District	Roughly bounded by Smith St., Wort	19891106	Text	Photos
89002169	MASSACHUSETTS	Suffolk	Boston	St. Joseph's Roman Catholic Church Complex	Bounded by Circuit, Regent, Hulbert,	19891228	Text	Photos
89002251	MASSACHUSETTS	Suffolk	Boston	Bellevue Standpipe	On Bellevue Hill at Washington St. ar	19900118	Text	Photos
88000955	MASSACHUSETTS	Suffolk	Boston	First Church of Jamaica Plain	6 Eliot St.	19880715	Text	Photos
90000631	MASSACHUSETTS	Suffolk	Boston	Copp's Hill Terrace	Between Commercial and Charter St	19900419	Text	Photos
89002271	MASSACHUSETTS	Suffolk	Boston	Chestnut Hill Reservoir Historic District	Beacon St. and Commonwealth Ave.	19900118	Text	Photos
90001095	MASSACHUSETTS	Suffolk	Boston	Calf Pasture Pumping Station Complex	435 Mount Vernon St.	19900802	Text	Photos
90001145	MASSACHUSETTS	Suffolk	Boston	Bowditch School	80--82 Greene St.	19900803	Text	Photos
90001536	MASSACHUSETTS	Suffolk	Boston	Monument Square Historic District	Roughly bounded by Jamaicaway, Pc	19901011	Text	Photos
90001537	MASSACHUSETTS	Suffolk	Boston	Upham's Corner Market	600 Columbia Rd.	19901011	Text	Photos
89002125	MASSACHUSETTS	Suffolk	Boston	Roxbury Presbyterian Church	328 Warren St.	19910315	Text	Photos
90001992	MASSACHUSETTS	Suffolk	Boston	Sears Roebuck and Company Mail Order Store	309 Park Dr. and 201 Brookline Ave.	19910115	Text	Photos
92000356	MASSACHUSETTS	Suffolk	Boston	Trinity Neighborhood House	406 Meridian St.	19920414	Text	Photos
73001948	MASSACHUSETTS	Suffolk	Boston	Back Bay Historic District	Roughly bounded by the Charles Rive	19730814	Text	Photos
90001757	MASSACHUSETTS	Suffolk	Boston	Textile District	Roughly, Essex St. from Phillips Sq. to	19901129	Text	Photos
93001489	MASSACHUSETTS	Suffolk	Boston	Massachusetts Mental Health Center	74 Fenwood Rd.	19940121	Text	Photos
93001573	MASSACHUSETTS	Suffolk	Boston	House at 1 Bay Street	1 Bay St.	19940209	Text	Photos
93001587	MASSACHUSETTS	Suffolk	Boston	Eliot Congregational Church	56 Dale St., corner 118--120 Walnut S	19940209	Text	Photos
85000317	MASSACHUSETTS	Suffolk	Boston	Dimock Community Health Center Complex	41 and 55 Dimock St.	19850221	Text	Photos
80000672	MASSACHUSETTS	Suffolk	Boston	New England Conservatory of Music	290 Huntington Ave.	19800514	Text	Photos
94001494	MASSACHUSETTS	Suffolk	Boston	Lower Roxbury Historic District	Roughly, area surrounding Coventry,	19941209	Text	Photos
94001492	MASSACHUSETTS	Suffolk	Boston	Faneuil, Peter, School	60 Joy St.	19941216	Text	Photos
95001450	MASSACHUSETTS	Suffolk	Boston	Riviera, The	270 Huntington Ave.	19951207	Text	Photos
73000321	MASSACHUSETTS	Suffolk	Boston	Custom House District	Between J.F.K. Expwy. and Kirby St. a	19730511	Text	Photos
96001063	MASSACHUSETTS	Suffolk	Boston	Douglass, Frederick, Square Historic District	Roughly bounded by Hammond St., (	19961003	Text	Photos
97000969	MASSACHUSETTS	Suffolk	Boston	Charlestown Heights	Roughly bounded by St. Martin, Bunl	19980108	Text	Photos
97000920	MASSACHUSETTS	Suffolk	Boston	Brighton Evangelical Congregational Church	404-410 Washington St.	19970821	Text	Photos
97000970	MASSACHUSETTS	Suffolk	Boston	Students House	96 The Fenway	19970911	Text	Photos
97000971	MASSACHUSETTS	Suffolk	Boston	North Terminal Garage	600 Commercial St.	19970911	Text	Photos
97001239	MASSACHUSETTS	Suffolk	Boston	Dorchester Temple Baptist Church	670 Washington St.	19980116	Text	Photos
97001377	MASSACHUSETTS	Suffolk	Boston	Allston Congregational Church	31-41 Quint Ave.	19971107	Text	Photos
97001472	MASSACHUSETTS	Suffolk	Boston	St. Luke's and St. Margaret's Church	5-7 St. Luke's Rd.	19971112	Text	Photos
98000149	MASSACHUSETTS	Suffolk	Boston	Eagle Hill Historic District	Roughly bounded by Border, Lexingt	19980226	Text	Photos
98001082	MASSACHUSETTS	Suffolk	Boston	Boston Young Men's Christian Association	312-320 Huntington Ave.	19980820	Text	Photos
97001278	MASSACHUSETTS	Suffolk	Boston	ROSEWAY (schooner)	Boston Harbor	19970925	Text	Photos
98001292	MASSACHUSETTS	Suffolk	Boston	St. Mary's Episcopal Church	14-16 Cushing Ave.	19981030	Text	Photos
98001330	MASSACHUSETTS	Suffolk	Boston	Roslindale Baptist Church	52 Cummins Hwy.	19981105	Text	Photos
98001361	MASSACHUSETTS	Suffolk	Boston	Cathedral of St. George Historic District	517-523-525 E. Broadway	19981125	Text	Photos
98001381	MASSACHUSETTS	Suffolk	Boston	Baker Congregational Church	760 Saratoga St.	19981119	Text	Photos
99000593	MASSACHUSETTS	Suffolk	Boston	Woodbourne Historic District	Roughly bounded by Walk Hill, Good	19990604	Text	Photos

99000633	MASSACHUSETTS	Suffolk	Boston	Symphony Hall	301 Massachusetts Avenue	19990120	Text	Photos
99001302	MASSACHUSETTS	Suffolk	Boston	Mariner's House	11 North Square	19991112	Text	Photos
99001304	MASSACHUSETTS	Suffolk	Boston	Congregation Adath Jeshurun	397 Blue Hill Ave.	19991112	Text	Photos
99001308	MASSACHUSETTS	Suffolk	Boston	First Congregational Church of Hyde Park	6 Webster St.	19991112	Text	Photos
99001614	MASSACHUSETTS	Suffolk	Boston	Church Green Buildings Historic District	101-113 Summer St.	19991230	Text	Photos
00000160	MASSACHUSETTS	Suffolk	Boston	Fulton-Commercial Streets Historic District (Boundary Incre	81-95 Richmond St.	20000303	Text	Photos
00000415	MASSACHUSETTS	Suffolk	Boston	Harvard Avenue Historic District	Roughly bounded by Linden St., Com	20000428	Text	Photos
00000871	MASSACHUSETTS	Suffolk	Boston	Dearborn School	25 Ambrose St.	20000802	Text	Photos
01000088	MASSACHUSETTS	Suffolk	Boston	Brighton Center Historic District	Academy Hill R., Chestnut Hill Ave., D	20010220	Text	Photos
01000872	MASSACHUSETTS	Suffolk	Boston	Peabody, The	195-197 Ashmont St.	20010808	Text	Photos
01001048	MASSACHUSETTS	Suffolk	Boston	Gibson House	137 Beacon St.	20010807	Text	Photos
01001557	MASSACHUSETTS	Suffolk	Boston	Boston Consumptives Hospital	249 River St.	20020207	Text	Photos
02000081	MASSACHUSETTS	Suffolk	Boston	Frances and Isabella Apartments	430-432 and 434-436 Dudley St.	20020222	Text	Photos
02000154	MASSACHUSETTS	Suffolk	Boston	Greenwood Memorial United Methodist Church	378A-380 Washington St.	20020308	Text	Photos
02000548	MASSACHUSETTS	Suffolk	Boston	Bennington Street Burying Ground	Bennington St., bet. Swift and harmo	20020522	Text	Photos
02001039	MASSACHUSETTS	Suffolk	Boston	Paine Furniture Building	75-81 Arlington St.	20020912	Text	Photos
02001190	MASSACHUSETTS	Suffolk	Boston	Harrison Square Historic District	Bounded by MBTA Braintree line em	20021022	Text	Photos
03000385	MASSACHUSETTS	Suffolk	Boston	Savin Hill Historic District	Roughly bounded by Savin Hill Ave.,	20030509	Text	Photos
03000645	MASSACHUSETTS	Suffolk	Boston	Union Oyster House	41-43 Union Street	20030527	Text	Photos
03000781	MASSACHUSETTS	Suffolk	Boston	Publicity Building	40-44 Bromfield St.	20030820	Text	Photos
04000023	MASSACHUSETTS	Suffolk	Boston	Benedict Fenwick School	150 Magnolia St.	20040211	Text	Photos
04000085	MASSACHUSETTS	Suffolk	Boston	Haskell, Edward H., Home for Nurses	220 Fisther Ave., 63 Parker Hill Ave.	20040226	Text	Photos
04000119	MASSACHUSETTS	Suffolk	Boston	YWCA Boston	140 Clarendon St.	20040303	Text	Photos
04000189	MASSACHUSETTS	Suffolk	Boston	Nix's Mate Daybeacon	Nubble Channel, The Narrows, Bosto	20040318	Text	Photos
04000426	MASSACHUSETTS	Suffolk	Boston	Nazing Court Apartments	224-236 Seaver St. and 1-8 Nazing Co	20040512	Text	Photos
04000534	MASSACHUSETTS	Suffolk	Boston	Hibernian Hall	182-186 Dudley St.	20040602	Text	Photos
04000959	MASSACHUSETTS	Suffolk	Boston	Fort Point Channel Historic District	Necco Court, Thomson Place, A, Binfo	20040910	Text	Photos
04001219	MASSACHUSETTS	Suffolk	Boston	Forest Hills Cemetery	95 Forest Hills Ave.	20041117	Text	Photos
04001430	MASSACHUSETTS	Suffolk	Boston	Truman Parkway--Metropolitan Park System of Greater Bos	Truman Parkway	20050105	Text	Photos
04001432	MASSACHUSETTS	Suffolk	Boston	VFW Parkway, Metropolitan Park System of Greater Bostor	VFW Parkway, bet. Spring And Centr	20050105	Text	Photos
04001572	MASSACHUSETTS	Suffolk	Boston	Morton Street, Metropolitan Park System of Greater Bosto	Morton St.	20050124	Text	Photos
04001573	MASSACHUSETTS	Suffolk	Boston	Neponset Valley Parkway, Metorpolitan Park System of Gre	Neponset Valley Parkway	20050124	Text	Photos
05000459	MASSACHUSETTS	Suffolk	Boston	Ayer, Frederick, Mansion	395 Commonwealth Avenue	20050405	Text	Photos
05000559	MASSACHUSETTS	Suffolk	Boston	Collins Building	213-217 Washington St.	20050608	Text	Photos
05000879	MASSACHUSETTS	Suffolk	Boston	Home for Aged Couples	409, 419 Walnut Ave. and 2055 Colu	20050811	Text	Photos
05000936	MASSACHUSETTS	Suffolk	Boston	South Boston Boat Clubs Historic District	1793-1849 William J. Day Blvd.	20050901	Text	Photos
05001509	MASSACHUSETTS	Suffolk	Boston	Stony Brook Reservation Parkways, Metropolitan Park Syst	Dedham, Enneking, Turtle Pond Park	20060103	Text	Photos
06000127	MASSACHUSETTS	Suffolk	Boston	East Boston High School, Old	127 Marion St.	20060315	Text	Photos
01000304	MASSACHUSETTS	Suffolk	Boston	Dorchester--Milton Lower Mills Industrial District (Boundar	Roughly: Adams, River, Medway Sts.,	20010406	Text	Photos
07000510	MASSACHUSETTS	Suffolk	Boston	Goldsmith Block	41 Ruggles St., 746-750 Shawmut Ave	20070605	Text	Photos
07000861	MASSACHUSETTS	Suffolk	Boston	Boston Transit Commission Building	15 Beacon St.	20070831	Text	Photos
08000089	MASSACHUSETTS	Suffolk	Boston	Dorchester Park	Bounded by Dorchester Ave., Richmo	20080220	Text	Photos
08000693	MASSACHUSETTS	Suffolk	Boston	Old Harbor Reservation Parkways, Metropolitan Park Syste	William J. Day Blvd., Columbia Rd. be	20080724	Text	Photos
08000793	MASSACHUSETTS	Suffolk	Boston	Joshua Bates School	731 Harrison Ave.	20080822	Text	Photos
08000795	MASSACHUSETTS	Suffolk	Boston	Ohabei Shalom Cemetery	147 Wordsworth St.	20080819	Text	Photos
08001284	MASSACHUSETTS	Suffolk	Boston	Compton Building	159, 161-175 Devonshire St., 18-20 A	20081231	Text	Photos
09000612	MASSACHUSETTS	Suffolk	Boston	Evergreen Cemetery	2060 Commonwealth Ave.	20090814	Text	Photos
09000717	MASSACHUSETTS	Suffolk	Boston	Fairview Cemetery	45 Fairview Ave.	20090916	Text	Photos
09000767	MASSACHUSETTS	Suffolk	Boston	Mount Hope Cemetery	355 Walk Hill St.	20090924	Text	Photos
10000039	MASSACHUSETTS	Suffolk	Boston	EDNA G. shipwreck (Eastern Rig dragger)	Address Restricted	20101122	Text	Photos
10000300	MASSACHUSETTS	Suffolk	Boston	Highland Spring Brewery Bottling and Storage Buildings	154-166 Terrace St	20100528	Text	Photos
10000391	MASSACHUSETTS	Suffolk	Boston	Second Church in Boston	874, 876, 880 Beacon St	20100624	Text	Photos
10000506	MASSACHUSETTS	Suffolk	Boston	Charles River Reservation (Speedway)--Upper Basin Headq	1420-1440 Soldiers Field Rd	20100719	Text	Photos
10001066	MASSACHUSETTS	Suffolk	Boston	Egleston Substation	3025 Washington St	20101227	Text	Photos
11000160	MASSACHUSETTS	Suffolk	Boston	United State Post Office, Courthouse, and Federal Building	5 Post Office Square	20110408	Text	Photos
12000069	MASSACHUSETTS	Suffolk	Boston	Fenway Park	24, & 2-4 Yawkey Wy., 64-76 Brookli	20120307	Text	Photos
12000099	MASSACHUSETTS	Suffolk	Boston	Terminal Storage Warehouse District	267-281 Medford St., 40 & 50 Termir	20120312	Text	Photos
12000783	MASSACHUSETTS	Suffolk	Boston	Saint Mark's Episcopal Church	73 Columbia Rd.	20140703	Text	Photos
12000978	MASSACHUSETTS	Suffolk	Boston	Sherman Apartments Historic District	544-546 Washington, 4-6, 12-14, 18 I	20121128	Text	Photos
12001012	MASSACHUSETTS	Suffolk	Boston	Central Congregational Church	67 Newbury St.	20121016	Text	Photos
12001162	MASSACHUSETTS	Suffolk	Boston	Commonwealth Pier Five	165 Northern Ave.	19791010	Text	Photos
13000621	MASSACHUSETTS	Suffolk	Boston	Roslindale Substation	4228 Washington St.	20130827	Text	Photos
13000928	MASSACHUSETTS	Suffolk	Boston	Davidson, Sarah, Apartment Block	3 Gaylord St.	20131218	Text	Photos
13000929	MASSACHUSETTS	Suffolk	Boston	Pilgrim Congregational Church	540-544 Columbia Rd.	20131218	Text	Photos
13000930	MASSACHUSETTS	Suffolk	Boston	Walton and Roslin Halls	702-708 & 710-726 Washington St., 3	20131218	Text	Photos
14000272	MASSACHUSETTS	Suffolk	Boston	Blake and Amory Building	59 Temple Pl.	20140602	Text	Photos
14000365	MASSACHUSETTS	Suffolk	Boston	Dorchester South Burying Ground	2095 Dorchester Ave.	20140627	Text	Photos
14000561	MASSACHUSETTS	Suffolk	Boston	Buildings at 825--829 Blue Hill Avenue	825-829 Blue Hill Ave.	20140910	Text	Photos
14000698	MASSACHUSETTS	Suffolk	Boston	Almont Apartments	1439-1443 & 1447-1451 Blue Hill Ave	20140922	Text	Photos
14000974	MASSACHUSETTS	Suffolk	Boston	Gridley Street Historic District	Bounded by Congress, High, Pearl &	20141203	Text	Photos

14000975	MASSACHUSETTS	Suffolk	Boston	Lyman, Theodore, School	30 Gove St.	20141202	Text	Photos
14001095	MASSACHUSETTS	Suffolk	Boston	South End District (Boundary Increase)	200-224 Northampton St.	20141229	Text	Photos
15000048	MASSACHUSETTS	Suffolk	Boston	Boston Police Station Number One--Traffic Tunnel Adminis	128, 150 North & 130 -140 Richmonc	20150303	Text	Photos
15000195	MASSACHUSETTS	Suffolk	Boston	Boston National Historical Park	Charlestown Navy Yard	20150505	Text	Photos
86001378	MASSACHUSETTS	Suffolk	South Bosto	US Post Office Garage	135 A St.	19860626	Text	Photos

Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Cultural Resource Information System

MACRIS

Scanned forms and photos now available for selected towns!

The Massachusetts Cultural Resource Information System (MACRIS) allows you to search the Massachusetts Historical Commission database for information on historic properties and areas in the Commonwealth.

