HALEY & ALDRICH, INC.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

30 March 2022
File No. 134110-101

Environmental Protection Agency (EPA) Region 1
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02129

Attention: Shauna Little
EPA/OEP RGP Applications Coordinator

Subject: Temporary Construction Dewatering
Allston Yards – 400 Guest Street
Allston, Massachusetts

Dear Shauna Little:

On behalf of our client, Allston Yards Parcel B Developer LLC, Haley & Aldrich, Inc. (Haley & Aldrich) has prepared this submission for a National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) to facilitate off-site discharge of dewatering effluent generated during construction activities at Allston Yards construction project (the "site") located at 400 Guest Street in Allston, Massachusetts (see Figure 1). The information presented herein has been prepared to follow requirements of the 2017 US Environmental Protection Agency (EPA) NPDES RGP. A copy of the completed Notice of Intent (NOI) form is enclosed as Appendix A.

GENERAL SITE INFORMATION

Existing Site Conditions

The subject site currently consists of one commercial parcel of land which is currently developed with a retail building occupied by a HomeGoods and a vacant unit formerly occupied by a Dollar Tree, as well as a paved parking lot and driveways. The subject site is located in the northeast portion of the larger 10.5-acre commercial parcel of land known as Allston Yards. The site is bound to the north by the railroad corridor and the Massachusetts Turnpike (I-90), Everett Street Bridge and road approach to the east, several commercial buildings and parking lots to the south, and a Stop & Shop grocery store to the west. The Allston Yards 400 Guest Street development will be constructed in the northeastern portion of the larger commercial parcel of land. The area surrounding the site is generally commercial and residential. Existing site grades range from approximately Elevation (El.) 29[1] along the northern edge of the property up to El. 33 at the southern edge of the property.

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

Site History and Regulatory Background

Site history is based on a review of historical reports, Sanborn maps, and aerial photographs. Prior to 1900, the site was a vacant parcel. Between 1900 and 1920, the site was developed with an iron and steel warehouse which occupied the majority of the site. By 1944, the site was used for the storage, cutting, and fabrication of steel products and storage of compressed gases for welding. These operations ceased between 1991 and 1994, and the buildings were demolished between 1995 and 1997. In 1998, the site was redeveloped with a new, single-story concrete block commercial building with loading docks and surface parking lots.

While there are multiple MassDEP Release Tracking Numbers (RTNs) associated with the property (RTNs 3-2332, 3-15227, and 3-33943), the RTNs applicable to the site have reached regulatory closure under the MCP. The results of the July 2021 soil and groundwater precharacterization program indicated concentrations of compounds which were consistent with those evaluated as part of the Permanent Solution for RTN 3-33943. Therefore, it is expected that work will be completed under a Post-Permanent Solution RAM Plan, which will be filed with MassDEP prior to intrusive site activities.

Proposed Construction

Proposed development consists of demolishing the existing HomeGoods and former Dollar Tree stores (currently ongoing) and constructing a new lab/office building. The new building will include one to two-levels of below-grade parking with an anticipated maximum excavation depth of approximately 28 to 29 feet (ft).

SOURCE WATER INFORMATION

Recent groundwater monitoring at wells HA16-03, MW-1, and MW-2 indicated groundwater elevations ranging between El. 22 to El. 25. Groundwater levels vary with season and precipitation, leakage from utilities, and other factors. As a result, groundwater levels observed during and following construction may vary from those observed during recent explorations.

Three groundwater samples, for due diligence and permitting purposes, were collected by Haley & Aldrich on 2 August 2021. The groundwater sampling results are provided in Table I, and the sampling locations are shown on Figure 2. Laboratory data reports are included in Appendix B.

One sample was collected from each previously installed monitoring well locations MW-1 and MW-2 and were submitted to Alpha Analytical for analysis of volatile organic compounds (VOCs). The results indicated detectable concentrations of chlorinated volatile organic compounds (cVOCs) below applicable Massachusetts Contingency Plan (MCP) Method 1 GW-2 and GW-3 Standards.

A separate sample was collected from previously installed monitoring well location HA16-3(OW) and submitted to Alpha Analytical for analysis of the following parameters:

- VOCs;
- Semi-volatile organic compounds (SVOCs);
- Polychlorinated biphenyls (PCBs);

- Total petroleum hydrocarbons (TPH) and ethanol;
- Metals;
- Chloride;
- Total residual chlorine;
- Total cyanide;
- Ammonia nitrogen;
- Total phenols; and
- Total suspended solids (TSS).

No analytes were detected above RCGW-2 Reportable Concentrations.

RECEIVING WATER INFORMATION

On 2 August 2021, Haley & Aldrich collected one surface water sample designated SURFACE WATER-20210802 from upstream of the proposed outfall location into the Charles River (Figure 4), and the sample was submitted to Alpha Analytical for total metals, ammonia, pH, and hardness. Temperature readings were collected in the field. The results of the surface water sampling are summarized in Table II, and a copy of the laboratory data report is included in Appendix B.

EFFLUENT CRITERIA DOCUMENTATION

Groundwater and Receiving Water data were input into the MALimitsBook calculation spreadsheet provided by EPA and used to calculate the effluent criteria for the site. The seven-day-ten-year flow (7Q10) of the receiving water was established using the U.S. Geological Survey (USGS) StreamStats program and confirmed by Massachusetts Department of Environmental Protection (MassDEP) on 21 March 2022. We also confirmed with MassDEP that the dilution factor for the receiving waters is 110. The StreamStats Report, Dilution Factor calculations, and confirmation from MassDEP are included in Appendix C.

A copy of the "EnterData" tab from the provided MALimitsBookRev1 excel file is included in Appendix C. The water quality-based effluent limits (WQBELs) are included for reference in Table I.

DISCHARGE INFORMATION

During construction activities, it will be necessary to perform temporary dewatering to control surface water runoff from groundwater seepage to enable construction in-the-dry. Construction and construction dewatering activities are currently anticipated to be required for a period of approximately 24 months. On average, we estimate effluent discharge rates of about 100 gallons per minute (gpm) or less. Temporary dewatering will be conducted from localized sumps and dewatering wells around the site.

Construction dewatering will include piping and discharging to the storm drains shown on Figure 3. The proposed discharge route and outfall location is shown on Figures 3 and 4.

TREATMENT SYSTEM INFORMATION

An effluent treatment system will be designed and implemented by the Contractor to meet the applicable effluent criteria. Prior to discharge, collected water will be routed through a pH controller, designed to adjust the pH when necessary, and then through a sedimentation tank and bag filters to remove suspended solids and undissolved chemical constituents, as shown on Figure 5.

TREATMENT CHEMICALS AND ADDITIVES

A pH system that can adjust pH will be implemented as required to meet permit discharge requirements. The pH system is designed to raise the pH with sodium hydroxide solution and includes an automatic metered additive feed system with a mix tank, additive feed pumps and setpoint controls that maintain the pH approved by the permit. Potential product information, including chemical formula, safety data sheet (SDS), CAS registry number, manufacturer, and associated hazards, toxicological and ecological information, and manufacturer information, including dosing and metering, are provided in Appendix D. The CAS Registry Numbers for the components of the sodium hydroxide solution are 7732-18-5 (water), 1310-73-2 (sodium hydroxide), and 7647-14-5 (sodium chloride).

The sodium hydroxide will be stored in 55-gallon plastic drums with secondary containment systems in place; a summary of control measures for proper handling and spill prevention is provided in Appendix D. The addition of sodium hydroxide to control pH is a standard treatment for temporary construction dewatering; it is not expected to exceed applicable permit limitations and water quality standards or alter conditions in the receiving water. No additional testing is considered necessary for use of this product or to demonstrate that use of this product will not adversely affect the receiving water since pH is already expected to be a required testing parameter for dewatering effluent.

pH will be automatically and continuously monitored, and additive added only as needed. The specific dosing will be based on the pH of the influent water, but at its maximum, the concentrations of sodium hydroxide would be 220 parts per million (ppm) milligrams per liter (mg/L) based on the calculations provided below:

Worst case scenario: pumping at 150 gallons per minute (gpm) and using 48 gallons of sodium hydroxide per day (based on a 2 gal/hr metering rate).

150 gpm = 216,000 gal/day
Sodium Hydroxide use (one day) = 48 gal/day
48 gal / 216,000 gal = 2.22 x 10-4 gal
2.22 x 10-4 gal * 100% = 0.022%
1% = 10,000 ppm, therefore;
0.022% * 10,000 ppm = 220 ppm (220 mg/L)

The EC50 for sodium hydroxide for fish is 340.7 – 469.2 mg/L (ppm) as listed on the provided SDS. Even at a worst-case scenario, the addition of sodium hydroxide is less than the EC50.

If deemed necessary to meet effluent criteria, additional treatment including granular activated carbon (GAC) and/or ion exchange may be added to the treatment system. If additional treatment is needed to meet necessary effluent limits or if the specifics of the pH adjustment change before or during dewatering, a Notice of Change (NOC) will be submitted to the EPA for review, including proposed product information (e.g., Safety Data Sheets, associated hazards, manufacturer, and proper system operation, etc.).

DOCUMENTATION OF NATIONAL HISTORIC PRESERVATION ACT ELIGIBILITY REQUIREMENTS

Based on a review of the resources provided by the U.S. National Register of Historic Places and a review of the Massachusetts Cultural Resource Information System (MACRIS), no historic properties have been established to be present at the project site, and discharges and discharge-related activities are not considered to have the potential to affect historic properties. The discharge is considered to meet Criterion A. Documentation is included in Appendix E.

DETERMINATION OF ENDANGERED SPECIES ACT ELIGIBILITY

According to the guidelines outlined in Appendix I of the 2017 NPDES RGP, a preliminary determination for the action area associated with this project was established using the U.S. Fish and Wildlife Service (FWS) Information for Planning and Consultation (IPaC) online system; a copy of the determination is attached in Appendix F. Based on the results of the determination, we have evaluated the site meets FWS Criterion A.

Monarch Butterflies are listed on the IPaC as a "Candidate" for Endangered Species. However, the official status of the Monarch Butterfly at the time of this filing is not endangered or threatened, and the site is a developed parcel with only paved open space, is located in an urban, commercial, and industrial area, and has no open green space or protected open space within a 0.5-mile radius of the site (see the Phase I Site Assessment Map in Appendix F); therefore, we have evaluated the site meets FWS Criterion A. Additionally, it is not anticipated that discharge activities would have an adverse effect on the Monarch Butterfly, as discharge pumping will be primarily performed through wells or localized sumps and will be discharged into existing catch basins and stormwater conveyance systems.

SUPPLEMENTAL INFORMATION

An application for temporary construction dewatering is being submitted concurrently to the Boston Water and Sewer Commission (BWSC); a copy of this application is provided in Appendix G. Approval will be received prior to the start of discharge.

As this site is not located within an active MCP Disposal Site, a WM15 Transmittal Form and $500 fee have been submitted to MassDEP concurrently with this application.

A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, will be available at the site and is included in Appendix H.

Owner and Operator Information

Owner:
Allston Yards Parcel B Developer LLC
75 Park Plaza, 3rd Floor
Boston, Massachusetts 02216
Attn: Risa Meyers

Operator:
Turner Construction
2 Seaport Lane
Boston, Massachusetts 02210
Attn: James Delaney

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.