Users of the database should keep in mind that it does not include information on all historic properties and areas in Massachusetts, nor does it reflect all the information on file on historic properties and areas at the Massachusetts Historical Commission.

Click here to begin your search of the MACRIS database.

MACRIS MAPS 2.0 beta

About || Help || Disclaimer

Address or MHC# Search

Bing MassDOT Street View

Available Layers

- Base Layer
- Inventory Layers
- MassGIS Layers

Legend

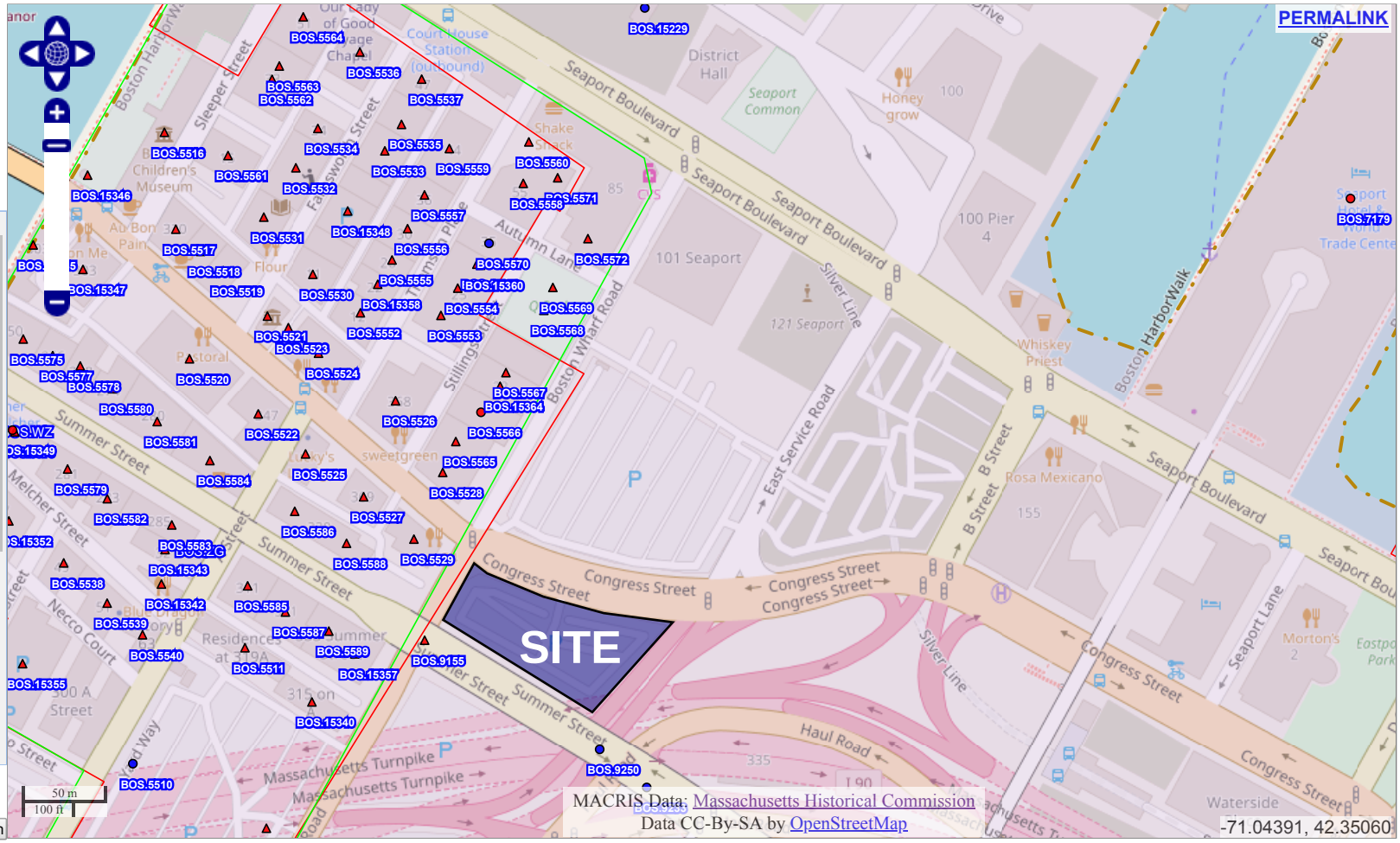
MHC Inventory Points

- Nat'l Register of Historic Places
- Preservation Restriction
- Local Historic District
- NRHP and LHD
- Inventoried Property

Archaeology Login

Username:

Password: Login



MACRIS Maps Last Updated 08/28/2018

Massachusetts Cultural Resource Information System
MACRIS

MHC Home | MACRIS Home

For more information about this page and how to use it, click here.

Inventory No:	BOS.WZ NR
Historic Name:	Fort Point Channel Historic District
Common Name:	
Address:	
City/Town:	Boston
Village/Neighborhood:	Fort Point Channel; South Boston
Local No:	
Year Constructed:	
Architect(s):	Prescott, Howard S. B.; Safford, Morton D.
Architectural Style(s):	
Use(s):	Commercial District; Industrial Complex or District; Other Processing; Other Road Related; Other Transportation; Other Water Related; Residential District
Significance:	Architecture; Commerce; Community Planning; Engineering; Industry; Maritime History; Transportation
Area(s):	
Designation(s):	Nat'l Register District (09/10/2004)
Building Material(s):	

New Search Previous

MHC Home | MACRIS Home

APPENDIX C

ESA Documentation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Consultation Code: 05E1NE00-2019-SLI-2436
Event Code: 05E1NE00-2019-E-06304
Project Name: Parcel N/P

July 30, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2019-SLI-2436

Event Code: 05E1NE00-2019-E-06304

Project Name: Parcel N/P

Project Type: DEVELOPMENT

Project Description: Temporary Construction Dewatering Permit NPDES RGP

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.348987968488736N71.04659860760962W

Counties: Suffolk, MA

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

January 31, 2019

To Whom It May Concern:

The U.S. Fish and Wildlife Service's (Service) New England Field Office has determined that individual project review for certain types of activities associated with communication towers **is not required.** These comments are submitted in accordance with provisions of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Due to the rapid expansion of the telecommunication industry, we are receiving a growing number of requests for review of **existing** and **new** telecommunication facilities in relation to the presence of federally-listed or proposed, threatened or endangered species, critical habitat, wilderness areas and/or wildlife preserves. We have evaluated our review process for proposed communications towers and believe that individual correspondence with this office is not required for the following types of actions relative to **existing** facilities:

1. the re-licensing of existing telecommunication facilities;
2. audits of existing facilities associated with acquisition;
3. routine maintenance of existing tower sites, such as painting, antenna or panel replacement, upgrading of existing equipment, etc.;
4. co-location of new antenna facilities on/in existing structures;
5. repair or replacement of existing towers and/or equipment, provided such activities do not significantly increase the existing tower mass and height, or require the addition of guy wires.

In order to obviate the need to contact this office in the future for individual environmental review for **existing** communication towers or antenna facilities, please note that we are not aware of any federally-listed, threatened or endangered species that are being adversely affected by any existing communication tower or antenna facility in the following states: Vermont, New Hampshire, Rhode Island, Connecticut and Massachusetts. Furthermore, we are not aware of any **existing** telecommunication towers in federally-designated critical habitats, wilderness areas or wildlife preserves. Therefore, no further consultation with this office relative to the impact of the above referenced activities on federally-listed species is required.

Future Coordination with this Office Relative to **New** Telecommunication Facilities

We have determined that proposed projects are not likely to adversely affect any federally listed or proposed species when the following steps are taken to evaluate new telecommunication facilities:

1. If the facility will be installed within or on an existing structure, such as in a church steeple or on the roof of an existing building, no further coordination with this office is necessary. Similarly, new antennas or towers in urban and other developed areas, in which no natural vegetation will be affected, do not require further review.

2. If the above criteria cannot be met, your review of our lists of threatened and endangered species locations within Vermont, New Hampshire, Rhode Island, Connecticut and Massachusetts may confirm that no federally-listed endangered or threatened species are known to occur in the town or county where the project is proposed.

3. If a listed species is present in the town or county where the project is proposed, further review of our lists of threatened and endangered species may allow you to conclude that suitable habitat for the species will not be affected. Based on past experiences, we anticipate that there will be few, if any, projects that are likely to impact piping plovers, roseate terns, bog turtles, Jesup's milk-vetch or other such species that are found on coastal beaches, riverine habitats or in wetlands because communication towers typically are not located in these habitats.

For projects that meet the above criteria, there is no need to contact this office for further project review. A copy of this letter should be retained in your file as the Service's determination that no listed species are present, or that listed species in the general area will not be affected. Due to the high workload associated with responding to many individual requests for threatened and endangered species information, we will no longer be providing response letters for activities that meet the above criteria. This correspondence and the species lists remain valid until January 1, 2020. Updated consultation letters and species lists are available on our website:

http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm (accessed January 2019)

Thank you for your cooperation, and please contact David Simmons of this office at 603-227-6425 if you need further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

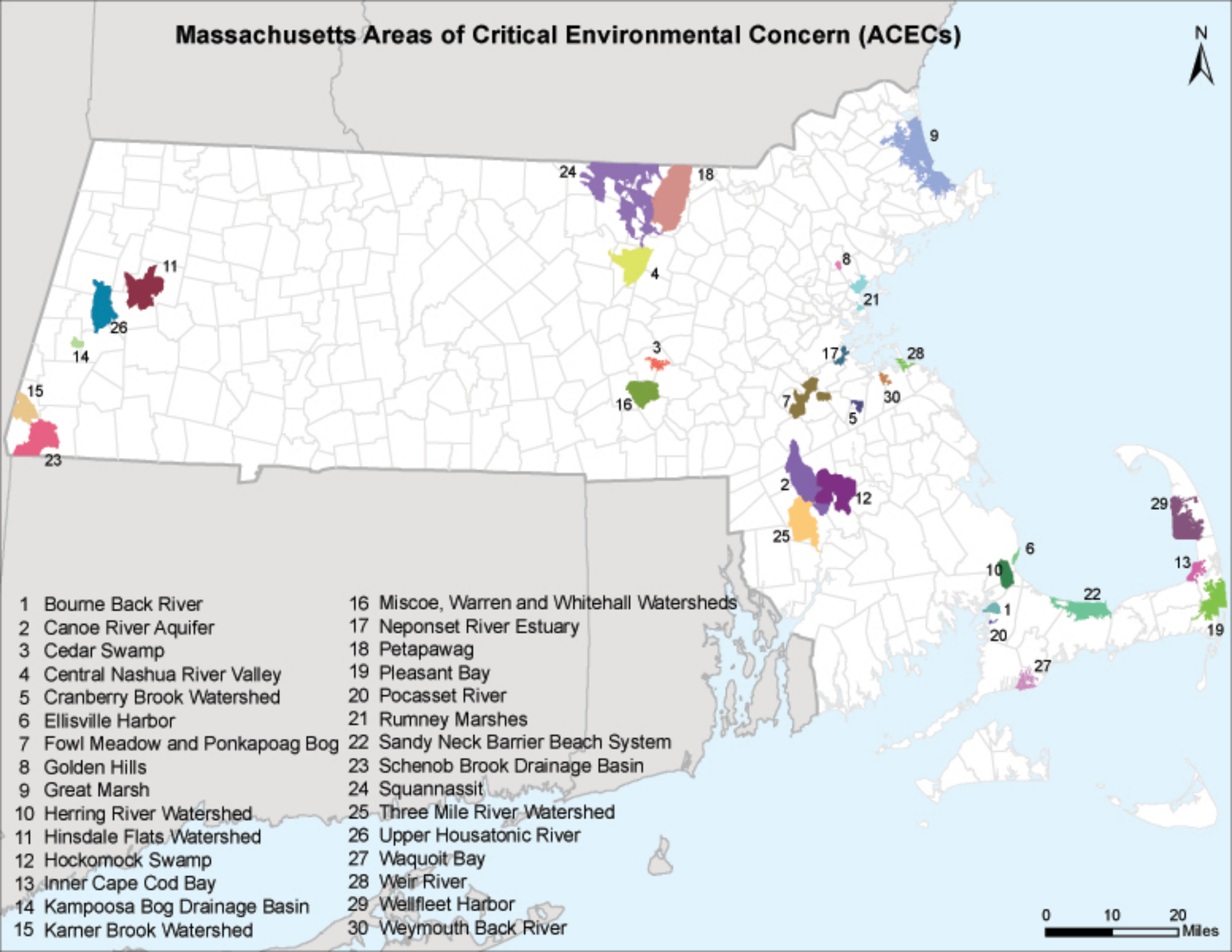
COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Suffolk	Piping Plover	Threatened	Coastal Beaches	Revere, Winthrop
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.
-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Updated 02/05/2016

Massachusetts Areas of Critical Environmental Concern (ACECs)



1 Bourne Back River
2 Canoe River Aquifer
3 Cedar Swamp
4 Central Nashua River Valley
5 Cranberry Brook Watershed
6 Ellisville Harbor
7 Fowl Meadow and Ponkapoag Bog
8 Golden Hills
9 Great Marsh
10 Herring River Watershed
11 Hinsdale Flats Watershed
12 Hockomock Swamp
13 Inner Cape Cod Bay
14 Kampoosa Bog Drainage Basin
15 Karner Brook Watershed
16 Miscoe, Warren and Whitehall Watersheds
17 Neponset River Estuary
18 Petapawag
19 Pleasant Bay
20 Pocasset River
21 Rumney Marshes
22 Sandy Neck Barrier Beach System
23 Schenob Brook Drainage Basin
24 Squannassit
25 Three Mile River Watershed
26 Upper Housatonic River
27 Waquoit Bay
28 Weir River
29 Wellfleet Harbor
30 Weymouth Back River

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
November 2010

Total Approximate Acreage: 268,000 acres
Approximate acreage and designation date follow ACEC names below.

Bourne Back River
(1,850 acres, 1989) Bourne

Canoe River Aquifer and Associated Areas (17,200 acres, 1991) Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton

Cedar Swamp
(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley
(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed
(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor
(600 acres, 1980) Plymouth

Fowl Meadow and Ponkapoag Bog
(8,350 acres, 1992) Boston, Canton, Dedham, Milton, Norwood, Randolph, Sharon, and Westwood

Golden Hills
(500 acres, 1987) Melrose, Saugus, and Wakefield

Great Marsh (originally designated as Parker River/Essex Bay)
(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed
(4,450 acres, 1991) Bourne and Plymouth

Hinsdale Flats Watershed
(14,500 acres, 1992) Dalton, Hinsdale, Peru, and Washington

Hockomock Swamp
(16,950 acres, 1990) Bridgewater, Easton, Norton, Raynham, Taunton, and West Bridgewater

Inner Cape Cod Bay
(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin
(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed
(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds
(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary
(1,300 acres, 1995) Boston, Milton, and Quincy

Petapawag
(25,680 acres, 2002) Ayer, Dunstable, Groton, Pepperell, and Tyngsborough

Pleasant Bay
(9,240 acres, 1987) Brewster, Chatham, Harwich, and Orleans

Pocasset River
(160 acres, 1980) Bourne

Rumney Marshes
(2,800 acres, 1988) Boston, Lynn, Revere, Saugus, and Winthrop

Sandy Neck Barrier Beach System
(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin
(13,750 acres, 1990) Mount Washington and Sheffield

Squannassit
(37,420 acres, 2002) Ashby, Ayer, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, and Townsend

Three Mile River Watershed
(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River
(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay
(2,580 acres, 1979) Falmouth and Mashpee

Weir River
(950 acres, 1986) Cohasset, Hingham, and Hull

Wellfleet Harbor
(12,480 acres, 1989) Eastham, Truro, and Wellfleet

Weymouth Back River
(800 acres, 1982) Hingham and Weymouth

ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether boundary clarification has occurred. For more information please see, http://www.mass.gov/dcr/stewardship/acec/aboutMaps.htm.