Amelia E. Midgley
Staff Geologist

Douglas M. Lindsay, PG (NH), LSP
Senior Project Manager | Associate

Attachments:

Table I – Summary of Groundwater Quality Data
Table II – Summary of Surface Water Quality Data
Figure 1 – Project Locus
Figure 2 – Site and Subsurface Exploration Location Plan
Figures 3 and 4 – BWSC Maps
Figure 5 – Proposed Treatment System Schematic
Appendix A – Notice of Intent (NOI) and WM15 Transmittal
Appendix B – Laboratory Data Reports
Appendix C – Dilution Factor and Effluent Limit Calculations
Appendix D – Contractor's Dewatering System
Appendix E – National Register of Historic Places Documentation
Appendix F – Endangered Species Act Documentation
Appendix G – Copy of BWSC Permit Application
Appendix H – Best Management Practices Plan (BMPP)

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TABLES

TABLE I
SUMMARY OF GROUNDWATER QUALITY RESULTS
ALLSTON YARDS - 400 GUEST STREET
ALLSTON, MA
FILE NO. 134110-100

	Regulatory Criteria				
Location Name	MCP	MA RGP	HA16-3(OW)-BldgB	MW-1-BldgB	MW-2-BldgB
Sample Name	Reportable	Freshwater	HA16-3(OW)-20210802	MW-1-20210802	MW-2-20210802
Sample Date	Concentration	WQBEL	08/02/2021	08/02/2021	08/02/2021
Lab Sample ID	RCGW-2	2017	L2141286-01	L2141285-01	L2141285-02
Volatile Organic Compounds (ug/L)					
1,1,1,2-Tetrachloroethane	10	NA	-	ND (1)	ND (1)
1,1,1-Trichloroethane	4000	200	ND (2)	5.9	5.9
1,1,2,2-Tetrachloroethane	9	NA	-	ND (1)	ND (1)
1,1,2-Trichloroethane	900	5	ND (1.5)	ND (1)	ND (1)
1,1-Dichloroethane	2000	70	ND (1.5)	5.3	11
1,1-Dichloroethene	80	3.2	ND (1)	ND (1)	1.8
1,1-Dichloropropene	NA	NA	-	ND (2)	ND (2)
1,2,3-Trichlorobenzene	NA	NA	-	ND (2)	ND (2)
1,2,3-Trichloropropane	10000	NA	-	ND (2)	ND (2)
1,2,4-Trichlorobenzene	200	NA	-	ND (2)	ND (2)
1,2,4-Trimethylbenzene	100000	NA	-	ND (2)	ND (2)
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	-	ND (2)	ND (2)
1,2-Dibromoethane (Ethylene Dibromide)	2	0.05	ND (0.01)	ND (2)	ND (2)
1,2-Dichlorobenzene	2000	600	ND (5)	ND (1)	ND (1)
1,2-Dichloroethane	5	5	ND (1.5)	ND (1)	ND (1)
1,2-Dichloroethene (total)	100	NA	-	ND (1)	2.6
1,2-Dichloropropane	3	NA	-	ND (1)	ND (1)
1,3,5-Trimethylbenzene	1000	NA	-	ND (2)	ND (2)
1,3-Dichlorobenzene	6000	320	ND (5)	ND (1)	ND (1)
1,3-Dichloropropane	NA	NA	-	ND (2)	ND (2)
1,3-Dichloropropene	10	NA	-	ND (0.4)	ND (0.4)
1,4-Dichlorobenzene	60	5	ND (5)	ND (1)	ND (1)
1,4-Dioxane	6000	200	-	ND (250)	ND (250)
2,2-Dichloropropane	NA	NA	-	ND (2)	ND (2)
2-Butanone (Methyl Ethyl Ketone)	50000	NA	-	ND (5)	ND (5)
2-Chlorotoluene	NA	NA	-	ND (2)	ND (2)
2-Hexanone	10000	NA	-	ND (5)	ND (5)
2-Phenylbutane (sec-Butylbenzene)	NA	NA	-	ND (2)	ND (2)
4-Chlorotoluene	NA	NA	-	ND (2)	ND (2)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	50000	NA	-	ND (5)	ND (5)
Acetone	50000	7970	ND (10)	ND (5)	ND (5)
Benzene	1000	5	ND (1)	ND (0.5)	ND (0.5)
Bromobenzene	NA	NA	-	ND (2)	ND (2)
Bromodichloromethane	6	NA	-	ND (1)	ND (1)
Bromoform	700	NA	-	ND (2)	ND (2)
Bromomethane (Methyl Bromide)	7	NA	-	ND (2)	ND (2)
Carbon disulfide	10000	NA	-	ND (2)	ND (2)
Carbon tetrachloride	2	1.6	ND (1)	ND (1)	ND (1)
Chlorobenzene	200	NA	-	1.2	8.7
Chlorobromomethane	NA	NA	-	ND (2)	ND (2)
Chloroethane	10000	NA	-	ND (2)	ND (2)
Chloroform (Trichloromethane)	50	NA	-	ND (1)	ND (1)
Chloromethane (Methyl Chloride)	10000	NA	-	ND (2)	ND (2)
cis-1,2-Dichloroethene	20	70	ND (1)	ND (1)	2.6
cis-1,3-Dichloropropene	5	NA	-	ND (0.4)	ND (0.4)
Cymene (p-Isopropyltoluene)	10000	NA	-	ND (2)	ND (2)
Dibromochloromethane	20	NA	-	ND (1)	ND (1)
Dibromomethane	50000	NA	-	ND (2)	ND (2)
Dichlorodifluoromethane (CFC-12)	100000	NA	-	ND (2)	ND (2)
Diisopropyl ether (DIPE)	NA	NA	-	ND (2)	ND (2)
Ethyl Ether	NA	NA	-	ND (2)	ND (2)
Ethylbenzene	5000	100	ND (1)	ND (1)	ND (1)
Hexachlorobutadiene	50	NA	-	ND (0.6)	ND (0.6)
Isopropylbenzene (Cumene)	100000	NA	-	ND (2)	ND (2)
m,p-Xylenes	NA	100	ND (2)	ND (2)	ND (2)
Methyl Tert Butyl Ether (MTBE)	5000	20	ND (10)	ND (2)	ND (2)
Methylene chloride	2000	4.6	ND (1)	ND (2)	ND (2)
Naphthalene	700	20	-	ND (2)	ND (2)
n-Butylbenzene	NA	NA	-	ND (2)	ND (2)
n-Propylbenzene	10000	NA	-	ND (2)	ND (2)
o-Xylene	NA	100	ND (1)	ND (1)	ND (1)
Styrene	100	NA	-	ND (1)	ND (1)
Tert-Amyl Methyl Ether (TAME)	NA	90	ND (20)	ND (2)	ND (2)
Tert-Butyl Alcohol (tert-Butanol)	NA	120	ND (100)	-	-
Tert-Butyl Ethyl Ether (ETBE)	NA	NA	-	ND (2)	ND (2)
tert-Butylbenzene	10000	NA	-	ND (2)	ND (2)
Tetrachloroethene	50	3.3	ND (1)	ND (1)	ND (1)
Tetrahydrofuran	50000	NA	-	ND (2)	ND (2)
Toluene	40000	100	ND (1)	ND (1)	ND (1)
trans-1,2-Dichloroethene	80	NA	-	ND (1)	ND (1)
trans-1,3-Dichloropropene	5	NA	-	ND (0.4)	ND (0.4)
Trichloroethene	5	5	ND (1)	ND (1)	1.9
Trichlorofluoromethane (CFC-11)	100000	NA	-	ND (2)	ND (2)
Vinyl chloride	2	2	ND (1)	ND (1)	ND (1)
Xylene (total)	3000	100	ND (1)	ND (1)	ND (1)

TABLE I
SUMMARY OF GROUNDWATER QUALITY RESULTS
ALLSTON YARDS - 400 GUEST STREET
ALLSTON, MA
FILE NO. 134110-100

	Regulatory Criteria				
Location Name	MCP	MA RGP	HA16-3(OW)-BldgB	MW-1-BldgB	MW-2-BldgB
Sample Name	Reportable	Freshwater	HA16-3(OW)-20210802	MW-1-20210802	MW-2-20210802
Sample Date	Concentration	WQBEL	08/02/2021	08/02/2021	08/02/2021
Lab Sample ID	RCGW-2	2017	L2141286-01	L2141285-01	L2141285-02
Volatile Organic Compounds SIM (ug/L)					
1,4-Dioxane	6000	200	ND (5)	-	-
Semi-Volatile Organic Compounds (ug/L)					
bis(2-Ethylhexyl)phthalate	50000	2.2	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)	-	-
Semi-Volatile Organic Compounds (SIM) (ug/L)					
Acenaphthene	6000	100	ND (0.1)	-	-
Acenaphthylene	40	100	ND (0.1)	-	-
Anthracene	30	100	ND (0.1)	-	-
Benzo(a)anthracene	1000	0.0038	ND (0.1)	-	-
Benzo(a)pyrene	500	0.0038	ND (0.1)	-	-
Benzo(b)fluoranthene	400	0.0038	ND (0.1)	-	-
Benzo(g,h,i)perylene	20	100	ND (0.1)	-	-
Benzo(k)fluoranthene	100	0.0038	ND (0.1)	-	-
Chrysene	70	0.0038	ND (0.1)	-	-
Dibenz(a,h)anthracene	40	0.0038	ND (0.1)	-	-
Fluoranthene	200	100	ND (0.1)	-	-
Fluorene	40	100	ND (0.1)	-	-
Indeno(1,2,3-cd)pyrene	100	0.0038	ND (0.1)	-	-
Naphthalene	700	20	ND (0.1)	-	-
Pentachlorophenol	200	1	ND (1)	-	-
Phenanthrene	10000	100	ND (0.1)	-	-
Pyrene	20	100	ND (0.1)	-	-
Total Petroleum Hydrocarbons (mg/L)					
Ethanol	NA	NA	ND (20)	-	-
Petroleum hydrocarbons	5	5	ND (4)	-	-
Inorganic Compounds (mg/L)					
Antimony, Total	8	0.64	ND (0.004)	-	-
Arsenic, Total	0.9	0.01	ND (0.001)	-	-
Cadmium, Total	0.004	0.00025	0.00024	-	-
Chromium, Total	0.3	NA	ND (0.001)	-	-
Chromium III (Trivalent), Total	0.6	0.074	ND (0.01)	-	-
Chromium VI (Hexavalent), Dissolved	0.3	0.011	ND (0.01)	-	-
Copper, Total	100	0.009	**0.00963**	-	-
Iron, Total	NA	1	ND (0.05)	-	-
Lead, Total	0.01	0.0025	ND (0.001)	-	-
Mercury, Total	0.02	0.00077	ND (0.0002)	-	-
Nickel, Total	0.2	0.052	0.00278	-	-
Selenium, Total	0.1	0.005	ND (0.005)	-	-
Silver, Total	0.007	0.0032	ND (0.0004)	-	-
Zinc, Total	0.9	0.12	0.0114	-	-
Other					
Ammonia, Total (mg/L)	NA	Report only	0.306	-	-
Chloride, Total (mg/L)	NA	Report only	448	-	-
Chlorine, residual, Total (mg/L)	NA	0.011	ND (0.02)	-	-
Cyanide, Total (mg/L)	0.03	0.0052	ND (0.005)	-	-
Hardness, Total (mg/L)	NA	NA	104	-	-
Total Phenols (mg/L)	NA	0.3	ND (0.03)	-	-
Total Suspended Solids (TSS) (mg/L)	NA	30	ND (5)	-	-
pH (field), Total (pH units)	NA	6.5 to 8.3	**6.01**	-	-
PCBs (ug/L)					
Aroclor-1016 (PCB-1016)	5	6.40E-05	ND (0.25)	-	-
Aroclor-1221 (PCB-1221)	5	6.40E-05	ND (0.25)	-	-
Aroclor-1232 (PCB-1232)	5	6.40E-05	ND (0.25)	-	-
Aroclor-1242 (PCB-1242)	5	6.40E-05	ND (0.25)	-	-
Aroclor-1248 (PCB-1248)	5	6.40E-05	ND (0.25)	-	-
Aroclor-1254 (PCB-1254)	5	6.40E-05	ND (0.25)	-	-
Aroclor-1260 (PCB-1260)	5	6.40E-05	ND (0.2)	-	-