Towns with ACECs within their Boundaries — November 2010

TOWN	ACEC
Ashby	Squannassit
Ayer	Petapawag
	Squannassit
Barnstable	Sandy Neck Barrier Beach System
Bolton	Central Nashua River Valley
Boston	Rumney Marshes
	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Bourne	Pocasset River
	Bourne Back River
	Herring River Watershed
Braintree	Cranberry Brook Watershed
Brewster	Pleasant Bay
	Inner Cape Cod Bay
Bridgewater	Hockomock Swamp
Canton	Fowl Meadow and Ponkapoag Bog
Chatham	Pleasant Bay
Cohasset	Weir River
Dalton	Hinsdale Flats Watershed
Dedham	Fowl Meadow and Ponkapoag Bog
Dighton	Three Mile River Watershed
Dunstable	Petapawag
Eastham	Inner Cape Cod Bay
	Wellfleet Harbor
Easton	Canoe River Aquifer
	Hockomock Swamp
Egremont	Karner Brook Watershed
Essex	Great Marsh
Falmouth	Waquoit Bay
Foxborough	Canoe River Aquifer
Gloucester	Great Marsh
Grafton	Miscoe-Warren-Whitehall Watersheds
Groton	Petapawag
	Squannassit
Harvard	Central Nashua River Valley
	Squannassit
Harwich	Pleasant Bay
Hingham	Weir River
	Weymouth Back River
Hinsdale	Hinsdale Flats Watershed
Holbrook	Cranberry Brook Watershed
Hopkinton	Miscoe-Warren-Whitehall Watersheds
	Cedar Swamp
Hull	Weir River
Ipswich	Great Marsh
Lancaster	Central Nashua River Valley
	Squannassit
Lee	Kampoosa Bog Drainage Basin
	Upper Housatonic River
Lenox	Upper Housatonic River
Leominster	Central Nashua River Valley
Lunenburg	Squannassit
Lynn	Rumney Marshes
Mansfield	Canoe River Aquifer
Mashpee	Waquoit Bay
Melrose	Golden Hills
Milton	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Mt. Washington	Karner Brook Watershed
	Schenob Brook
Newbury	Great Marsh
Norton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Norwood	Fowl Meadow and Ponkapoag Bog
Orleans	Inner Cape Cod Bay
	Pleasant Bay
Pepperell	Petapawag
	Squannassit
Peru	Hinsdale Flats Watershed
Pittsfield	Upper Housatonic River
Plymouth	Herring River Watershed
	Ellisville Harbor
Quincy	Neponset River Estuary
Randolph	Fowl Meadow and Ponkapoag Bog
Raynham	Hockomock Swamp
Revere	Rumney Marshes
Rowley	Great Marsh
Sandwich	Sandy Neck Barrier Beach System
Saugus	Rumney Marshes
	Golden Hills
Sharon	Canoe River Aquifer
	Fowl Meadow and Ponkapoag Bog
Sheffield	Schenob Brook
Shirley	Squannassit
Stockbridge	Kampoosa Bog Drainage Basin
Taunton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Truro	Wellfleet Harbor
Townsend	Squannassit
Tyngsborough	Petapawag
Upton	Miscoe-Warren-Whitehall Watersheds
Wakefield	Golden Hills
Washington	Hinsdale Flats Watershed
	Upper Housatonic River
Wellfleet	Wellfleet Harbor
W Bridgewater	Hockomock Swamp
Westborough	Cedar Swamp
Westwood	Fowl Meadow and Ponkapoag Bog
Weymouth	Weymouth Back River
Winthrop	Rumney Marshes

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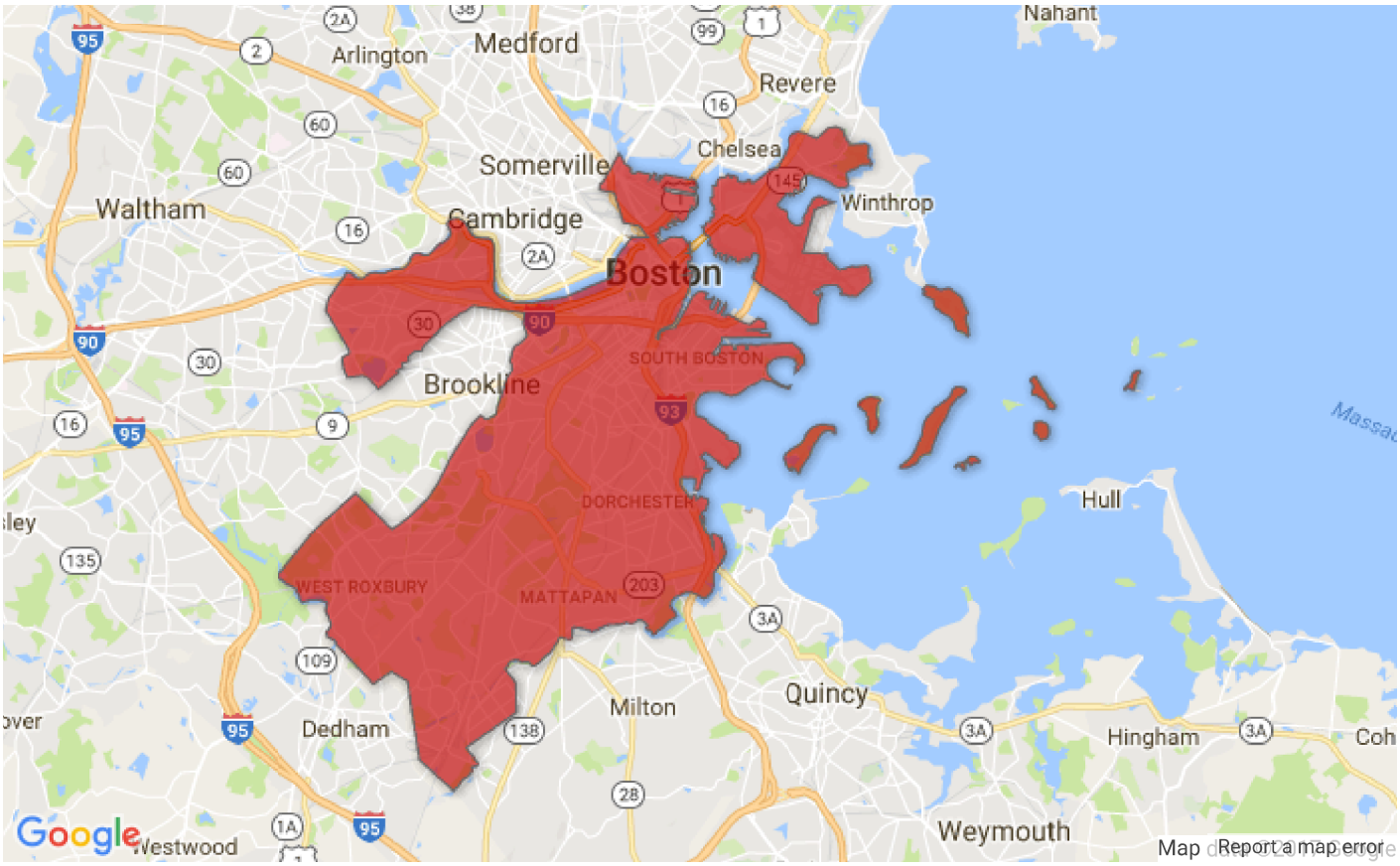
The Natural Heritage & Endangered Species Program maintains a list of all documented MESA-listed species observations in the Commonwealth. Please select a town if you would like to see a table showing which listed species have been observed in that town. The selected town will also be highlighted on the map. Alternatively you can specify either the Common Name or Scientific Name of a species to see it's distribution on the map and table showing the towns it has been observed in. Clicking on a column header in the table will sort the column. Clicking again on the same column heading will reverse the sort order.

The Town List and Species Viewer will be updated at regular intervals as new data is accepted and entered into the NHESP database.

Town: BOSTON or Species (Common Name): or Species (Scientific Name):



Showing 1 to 46 of 46 entries Search:

First Previous 1 Next Last

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Obs
BOSTON	Butterfly/Moth	Abagrotis nefascia	Coastal Heathland Cutworm	SC	2001
BOSTON	Vascular Plant	Ageratina aromatica	Lesser Snakeroot	E	1896
BOSTON	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC	2015
BOSTON	Bird	Ammodramus savannarum	Grasshopper Sparrow	T	1993
BOSTON	Butterfly/Moth	Apodrepanulatrix liberaria	New Jersey Tea Inchworm	E	Historic
BOSTON	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T	Historic
BOSTON	Vascular Plant	Aristida tuberculosa	Seabeach Needlegrass	T	1877

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Obs
BOSTON	Vascular Plant	Asclepias verticillata	Linear-leaved Milkweed	T	1878
BOSTON	Bird	Bartramia longicauda	Upland Sandpiper	E	1993
BOSTON	Vascular Plant	Boechera missouriensis	Green Rock-cress	T	1930
BOSTON	Vascular Plant	Carex striata	Walter's Sedge	E	Historic
BOSTON	Bird	Charadrius melodus	Piping Plover	T	2016
BOSTON	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC	1910
BOSTON	Beetle	Cicindela purpurea	Cow Path Tiger Beetle	SC	1928
BOSTON	Beetle	Cicindela rufiventris hentzii	Eastern Red-bellied Tiger Beetle	T	1927
BOSTON	Vascular Plant	Desmodium cuspidatum	Large-bracted Tick-trefoil	T	1896
BOSTON	Vascular Plant	Eriophorum gracile	Slender Cottongrass	T	1885
BOSTON	Bird	Falco peregrinus	Peregrine Falcon	T	2014
BOSTON	Fish	Gasterosteus aculeatus	Threespine Stickleback	T	2014
BOSTON	Bird	Gavia immer	Common Loon	SC	1824
BOSTON	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E	1918
BOSTON	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC	1933
BOSTON	Mussel	Ligumia nasuta	Eastern Pondmussel	SC	1841
BOSTON	Vascular Plant	Linum medium var. texanum	Rigid Flax	T	1909
BOSTON	Vascular Plant	Lycopus rubellus	Gypsywort	E	1896
BOSTON	Vascular Plant	Malaxis unifolia	Green Adder's Mouth	T	1883
BOSTON	Butterfly/Moth	Metarranthis apiciaria	Barrens Metarranthis	E	1934
BOSTON	Vascular Plant	Myriophyllum alterniflorum	Alternate-flowered Water-milfoil	E	Historic
BOSTON	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T	1884
BOSTON	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T	1908
BOSTON	Bird	Pooecetes gramineus	Vesper Sparrow	T	1985
BOSTON	Butterfly/Moth	Pyrrhia aurantiago	Orange Sallow Moth	SC	1988
BOSTON	Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	E	1891
BOSTON	Vascular Plant	Rumex pallidus	Seabeach Dock	T	1984
BOSTON	Vascular Plant	Sanicula odorata	Long-styled Sanicle	T	Historic
BOSTON	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T	1932
BOSTON	Vascular Plant	Scirpus longii	Long's Bulrush	T	1907
BOSTON	Vascular Plant	Setaria parviflora	Bristly Foxtail	SC	2001
BOSTON	Dragonfly/Damselfly	Somatochlora linearis	Mocha Emerald	SC	2009
BOSTON	Bird	Sterna hirundo	Common Tern	SC	2013
BOSTON	Bird	Sternula antillarum	Least Tern	SC	2014
BOSTON	Vascular Plant	Suaeda calceoliformis	American Sea-blite	SC	1909
BOSTON	Reptile	Terrapene carolina	Eastern Box Turtle	SC	1939
BOSTON	Bird	Tyto alba	Barn Owl	SC	1989
BOSTON	Bird	Vermivora chrysoptera	Golden-winged Warbler	E	Historic
BOSTON	Vascular Plant	Viola brittoniana	Britton's Violet	T	1909

Show 100 ▼ entries

Show Additional Info

APPENDIX D

BWSC PERMIT

Haley & Aldrich, Inc.
465 Medford Street, Suite 2200
Boston, MA 02129
617.886.7400

20 November 2019
File No. 130319-005

Boston Water and Sewer Commission
Engineering Customer Services
900 Harrison Avenue
Boston, MA 02119

Attention: Matthew Tuttle

Subject: Request for Approval of Temporary Construction Dewatering
Seaport Square Parcel N/P
391 Congress Street
Boston, Massachusetts

Dear Mr. Tuttle:

On behalf of our client, Seaport N/P Title Holder LLC, this letter submits the Dewatering Discharge Permit Application in support of the proposed Seaport Square Parcel P project, located at 391 Congress Street, in Boston, Massachusetts.

Dewatering is necessary to enable construction excavations in-the-dry and is anticipated to begin in November 2019 and continue for up to 18 months. Prior to discharge, collected water will be routed through a sedimentation tank and bag filter at minimum to remove suspended solids and un-dissolved chemical constituents. The proposed dewatering discharge route and BWSC outfall locations are shown on Figure 1.

A submittal was provided to USEPA for discharge of the dewatering effluent under the Remediation General Permit (RGP). A copy of the submitted RGP application is attached. If you have any questions, please feel free to contact the undersigned at 617-886-7400.

Sincerely yours,
HALEY & ALDRICH, INC.

Elliot I. Steinberg, P.E., LSP
Senior Associate

Attachments:
Dewatering Discharge Permit Application
Figure 1 – Proposed Discharge Route
Copy of NPDES RGP Permit Application

\\haleyaldrich.com\share\bos_common\130319 - Seaport Parcel P\Parcel P\RGP\Permit Application\Appendix D - BWSC Permit\2019-1120-HAI-Parcel P NPDES BWSC Letter-F.docx

Boston Water and Sewer Commission
980 Harrison Avenue
Boston, MA 02119-2540

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: Seaport N/P Title Holder LLC Address: Site Address: 400 Summer Street, Boston, MA 02210 Owner Mailing Address: 33 Boylston Street, Suite 3000, Chestnut Hill, MA 02467

Phone Number: 617-646-3130 Fax number: _____

Contact person name: Daniel Preysman Title: Vice President of Finance

Cell number: 617-646-3130 Email address: Daniel.preysman@wsdevelopment.com

Permit Request (check one): ☒ New Application ☐ Permit Extension ☐ Other (Specify): _____

Owner's Information (if different from above):

Owner of property being dewatered: _____

Owner's mailing address: _____ Phone number: _____

Location of Discharge & Proposed Treatment System(s):

Street number and name: 400 Summer Street - Parcel N/P Neighborhood Seaport Boston

Discharge is to a: ☐ Sanitary Sewer ☐ Combined Sewer ☒ Storm Drain ☐ Other (specify): _____

Describe Proposed Pre-Treatment System(s): Sedimentation Tank, Bag Filter, and any other components as necessary (refer to attached RGP Application)

BWSC Outfall No. SDO075, SDO202 Receiving Waters Fort Point Channel, Boston Inner Harbor

---

Temporary Discharges (Provide Anticipated Dates of Discharge): From November 2019 To March 2021

- ☐ Groundwater Remediation
- ☐ Utility/Manhole Pumping
- ☒ Accumulated Surface Water
- ☐ Tank Removal/Installation
- ☐ Test Pipe
- ☐ Hydrogeologic Testing
- ☒ Foundation Excavation
- ☒ Trench Excavation
- ☐ Other _____

Permanent Discharges

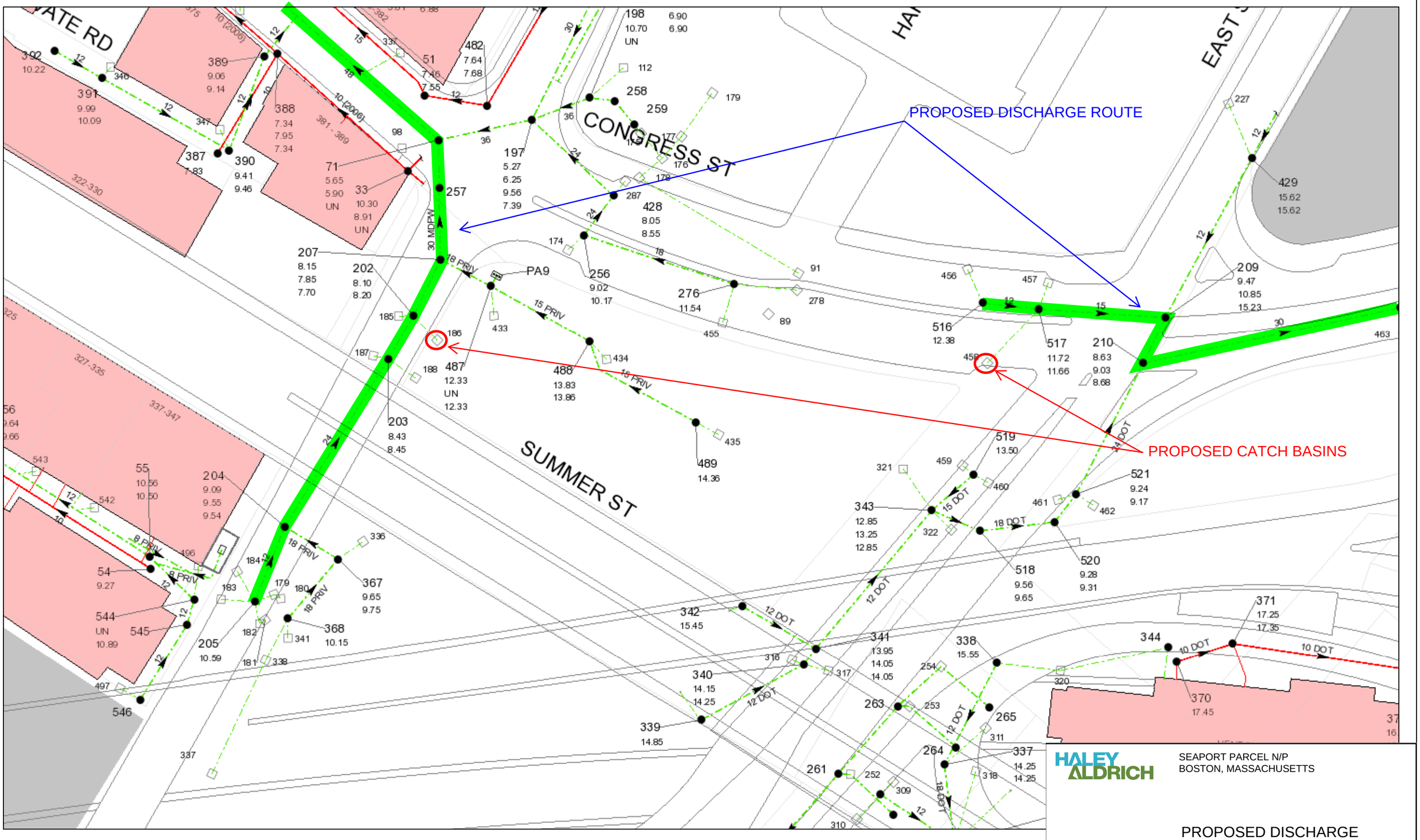
- ☐ Foundation Drainage
- ☐ Accumulated Surface Water
- ☐ Non-contact/Uncontaminated Process
- ☐ Crawl Space/Footing Drain
- ☐ Non-contact/Uncontaminated Cooling
- ☐ Other; _____

---

1. Attach a Site Plan showing the source of the discharge and the location of the point of discharge (i.e. the sewer pipe or catch basin). Include meter type, meter number, size, make and start reading. Note. All discharges to the Commission's sewer system will be assessed current sewer charges.
2. If discharging to a sanitary or combined sewer, attach a copy of MWRA's Sewer Use Discharge permit or application.
3. If discharging to a separate storm drain, attach a copy of EPA's NPDES Permit or NOI application, or NPDES Permit exclusion letter for the discharge, as well as other relevant information.
4. Dewatering Drainage Permit will be denied or revoked if applicant fails to obtain the necessary permits from MWRA or EPA.