ABBREVIATIONS AND NOTES:
-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit

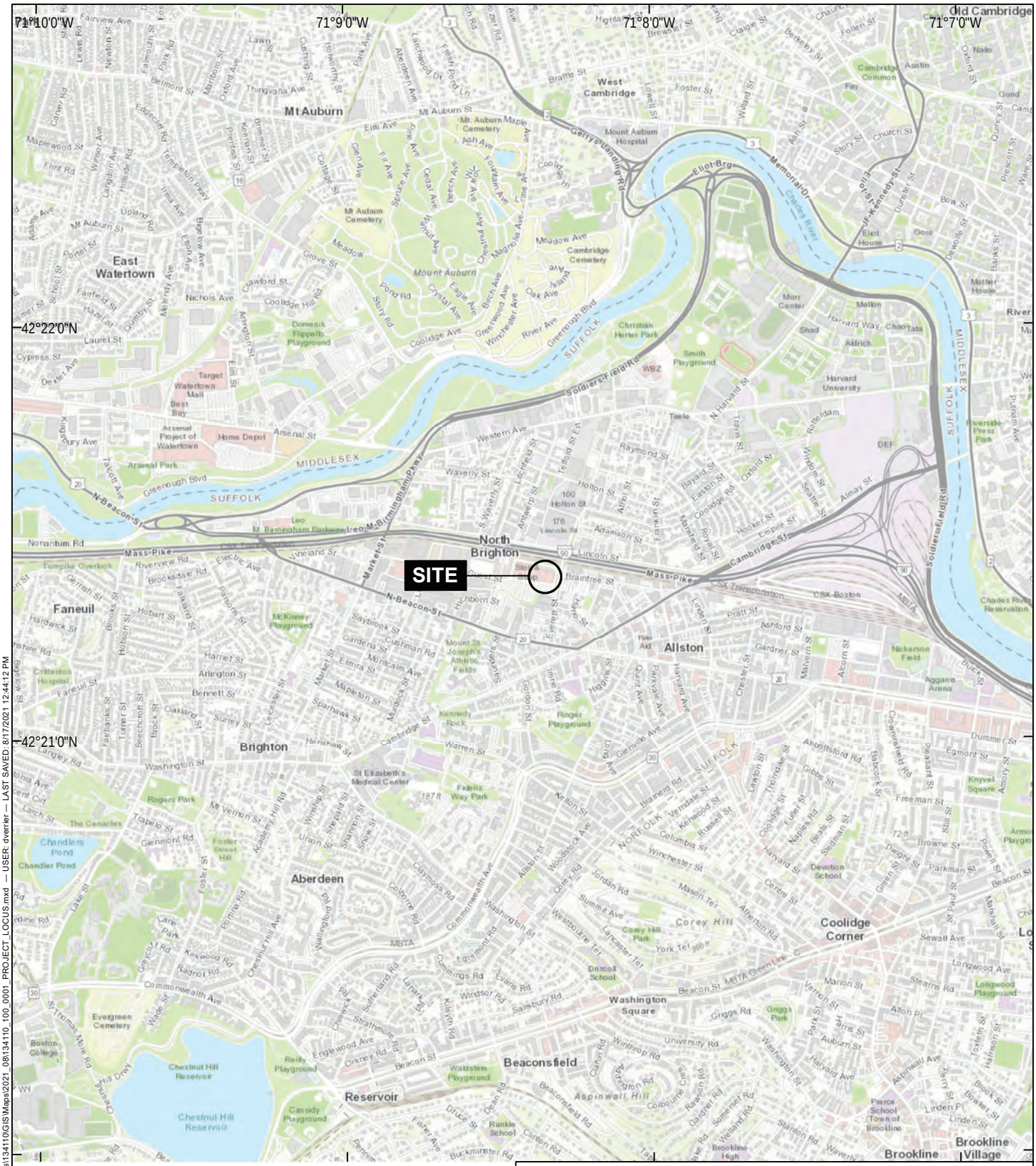
- **Bold** values indicate an exceedance of the RCGW-2 criteria.
- **Red bold** values indicate an exceedance of NPDES Freshwater WQBEL criteria.
- Groundwater samples analyzed for dissolved metals were filtered in the field with a 0.45 micrometer filter.

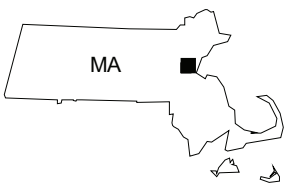
TABLE II
SUMMARY OF SURFACE WATER QUALITY RESULTS
ALLSTON YARDS - 400 GUEST STREET
ALLSTON, MA
FILE NO. 134110-100

	Location Name	SURFACE WATER-BldgB
	Sample Name	SURFACE WATER-20210802
	Sample Date	08/02/2021
	Lab Sample ID	L2141289-01
Inorganic Compounds (mg/L)		
Antimony, Total		ND (0.04)
Arsenic, Total		ND (0.01)
Cadmium, Total		ND (0.002)
Chromium, Total		ND (0.01)
Chromium III (Trivalent), Total		ND (0.01)
Chromium VI (Hexavalent), Dissolved		ND (0.01)
Copper, Total		ND (0.01)
Iron, Total		1.12
Lead, Total		ND (0.01)
Mercury, Total		ND (0.0002)
Nickel, Total		ND (0.02)
Selenium, Total		ND (0.05)
Silver, Total		ND (0.004)
Zinc, Total		ND (0.1)
Other		
Ammonia, Total (mg/L)		0.092
Hardness, Total (mg/L)		61.6
Temperature (field), (C)		23.4
pH (lab), Total (pH units)		6.8

ABBREVIATIONS AND NOTES:
-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
- Groundwater samples analyzed for dissolved metals were filtered in the field with a 0.45 micrometer filter

FIGURES





MAP SOURCE: ESRI
SITE COORDINATES: 42°21'23"N, 71°08'21"W

HALEY ALDRICH

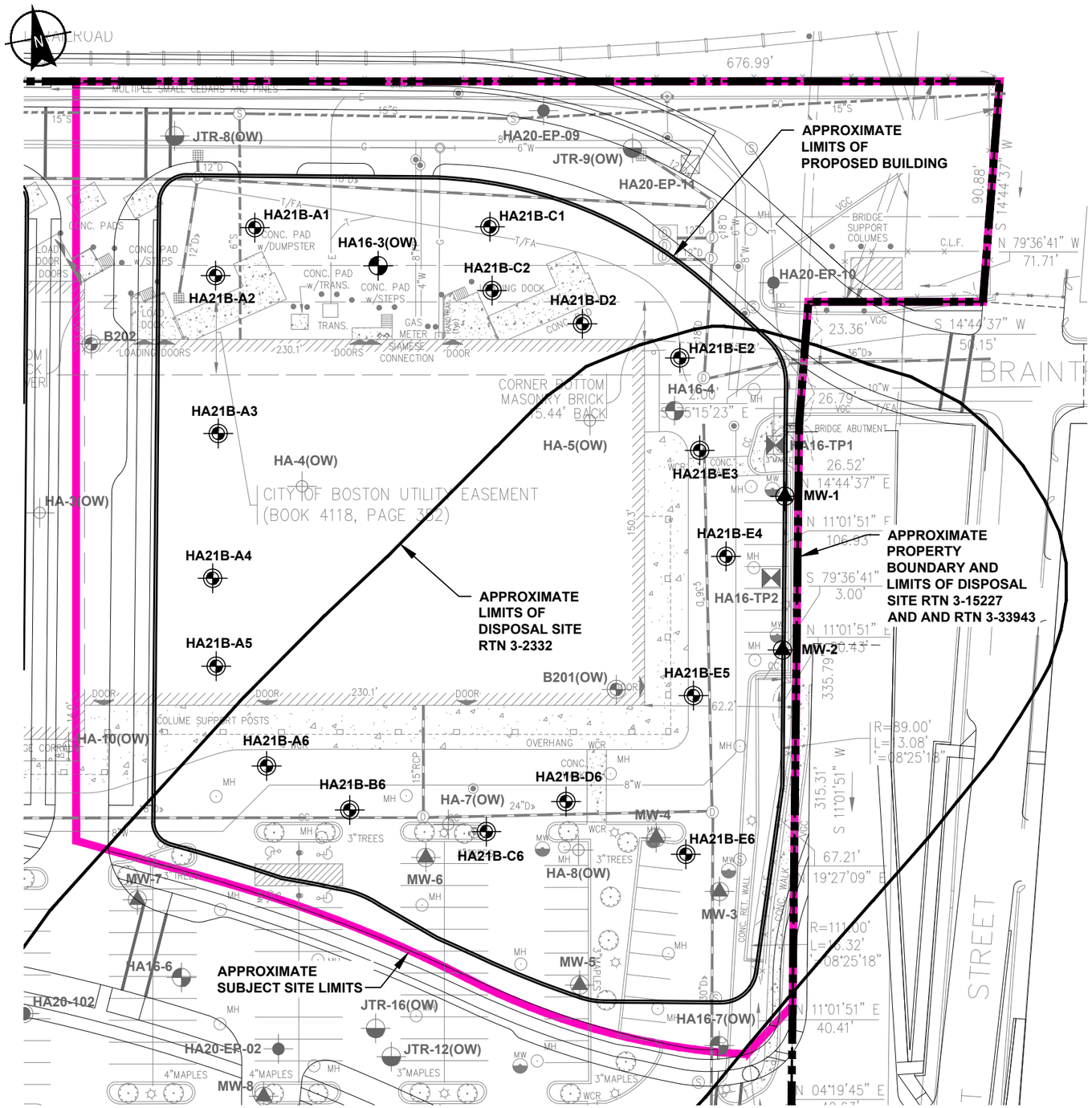
ALLSTON YARDS
400 GUEST STREET
ALLSTON, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
MARCH 2022

FIGURE 1

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\134110\GIS Maps\2021_08\134110_100_0001_PROJECT_LOCUS.mxd — USER: dverrier — LAST SAVED: 8/17/2021 12:44:12 PM



LEGEND

HA21B-A1	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE EXPLORATION CONDUCTED BY G&M SUBSURFACE FOR HALEY & ALDRICH BETWEEN 22 AND 27 JULY 2021
HA20-EP-11	DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXPLORATION CONDUCTED BY DW WHITE FOR HALEY & ALDRICH ON 18 AND 19 AUGUST 2020
HA20-EP-01	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE EXPLORATION CONDUCTED BY G&M SUBSURFACE FOR HALEY & ALDRICH BETWEEN 15 AND 16 JULY 2020
HA20-101	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS, INC. FOR HALEY & ALDRICH IN MAY AND JUNE 2020
HA16-TP1	DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY THE JAMES W. FLETT COMPANY ON 11 JULY 2016
HA16-1(OW)	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS IN JUNE 2016
MW-1	DESIGNATION AND APPROXIMATE LOCATION OF MONITORING WELL INSTALLED BY GUILD DRILLING COMPANY IN MAY 1998. SOME OF THE WELLS MAY NO LONGER EXIST.
B202	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY GUILD DRILLING INC. IN MARCH 1997
HA-1(OW)	DESIGNATION AND APPROXIMATE LOCATION OF GEOPROBE EXPLORATION CONDUCTED BY ZEBRA ENVIRONMENTAL CORP. FOR HALEY & ALDRICH, INC. IN DECEMBER 1994
JTR-1(OW)	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY ENVIRONMENTAL DRILLING INC. FOR WHITMAN & HOWARD INC. BETWEEN MARCH AND JUNE 1994
(OW)	INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE

NOTES

1. BASE PLAN TAKEN FROM DRAWING TITLED "EXISTING CONDITIONS PLAN OF LAND, STOP AND SHOP, 60 EVERETT STREET ALLSTON/BRIGHTON, MASSACHUSETTS", DATED 22 SEPTEMBER 2000, PREPARED BY VANASSE HANGEN BRUSTLIN, INC.
2. PROPOSED BUILDING LAYOUT TAKEN FROM AN ELECTRONIC FILE TILED "stn_arch_ AllstonYards _v2019-Sheet - A-100-P2 - LEVEL P2.dwg", PROVIDED BY VHB, INC. ON 14 APRIL 2020.
3. PROPOSED STREET LAYOUT TAKEN FROM AN ELECTRONIC FILE TITLED "12305.00_Building A_LM.dwg", PROVIDED BY VHB, INC. ON 9 APRIL 2020.