Submit Completed Application to: Boston Water and Sewer Commission
Engineering Customer Services
980 Harrison Avenue, Boston, MA 02119
Attn: Matthew Tuttle, Engineering Customer Service
E-mail: tuttlemp@bwsc.org
Phone: 617-989-7204 Fax: 617-989-7716

Signature of Authorized Representative for Property Owner: _____ Date: 11/19/2019



BOSTON WATER AND SEWER

N W E S

0 30 60 120 180 240 Feet

HALEY ALDRICH

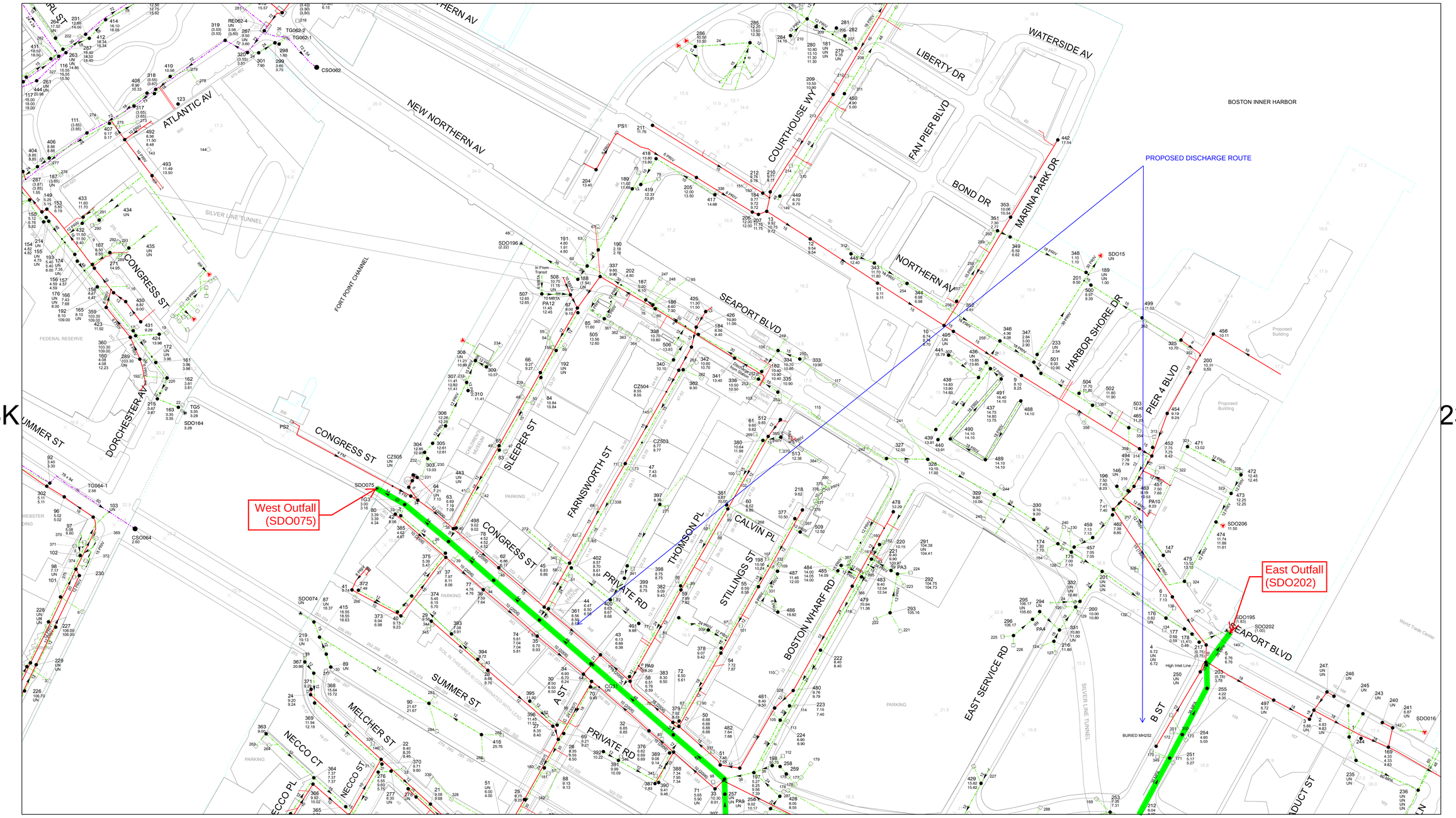
SEAPORT PARCEL N/P
BOSTON, MASSACHUSETTS

PROPOSED DISCHARGE ROUTE

OCTOBER 2019

FIGURE 1a

24K 24L 24M



22K 22L 22M

SCALE IN FEET

NOTE: Spot Elevations shown are plotted in Boston City Base

DATE OF PHOTOGRAPHY - MARCH 30, APRIL 1 & 17, 1995
VERTICAL DATUM BASED ON THE BOSTON CITY BASE

THE LANDBASE ON THIS MAP WAS COMPILED TO MEET THE ASPRS STANDARD FOR CLASS 1 MAP ACCURACY

Date Produced:
1/26/2017

BOSTON WATER AND SEWER COMMISSION

HALEY ALDRICH

SEAPORT PARCEL N/P
BOSTON, MASSACHUSETTS

PROPOSED DISCHARGE ROUTE

OCTOBER 2019

FIGURE 1b

SHEET NO.
23L

APPENDIX E

Laboratory Data Reports

ANALYTICAL REPORT

Lab Number:	L1917160
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Heather Scranton
Phone:	(617) 886-7400
Project Name:	SEAPORT PARCEL LP
Project Number:	130319-005 SID 5
Report Date:	05/03/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1917160-01	HA19-D2-NPDES	WATER	SEAPORT, BOSTON, MA	04/25/19 11:00	04/25/19

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917160
Project Number:	130319-005 SID 5	**Report Date:**	05/03/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917160
Project Number:	130319-005 SID 5	**Report Date:**	05/03/19

Case Narrative (continued)

Report Revision

May 03, 2019: The Client ID has been changed.

Sample Receipt

L1917160-01 (HA19-D2-NPDES): The sample was received above the appropriate pH for the Dissolved Metals analysis. The laboratory added additional HNO3 to a pH <2.

Semivolatile Organics by SIM

L1917160-01 (HA19-D2-NPDES): The surrogate recovery is above the acceptance criteria for 2-fluorobiphenyl (127%). Since the sample was non-detect for all target analytes, re-analysis was not required.

Chlorine, Total Residual

The WG1230522-4 MS recovery (0%), performed on L1917160-01 (HA19-D2-NPDES), is outside the acceptance criteria; however, the associated LCS recovery is within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Kelly Stenstrom

Title: Technical Director/Representative Date: 05/03/19

ORGANICS

VOLATILES

Project Name: SEAPORT PARCEL LP **Lab Number:** L1917160

Project Number: 130319-005 SID 5 **Report Date:** 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01 Date Collected: 04/25/19 11:00
Client ID: HA19-D2-NPDES Date Received: 04/25/19
Sample Location: SEAPORT, BOSTON, MA Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 04/29/19 12:13
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
Acetone	ND		ug/l	10	--	1
Methyl tert butyl ether	ND		ug/l	10	--	1
Tert-Butyl Alcohol	ND		ug/l	100	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	1

Project Name: SEAPORT PARCEL LP **Lab Number:** L1917160

Project Number: 130319-005 SID 5 **Report Date:** 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01 Date Collected: 04/25/19 11:00

Client ID: HA19-D2-NPDES Date Received: 04/25/19

Sample Location: SEAPORT, BOSTON, MA Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	97		60-140
Fluorobenzene	89		60-140
4-Bromofluorobenzene	92		60-140

Project Name: SEAPORT PARCEL LP
Lab Number: L1917160
Project Number: 130319-005 SID 5
Report Date: 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01
Client ID: HA19-D2-NPDES
Sample Location: SEAPORT, BOSTON, MA

Date Collected: 04/25/19 11:00
Date Received: 04/25/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 04/29/19 12:13
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	101		60-140
4-Bromofluorobenzene	97		60-140

Project Name: SEAPORT PARCEL LP
Lab Number: L1917160
Project Number: 130319-005 SID 5
Report Date: 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01
Client ID: HA19-D2-NPDES
Sample Location: SEAPORT, BOSTON, MA

Date Collected: 04/25/19 11:00
Date Received: 04/25/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 04/30/19 19:07
Analyst: SL

Extraction Method: EPA 504.1
Extraction Date: 04/29/19 23:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5
Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 04/29/19 10:49
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1231535-8					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5
Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 04/29/19 10:49
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1231535-8					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	97		60-140
Fluorobenzene	91		60-140
4-Bromofluorobenzene	91		60-140

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 04/30/19 18:25
Analyst: SL

Extraction Method: EPA 504.1
Extraction Date: 04/29/19 23:21

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG1231671-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5
Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 04/29/19 10:49
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1231908-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	106		60-140
4-Bromofluorobenzene	101		60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917160

Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1231535-7								
Methylene chloride	85		-		60-140	-		28
1,1-Dichloroethane	85		-		50-150	-		49
Carbon tetrachloride	95		-		70-130	-		41
1,1,2-Trichloroethane	110		-		70-130	-		45
Tetrachloroethene	120		-		70-130	-		39
1,2-Dichloroethane	100		-		70-130	-		49
1,1,1-Trichloroethane	100		-		70-130	-		36
Benzene	85		-		65-135	-		61
Toluene	115		-		70-130	-		41
Ethylbenzene	95		-		60-140	-		63
Vinyl chloride	75		-		5-195	-		66
1,1-Dichloroethene	90		-		50-150	-		32
cis-1,2-Dichloroethene	90		-		60-140	-		30
Trichloroethene	110		-		65-135	-		48
1,2-Dichlorobenzene	105		-		65-135	-		57
1,3-Dichlorobenzene	100		-		70-130	-		43
1,4-Dichlorobenzene	105		-		65-135	-		57
p/m-Xylene	98		-		60-140	-		30
o-xylene	95		-		60-140	-		30
Acetone	96		-		40-160	-		30
Methyl tert butyl ether	90		-		60-140	-		30
Tert-Butyl Alcohol	88		-		60-140	-		30
Tertiary-Amyl Methyl Ether	85		-		60-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917160

Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1231535-7								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	107				60-140
Fluorobenzene	90				60-140
4-Bromofluorobenzene	93				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917160

Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG1231671-2						
1,2-Dibromoethane	119		-		80-120	-			A

Lab Control Sample Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1231908-3								
1,4-Dioxane	82		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	107				60-140
4-Bromofluorobenzene	101				60-140

Matrix Spike Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917160

Report Date: 05/03/19

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*	*Column*
Microextractables by GC - Westborough Lab	Associated sample(s): 01		QC Batch ID: WG1231671-3			QC Sample: L1917160-01			Client ID: HA19-D2-NPDES				
1,2-Dibromoethane	ND	0.252	0.273	108		-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01
Client ID: HA19-D2-NPDES
Sample Location: SEAPORT, BOSTON, MA

Date Collected: 04/25/19 11:00
Date Received: 04/25/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 05/01/19 04:21
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 04/28/19 00:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		42-122
2-Fluorobiphenyl	88		46-121
4-Terphenyl-d14	106		47-138

Project Name: SEAPORT PARCEL LP
Lab Number: L1917160
Project Number: 130319-005 SID 5
Report Date: 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01
Client ID: HA19-D2-NPDES
Sample Location: SEAPORT, BOSTON, MA

Date Collected: 04/25/19 11:00
Date Received: 04/25/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 05/01/19 11:01
Analyst: CB

Extraction Method: EPA 625.1
Extraction Date: 04/28/19 00:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		25-87
Phenol-d6	28		16-65
Nitrobenzene-d5	78		42-122
2-Fluorobiphenyl	**127**	Q	46-121
2,4,6-Tribromophenol	119		45-128
4-Terphenyl-d14	81		47-138

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5
Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 04/28/19 16:01
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 04/27/19 00:49

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1230973-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		42-122
2-Fluorobiphenyl	73		46-121
4-Terphenyl-d14	83		47-138

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5
Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 04/30/19 15:01
Analyst: CB

Extraction Method: EPA 625.1
Extraction Date: 04/27/19 00:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1230974-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		25-87
Phenol-d6	28		16-65
Nitrobenzene-d5	76		42-122
2-Fluorobiphenyl	75		46-121
2,4,6-Tribromophenol	79		45-128
4-Terphenyl-d14	74		47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1230973-3								
Bis(2-ethylhexyl)phthalate	103		-		29-137	-		30
Butyl benzyl phthalate	114		-		1-140	-		30
Di-n-butylphthalate	105		-		8-120	-		30
Di-n-octylphthalate	112		-		19-132	-		30
Diethyl phthalate	99		-		1-120	-		30
Dimethyl phthalate	99		-		1-120	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	91				42-122
2-Fluorobiphenyl	87				46-121
4-Terphenyl-d14	87				47-138

Lab Control Sample Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917160

Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1230974-2								
Acenaphthene	82		-		60-132	-		30
Fluoranthene	84		-		43-121	-		30
Naphthalene	79		-		36-120	-		30
Benzo(a)anthracene	82		-		42-133	-		30
Benzo(a)pyrene	86		-		32-148	-		30
Benzo(b)fluoranthene	89		-		42-140	-		30
Benzo(k)fluoranthene	111		-		25-146	-		30
Chrysene	86		-		44-140	-		30
Acenaphthylene	79		-		54-126	-		30
Anthracene	84		-		43-120	-		30
Benzo(ghi)perylene	51		-		1-195	-		30
Fluorene	82		-		70-120	-		30
Phenanthrene	79		-		65-120	-		30
Dibenzo(a,h)anthracene	57		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	69		-		1-151	-		30
Pyrene	83		-		70-120	-		30
Pentachlorophenol	51		-		38-152	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1230974-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	48				25-87
Phenol-d6	30				16-65
Nitrobenzene-d5	76				42-122
2-Fluorobiphenyl	76				46-121
2,4,6-Tribromophenol	84				45-128
4-Terphenyl-d14	72				47-138

PCBS

Project Name: SEAPORT PARCEL LP
Lab Number: L1917160
Project Number: 130319-005 SID 5
Report Date: 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01
Client ID: HA19-D2-NPDES
Sample Location: SEAPORT, BOSTON, MA

Date Collected: 04/25/19 11:00
Date Received: 04/25/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 05/01/19 13:14
Analyst: HT

Extraction Method: EPA 608.3
Extraction Date: 04/28/19 15:31
Cleanup Method: EPA 3665A
Cleanup Date: 04/29/19
Cleanup Method: EPA 3660B
Cleanup Date: 04/30/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		37-123	B
Decachlorobiphenyl	52		38-114	B
2,4,5,6-Tetrachloro-m-xylene	69		37-123	A
Decachlorobiphenyl	51		38-114	A

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 05/01/19 12:12
Analyst: HT

Extraction Method: EPA 608.3
Extraction Date: 04/28/19 09:22
Cleanup Method: EPA 3665A
Cleanup Date: 04/29/19
Cleanup Method: EPA 3660B
Cleanup Date: 04/30/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1231250-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		37-123	B
Decachlorobiphenyl	65		38-114	B
2,4,5,6-Tetrachloro-m-xylene	71		37-123	A
Decachlorobiphenyl	62		38-114	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917160

Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1231250-2									
Aroclor 1016	77		-		50-140	-		36	A
Aroclor 1260	68		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81				37-123	B
Decachlorobiphenyl	80				38-114	B
2,4,5,6-Tetrachloro-m-xylene	78				37-123	A
Decachlorobiphenyl	75				38-114	A

METALS

Project Name: SEAPORT PARCEL LP
Lab Number: L1917160
Project Number: 130319-005 SID 5
Report Date: 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01
Client ID: HA19-D2-NPDES
Sample Location: SEAPORT, BOSTON, MA
Date Collected: 04/25/19 11:00
Date Received: 04/25/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00472		mg/l	0.00100	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Iron, Total	40.7		mg/l	0.050	--	1	04/26/19 13:50	04/30/19 18:56	EPA 3005A	19,200.7	AB
Lead, Total	ND		mg/l	0.00100	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	04/26/19 12:22	04/27/19 00:56	EPA 245.1	3,245.1	EA
Nickel, Total	0.00364		mg/l	0.00200	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Zinc, Total	0.1536		mg/l	0.01000	--	1	04/26/19 13:50	04/29/19 10:08	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	326		mg/l	0.660	NA	1	04/26/19 13:50	04/30/19 18:56	EPA 3005A	19,200.7	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		04/29/19 10:08	NA	107,-	

Project Name: SEAPORT PARCEL LP **Lab Number:** L1917160

Project Number: 130319-005 SID 5 **Report Date:** 05/03/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1230750-1										
Mercury, Total	ND		mg/l	0.0002	--	1	04/26/19 12:22	04/27/19 00:09	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1230783-1										
Iron, Total	ND		mg/l	0.050	--	1	04/26/19 13:50	04/30/19 17:10	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1230783-1										
Hardness	ND		mg/l	0.660	NA	1	04/26/19 13:50	04/30/19 17:10	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1230794-1										
Antimony, Total	ND		mg/l	0.00400	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5
Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Lead, Total	ND	mg/l	0.00100	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM
Nickel, Total	ND	mg/l	0.00200	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM
Selenium, Total	ND	mg/l	0.00500	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM
Silver, Total	ND	mg/l	0.00040	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM
Zinc, Total	ND	mg/l	0.01000	--	1	04/26/19 13:50	04/29/19 09:31	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917160

Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1230750-2								
Mercury, Total	90		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1230783-2								
Iron, Total	103		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1230783-2								
Hardness	103		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1230794-2								
Antimony, Total	85		-		85-115	-		
Arsenic, Total	104		-		85-115	-		
Cadmium, Total	100		-		85-115	-		
Chromium, Total	100		-		85-115	-		
Copper, Total	95		-		85-115	-		
Lead, Total	104		-		85-115	-		
Nickel, Total	99		-		85-115	-		
Selenium, Total	110		-		85-115	-		
Silver, Total	103		-		85-115	-		
Zinc, Total	106		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230750-3 QC Sample: L1917057-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0052	104		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230750-5 QC Sample: L1917095-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0043	86		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230783-3 QC Sample: L1917134-01 Client ID: MS Sample												
Iron, Total	0.694	1	1.71	102		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230783-3 QC Sample: L1917134-01 Client ID: MS Sample												
Hardness	133	66.2	194	92		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230783-7 QC Sample: L1916629-01 Client ID: MS Sample												
Iron, Total	0.102	1	1.18	108		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230783-7 QC Sample: L1916629-01 Client ID: MS Sample												
Hardness	227	66.2	291	97		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230794-3 QC Sample: L1917134-01 Client ID: MS Sample									
Antimony, Total	ND	0.5	0.6319	126	-	-	70-130	-	20
Arsenic, Total	ND	0.12	0.1328	111	-	-	70-130	-	20
Cadmium, Total	ND	0.051	0.05722	112	-	-	70-130	-	20
Chromium, Total	ND	0.2	0.2184	109	-	-	70-130	-	20
Copper, Total	0.00729	0.25	0.2719	106	-	-	70-130	-	20
Lead, Total	0.00388	0.51	0.5455	106	-	-	70-130	-	20
Nickel, Total	ND	0.5	0.5468	109	-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1360	113	-	-	70-130	-	20
Silver, Total	ND	0.05	0.05744	115	-	-	70-130	-	20
Zinc, Total	0.02050	0.5	0.6472	125	-	-	70-130	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230750-4 QC Sample: L1917057-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230750-6 QC Sample: L1917095-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230783-4 QC Sample: L1917134-01 Client ID: DUP Sample						
Iron, Total	0.694	0.677	mg/l	2		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230783-4 QC Sample: L1917134-01 Client ID: DUP Sample						
Hardness	133	132	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1230794-4 QC Sample: L1917134-01 Client ID: DUP Sample						
Antimony, Total	ND	0.00595	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.00729	0.00759	mg/l	4		20
Lead, Total	0.00388	0.00379	mg/l	2		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.02050	0.01994	mg/l	3		20

INORGANICS
&
MISCELLANEOUS

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

SAMPLE RESULTS

Lab ID: L1917160-01
Client ID: HA19-D2-NPDES
Sample Location: SEAPORT, BOSTON, MA

Date Collected: 04/25/19 11:00
Date Received: 04/25/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	10.		mg/l	5.0	NA	1	-	04/26/19 15:55	121,2540D	DR
Cyanide, Total	ND		mg/l	0.005	--	1	04/26/19 06:17	04/26/19 12:39	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/26/19 03:02	121,4500CL-D	JW
Nitrogen, Ammonia	2.80		mg/l	0.075	--	1	04/26/19 02:00	04/26/19 21:13	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	04/26/19 16:30	04/26/19 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	04/26/19 03:50	04/26/19 06:21	4,420.1	GD
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/26/19 02:30	04/26/19 03:17	1,7196A	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	1400		mg/l	50.0	--	100	-	04/26/19 19:43	44,300.0	AU

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5
Lab Number: L1917160
Report Date: 05/03/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1230492-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/26/19 02:00	04/26/19 20:45	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1230507-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/26/19 02:30	04/26/19 03:14	1,7196A	MA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1230522-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/26/19 03:02	121,4500CL-D	JW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1230524-1										
Phenolics, Total	ND		mg/l	0.030	--	1	04/26/19 03:50	04/26/19 06:49	4,420.1	GD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1230561-1										
Cyanide, Total	ND		mg/l	0.005	--	1	04/26/19 06:17	04/26/19 12:27	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1230612-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	04/26/19 15:55	121,2540D	DR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1230860-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	04/26/19 16:30	04/26/19 21:30	74,1664A	ML
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1231608-1										
Chloride	ND		mg/l	0.500	--	1	-	04/26/19 16:54	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917160

Report Date: 05/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1230492-2								
Nitrogen, Ammonia	90		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1230507-2								
Chromium, Hexavalent	96		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1230522-2								
Chlorine, Total Residual	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1230524-2								
Phenolics, Total	88		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1230561-2								
Cyanide, Total	93		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1230860-2								
TPH	84		-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1231608-2								
Chloride	98		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230492-4 QC Sample: L1916923-17 Client ID: MS Sample												
Nitrogen, Ammonia	0.130	4	3.67	88		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230507-4 QC Sample: L1917160-01 Client ID: HA19-D2-NPDES												
Chromium, Hexavalent	ND	0.1	0.097	97		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230522-4 QC Sample: L1917160-01 Client ID: HA19-D2-NPDES												
Chlorine, Total Residual	ND	0.25	ND	**0**	Q	-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230524-4 QC Sample: L1917160-01 Client ID: HA19-D2-NPDES												
Phenolics, Total	ND	0.4	0.39	97		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230561-4 QC Sample: L1917160-01 Client ID: HA19-D2-NPDES												
Cyanide, Total	ND	0.2	0.199	100		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230860-4 QC Sample: L1917160-01 Client ID: HA19-D2-NPDES												
TPH	ND	20	16.4	82		-	-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1231608-3 QC Sample: L1916804-02 Client ID: MS Sample												
Chloride	112	100	221	109		-	-		90-110	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230492-3 QC Sample: L1916923-17 Client ID: DUP Sample						
Nitrogen, Ammonia	0.130	0.130	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230507-3 QC Sample: L1917160-01 Client ID: HA19-D2-NPDES						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230522-3 QC Sample: L1917160-01 Client ID: HA19-D2-NPDES						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230524-3 QC Sample: L1917160-01 Client ID: HA19-D2-NPDES						
Phenolics, Total	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230561-3 QC Sample: L1917134-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230612-2 QC Sample: L1917079-01 Client ID: DUP Sample						
Solids, Total Suspended	7300	7100	mg/l	3		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1230860-3 QC Sample: L1917132-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1231608-4 QC Sample: L1916804-02 Client ID: DUP Sample						
Chloride	112	114	mg/l	2		18

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1917160-01A	Vial Na2S2O3 preserved	A	NA		1.9	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917160-01A1	Vial Na2S2O3 preserved	A	NA		1.9	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917160-01B	Vial Na2S2O3 preserved	A	NA		1.9	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917160-01B1	Vial Na2S2O3 preserved	A	NA		1.9	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917160-01C	Vial Na2S2O3 preserved	A	NA		1.9	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917160-01C1	Vial Na2S2O3 preserved	A	NA		1.9	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1917160-01D	Vial Na2S2O3 preserved	A	NA		1.9	Y	Absent		504(14)
L1917160-01E	Vial Na2S2O3 preserved	A	NA		1.9	Y	Absent		504(14)
L1917160-01F	Plastic 250ml HNO3 preserved	A	7	<2	1.9	N	Absent		HOLD-METAL-DISSOLVED(180)
L1917160-01G	Plastic 250ml HNO3 preserved	A	<2	<2	1.9	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1917160-01H	Vial HCl preserved	A	NA		1.9	Y	Absent		ARCHIVE()
L1917160-01I	Vial HCl preserved	A	NA		1.9	Y	Absent		ARCHIVE()
L1917160-01J	Vial HCl preserved	A	NA		1.9	Y	Absent		ARCHIVE()
L1917160-01K	Amber 1000ml Na2S2O3	A	7	7	1.9	Y	Absent		PCB-608.3(7)
L1917160-01L	Amber 1000ml Na2S2O3	A	7	7	1.9	Y	Absent		PCB-608.3(7)
L1917160-01M	Amber 1000ml Na2S2O3	A	7	7	1.9	Y	Absent		PCB-608.3(7)
L1917160-01N	Amber 1000ml Na2S2O3	A	7	7	1.9	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L1917160-01O	Amber 1000ml Na2S2O3	A	7	7	1.9	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L1917160-01P	Amber 1000ml Na2S2O3	A	7	7	1.9	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L1917160-01R	Plastic 950ml unpreserved	A	7	7	1.9	Y	Absent		CL-300(28),HEXCR-7196(1),HOLD-WETCHEM(),TRC-4500(1)
L1917160-01S	Plastic 950ml unpreserved	A	7	7	1.9	Y	Absent		TSS-2540(7)

*Values in parentheses indicate holding time in days

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917160
Report Date: 05/03/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1917160-01T	Plastic 500ml H2SO4 preserved	A	<2	<2	1.9	Y	Absent		NH3-4500(28)
L1917160-01U	Plastic 250ml NaOH preserved	A	>12	>12	1.9	Y	Absent		TCN-4500(14)
L1917160-01V	Amber 1000ml HCl preserved	A	NA		1.9	Y	Absent		TPH-1664(28)
L1917160-01W	Amber 1000ml HCl preserved	A	NA		1.9	Y	Absent		TPH-1664(28)
L1917160-01X	Amber 950ml H2SO4 preserved	A	<2	<2	1.9	Y	Absent		TPHENOL-420(28)

*Values in parentheses indicate holding time in days

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917160
Project Number:	130319-005 SID 5	**Report Date:**	05/03/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917160
Project Number:	130319-005 SID 5	**Report Date:**	05/03/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917160
Project Number:	130319-005 SID 5	**Report Date:**	05/03/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

127 Method 608.3: Organochlorine Pesticides and PCBs by GC/HSD, EPA 821-R-16-009, December 2016.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043

Westborough, MA 01581, 8 Walkup Dr., TEL: 508-898-9220, FAX: 508-898-9193
Mansfield, MA 02048, 320 Forbes Blvd, TEL: 508-822-9300, FAX: 508-822-3288

Page ___ of ___

Date Rec'd in Lab: 4/25/19

ALPHA Job #: L1917160

Project Information	
Project Name:	Seaport Parcel LP
Project Location:	Seaport, Boston, MA
Project #	130319-005 SID 5
(Use Project name as Project #)	☐
Project Manager:	H. Scranton
ALPHAQuote #:	

Turn-Around Time
Standard ☑ Due Date:
(only if pre approved) ☐ # of Days:

H&A Information	
H&A Client:	Seaport N/P Title Holder LLC
H&A Address	465 Medford St, Boston, MA 0212-1400
H&A Phone:	617-886-7400
H&A Fax:	lhoward@haleyaldrich.com
H&A Email:	kalepidis@haleyaldrich.com

Deliverables
☑ Email ☐ Fax
☑ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other:

Billing Information
☑ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)

Note: Select State from menu & identify criteria.

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
3. HOLD PACN & ACN 11. Dissolved Metals ON HOLD (Field Filtered)
Please sample per EPA Approved 2017 RGP Permit methods

Please specify Metals or TAL.

ANALYSIS
1. TSS - 2540
2. TRC-4500
3. TCN-4500 HOLD PACN & ACN
4. 504
5. 8260 & 8260 SIM for Dioxane
6. HEXCR-3500 & Trivalent Chromium
7. TPHENOL-420
8. 8270TCL (including Diethylhexylphthalate)
9. 8270TCL-SIM
10. CL-300
11. Total Metals - Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Fe, Hg
12. Ammonia
13. Total Hardness
14. (blank)
15. TPH-1664
16. PCB-608

Sample Filtration
☒ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Sample Specific Comments	Total Bottles
17160-01	HA19-D2 L4 ~~NDPES~~ NPDES	4/25/19	1100	AQ	SRP	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X		26

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Container Type	P	P	P	A	A	P	A	A	A	P	P	P	P		A	A
Preservative	A	A	E	G	B	A	D	G	G	A	C	D	E	'	B	G

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, K/E = Zn Ac/NaOH, O = Other

Container Code: P = Plastic, A = Amber Glass, V = Vial, G = Glass, B = Bacteria Cup, C = Cube, O = Other, E = Encore, D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
A. [signature]	4/25/19 1400	[signature]	4/25/19 1630
[signature]	4/25/19 1613	[signature]	AAL 4/25/19 1630
[signature]	4/25/19 1827	[signature]	4/26/19 10:27

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 1 (1/28/2016)

ANALYTICAL REPORT

Lab Number:	L1917161
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Heather Scranton
Phone:	(617) 886-7400
Project Name:	SEAPORT PARCEL LP
Project Number:	130319-005 SID 5
Report Date:	04/29/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917161
Report Date: 04/29/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1917161-01	HA19-BOSTON HARBOR_04252019	WATER	SEAPORT, BOSTON, MA	04/25/19 11:45	04/25/19
L1917161-02	HA19-FORT POINT_04252019	WATER	SEAPORT, BOSTON, MA	04/25/19 12:30	04/25/19

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917161
Project Number:	130319-005 SID 5	**Report Date:**	04/29/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Amita Naik

Title: Technical Director/Representative Date: 04/29/19

INORGANICS
&
MISCELLANEOUS

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917161
Report Date: 04/29/19

SAMPLE RESULTS

Lab ID: L1917161-01
Client ID: HA19-BOSTON HARBOR_04252019
Sample Location: SEAPORT, BOSTON, MA

Date Collected: 04/25/19 11:45
Date Received: 04/25/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
SALINITY	19		SU	2.0	--	1	-	04/26/19 03:55	121,2520B	JW
pH (H)	7.7		SU	-	NA	1	-	04/25/19 22:47	121,4500H+-B	AS
Nitrogen, Ammonia	0.201		mg/l	0.075	--	1	04/26/19 02:00	04/26/19 20:52	121,4500NH3-BH	AT

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917161
Report Date: 04/29/19

SAMPLE RESULTS

Lab ID: L1917161-02
Client ID: HA19-FORT POINT_04252019
Sample Location: SEAPORT, BOSTON, MA

Date Collected: 04/25/19 12:30
Date Received: 04/25/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
SALINITY	18		SU	2.0	--	1	-	04/26/19 03:55	121,2520B	JW
pH (H)	7.8		SU	-	NA	1	-	04/25/19 22:47	121,4500H+-B	AS
Nitrogen, Ammonia	0.092		mg/l	0.075	--	1	04/26/19 02:00	04/26/19 20:53	121,4500NH3-BH	AT

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5
Lab Number: L1917161
Report Date: 04/29/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1230492-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/26/19 02:00	04/26/19 20:45	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917161

Report Date: 04/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1230452-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1230492-2								
Nitrogen, Ammonia	90		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1230518-1								
SALINITY	100		-			-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917161
Report Date: 04/29/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1230492-4 QC Sample: L1916923-17 Client ID: MS Sample												
Nitrogen, Ammonia	0.130	4	3.67	88		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: SEAPORT PARCEL LP

Project Number: 130319-005 SID 5

Lab Number: L1917161

Report Date: 04/29/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1230452-2 QC Sample: L1917057-01 Client ID: DUP Sample						
pH	11.0	10.8	SU	2		5
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1230492-3 QC Sample: L1916923-17 Client ID: DUP Sample						
Nitrogen, Ammonia	0.130	0.130	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1230518-2 QC Sample: L1917161-01 Client ID: HA19-BOSTON HARBOR_04252019						
SALINITY	19	19	SU	0		

Project Name: SEAPORT PARCEL LP
Project Number: 130319-005 SID 5

Lab Number: L1917161
Report Date: 04/29/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1917161-01A	Amber 120ml unpreserved	A	8	8	1.9	Y	Absent		SALINITY(28)
L1917161-01B	Plastic 500ml H2SO4 preserved	A	<2	<2	1.9	Y	Absent		NH3-4500(28)
L1917161-01C	Plastic 950ml unpreserved	A	8	8	1.9	Y	Absent		PH-4500(.01)
L1917161-02A	Amber 120ml unpreserved	A	8	8	1.9	Y	Absent		SALINITY(28)
L1917161-02B	Plastic 500ml H2SO4 preserved	A	<2	<2	1.9	Y	Absent		NH3-4500(28)
L1917161-02C	Plastic 250ml unpreserved	A	8	8	1.9	Y	Absent		PH-4500(.01)

*Values in parentheses indicate holding time in days

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917161
Project Number:	130319-005 SID 5	**Report Date:**	04/29/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917161
Project Number:	130319-005 SID 5	**Report Date:**	04/29/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	SEAPORT PARCEL LP	**Lab Number:**	L1917161
Project Number:	130319-005 SID 5	**Report Date:**	04/29/19

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430
Albany, NY 12205
Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 4/25/19

ALPHA Job #: L1917161

H&A Information
H&A Client: Seaport N/P Title Holder LLC
H&A Address: 465 Medford St
Boston, MA 0212-1400
H&A Phone: 617-886-7400
H&A Fax: lhoward@haleyaldrich.com
H&A Email: kalepidis@haleyaldrich.com

Project Information
Project Name: Seaport Parcel LP
Project Location: Seaport, Boston, MA
Project #: 130319-005 SID 5
(Use Project name as Project #) ☐
Project Manager: H Scranton
ALPHAQuote #:

Turn-Around Time
Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☑ Email ☐ Fax
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other:

Billing Information
☑ Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)
EPA NPDES
Note: Select State from menu & identify criteria.

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Use 2017 NPDES RGP Approved methods

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	1.pH	2. Salinity	3. Ammonia						Sample Specific Comments	Total Bottles
17161-01	HA19-Boston Harbor_04252019	4/25	1145	AQ	SDP	X	X	X							3
-02	HA19-Fort Point_04252019	↓	1230	AQ	↓	X	X	X							3

Container Type: P A P
Preservative: A A D

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
A. Pal	4/25/19 1400	M. Otte	4/25/19 1610
M. Otte	4/25/19 1615	[signature] ARL	4/25/19 1630
[signature]	4/25/19 1827	[signature]	4/25/19 1827

Document ID: 20455 Rev 1 (1/28/2016)

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

APPENDIX F

Contractor Dewatering Submittal

sc200™ UNIVERSAL CONTROLLER

Applications
- Drinking Water
- Wastewater
- Industrial Water
- Power

One Controller for the Broadest Range of Sensors.