0 50 100
SCALE IN FEET

HALEY ALDRICH

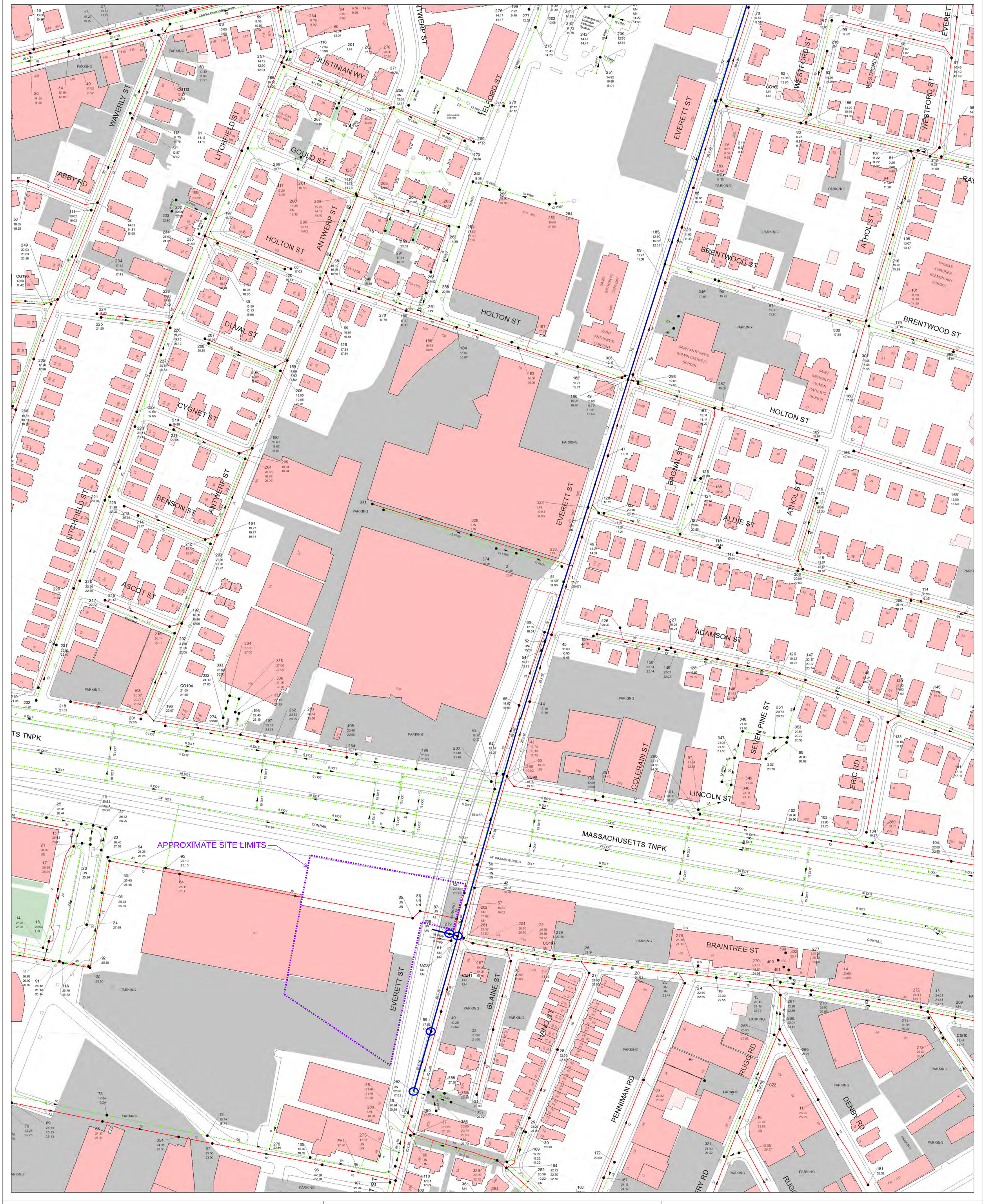
ALLSTON YARDS
400 GUEST STREET
ALLSTON, MASSACHUSETTS

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN

SCALE: AS SHOWN
MARCH 2022

FIGURE 2

ERVIN, DAYNA Printed:10/19/2021 12:43 PM Layout: B049
J:\GRAPHICS\134110\134110-100-B049.DWG



BOSTON WATER AND SEWER

N
W E
S

0 100 200 400 600 800
Feet

PROPOSED CATCH BASIN

PROPOSED DISCHARGE ROUTE

HALEY ALDRICH

ALLSTON YARDS
400 GUEST STREET
ALLSTON, MASSACHUSETTS

FIGURE 3

PROPOSED OUTFALL LOCATION

MCDONALD AV
EVERETT ST
WESTERN AV
SPEEDWAY AV
WESTFORD ST
EVERETT SQ
RIVERDALE ST
TELFORD ST
ANTWERP ST
JUSTINIAN WY
GOULD ST
HOLTON ST
BRENTWOOD ST
RAYMOND ST
ATHOL ST
HOLMES ST
MEAD ST
APPIAN WY
FRANKLIN ST
MYRICK ST
FERN ST
EASTON ST
BRADBURY ST
ALDIE ST
BAGNAL ST
DUVAL ST
PARKING
Charles Relief Sewer
Charles River Valley Sewer
91 x 108 MWRA
Underground Drainage Detention System
RECHARGE SYSTEM
McDonalds
SAINT ANTHONY'S ROMAN CATHOLIC CHURCH
SAINT ANTHONY'S CONVENT
THOMAS GARDNER ELEMENTARY SCHOOL
WCP106
WCP110
WCP111

BOSTON WATER AND SEWER

N W E S

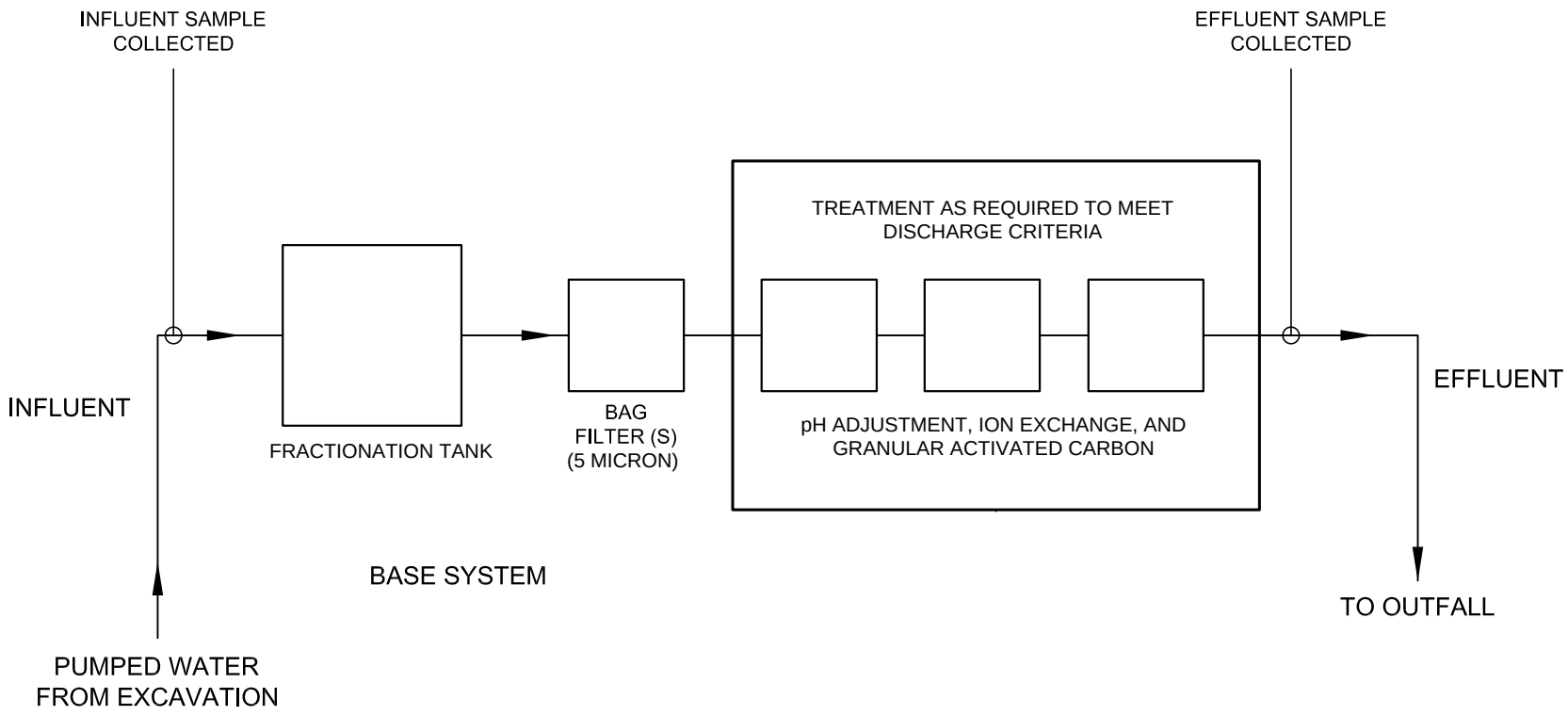
0 100 200 400 600 800
Feet

PROPOSED DISCHARGE ROUTE

HALEY ALDRICH

ALLSTON YARDS
400 GUEST STREET
ALLSTON, MASSACHUSETTS

FIGURE 4



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

ALLSTON YARDS
400 GUEST STREET
ALLSTON, MASSACHUSETTS

PROPOSED TREATMENT SYSTEM SCHEMATIC

SCALE: NONE
MARCH 2022

FIGURE 5

APPENDIX A
Notice of Intent (NOI) and WM15 Transmittal

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:
Allston Yards - 400 Guest Street</td><td colspan="3">Site address: 400
Street: Guest Street</td></tr>
<tr><td>City: Allston</td><td>State: MA</td><td>Zip: 02135</td></tr>
<tr><td rowspan="4">2. Site owner
Allston Yards Parcel B Developer LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Risa Meyers</td></tr>
<tr><td colspan="2">Telephone: 6172439052</td><td>Email: RMeyers@NEDevelopment.com</td></tr>
<tr><td colspan="3">Mailing address: 75
Street: Park Plaza, 3rd Floor</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02216</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Turner Construction Company</td><td colspan="3">Contact Person: James Delaney</td></tr>
<tr><td colspan="2">Telephone: 617-592-2331</td><td>Email: jpdelaney@tcco.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 2 Seaport Lane</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02110</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
Not applicable

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): 3-33943
☐ 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):
Charles River	MA72-36	Class B, CSO

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. Listed on State's Integrated List of Waters. See next page attached for impaired designated uses/pollutants. Final TMDL for Pathogens, Nutrients.