Choose from 30 digital and analog sensor families for up to 17 different parameters.

Maximum Versatility

The sc200 controller allows the use of digital and analog sensors, either alone or in combination, to provide compatibility with Hach's broad range of sensors, eliminating the need for dedicated, parameter-specific controllers.

Ease of Use and Confidence in Results

Large, high-resolution, transreflective display provides optimal viewing resolution in any lighting condition. Guided calibration procedures in 19 languages minimize complexity and reduce operator error. Password-protected SD card reader offers a simple solution for data download and transfer. Visual warning system provides critical alerts.

Wide Variety of Communication Options

Utilize two to five analog outputs to transmit primary and secondary values for each sensor, or integrate Hach sensors and analyzers into MODBUS RS232/RS485, Profibus® DP, and HART networks.

Password protected SD card reader offers a simple solution for data download and transfer, and sc200 and digital sensor configuration file duplication and backup.

HACH®
Be Right™

Controller Comparison

Features	Previous Models sc100™ Controller	Previous Models GLI53 Controller	sc200™ Controller	Benefits
Display	64 x 128 pixels 33 x 66 mm (1.3 x 2.6 in.)	64 x 128 pixels 33 x 66 mm (1.3 x 2.6 in.)	160 x 240 pixels 48 x 68 mm (1.89 x 2.67 in.) Transreflective	• Improved user interface—50% bigger • Easier to read in daylight and sunlight
Data Management	irDA Port/PDA Service Cable	N/A	SD Card Service Cable	• Simplifies data transfer • Standardized accessories/max compatibility
Sensor Inputs	2 Max Direct Digital Analog via External Gateway	2 Max Analog Depending on Parameter	2 Max Digital and/or Analog with Sensor Card	• Simplifies analog sensor connections • Works with analog and digital sensors
Analog Inputs	N/A	N/A	1 Analog Input Signal Analog 4-20mA Card	• Enables non-sc analyzer monitoring • Accepts mA signals from other analyzers for local display • Consolidates analog mA signals to a digital output
4-20 mA Outputs	2 Standard	2 Standard	2 Standard Optional 3 Additional	• Total of five (5) 4-20 mA outputs allows multiple mA outputs per sensor input
Digital Communication	MODBUS RS232/RS485 Profibus DP V1.0	HART	MODBUS RS232/RS485 Profibus DP V1.0 HART 7.2	• Unprecedented combination of sensor breadth and digital communication options

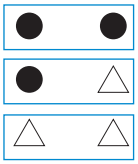
Choose from Hach's Broad Range of Digital and Analog Sensors

Parameter	Sensor	Digital or Analog
Ammonia	AMTAX™ sc, NH4D sc, AISE sc, AN-ISE sc	●
Chlorine	CLF10 sc, CLT10 sc, 9184 sc	●
Chlorine Dioxide	9185 sc	●
Conductivity	GLI 3400 Contacting, GLI 3700 Inductive	△
Dissolved Oxygen	LDO® Model 2, 5740 sc	●
Dissolved Oxygen	5500	△
Flow	U53, F53 Sensors	△
Nitrate	NITRATAX™ sc, NO3D sc, NISE sc, AN-ISE sc	●
Oil in Water	FP360 sc	●
Organics	UVAS sc	●
Ozone	9187 sc	●
pH/ORP	pHD	●
pH/ORP	pHD, pH Combination, LCP	△
Phosphate	PHOSPHAX™ sc	●
Sludge Level	SONATAX™ sc	●
Suspended Solids	SOLITAX™ sc, TSS sc	●
Turbidity	1720E, FT660 sc, SS7 sc, ULTRATURB sc, SOLITAX sc, TSS sc	●
Ultra Pure Conductivity	8310, 8311, 8312, 8315, 8316, 8317 Contacting	△
Ultra Pure pH/ORP	8362	△

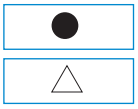
● = Digital △ = Analog

Connect up to two of any of the sensors listed above, in any combination, to meet your application needs. The diagrams below demonstrate the potential configurations. Operation of analog sensors requires the controller to be equipped with the appropriate sensor module. Contact Hach Technical Support for help with selecting the appropriate module.

2 Channel Configurations



1 Channel Configurations



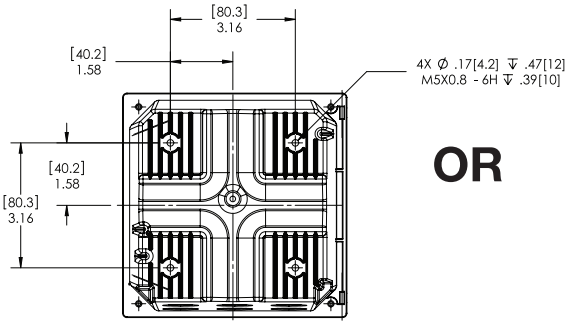
Specifications*

Dimensions (H x W x D)	5.7 in x 5.7 in x 7.1 in (144 mm x 144 mm x 181 mm)
Display	Graphic dot matrix LCD with LED backlighting, transreflective
Display Size	1.9 x 2.7 in. (48 mm x 68 mm)
Display Resolution	240 x 160 pixels
Weight	3.75 lbs. (1.70 kg)
Power Requirements (Voltage)	100 - 240 V AC, 24 V DC
Power Requirements (Hz)	50/60 Hz
Operating Temperature Range	-20 to 60 °C , 0 to 95% RH non-condensing
Analog Outputs	Two (Five with optional expansion module) to isolated current outputs, max 550 Ω , Accuracy: ± 0.1% of FS (20mA) at 25 °C, ± 0.5% of FS over -20 °C to 60 °C range Operational Mode: measurement or calculated value
Analog Output Functional Mode	Linear, Logarithmic, Bi-linear, PID
Security Levels	2 password-protected levels
Mounting Configurations	Wall, pole, and panel mounting
Enclosure Rating	NEMA 4X/IP66
Conduit Openings	1/2 in NPT Conduit
Relay: Operational Mode	Primary or secondary measurement, calculated value (dual channel only) or timer
Relay Functions	Scheduler (Timer), Alarm, Feeder Control, Event Control, Pulse Width Modulation, Frequency Control, and Warning
Relays	Four electromechanical SPDT (Form C) contacts, 1200 W, 5 A
Communication	MODBUS RS232/RS485, PROFIBUS DPV1, or HART 7.2 optional
Memory Backup	Flash memory
Electrical Certifications	EMC CE compliant for conducted and radiated emissions: - CISPR 11 (Class A limits) - EMC Immunity EN 61326-1 (Industrial limits) Safety cETLus safety mark for: - General Locations per ANSI/UL 61010-1 & CAN/CSA C22.2. No. 61010-1 - Hazardous Location Class I, Division 2, Groups A,B,C & D (Zone 2, Group IIC) per FM 3600 / FM 3611 & CSA C22.2 No. 213 M1987 with approved options and appropriately rated Class I, Division 2 or Zone 2 sensors cULus safety mark - General Locations per UL 61010-1 & CAN/CSA C22.2. No. 61010-1

Subject to change without notice.

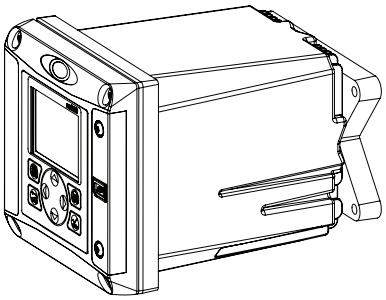
Dimensions

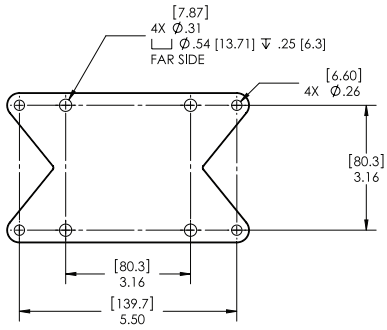
Surface Mounting Dimensions



Mounting Dimensions
(Rear View)

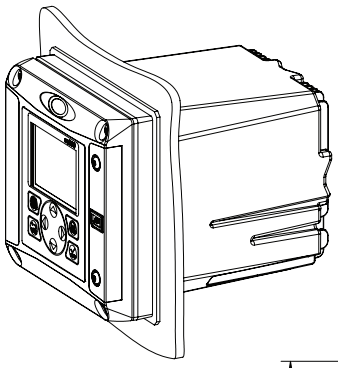
OR

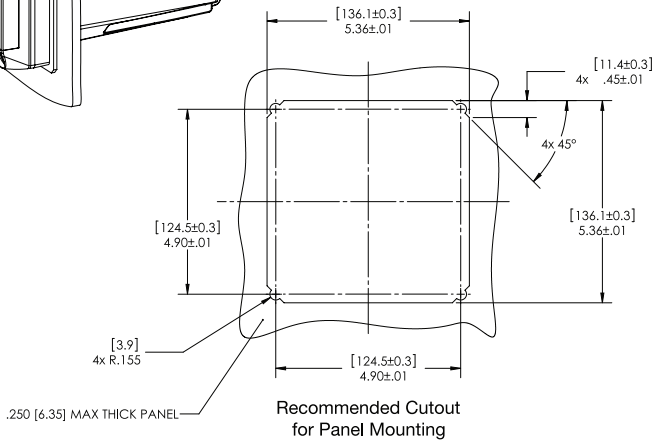




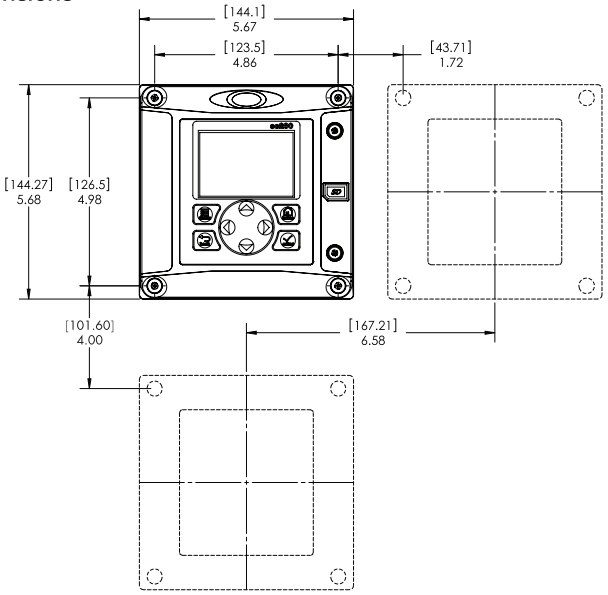
Bracket (supplied) for Surface Mounting
(Not compatible with Weather and Sun Shield
p/n 9220600 when surface mounting.)

Panel Mounting Dimensions



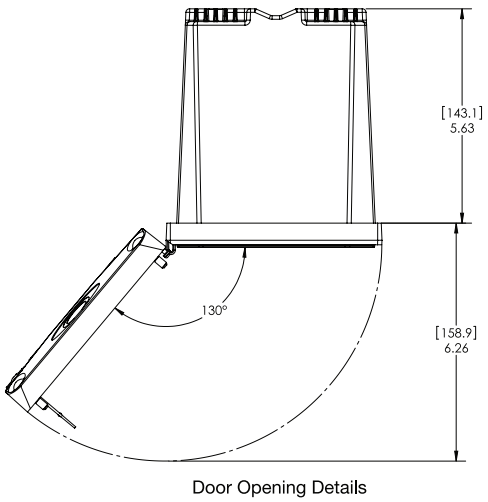


Recommended Cutout
for Panel Mounting

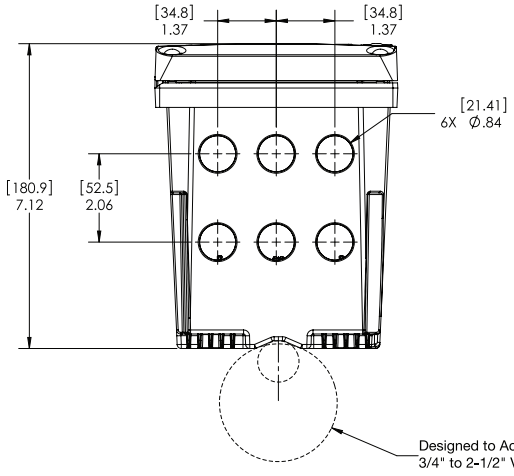


Minimum Spacing Dimensions
for Group Mounting

Top and Bottom Views



Door Opening Details



Ordering Information

sc200 for Hach Digital and Analog Sensors

LXV404.99.00552	sc200 controller, 2 channels, digital
LXV404.99.00502	sc200 controller, 1 channel, digital
LXV404.99.00102	sc200 controller, 1 channel, pH/DO
LXV404.99.00202	sc200 controller, 1 channel, Conductivity
LXV404.99.01552	sc200 controller, 2 channels, digital, Modbus RS232/RS485
LXV404.99.00112	sc200 controller, 2 channel, pH/DO

Note: Other Sensor combinations are available. Please contact Hach Technical Support or your Hach representative.

Note: Communication options (MODBUS, Profibus DPV1, and HART) are available. Please contact Hach Technical Support or your Hach representative.

sc200 for Ultrapure Sensors

9500.99.00602	sc200 controller, 1 channel, ultrapure conductivity
9500.99.00702	sc200 controller, 1 channel, ultrapure pH
9500.99.00662	sc200 controller, 2 channel, ultrapure conductivity
9500.99.00772	sc200 controller, 2 channel, ultrapure pH

Sensor and Communication Modules

9012900	Analog pH/ORP and DO module for GLI Sensors
9013000	Analog Conductivity module for GLI Sensors
9012700	Flow module
9012800	4-20 mA Input Module
9525700	Analog pH/ORP Module for Polymetron Sensors
9525800	Analog Conductivity Module for Polymetron Sensors
9013200	Modbus 232/485 Module
9173900	Profibus DP Module
9328100	HART Module
9334600	4-20 mA Output Module (Provides 3 additional mA Outputs)

Accessories

9220600	sc200 Weather and Sun Shield with UV Protection Screen
8809200	sc200 UV Protection Screen
9218200	SD card reader (USB) for connection to PC
9218100	4 GB SD card

HACH COMPANY World Headquarters: Loveland, Colorado USA

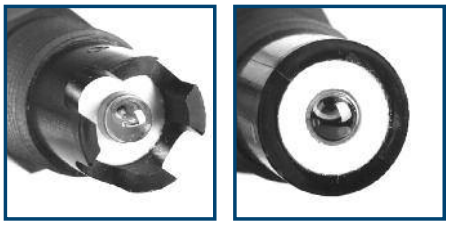
United States: 800-227-4224 tel 970-669-2932 fax orders@hach.com
Outside United States: 970-669-3050 tel 970-461-3939 fax int@hach.com
hach.com

LIT2665 Rev 7
K13 Printed in U.S.A.

HACH®
Be Right™

3/4-inch Combination pH and ORP Sensor Kits

Use the Digital Gateway to make any Hach analog combination pH or ORP sensor compatible with the Hach sc1000 Controller.



Digital combination pH and ORP sensors are available in convertible, insertion, and sanitary mounting styles. Choose from rugged dome electrodes or "easy-to-clean" flat glass electrodes.

Features and Benefits

Low Price—High Performance

These combination sensors are designed for specialty applications for immersion or in-line mounting. The reference cell features a double-junction design for extended service life, and a built-in solution ground. The body is molded from chemically-resistant Ryton® or PVDF, and the reference junction is coaxial porous PTFE. All sensors are rated 0 to 105ºC up to 100 psig, and have integral 4.5 m (15 ft.) cables with tinned leads. The PC-series (for pH) and RC-series (for ORP) combination sensors are ideal for measuring mild and aggressive media.

Special Electrode Configurations

Sensors with rugged dome electrodes, "easy-to-clean" flat glass electrodes, and even HF (hydrofluoric acid) resistant glass electrodes are available for a wide variety of process solutions.

Temperature Compensation Element Option

The PC-series combination pH sensors are available with or without a Pt 1000 ohm RTD temperature element. The RC-series combination ORP sensors are supplied without a temperature element.

Versatile Mounting Styles

Sensors are available in three mounting styles—convertible, insertion, and sanitary. Please turn to page 3 for more information.

Full-Featured "Plug and Play" Hach sc Digital Controllers

There are no complicated wiring or set up procedures with any Hach sc controller. Just plug in any combination of Hach digital sensors and it's ready to use—it's "plug and play."

One or multiple sensors—The sc controller family allows you to receive data from up to eight Hach digital sensors in any combination using a single controller.

Communications—Multiple alarm/control schemes are available using the relays and PID control outputs. Available communications include analog 4-20 mA, digital MODBUS® (RS485 and RS232) or Profibus DP protocols. (Other digital protocols are available. Contact your Hach representative for details.)

Data logger—A built-in data logger collects measurement data, calibration, verification points, and alarm history.

Specifications*

Most pH applications fall in the 2.5-12.5 pH range. General purpose pH glass electrodes perform well in this range. Some industrial applications require accurate measurements and control at pH values below 2 or above 12. Consult Hach Technical Support for details on these applications.

Combination pH Sensors

Measuring Range
0 to 14 pH

Accuracy
Less than 0.1 pH under reference conditions

Temperature Range
0 to 105°C (32 to 221°F)

Flow Rate
0 to 2 m/s (0 to 6.6 ft./s); non-abrasive

Pressure Range
0 to 6.9 bar at 100°C (0 to 100 psig at 212°F)

Signal Transmission Distance
100 m (328 ft.) when used with the Hach Digital Gateway and a Hach sc Digital Controller.