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.	15.7 MGD
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.	110

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: 3/21/2022

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:

Waterbody	AU_ID	Description	Size	Units	Impairment	ATTAINS Action ID
Charles River	MA72-36	From Watertown Dam (NATID: MA00456), Watertown to the Boston University Bridge, Boston/Cambridge (formerly part of 2006 segment: Charles River MA72-08).	6.10	Miles	(Fish Passage Barrier*)	
					(Flow Regime Modification*)	
					(Non-Native Fish/Shellfish/Zooplankton*)	
					(Water Chestnut*)	
					Chlorophyll-a	33826
					DDT in Fish Tissue	
					Dissolved Oxygen	
					Escherichia Coli (E. Coli)	32371
					Fish Bioassessments	
					Harmful Algal Blooms	33826
					Nutrient/Eutrophication Biological Indicators	33826
					Oil and Grease	
					PCBs in Fish Tissue	
					pH, High	
					Phosphorus, Total	33826
					Sediment Bioassay [Acute Toxicity Freshwater]	
					Transparency / Clarity	33826
					Unspecified Metals in Sediment	

Source: https://www.mass.gov/doc/final-massachusetts-integrated-list-of-waters-for-the-clean-water-act-20182020-reporting-cycle/download

2. Source water contaminants: see attached the Table I for detected source water contaminants	
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): CG133	Outfall location(s): (Latitude, Longitude) N 42.364751, W 71.138276
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Discharge to Charles River via BWSC stormwater conveyance lines ☐ 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 is being submitted; approval will be received prior to the start of discharge. 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): October 2022 through October 2024 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="4">☐ 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>

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		✓	1	4500NH3	75	306	306	Report mg/L	---
Chloride		✓	1	300	12.5	448	448	Report µg/l	---
Total Residual Chlorine	✓		1	4500CL	20	0	0	0.2 mg/L	
Total Suspended Solids	✓		1	2540D	5000	0	0	30 mg/L	---
Antimony	✓		1	200.8	4	0	0	206 µg/L	
Arsenic	✓		1	200.8	1	0	0	104 µg/L	
Cadmium		✓	1	200.8	0.2	0.24	0.24	10.2 µg/L	
Chromium III	✓		1	107	10	0	0	323 µg/L	
Chromium VI			1	7196A	10	0	0	323 µg/L	
Copper		✓	1	200.8	1	9.63	9.63	242 µg/L	
Iron	✓		1	200.8	50	0	0	5,000 µg/L	
Lead	✓		1	200.8	1	0	0	160 µg/L	
Mercury	✓		1	245.1	0.2	0	0	0.739 µg/L	
Nickel		✓	1	200.8	2	2.78	2.78	1,450 µg/L	
Selenium	✓		1	200.8	5	0	0	235.8 µg/L	
Silver	✓		1	200.8	0.4	0	0	35.1 µg/L	
Zinc		✓	1	200.8	10	11.4	11.4	420 µg/L	
Cyanide	✓		1	4500CN	5	0	0	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✓		3	624.1	1	0	0	100 µg/L	---
Benzene	✓		3	624.1	1	0	0	5.0 µg/L	---
1,4 Dioxane	✓		1	624.1	5	0	0	200 µg/L	---
Acetone	✓		1	624.1	10	0	0	7.97 mg/L	---
Phenol	✓		1	420.1	30	0	0	1,080 µg/L	

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	✔		3	624.1	1	0	0	4.4 µg/L	
1,2 Dichlorobenzene	✔		3	624.1	1	0	0	600 µg/L	---
1,3 Dichlorobenzene	✔		3	624.1	1	0	0	320 µg/L	---
1,4 Dichlorobenzene	✔		3	624.1	1	0	0	5.0 µg/L	---
Total dichlorobenzene	✔		3	624.1	1	0	0	763 µg/L in NH	---
1,1 Dichloroethane		✔	3	624.1	1.5	11	5.9	70 µg/L	---
1,2 Dichloroethane	✔		3	624.1	1	0	0	5.0 µg/L	---
1,1 Dichloroethylene		✔	3	624.1	1	1.8	1.3	3.2 µg/L	---
Ethylene Dibromide	✔		3	624.1	0.01	0	0	0.05 µg/L	---
Methylene Chloride	✔		3	624.1	1	0	0	4.6 µg/L	---
1,1,1 Trichloroethane		✔	3	624.1	2	5.9	4.6	200 µg/L	---
1,1,2 Trichloroethane	✔		3	624.1	1	0	0	5.0 µg/L	---
Trichloroethylene		✔	3	624.1	1	1.9	1.3	5.0 µg/L	---
Tetrachloroethylene	✔		3	624.1	1	0	0	5.0 µg/L	
cis-1,2 Dichloroethylene		✔	3	624.1	1	2.6	1.5	70 µg/L	---
Vinyl Chloride	✔		3	624.1	1	0	0	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	625.1	5	0	0	190 µg/L	
Diethylhexyl phthalate	✔		1	625.1	2.2	0	0	101 µg/L	
Total Group I PAHs	✔		1	625.1	0.1	0	0	1.0 µg/L	---
Benzo(a)anthracene	✔		1	625.1	0.1	0	0	As Total PAHs	
Benzo(a)pyrene	✔		1	625.1	0.1	0	0		
Benzo(b)fluoranthene	✔		1	625.1	0.1	0	0		
Benzo(k)fluoranthene	✔		1	625.1	0.1	0	0		
Chrysene	✔		1	625.1	0.1	0	0		
Dibenzo(a,h)anthracene	✔		1	625.1	0.1	0	0		
Indeno(1,2,3-cd)pyrene	✔		1	625.1	0.1	0	0		

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	✔		1	625.1	0.1	0	0	100 µg/L	---
Naphthalene	✔		1	625.1	0.1	0	0	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		1	608.3	0.25	0	0	0.000064 µg/L	---
Pentachlorophenol	✔		1	625.1 SIM	1	0	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	1664A	4000	0	0	5.0 mg/L	---
Ethanol	✔		1	1671A	20000	0	0	Report mg/L	---
Methyl-tert-Butyl Ether	✔		3	624.1	2	0	0	70 µg/L	
tert-Butyl Alcohol	✔		1	624.1	100	0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		3	624.1	2	0	0	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		✔	1	200.7	0.66	104	104		
PH (Field)		✔	1	-	-	6.1	6.1		

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:
pH adjustment

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.
Construction dewatering influent will be routed through a sedimentation tank followed by bag filters prior to discharge.

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: pH adjustment

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: flowmeter Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	250
Provide the proposed maximum effluent flow in gpm.	150
Provide the average effluent flow in gpm.	100
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:
pH conditioners

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

Refer to attached Haley & Aldrich letter
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)).

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

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 ■ No

I. Supplemental information

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

Refer to attached Haley & Aldrich 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 ☐
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 ■
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: James Delaney	Date: 3/28/22
Print Name and Title: James Delaney, Site Superintendent	

APPENDIX B
Laboratory Data Reports

ANALYTICAL REPORT

Lab Number:	L2141285
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Elizabeth Christmas
Phone:	(617) 886-7581
Project Name:	ALLSTON YARDS-BUILDING B
Project Number:	134110-100
Report Date:	08/05/21

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: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141285
Report Date: 08/05/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2141285-01	MW-1	WATER	ALLSTON, MA	08/02/21 10:25	08/02/21
L2141285-02	MW-2	WATER	ALLSTON, MA	08/02/21 09:10	08/02/21

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141285
Project Number:	134110-100	**Report Date:**	08/05/21

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141285
Project Number:	134110-100	**Report Date:**	08/05/21

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:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141285
Project Number:	134110-100	**Report Date:**	08/05/21

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

L2141285-01 and -02: The pH of the sample was greater than two; however, the sample was analyzed within the method required holding time.

In reference to question H:

L2141285-01 and -02: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0015)

Average Response Factor: 1,4-dioxane

L2141285-01 and -02: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

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: Michelle M. Morris

Title: Technical Director/Representative Date: 08/05/21

QC OUTLIER SUMMARY REPORT

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141285
Report Date: 08/05/21

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

ORGANICS

VOLATILES

Project Name: ALLSTON YARDS-BUILDING B
Lab Number: L2141285
Project Number: 134110-100
Report Date: 08/05/21

SAMPLE RESULTS

Lab ID: L2141285-01
Client ID: MW-1
Sample Location: ALLSTON, MA

Date Collected: 08/02/21 10:25
Date Received: 08/02/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 08/04/21 07:26
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	5.3		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	1.2		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	5.9		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141285

Project Number: 134110-100 **Report Date:** 08/05/21

SAMPLE RESULTS

Lab ID: L2141285-01 Date Collected: 08/02/21 10:25
Client ID: MW-1 Date Received: 08/02/21
Sample Location: ALLSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	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
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141285

Project Number: 134110-100 **Report Date:** 08/05/21

SAMPLE RESULTS

Lab ID: L2141285-01 Date Collected: 08/02/21 10:25

Client ID: MW-1 Date Received: 08/02/21

Sample Location: ALLSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	105		70-130

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141285

Project Number: 134110-100 **Report Date:** 08/05/21

SAMPLE RESULTS

Lab ID: L2141285-02 Date Collected: 08/02/21 09:10
Client ID: MW-2 Date Received: 08/02/21
Sample Location: ALLSTON, MA Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 08/04/21 08:06
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	11		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	8.7		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	5.9		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	1.8		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141285

Project Number: 134110-100 **Report Date:** 08/05/21

SAMPLE RESULTS

Lab ID: L2141285-02 Date Collected: 08/02/21 09:10

Client ID: MW-2 Date Received: 08/02/21

Sample Location: ALLSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	1.9		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	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
cis-1,2-Dichloroethene	2.6		ug/l	1.0	--	1
1,2-Dichloroethene, Total	2.6		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141285

Project Number: 134110-100 **Report Date:** 08/05/21

SAMPLE RESULTS

Lab ID: L2141285-02 Date Collected: 08/02/21 09:10

Client ID: MW-2 Date Received: 08/02/21

Sample Location: ALLSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	101		70-130

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141285

Project Number: 134110-100 **Report Date:** 08/05/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/04/21 06:05
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1531379-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141285

Project Number: 134110-100 **Report Date:** 08/05/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/04/21 06:05
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1531379-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141285

Project Number: 134110-100 **Report Date:** 08/05/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/04/21 06:05
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG1531379-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141285

Report Date: 08/05/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1531379-3 WG1531379-4								
Methylene chloride	99		98		70-130	1		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		95		70-130	5		20
Carbon tetrachloride	98		91		70-130	7		20
1,2-Dichloropropane	93		95		70-130	2		20
Dibromochloromethane	86		86		70-130	0		20
1,1,2-Trichloroethane	90		92		70-130	2		20
Tetrachloroethene	110		99		70-130	11		20
Chlorobenzene	95		94		70-130	1		20
Trichlorofluoromethane	100		88		70-130	13		20
1,2-Dichloroethane	90		90		70-130	0		20
1,1,1-Trichloroethane	99		94		70-130	5		20
Bromodichloromethane	95		94		70-130	1		20
trans-1,3-Dichloropropene	90		92		70-130	2		20
cis-1,3-Dichloropropene	92		90		70-130	2		20
1,1-Dichloropropene	96		90		70-130	6		20
Bromoform	86		86		70-130	0		20
1,1,2,2-Tetrachloroethane	81		82		70-130	1		20
Benzene	98		98		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	98		97		70-130	1		20
Chloromethane	84		86		70-130	2		20
Bromomethane	110		110		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141285

Report Date: 08/05/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1531379-3 WG1531379-4								
Vinyl chloride	110		99		70-130	11		20
Chloroethane	97		98		70-130	1		20
1,1-Dichloroethene	110		100		70-130	10		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	96		92		70-130	4		20
1,3-Dichlorobenzene	96		93		70-130	3		20
1,4-Dichlorobenzene	94		92		70-130	2		20
Methyl tert butyl ether	86		86		70-130	0		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	94		95		70-130	1		20
1,2,3-Trichloropropane	83		82		70-130	1		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	96		80		70-130	18		20
Acetone	76		79		70-130	4		20
Carbon disulfide	110		100		70-130	10		20
Methyl ethyl ketone	70		73		70-130	4		20
Methyl isobutyl ketone	86		84		70-130	2		20
2-Hexanone	73		75		70-130	3		20
Bromochloromethane	98		100		70-130	2		20
Tetrahydrofuran	79		75		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141285
Report Date: 08/05/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1531379-3 WG1531379-4								
2,2-Dichloropropane	99		96		70-130	3		20
1,2-Dibromoethane	91		88		70-130	3		20
1,3-Dichloropropane	89		89		70-130	0		20
1,1,1,2-Tetrachloroethane	92		92		70-130	0		20
Bromobenzene	91		93		70-130	2		20
n-Butylbenzene	91		87		70-130	4		20
sec-Butylbenzene	88		84		70-130	5		20
tert-Butylbenzene	89		83		70-130	7		20
o-Chlorotoluene	92		89		70-130	3		20
p-Chlorotoluene	92		90		70-130	2		20
1,2-Dibromo-3-chloropropane	84		84		70-130	0		20
Hexachlorobutadiene	100		92		70-130	8		20
Isopropylbenzene	87		83		70-130	5		20
p-Isopropyltoluene	90		87		70-130	3		20
Naphthalene	82		79		70-130	4		20
n-Propylbenzene	91		87		70-130	4		20
1,2,3-Trichlorobenzene	92		89		70-130	3		20
1,2,4-Trichlorobenzene	92		90		70-130	2		20
1,3,5-Trimethylbenzene	88		84		70-130	5		20
1,2,4-Trimethylbenzene	87		86		70-130	1		20
Diethyl ether	96		96		70-130	0		20
Diisopropyl Ether	84		86		70-130	2		20
Ethyl-Tert-Butyl-Ether	84		85		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141285

Report Date: 08/05/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG1531379-3 WG1531379-4								
Tertiary-Amyl Methyl Ether	89		87		70-130	2		20
1,4-Dioxane	84		92		70-130	9		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		95		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	96		94		70-130
Dibromofluoromethane	100		96		70-130

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141285
Report Date: 08/05/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141285-01A	Vial Na2S2O3 preserved	B	NA		3.1	Y	Absent		MCP-8260-10(7)
L2141285-01B	Vial Na2S2O3 preserved	B	NA		3.1	Y	Absent		MCP-8260-10(7)
L2141285-01C	Vial Na2S2O3 preserved	B	NA		3.1	Y	Absent		MCP-8260-10(7)
L2141285-02A	Vial Na2S2O3 preserved	B	NA		3.1	Y	Absent		MCP-8260-10(7)
L2141285-02B	Vial Na2S2O3 preserved	B	NA		3.1	Y	Absent		MCP-8260-10(7)
L2141285-02C	Vial Na2S2O3 preserved	B	NA		3.1	Y	Absent		MCP-8260-10(7)

*Values in parentheses indicate holding time in days

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141285
Project Number:	134110-100	**Report Date:**	08/05/21

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.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

Report Format: Data Usability Report

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141285
Project Number:	134110-100	**Report Date:**	08/05/21

Footnotes

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.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

Report Format: Data Usability Report

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141285
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Data Qualifiers

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:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141285
Project Number:	134110-100	**Report Date:**	08/05/21

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
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, SM4500NO2-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, SM9222D.**

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, EPA 537.1.

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

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: 8/2/21

ALPHA Job #: L2141285

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

Project Information

Project Name:	Allston Yards - Building B
Project Location:	Allston, MA
Project #	134110-100
(Use Project name as Project #)	☐
Project Manager:	Elizabeth Christmas, Doug Lindsay
ALPHAQuote #:	10692

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days: 5 Day

Deliverables

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

Billing Information

☑ Same as Client Info
PO #

H&A Information

H&A Client:	New England Development LLC
H&A Address:	465 Medford Street
	Boston, MA 02129
H&A Phone:	617-886-7400
H&A Fax:	echristmas@haleyaldrich.com
H&A Email:	kchatterton@haleyaldrich.com

Regulatory Requirements (Program/Criteria)

MA MCP

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:

~~1. Run TCLP metals - triggered by 20x rule~~

Please specify Metals or TAL.

ANALYSIS: 1. VOCs

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. VOCs	Sample Specific Comments	Total Bottles
41285-01	MW-1	8/2/21	1025	AQ	SRP	X		3
-02	MW-2	↓	910	↓	↓	X		3

Preservative Code	Container Code
A = None	P = Plastic
B = HCl	A = Amber Glass
C = HNO_3	V = Vial
D = H_2SO_4	G = Glass
E = NaOH	B = Bacteria Cup
F = MeOH	C = Cube
G = $NaHSO_4$	O = Other
H = $Na_2S_2O_3$	E = Encore
K/E = Zn Ac/NaOH	D = BOD Bottle
O = Other	

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

	1. VOCs
Container Type	V
Preservative	B

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/2/21 1430	Desmond Graful	8/2/21 1630
Desmond Graful	8/2/21 1630	[signature] AAL	8/2/21 1630
[signature]	8/2/21 1811	[signature]	8/2/21 1811

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)

Method Blank Summary
Form 4
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2141285
Project Name	: ALLSTON YARDS-BUILDING B	**Project Number**	: 134110-100
Lab Sample ID	: WG1531379-5	**Lab File ID**	: VJ210804A07
Instrument ID	: JACK		
Matrix	: WATER	**Analysis Date**	: 08/04/21 06:05

Client Sample No.	Lab Sample ID	Analysis Date
WG1531379-3LCS	WG1531379-3	08/04/21 04:43
WG1531379-4LCSD	WG1531379-4	08/04/21 05:24
MW-1	L2141285-01	08/04/21 07:26
MW-2	L2141285-02	08/04/21 08:06

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2141285		
Project Name	: ALLSTON YARDS-BUILDING B	**Project Number**	: 134110-100		
Instrument ID	: JACK	**Calibration Date**	: 08/04/21 04:43		
Lab File ID	: VJ210804A03	**Init. Calib. Date(s)**	: 07/27/21	07/27/21	
Sample No	: WG1531379-2	**Init. Calib. Times**	: 06:20	11:05	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	156	0
Dichlorodifluoromethane	0.439	0.421	-	4.1	20	147	0
Chloromethane	0.659	0.55	-	16.5	20	127	0
Vinyl chloride	0.452	0.482	-	-6.6	20	156	0
Bromomethane	0.229	0.252	-	-10	20	177	0
Chloroethane	0.25	0.242	-	3.2	20	147	0
Trichlorofluoromethane	0.618	0.634	-	-2.6	20	157	0
Ethyl ether	0.2	0.193	-	3.5	20	155	0
1,1-Dichloroethene	0.338	0.363	-	-7.4	20	164	0
Carbon disulfide	1.043	1.13	-	-8.3	20	160	0
Freon-113	0.38	0.402	-	-5.8	20	158	0
Acrolein	0.036	0.036*	-	0	20	161	0
Methylene chloride	0.406	0.403	-	0.7	20	154	0
Acetone	10	7.6	-	24*	20	124	0
trans-1,2-Dichloroethene	0.37	0.404	-	-9.2	20	163	0
Methyl acetate	0.258	0.199	-	22.9*	20	122	0
Methyl tert-butyl ether	0.998	0.857	-	14.1	20	143	0
tert-Butyl alcohol	0.023	0.014*	-	39.1*	20	101	0
Diisopropyl ether	1.68	1.417	-	15.7	20	134	0
1,1-Dichloroethane	0.848	0.859	-	-1.3	20	150	0
Halothane	0.303	0.309	-	-2	20	153	0
Acrylonitrile	0.129	0.115	-	10.9	20	144	0
Ethyl tert-butyl ether	1.327	1.109	-	16.4	20	137	0
Vinyl acetate	0.896	0.802	-	10.5	20	162	0
cis-1,2-Dichloroethene	0.427	0.44	-	-3	20	158	0
2,2-Dichloropropane	0.704	0.7	-	0.6	20	157	0
Bromochloromethane	0.186	0.183	-	1.6	20	148	0
Cyclohexane	0.895	0.862	-	3.7	20	150	0
Chloroform	0.792	0.792	-	0	20	150	0
Ethyl acetate	0.328	0.237	-	27.7*	20	121	0
Carbon tetrachloride	0.577	0.563	-	2.4	20	149	0
Tetrahydrofuran	0.108	0.086	-	20.4*	20	130	0
Dibromofluoromethane	0.253	0.253	-	0	20	150	0
1,1,1-Trichloroethane	0.639	0.634	-	0.8	20	148	0
2-Butanone	0.146	0.103	-	29.5*	20	125	0
1,1-Dichloropropene	0.551	0.528	-	4.2	20	153	0
Benzene	1.585	1.56	-	1.6	20	155	0
tert-Amyl methyl ether	0.973	0.865	-	11.1	20	145	0
1,2-Dichloroethane-d4	0.347	0.316	-	8.9	20	137	0
1,2-Dichloroethane	0.598	0.54	-	9.7	20	139	0
Methyl cyclohexane	0.707	0.707	-	0	20	156	0
Trichloroethene	0.376	0.374	-	0.5	20	148	0
Dibromomethane	0.208	0.196	-	5.8	20	141	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2141285		
Project Name	: ALLSTON YARDS-BUILDING B	**Project Number**	: 134110-100		
Instrument ID	: JACK	**Calibration Date**	: 08/04/21 04:43		
Lab File ID	: VJ210804A03	**Init. Calib. Date(s)**	: 07/27/21	07/27/21	
Sample No	: WG1531379-2	**Init. Calib. Times**	: 06:20	11:05	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.458	0.427	-	6.8	20	147	0
2-Chloroethyl vinyl ether	0.246	0.204	-	17.1	20	128	0
Bromodichloromethane	0.579	0.548	-	5.4	20	149	0
1,4-Dioxane	0.00214	0.00181*	-	15.4	20	117	0
cis-1,3-Dichloropropene	0.669	0.615	-	8.1	20	136	0
Chlorobenzene-d5	1	1	-	0	20	146	0
Toluene-d8	1.213	1.26	-	-3.9	20	148	0
Toluene	1.251	1.261	-	-0.8	20	145	0
4-Methyl-2-pentanone	0.136	0.117	-	14	20	129	0
Tetrachloroethene	0.496	0.531	-	-7.1	20	154	0
trans-1,3-Dichloropropene	0.707	0.634	-	10.3	20	136	0
Ethyl methacrylate	0.557	0.509	-	8.6	20	135	0
1,1,2-Trichloroethane	0.298	0.269	-	9.7	20	137	0
Chlorodibromomethane	0.445	0.384	-	13.7	20	137	0
1,3-Dichloropropane	0.666	0.591	-	11.3	20	139	0
1,2-Dibromoethane	0.358	0.324	-	9.5	20	139	0
2-Hexanone	0.297	0.218	-	26.6*	20	116	0
Chlorobenzene	1.411	1.339	-	5.1	20	139	0
Ethylbenzene	2.606	2.548	-	2.2	20	144	0
1,1,1,2-Tetrachloroethane	0.477	0.436	-	8.6	20	139	0
p/m Xylene	1.03	1.001	-	2.8	20	143	0
o Xylene	0.988	0.961	-	2.7	20	143	0
Styrene	1.68	1.624	-	3.3	20	142	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	152	0
Bromoform	0.46	0.393	-	14.6	20	140	0
Isopropylbenzene	5.164	4.514	-	12.6	20	139	0
4-Bromofluorobenzene	0.951	0.913	-	4	20	149	0
Bromobenzene	1.049	0.958	-	8.7	20	147	0
n-Propylbenzene	5.89	5.38	-	8.7	20	142	0
1,4-Dichlorobutane	1.69	1.377	-	18.5	20	131	0
1,1,2,2-Tetrachloroethane	0.796	0.644	-	19.1	20	142	0
4-Ethyltoluene	4.96	4.404	-	11.2	20	138	0
2-Chlorotoluene	3.961	3.636	-	8.2	20	143	0
1,3,5-Trimethylbenzene	4.177	3.662	-	12.3	20	135	0
1,2,3-Trichloropropane	0.692	0.572	-	17.3	20	138	0
trans-1,4-Dichloro-2-buten	0.329	0.231	-	29.8*	20	113	0
4-Chlorotoluene	3.59	3.285	-	8.5	20	141	0
tert-Butylbenzene	3.51	3.137	-	10.6	20	139	0
1,2,4-Trimethylbenzene	4.073	3.557	-	12.7	20	132	0
sec-Butylbenzene	5.341	4.72	-	11.6	20	135	0
p-Isopropyltoluene	4.419	3.98	-	9.9	20	135	0
1,3-Dichlorobenzene	2.12	2.044	-	3.6	20	151	0
1,4-Dichlorobenzene	2.113	1.979	-	6.3	20	146	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Haley & Aldrich, Inc.	**Lab Number**	: L2141285		
Project Name	: ALLSTON YARDS-BUILDING B	**Project Number**	: 134110-100		
Instrument ID	: JACK	**Calibration Date**	: 08/04/21 04:43		
Lab File ID	: VJ210804A03	**Init. Calib. Date(s)**	: 07/27/21	07/27/21	
Sample No	: WG1531379-2	**Init. Calib. Times**	: 06:20	11:05	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	2.58	2.327	-	9.8	20	138	0
n-Butylbenzene	3.833	3.483	-	9.1	20	140	0
1,2-Dichlorobenzene	1.886	1.819	-	3.6	20	151	0
1,2,4,5-Tetramethylbenzene	3.244	2.607	-	19.6	20	134	0
1,2-Dibromo-3-chloropropan	0.123	0.103	-	16.3	20	134	0
1,3,5-Trichlorobenzene	1.335	1.294	-	3.1	20	151	0
Hexachlorobutadiene	0.506	0.523	-	-3.4	20	160	0
1,2,4-Trichlorobenzene	1.064	0.979	-	8	20	147	0
Naphthalene	2.189	1.789	-	18.3	20	137	0
1,2,3-Trichlorobenzene	0.898	0.823	-	8.4	20	145	0