1000 m (3280 ft.) when used with the Hach Digital Gateway, Termination Box, and a Hach sc Digital Controller.

Sensor Cable
Integral coaxial cable (plus two conductors for temperature compensator option); 4.5 m (15 ft.) long

Wetted Materials

Convertible style: Ryton® body (glass filled)

Insertion style: PVDF body (Kynar®)

Sanitary style: 316 stainless steel sleeved PVDF body

Common materials for all sensor styles include PTFE double junction, glass process electrode, and Viton® O-rings

Warranty
90 days

Combination ORP Sensors

Measuring Range
-2000 to +2000 millivolts

Accuracy
Limited to calibration solution accuracy (± 20 mV)

Temperature Range
0 to 105°C (32 to 221°F)

Flow Rate
0 to 2 m/s (0 to 6.6 ft./s); non-abrasive

Pressure Range
0 to 6.9 bar at 100°C (0 to 100 psig at 212°F)

Signal Transmission Distance
100 m (328 ft.) when used with the Hach Digital Gateway and a Hach sc Digital Controller.

1000 m (3280 ft.) when used with the Hach Digital Gateway, Termination Box, and a Hach sc Digital Controller.

Sensor Cable
Integral coaxial cable; 4.5 m (15 ft.) long; terminated with stripped and tinned wires

Wetted Materials

Convertible style: Ryton® body (glass filled)

Insertion style: PVDF body (Kynar®)

Common materials for all sensor styles include PTFE double junction, glass with platinum process electrode, and Viton® O-rings

Warranty
90 days

**Specifications subject to change without notice.*

Engineering Specifications

1. The pH sensor shall be available in convertible, insertion or sanitary styles. The ORP sensor shall be available in only convertible or insertion styles.
2. The convertible style sensor shall have a Ryton® body. The insertion style sensor shall have a PVDF body. The sanitary style sensor shall have a 316 stainless steel sleeved PVDF body. Common materials for all sensor styles shall include a PTFE double junction, and Viton® O-rings. The pH sensor shall have a glass pH electrode. The ORP sensor shall have a platinum ORP electrode.
3. The convertible style pH sensor shall be available with or without a built-in Pt 1000 ohm RTD temperature element. Insertion and sanitary style pH sensors shall have a built-in Pt 1000 ohm RTD temperature element. Convertible and insertion style ORP sensors shall not have a built-in temperature element.
4. The sensor shall communicate via MODBUS® RS-485 to a Hach sc Digital Controller.
5. The sensor shall be Hach Company Model PC sc or PC-series for pH measurement or Model PC sc or RC-series for ORP measurement.

Dimensions

Convertible Style Sensor

The convertible style sensor has a Ryton® body that features 3/4-inch NPT threads on both ends. The sensor can be directly mounted into a standard 3/4-inch pipe tee for flow-through mounting or fastened onto the end of a pipe for immersion mounting. The convertible style sensor enables inventory consolidation, thereby reducing associated costs. Mounting tees and immersion mounting hardware are offered in a variety of materials to suit application requirements.

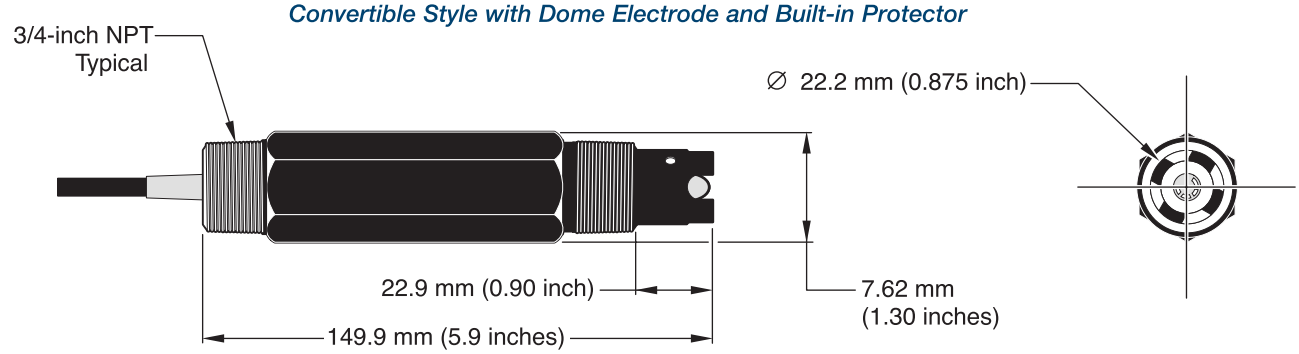
Insertion Style Sensor

Insertion style sensors feature a longer, non-threaded PVDF body with two Viton® O-rings, providing a seal when used with the optional Hach insertion mount hardware assembly. This ball valve hardware enables sensor insertion and retraction from a pipe or vessel without having to stop the process flow.

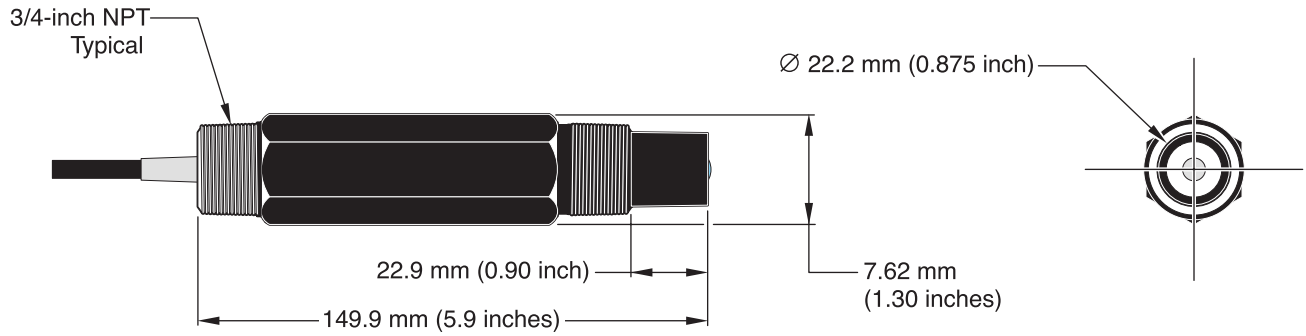
Sanitary Style Sensor

The sanitary style sensor, offered for pH measurement, has a 316 stainless steel-sleeved PVDF body with a 2-inch flange. The sensor mates to a standard 2-inch Tri-Clover fitting. The optional Hach sanitary mounting hardware includes a standard 2-inch sanitary tee, sanitary clamp, and Viton® sanitary gasket.

Convertible Style with Dome Electrode and Built-in Protector

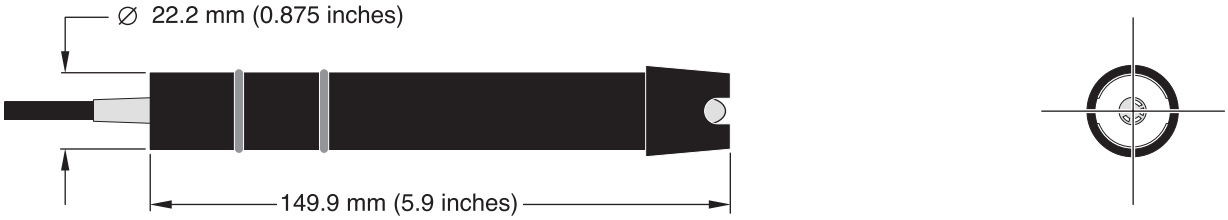


Convertible Style with Flat Electrode

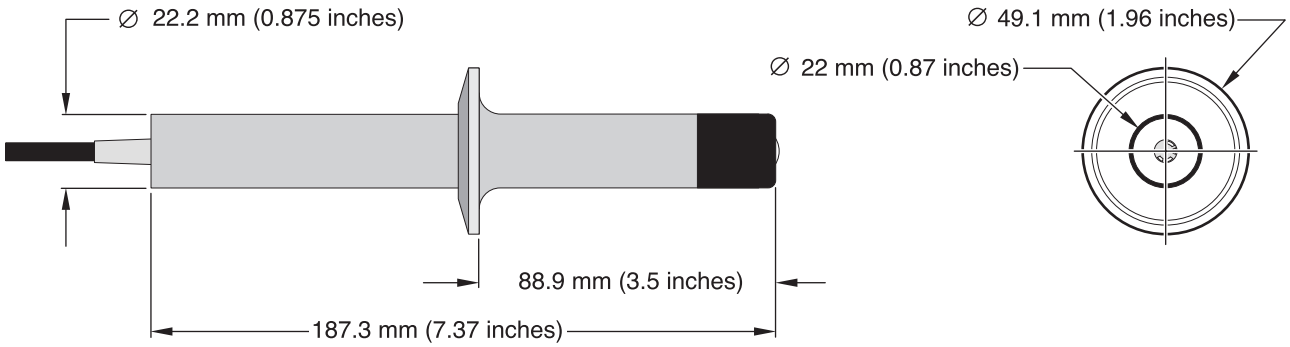


Dimensions *continued*

Insertion Style with Dome Electrode and Built-In Protector



Sanitary Style



Ordering Information

Digital PC sc and RC sc 3/4-inch Combination pH/ORP Sensors

All PC sc and RC sc 3/4-inch combination sensors come complete with an integral 4.5 m (15 ft.) sensor cable, Digital Gateway, and 1 m (3.3 ft.) digital extension cable.

Product Number	*Measurement*	*Sensor Style*	*Body Material*	*Electrode Type*	*Temp. Comp.*
DPC1R1N	pH	Convertible	Ryton	General purpose glass	None
DPC1R1A	pH	Convertible	Ryton	General purpose glass	Pt 1000 ohm RTD
DPC1R2N	pH	Convertible	Ryton	Flat glass, general purpose	None
DPC1R2A	pH	Convertible	Ryton	Flat glass, general purpose	Pt 1000 ohm RTD
DPC1R3A	pH	Convertible	Ryton	HF-resistant glass (see Note)	Pt 1000 ohm RTD
DPC2K1A	pH	Insertion	PVDF	General purpose glass	Pt 1000 ohm RTD
DPC2K2A	pH	Insertion	PVDF	Flat Glass	Pt 1000 ohm RTD
DPC3K2A	pH	Sanitary	316 SS/PVDF	General purpose glass	Pt 1000 ohm RTD
DRC1R5N	ORP	Convertible	Ryton	Platinum	None
DRC2K5N	ORP	Insertion	PVDF	Platinum	None

NOTE

The HF (hydrofluoric acid) resistant glass electrode reduces the HF dissolution of the complete glass surface to extend the lifetime of the electrode in acid fluoride solutions. The electrode will last longer than conventional glass pH electrodes. How much longer depends on the HF concentration and temperature of the solution.

Replacement Digital Gateway

6120600 Use the Digital Gateway to connect analog PC and RC sensors to a Hach sc Digital Controller.

Ordering Information *continued*

Analog PC and RC 3/4-inch Combination pH/ORP Sensors

All PC and RC 3/4-inch combination sensors come with an integral 4.5 m (15 ft.) standard length sensor cable.

Product Number	*Measurement*	*Sensor Style*	*Body Material*	*Electrode Type*	*Temp. Comp.*
PC1R1N	pH	Convertible	Ryton	General purpose glass	None
PC1R1A	pH	Convertible	Ryton	General purpose glass	Pt 1000 ohm RTD
PC1R2N	pH	Convertible	Ryton	Flat glass, general purpose	None
PC1R2A	pH	Convertible	Ryton	Flat glass, general purpose	Pt 1000 ohm RTD
PC1R3A	pH	Convertible	Ryton	HF-resistant glass	Pt 1000 ohm RTD
PC2K1A	pH	Insertion	PVDF	General purpose glass	Pt 1000 ohm RTD
PC2K2A	pH	Insertion	PVDF	Flat Glass	Pt 1000 ohm RTD
PC3K2A	pH	Sanitary	316 SS/PVDF	General purpose glass	Pt 1000 ohm RTD
RC1R5N	ORP	Convertible	Ryton	Platinum	None
RC2K5N	ORP	Insertion	PVDF	Platinum	None

Accessories for Digital and Analog 3/4-inch combination pH/ORP Sensors

Cables

Digital cables are used only with digital sensors or gateways when connecting to a Hach sc Digital Controller.

6122400 Digital Extension Cable, 1 m (3.3 ft)

5796000 Digital Extension Cable, 7.7 m (25 ft)

5796100 Digital Extension Cable, 15 m (50 ft)

5796200 Digital Extension Cable, 31 m (100 ft)

Analog cables are used only with analog sensors, junction box, and controller.

1W1100 Analog Interconnect Cable (order per foot)

Digital Termination Box

Used with digital extension cables when the desired cable length between the digital sensor/digital gateway and the Hach sc Digital Controller is between 100 m (328 ft) and 1000 m (3280 ft).

5867000 Digital Termination Box

Analog Junction Box

Used with analog interconnect cable when the desired cable length between analog sensor and analog controller is greater than the standard length of sensor cable. Each junction box includes terminal strip and gasket.

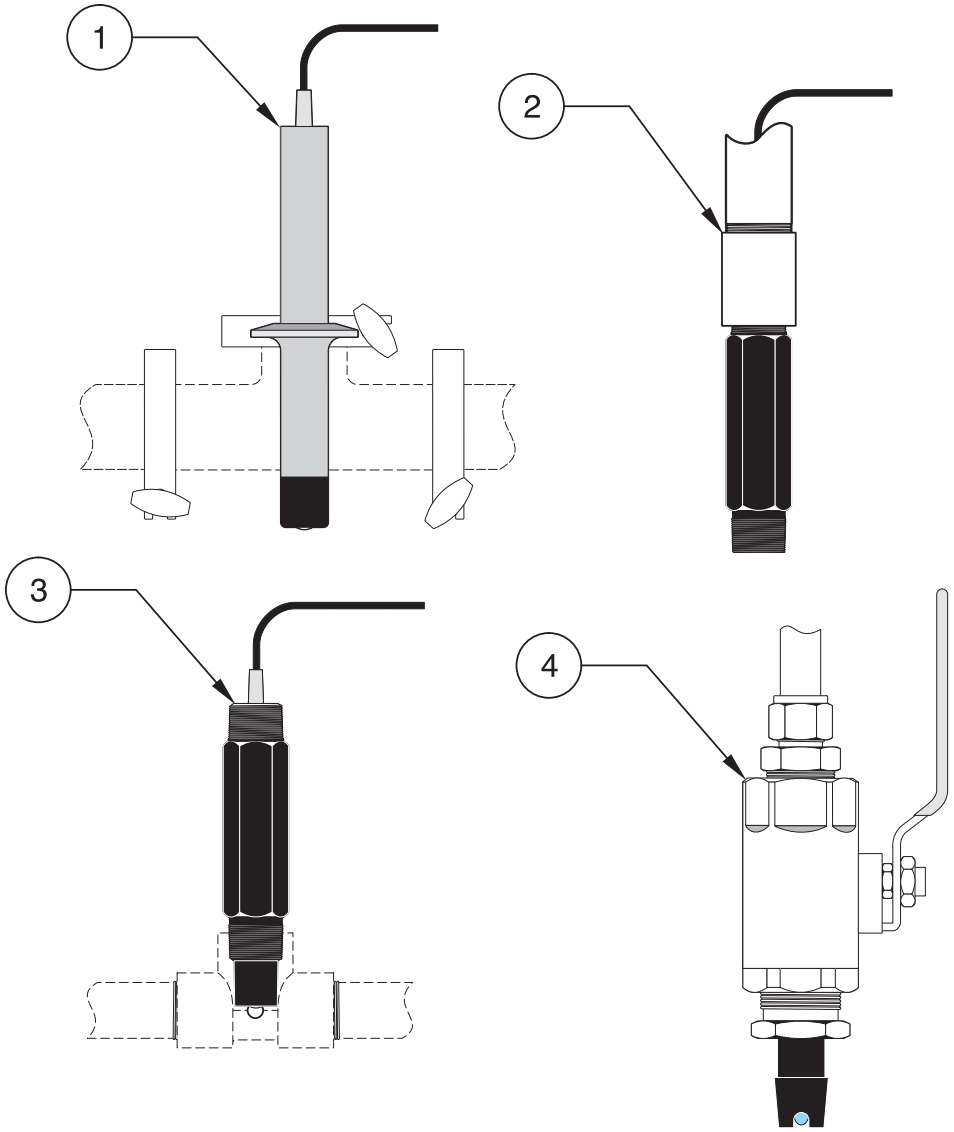
60A2053 Junction Box, Surface-mount, aluminum (includes mounting hardware)

60A9944 Junction Box, Pipe-mount, PVC, for 1/2-inch diameter pipe (includes mounting hardware)

60G2052 Junction Box, Pipe-mount, PVC, for 1-inch diameter pipe (includes mounting hardware)

76A4010-001 Junction Box, NEMA 4X (no mounting hardware included)

Ordering Information *continued*



1. Sanitary Mounting *2. Immersion Mounting* *3. Flow-through Mounting* *4. Insertion Mounting*

Mounting Hardware for PC sc and RC sc Combination Sensors

Sanitary Mount Hardware

9H1310 2-inch Sanitary Tee
9H1132 2-inch Sanitary Clamp
9H1384 2-inch Sanitary Viton Gasket

Immersion Mount Hardware

Each immersion hardware includes a 1/2-inch diameter x 4 foot long pipe, 1/2 x 3/4-inch NPT coupling, and plastic pipe-mount junction box with terminal strip.

MH432G CPVC Pipe

Flow-through Mount Hardware

Each tee is a standard 3/4-inch tee with 3/4-inch NPT threads on all three openings.

MH313N3NZ 316 SS Tee
MH333N3NZ CPVC Tee
MH373N3NZ PVC Tee

Insertion Mount Hardware

The insertion hardware includes a 1-1/2 inch ball valve, 1-1/2 inch NPT close nipple for process connection, sensor connection tube, stainless steel extension pipe, and stainless steel compression fitting with washer and lock nut.

MH116M3MZ 316 SS Hardware

To complete your pH and ORP measurement system, choose from these Hach controllers...

Model sc200 Controller

(see Lit. #2665)

The sc200 controller platform can be configured to operate either 2 Digital Sensor Inputs, or 1 or 2 Analog Sensor Inputs, or a combination of Digital and Analog Sensor Inputs. Customers may choose their communication options from a variety of offerings ranging from MODBUS RTU to Profibus DPV1.

sc200 for Hach Digital Sensors

LXV404.99.00552 sc200 controller, 2 channel, digital
LXV404.99.00502 sc200 controller, 1 channel, digital
LXV404.99.00542 sc200 controller, 2 channel, digital & mA input
LXV404.99.00512 sc200 controller, 2 channel, digital & pH/DO
LXV404.99.00522 sc200 controller, 2 channel, digital & Conductivity
LXV404.99.00532 sc200 controller, 2 channel, digital & Flow

sc200 for Hach Analog Sensors

LXV404.99.00102 sc200 controller, 1 channel, pH/DO
LXV404.99.00112 sc200 controller, 2 channel, pH/DO
LXV404.99.00202 sc200 controller, 1 channel, Conductivity
LXV404.99.00222 sc200 controller, 2 channel, Conductivity
LXV404.99.00212 sc200 controller, 2 channel, pH/DO & Conductivity
LXV404.99.00302 sc200 controller, 1 channel, Flow
LXV404.99.00332 sc200 controller, 2 channel, Flow
LXV404.99.00312 sc200 controller, 2 channel, Flow & pH/DO
LXV404.99.00322 sc200 controller, 2 channel, Flow & Conductivity

Note: Other sensor combinations are available. Please contact Hach Technical Support or your Hach representative.
Note: Communication options (MODBUS and Profibus DPV1) are available.

Model sc1000 Controller

(see Lit. #2403)

Each sc1000 Probe Module provides power to the system and can accept up to 8 digital sensors/expansion boards. Probe Modules can be networked together to accommodate up to 32 digital sensors/expansion boards attached to the same network.

LXV402.99.00002 sc1000 Display Module
LXV400.99.1R572 sc1000 Probe Module, 4 sensors, 4 mA Out, 4 mA In, 4 Relays, 110-230V
LXV400.99.1B572 sc1000 Probe Module, 4 sensors, 4 mA Out, 4 mA In, 4 Relays, RS-485 (MODBUS), 110-230V
LXV400.99.1F572 sc1000 Probe Module, 4 sensors, 4 mA Out, 4 mA In, 4 Relays, PROFIBUS DP, 110-230V
LXV400.99.1R582 sc1000 Probe Module, 6 sensors, 4 mA Out, 4 mA In, 4 Relays, 110-230V

At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...

Keep it pure.

Make it simple.

Be right.

For current price information, technical support, and ordering assistance, contact the Hach office or distributor serving your area.

In the United States, contact:

HACH COMPANY World Headquarters
P.O. Box 389
Loveland, Colorado 80539-0389
U.S.A.
Telephone: 800-227-4224
Fax: 970-669-2932
E-mail: orders@hach.com
www.hach.com

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U.S.A.
Telephone: 970-669-3050
Fax: 970-461-3939
E-mail: intl@hach.com
www.hach.com

In Europe, the Middle East, and Mediterranean Africa, contact:

HACH LANGE GmbH
Willstätterstraße 11
D-40549 Düsseldorf
GERMANY
Tel: +49 (0) 211 5288-0
Fax: +49 (0) 211 5288-143
E-mail: info@hach-lange.de
www.hach-lange.com

LIT2470 Rev 2
Printed in U.S.A.

HACH®
Be Right™

95-Gallon OverPack Salvage Drum #A95OVER - 32" dia x 41.5", 1 each/package

Stock a SpillTech® OverPack with sorbents for emergency spill response, or use it as a salvage drum to ship damaged containers or hazardous waste.

- DOT-Approved for Salvage: All SpillTech® OverPacks are DOT-approved and X-rated for use as salvage drums. Helps companies conform to federal regulations when shipping damaged or leaking containers of hazardous materials, or absorbents contaminated with hazardous substances.
- Perfect for Spill Kits: Stores sorbent products (not included) for easy access as needed for spill control. Saves time when quick response is necessary.
- Sturdy Construction: 100% polyethylene OverPack resists chemicals, rust and corrosion for years of use. Integrated handles make them easy to lift, move or carry with standard material handling equipment. Twist-on, double-wall lid with closed-cell gasket provides sealed, secure closure to prevent leaks and protect contents from moisture, dirt and damage. Durable to withstand rough handling.
- Customized for You: We can customize a Spill Kit to your exact specifications, including the container, its contents and accessories, with no upcharge! Contact your local Distributor for details.

A95OVER Specifications

Dimensions:	ext. dia. 32" x 41.5" H
Shipping Dimensions:	31.75" W x 41.5" L x 31.75" H
Sold as:	1 per package
Color:	Yellow
Composition:	Polyethylene
Weight:	48 lbs.
# per Pallet:	3
Incinerable:	No
UN RATING:	1H2/X295/S
Ship Class:	250

Metric Equivalent Specifications

Dimensions:	ext. dia. 81.3cm x 105.4cm H
Shipping Dimensions:	80.6cm W x 105.4cm L x 80.6cm H
Weight:	21.8 kg

SpillTech

Online: **spilltech.com**

Phone: **1-800-228-3877 (N.Am.)** **1-770-475-3877 (Other)**

Fax: **1-800-872-3764 (N.Am.)** **1-770-410-1812 (Other)**

Email: **sales@spilltech.com**

6455 East Johns Crossing, Suite 375 • Johns Creek GA 30097

A95OVER Technical Information

Warnings & Restrictions:
There are no known warnings and restrictions for this product.

Regulations and Compliance:
49 CFR 173.3(c)(1) - If a container of hazardous waste is damaged or leaking, it can be placed in a compatible salvage drum that meets UN criteria for shipping

49 CFR 173.12(b)(2)(iv) - When labpacking, "Inner packagings…must be surrounded by a chemically compatible absorbent material in sufficient quantity to absorb the total liquid contents."

49 CFR 173.12(b) - A container used for labpacking must be "a UN 1A2 or UN 1B2 metal drum, a UN 1D plywood drum, a UN 1G fiber drum or a UN 1H2 plastic drum tested and marked at least for the Packing Group III performance level for liquids or solids."

Technical Documents:
(Available at **spilltech.com**)

Product Data Sheet (PDS)

Chemical Compatibility (CCG)

SAFETY DATA SHEET

Creation Date 12-Nov-2010 **Revision Date** 24-May-2017 **Revision Number** 5

1. Identification

Product Name **Sulfuric Acid (Certified ACS Plus)**

Cat No. : **A300-212; A300-225LB; A300-500; A300-612GAL; A300-700LB; A300C212; A300C212EA; A300P500; A300S212; A300S212EA; A300S500; A300SI212**

Synonyms Hydrogen sulfate; Vitriol brown oil; Oil of vitriol

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

Label Elements

Signal Word
Danger

Hazard Statements
Causes severe skin burns and eye damage
May cause respiratory irritation

Precautionary Statements
Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Response
Immediately call a POISON CENTER or doctor/physician
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Ingestion
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)

WARNING! This product contains a chemical known in the State of California to cause cancer.
Unknown Acute Toxicity

3. Composition / information on ingredients

Component	CAS-No	Weight %
Sulfuric acid	7664-93-9	90 - 98
Water	7732-18-5	2 - 10

4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Call a physician immediately.

Inhalation If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.

Ingestion Do not induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Most important symptoms/effects Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media CO_2, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media DO NOT USE WATER

Flash Point Not applicable
Method - No information available

Autoignition Temperature No information available
Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

Hazardous Combustion Products
Sulfur oxides Hydrogen
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	2	W

6. Accidental release measures

Personal Precautions Ensure adequate ventilation. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe vapors or spray mist. Do not ingest.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from water. Corrosives area.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Sulfuric acid	TWA: 0.2 mg/m³	(Vacated) TWA: 1 mg/m³ TWA: 1 mg/m³	IDLH: 15 mg/m³ TWA: 1 mg/m³	TWA: 1 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Long sleeved clothing.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Clear, Colorless to brown
Odor	Odorless
Odor Threshold	No information available
pH	0.3 (1N)
Melting Point/Range	10 °C / 50 °F
Boiling Point/Range	290 - 338 °C / 554 - 640.4 °F
Flash Point	Not applicable
Evaporation Rate	Slower than ether
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	< 0.001 mmHg @ 20 °C
Vapor Density	3.38 (Air = 1.0)
Specific Gravity	1.84
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	340°C
Viscosity	No information available
Molecular Formula	H2SO4
Molecular Weight	98.08

10. Stability and reactivity

Reactive Hazard Yes

Stability Reacts violently with water. Hygroscopic.

Conditions to Avoid Incompatible products. Excess heat. Exposure to moist air or water.

Incompatible Materials Water, Organic materials, Strong acids, Strong bases, Metals, Alcohols, Cyanides, Sulfides

Hazardous Decomposition Products Sulfur oxides, Hydrogen

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50 Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid	2140 mg/kg (Rat)	Not listed	LC50 = 510 mg/m³ (Rat) 2 h
Water	-	Not listed	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Causes severe burns by all exposure routes

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. Exposure to strong inorganic mists containing sulfuric acid may cause cancer by inhalation.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Sulfuric acid	7664-93-9	Group 1	Known	A2	X	A2
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

This product contains the following substance(s) which are hazardous for the environment. .

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sulfuric acid	-	LC50: > 500 mg/L, 96h static (Brachydanio rerio)	-	EC50: 29 mg/L/24h

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1830
Proper Shipping Name Sulfuric acid
Hazard Class 8
Packing Group II

TDG

UN-No UN1830
Proper Shipping Name SULFURIC ACID
Hazard Class 8
Packing Group II

IATA

UN-No UN1830
Proper Shipping Name SULFURIC ACID
Hazard Class 8
Packing Group II

IMDG/IMO

UN-No UN1830
Proper Shipping Name SULFURIC ACID
Hazard Class 8
Packing Group II

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Sulfuric acid	X	X	-	231-639-5	-		X	X	X	X	X
Water	X	X	-	231-791-2	-		X	-	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Sulfuric acid	7664-93-9	90 - 98	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Sulfuric acid	X	1000 lb	-	-

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sulfuric acid	1000 lb	1000 lb

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Sulfuric acid	7664-93-9	Carcinogen	-	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sulfuric acid	X	X	X	X	X
Water	-	-	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ):	Y
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 12-Nov-2010
Revision Date 24-May-2017
Print Date 24-May-2017
Revision Summary SDS sections updated. 2.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

PULSAFEEDER®

The Pulsatron Series A Plus offers manual function controls over stroke length and stroke rate as standard with the option to select external pace for automatic control.

Ten distinct models are available, having pressure capabilities to 250 PSIG (17 BAR) @ 12 GPD (1.9 lph), and flow capacities to 58 GPD (9.1 lph) @ 100 PSIG (7.0 BAR), with a standard turndown ratio of 100:1, and optional ratio of 1000:1. Metering performance is reproducible to within ± 3% of maximum capacity.

Features

- Manual Control by on-line adjustable stroke rate and stroke length.
- Highly Reliable timing circuit.
- Circuit Protection against voltage and current upsets.
- Solenoid Protection by thermal overload with auto-reset.
- Water Resistant, for outdoor and indoor applications.
- Internally Dampened To Reduce Noise.
- Guided Ball Check Valve Systems, to reduce back flow and enhance outstanding priming characteristics.
- Few Moving Parts and Wall Mountable.
- Safe & Easy Priming with durable leak-free bleed valve assembly (standard).
- Optional Control: External pace with auto/manual selection.

Operating Benefits

- Reliable metering performance.
- Rated “hot” for continuous duty.
- High viscosity capability.
- Leak-free, sealless, liquid end.

Controls

Manual Stroke Rate

Manual Stroke Length

External Pacing - Optional

External Pace With Stop - Optional (125 SPM only)

Controls Options		
Feature	Standard Configuration	Optional Configuration [1]
External Pacing	---	Auto / Manual Selection [2]
External Pace w/ Stop (125 SPM only)	---	Auto / Manual Selection [2]
Manual Stroke Rate	10:1 Ratio	100:1 Ratio
Manual Stroke Length	10:1 Ratio	10:1 Ratio
Total Turndown Ratio	100:1 Ratio	1000:1 Ratio

Note 1: On S2, S3 & S4 sizes only.

Note 2: Not available on 1000:1 turndown pumps.

1. Tested and Certified by WQA against NSF/ANSI 61 & 372.

1. PVDF and Degassing Head Pumps
See www.wqa.org for certification parameters.

Aftermarket

- KOPkits
- Gauges
- Dampeners
- Pressure Relief Valves
- Tanks
- Pre-Engineered Systems
- Process Controllers (MicroVision)

PULSAtron® Series A Plus Electronic Metering Pumps

PULSAtron® Series A Plus

Specifications and Model Selection

MODEL			LBC2	LB02	LBC3	LB03	LB04	LB64	LBC4	LBS2	LBS3	LBS4
Capacity nominal (max.)		GPH	0.25	0.25	0.42	0.50	1.00	1.25	2.00	0.50	1.38	2.42
		GPD	6	6	10	12	24	30	48	12	33	58
		LPH	0.9	0.9	1.6	1.9	3.8	4.7	7.6	1.9	5.2	9.14
Pressure[3] (max.)	GFPP, PVDF, 316SS or PVC (W code) w/TFE Seats)	PSIG (Bar)	250 (17)	150 (10)	250 (17)	150 (10)	100 (7)	100 (7)	50 (3.3)	250 (17)	150 (10)	100 (7)
	PVC (V code) Viton or CSPE Seats / Degas Liquid End		150 (10)							150 (10)		
Connections:		Tubing	1/4" ID X 3/8" OD						3/8" ID X 1/2" OD	1/4" ID X 3/8" OD		
		Piping	1/4" FNPT									
Strokes/Minute		SPM	125							250		

Note 3: Pumps with rated pressure above 150 PSI will be de-rated to 150 PSI Max. when selecting certain valve options, see Price Book for details.

Engineering Data

Pump Head Materials Available: GFPPL, PVC, PVDF, 316 SS

Diaphragm: PTFE-faced CSPE-backed

Check Valves Materials Available:

Seats/O-Rings: PTFE, CSPE, Viton

Balls: Ceramic, PTFE, 316 SS, Alloy C

Fittings Materials Available: GFPPL, PVC, PVDF

Bleed Valve: Same as fitting and check valve selected, except 316SS

Injection Valve & Foot Valve Assy: Same as fitting and check valve selected

Tubing: Clear PVC, White PE

Important: Material Code - GFPPL=Glass-filled Polypropylene, PVC=Polyvinyl Chloride, PE=Polyethylene, PVDF=Polyvinylidene Fluoride, CSPE=Generic formulation of Hypalon, a registered trademark of E.I. DuPont Company. Viton is a registered trademark of E.I. DuPont Company. PVC wetted end recommended for sodium hypochlorite.

Engineering Data

Reproducibility:	+/- 3% at maximum capacity
Viscosity Max CPS:	1000 CPS
Stroke Frequency Max SPM:	125 / 250 by Model
Stroke Frequency Turn-Down Ratio:	10:1 /100:1 by Model
Stroke Length Turn-Down Ratio:	10:1
Power Input:	115 VAC/50-60 HZ/1 ph
	230 VAC/50-60 HZ/1 ph
Average Current Draw:	
@ 115 VAC; Amps:	0.6 Amps
@ 230 VAC; Amps:	0.3 Amps
Peak Input Power:	130 Watts
Average Input Power @ Max SPM:	50 Watts

Custom Engineered Designs – Pre-Engineered Systems

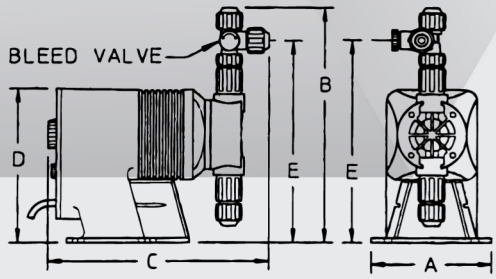
Pre-Engineered Systems

Pulsafeeder's Pre-Engineered Systems are designed to provide complete chemical feed solutions for all electronic metering applications. From stand alone simplex pH control applications to full-featured, redundant sodium hypochlorite disinfection metering, these rugged fabricated assemblies offer turn-key simplicity and industrial-grade durability. The UV-stabilized, high-grade HDPE frame offers maximum chemical compatibility and structural rigidity. Each system is factory assembled and hydrostatically tested prior to shipment.

Dimensions

Series A PLUS Dimensions (inches)						
Model No.	A	B	C	D	E	Shipping Weight
LB02 / S2	5.0	9.6	9.5	6.5	8.2	10
LBC2	5.0	9.9	9.5	6.5	8.5	10
LBC3	5.0	9.9	9.5	6.5	8.5	10
LB03 / S3	5.0	9.9	9.5	6.5	8.5	10
LB04 /S4	5.0	9.9	9.5	6.5	8.5	10
LB64	5.0	9.9	9.5	6.5	8.5	10
LBC4	5.0	9.9	9.5	6.5	8.5	10

NOTE: Inches X 2.54 = cm



PULSAFEEDER
27101 Airport Road
Punta Gorda, FL 33982
Phone: +1(941) 575-3800
Fax: +1(941) 575-4085

www.pulsatron.com

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