*** Value outside of QC limits.**

ANALYTICAL REPORT

Lab Number:	L2141286
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Elizabeth Christmas
Phone:	(617) 886-7581
Project Name:	ALLSTON YARDS-BUILDING B
Project Number:	134110-100
Report Date:	03/21/22

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: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2141286-01	HA16-3(OW)	WATER	ALLSTON, MA	08/02/21 12:15	08/02/21

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141286
Project Number:	134110-100	**Report Date:**	03/21/22

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:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141286
Project Number:	134110-100	**Report Date:**	03/21/22

Case Narrative (continued)

Report Revision

March 21, 2022: This report includes the results of the Total Hardness performed on L2141286-01.

Report Submission

The analysis of Ethanol was subcontracted. A copy of the laboratory report is included as an addendum.

Please note: This data is only available in PDF format and is not available on Data Merger.

TPH, SGT-HEM

The WG1532362-4 MS recovery, performed on L2141286-01, is outside the acceptance criteria for tph (28%); however, the associated LCS recovery is within criteria. No further action was taken.

Chlorine, Total Residual

The WG1530769-4 MS recovery, performed on L2141286-01, is outside the acceptance criteria for chlorine, total residual (64%); 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: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative Date: 03/21/22

ORGANICS

VOLATILES

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141286

Project Number: 134110-100 **Report Date:** 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01
Client ID: HA16-3(OW)
Sample Location: ALLSTON, MA

Date Collected: 08/02/21 12:15
Date Received: 08/02/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 08/04/21 13:56
Analyst: NLK

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: ALLSTON YARDS-BUILDING B **Lab Number:** L2141286

Project Number: 134110-100 **Report Date:** 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01 Date Collected: 08/02/21 12:15

Client ID: HA16-3(OW) Date Received: 08/02/21

Sample Location: ALLSTON, 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	127		60-140
Fluorobenzene	91		60-140
4-Bromofluorobenzene	116		60-140

Project Name: ALLSTON YARDS-BUILDING B
Lab Number: L2141286
Project Number: 134110-100
Report Date: 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01
Client ID: HA16-3(OW)
Sample Location: ALLSTON, MA

Date Collected: 08/02/21 12:15
Date Received: 08/02/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 08/04/21 13:56
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	95		60-140
4-Bromofluorobenzene	105		60-140

Project Name: ALLSTON YARDS-BUILDING B
Lab Number: L2141286
Project Number: 134110-100
Report Date: 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01
Client ID: HA16-3(OW)
Sample Location: ALLSTON, MA

Date Collected: 08/02/21 12:15
Date Received: 08/02/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 08/05/21 12:58
Analyst: AMM

Extraction Method: EPA 504.1
Extraction Date: 08/05/21 11:20

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: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141286
Report Date: 03/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 08/05/21 12:15
Analyst: AMM

Extraction Method: EPA 504.1
Extraction Date: 08/05/21 11:20

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG1531848-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141286

Project Number: 134110-100 **Report Date:** 03/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 08/04/21 12:15
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1531860-4					
1,4-Dioxane	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	96		60-140
4-Bromofluorobenzene	106		60-140

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141286

Project Number: 134110-100 **Report Date:** 03/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 08/04/21 12:15
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1531879-4					
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: ALLSTON YARDS-BUILDING B **Lab Number:** L2141286

Project Number: 134110-100 **Report Date:** 03/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 08/04/21 12:15
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1531879-4					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	129		60-140
Fluorobenzene	93		60-140
4-Bromofluorobenzene	116		60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141286

Report Date: 03/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG1531848-2						
1,2-Dibromoethane	98		-		80-120	-			A

Lab Control Sample Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

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: WG1531860-3								
1,4-Dioxane	72		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	98				60-140
4-Bromofluorobenzene	98				60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

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: WG1531879-3								
Methylene chloride	95		-		60-140	-		28
1,1-Dichloroethane	105		-		50-150	-		49
Carbon tetrachloride	**140**	Q	-		70-130	-		41
1,1,2-Trichloroethane	95		-		70-130	-		45
Tetrachloroethene	120		-		70-130	-		39
1,2-Dichloroethane	120		-		70-130	-		49
1,1,1-Trichloroethane	**135**	Q	-		70-130	-		36
Benzene	105		-		65-135	-		61
Toluene	115		-		70-130	-		41
Ethylbenzene	130		-		60-140	-		63
Vinyl chloride	70		-		5-195	-		66
1,1-Dichloroethene	105		-		50-150	-		32
cis-1,2-Dichloroethene	110		-		60-140	-		30
Trichloroethene	85		-		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	118		-		60-140	-		30
o-xylene	110		-		60-140	-		30
Acetone	68		-		40-160	-		30
Methyl tert butyl ether	100		-		60-140	-		30
Tert-Butyl Alcohol	89		-		60-140	-		30
Tertiary-Amyl Methyl Ether	95		-		60-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141286

Report Date: 03/21/22

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: WG1531879-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	133				60-140
Fluorobenzene	94				60-140
4-Bromofluorobenzene	114				60-140

Matrix Spike Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141286

Report Date: 03/21/22

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: WG1531848-3		QC Sample: L2140786-02		Client ID: MS Sample							
1,2-Dibromoethane	ND	0.25	0.273	109		-	-		80-120	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.25	0.239	96		-	-		80-120	-		20	A
1,2,3-Trichloropropane	ND	0.25	0.318	**127**	Q	-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: ALLSTON YARDS-BUILDING B
Lab Number: L2141286
Project Number: 134110-100
Report Date: 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01
Client ID: HA16-3(OW)
Sample Location: ALLSTON, MA

Date Collected: 08/02/21 12:15
Date Received: 08/02/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 08/05/21 23:07
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 08/05/21 01:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.20	--	1
Butyl benzyl phthalate	ND		ug/l	5.00	--	1
Di-n-butylphthalate	ND		ug/l	5.00	--	1
Di-n-octylphthalate	ND		ug/l	5.00	--	1
Diethyl phthalate	ND		ug/l	5.00	--	1
Dimethyl phthalate	ND		ug/l	5.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		42-122
2-Fluorobiphenyl	63		46-121
4-Terphenyl-d14	79		47-138

Project Name: ALLSTON YARDS-BUILDING B
Lab Number: L2141286
Project Number: 134110-100
Report Date: 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01
Client ID: HA16-3(OW)
Sample Location: ALLSTON, MA

Date Collected: 08/02/21 12:15
Date Received: 08/02/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 08/07/21 20:05
Analyst: JJW

Extraction Method: EPA 625.1
Extraction Date: 08/05/21 01:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.100	--	1
Fluoranthene	ND		ug/l	0.100	--	1
Naphthalene	ND		ug/l	0.100	--	1
Benzo(a)anthracene	ND		ug/l	0.100	--	1
Benzo(a)pyrene	ND		ug/l	0.100	--	1
Benzo(b)fluoranthene	ND		ug/l	0.100	--	1
Benzo(k)fluoranthene	ND		ug/l	0.100	--	1
Chrysene	ND		ug/l	0.100	--	1
Acenaphthylene	ND		ug/l	0.100	--	1
Anthracene	ND		ug/l	0.100	--	1
Benzo(ghi)perylene	ND		ug/l	0.100	--	1
Fluorene	ND		ug/l	0.100	--	1
Phenanthrene	ND		ug/l	0.100	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.100	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.100	--	1
Pyrene	ND		ug/l	0.100	--	1
Pentachlorophenol	ND		ug/l	1.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		25-87
Phenol-d6	31		16-65
Nitrobenzene-d5	87		42-122
2-Fluorobiphenyl	80		46-121
2,4,6-Tribromophenol	100		45-128
4-Terphenyl-d14	91		47-138

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141286
Report Date: 03/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 08/05/21 22:42
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 08/05/21 01:01

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1531677-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.20	--
Butyl benzyl phthalate	ND		ug/l	5.00	--
Di-n-butylphthalate	ND		ug/l	5.00	--
Di-n-octylphthalate	ND		ug/l	5.00	--
Diethyl phthalate	ND		ug/l	5.00	--
Dimethyl phthalate	ND		ug/l	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		42-122
2-Fluorobiphenyl	66		46-121
4-Terphenyl-d14	86		47-138

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141286
Report Date: 03/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 08/07/21 19:15
Analyst: JJW

Extraction Method: EPA 625.1
Extraction Date: 08/05/21 01:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1531678-1					
Acenaphthene	ND		ug/l	0.100	--
Fluoranthene	ND		ug/l	0.100	--
Naphthalene	ND		ug/l	0.100	--
Benzo(a)anthracene	ND		ug/l	0.100	--
Benzo(a)pyrene	ND		ug/l	0.100	--
Benzo(b)fluoranthene	ND		ug/l	0.100	--
Benzo(k)fluoranthene	ND		ug/l	0.100	--
Chrysene	ND		ug/l	0.100	--
Acenaphthylene	ND		ug/l	0.100	--
Anthracene	ND		ug/l	0.100	--
Benzo(ghi)perylene	ND		ug/l	0.100	--
Fluorene	ND		ug/l	0.100	--
Phenanthrene	ND		ug/l	0.100	--
Dibenzo(a,h)anthracene	ND		ug/l	0.100	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.100	--
Pyrene	ND		ug/l	0.100	--
Pentachlorophenol	ND		ug/l	1.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		25-87
Phenol-d6	34		16-65
Nitrobenzene-d5	84		42-122
2-Fluorobiphenyl	72		46-121
2,4,6-Tribromophenol	91		45-128
4-Terphenyl-d14	94		47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

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: WG1531677-2								
Bis(2-ethylhexyl)phthalate	83		-		29-137	-		82
Butyl benzyl phthalate	84		-		1-140	-		60
Di-n-butylphthalate	85		-		8-120	-		47
Di-n-octylphthalate	82		-		19-132	-		69
Diethyl phthalate	83		-		1-120	-		100
Dimethyl phthalate	81		-		1-120	-		183

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	77				42-122
2-Fluorobiphenyl	71				46-121
4-Terphenyl-d14	83				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

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: WG1531678-2								
Acenaphthene	85		-		60-132	-		30
Fluoranthene	94		-		43-121	-		30
Naphthalene	82		-		36-120	-		30
Benzo(a)anthracene	96		-		42-133	-		30
Benzo(a)pyrene	101		-		32-148	-		30
Benzo(b)fluoranthene	95		-		42-140	-		30
Benzo(k)fluoranthene	99		-		25-146	-		30
Chrysene	88		-		44-140	-		30
Acenaphthylene	89		-		54-126	-		30
Anthracene	91		-		43-120	-		30
Benzo(ghi)perylene	94		-		1-195	-		30
Fluorene	88		-		70-120	-		30
Phenanthrene	87		-		65-120	-		30
Dibenzo(a,h)anthracene	109		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	108		-		1-151	-		30
Pyrene	93		-		70-120	-		30
Pentachlorophenol	81		-		38-152	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141286
Report Date: 03/21/22

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: WG1531678-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	52				25-87
Phenol-d6	37				16-65
Nitrobenzene-d5	90				42-122
2-Fluorobiphenyl	80				46-121
2,4,6-Tribromophenol	98				45-128
4-Terphenyl-d14	91				47-138

PCBS

Project Name: ALLSTON YARDS-BUILDING B
Lab Number: L2141286
Project Number: 134110-100
Report Date: 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01
Client ID: HA16-3(OW)
Sample Location: ALLSTON, MA

Date Collected: 08/02/21 12:15
Date Received: 08/02/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 08/05/21 18:22
Analyst: CW

Extraction Method: EPA 608.3
Extraction Date: 08/05/21 07:40
Cleanup Method: EPA 3665A
Cleanup Date: 08/05/21
Cleanup Method: EPA 3660B
Cleanup Date: 08/05/21

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	74		37-123	B
Decachlorobiphenyl	84		38-114	B
2,4,5,6-Tetrachloro-m-xylene	62		37-123	A
Decachlorobiphenyl	70		38-114	A

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141286
Report Date: 03/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 08/06/21 11:57
Analyst: JM

Extraction Method: EPA 608.3
Extraction Date: 08/04/21 08:23
Cleanup Method: EPA 3665A
Cleanup Date: 08/04/21
Cleanup Method: EPA 3660B
Cleanup Date: 08/04/21

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1531322-1						
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	**136**	Q	37-123	B
Decachlorobiphenyl	**116**	Q	38-114	B
2,4,5,6-Tetrachloro-m-xylene	99		37-123	A
Decachlorobiphenyl	89		38-114	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141286

Report Date: 03/21/22

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: WG1531322-2									
Aroclor 1016	75		-		50-140	-		36	A
Aroclor 1260	72		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73				37-123	B
Decachlorobiphenyl	83				38-114	B
2,4,5,6-Tetrachloro-m-xylene	62				37-123	A
Decachlorobiphenyl	69				38-114	A

METALS

Project Name: ALLSTON YARDS-BUILDING B
Lab Number: L2141286
Project Number: 134110-100
Report Date: 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01
Client ID: HA16-3(OW)
Sample Location: ALLSTON, MA
Date Collected: 08/02/21 12:15
Date Received: 08/02/21
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	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Arsenic, Total	ND		mg/l	0.00100	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Cadmium, Total	0.00024		mg/l	0.00020	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Chromium, Total	ND		mg/l	0.00100	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Copper, Total	0.00963		mg/l	0.00100	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Iron, Total	ND		mg/l	0.050	--	1	08/03/21 12:55	08/04/21 22:12	EPA 3005A	19,200.7	DL
Lead, Total	ND		mg/l	0.00100	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Mercury, Total	ND		mg/l	0.00020	--	1	08/03/21 12:57	08/03/21 15:49	EPA 245.1	3,245.1	OU
Nickel, Total	0.00278		mg/l	0.00200	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Selenium, Total	ND		mg/l	0.00500	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Silver, Total	ND		mg/l	0.00040	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Zinc, Total	0.01140		mg/l	0.01000	--	1	08/03/21 12:55	08/11/21 10:53	EPA 3005A	3,200.8	CD
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	104		mg/l	0.660	NA	1	08/03/21 12:55	08/04/21 22:12	EPA 3005A	19,200.7	DL
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		08/11/21 10:53	NA	107,-	

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141286

Project Number: 134110-100 **Report Date:** 03/21/22

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: WG1530965-1										
Antimony, Total	ND		mg/l	0.00400	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Arsenic, Total	ND		mg/l	0.00100	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Cadmium, Total	ND		mg/l	0.00020	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Chromium, Total	ND		mg/l	0.00100	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Copper, Total	ND		mg/l	0.00100	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Lead, Total	ND		mg/l	0.00100	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Nickel, Total	ND		mg/l	0.00200	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Selenium, Total	ND		mg/l	0.00500	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Silver, Total	ND		mg/l	0.00040	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD
Zinc, Total	ND		mg/l	0.01000	--	1	08/03/21 12:55	08/11/21 10:24	3,200.8	CD

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: WG1530966-1										
Iron, Total	ND		mg/l	0.050	--	1	08/03/21 12:55	08/04/21 20:54	19,200.7	DL

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: WG1530966-1										
Hardness	ND		mg/l	0.660	NA	1	08/03/21 12:55	08/04/21 20:54	19,200.7	DL

Prep Information

Digestion Method: EPA 3005A

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141286

Project Number: 134110-100 **Report Date:** 03/21/22

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: WG1530969-1										
Mercury, Total	ND		mg/l	0.00020	--	1	08/03/21 12:57	08/03/21 15:19	3,245.1	OU

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141286

Report Date: 03/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1530965-2								
Antimony, Total	97		-		85-115	-		
Arsenic, Total	102		-		85-115	-		
Cadmium, Total	102		-		85-115	-		
Chromium, Total	101		-		85-115	-		
Copper, Total	99		-		85-115	-		
Lead, Total	100		-		85-115	-		
Nickel, Total	95		-		85-115	-		
Selenium, Total	100		-		85-115	-		
Silver, Total	103		-		85-115	-		
Zinc, Total	103		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1530966-2								
Iron, Total	99		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1530966-2								
Hardness	103		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1530969-2								
Mercury, Total	98		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

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: WG1530965-3 QC Sample: L2141281-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5277	106		-	-		70-130	-		20
Arsenic, Total	0.02070	0.12	0.1512	109		-	-		70-130	-		20
Cadmium, Total	ND	0.053	0.05557	105		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.2053	103		-	-		70-130	-		20
Copper, Total	0.00241	0.25	0.2562	102		-	-		70-130	-		20
Lead, Total	ND	0.53	0.5585	105		-	-		70-130	-		20
Nickel, Total	0.00248	0.5	0.4890	97		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1247	104		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05259	105		-	-		70-130	-		20
Zinc, Total	0.06598	0.5	0.5286	92		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1530966-3 QC Sample: L2141281-01 Client ID: MS Sample												
Iron, Total	0.633	1	1.61	98		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1530966-3 QC Sample: L2141281-01 Client ID: MS Sample												
Hardness	436	66.2	494	88		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1530969-3 QC Sample: L2141269-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00503	101		-	-		70-130	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141286

Report Date: 03/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1530965-4 QC Sample: L2141281-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.02070	0.02000	mg/l	3		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.00241	0.00404	mg/l	**51**	Q	20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00248	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.06598	0.01368	mg/l	**131**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1530966-4 QC Sample: L2141281-01 Client ID: DUP Sample						
Iron, Total	0.633	0.620	mg/l	2		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1530969-4 QC Sample: L2141269-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141286
Report Date: 03/21/22

SAMPLE RESULTS

Lab ID: L2141286-01
Client ID: HA16-3(OW)
Sample Location: ALLSTON, MA
Sample Depth:
Matrix: Water

Date Collected: 08/02/21 12:15
Date Received: 08/02/21
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	08/06/21 09:00	121,2540D	AC
Cyanide, Total	ND		mg/l	0.005	--	1	08/03/21 09:30	08/03/21 12:13	121,4500CN-CE	CR
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	08/03/21 04:19	121,4500CL-D	KA
Nitrogen, Ammonia	0.306		mg/l	0.075	--	1	08/05/21 18:00	08/06/21 18:58	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	08/06/21 17:00	08/06/21 17:45	74,1664A	TL
Phenolics, Total	ND		mg/l	0.030	--	1	08/03/21 06:50	08/03/21 09:56	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	--	1	08/03/21 00:40	08/03/21 01:01	1,7196A	KA
Anions by Ion Chromatography - Westborough Lab										
Chloride	448.		mg/l	12.5	--	25	-	08/05/21 10:02	44,300.0	JT

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141286

Project Number: 134110-100 **Report Date:** 03/21/22

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: WG1530745-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	08/03/21 00:40	08/03/21 00:57	1,7196A	KA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1530769-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	08/03/21 04:19	121,4500CL-D	KA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1530796-1										
Phenolics, Total	ND		mg/l	0.030	--	1	08/03/21 06:50	08/03/21 10:28	4,420.1	KP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1530853-1										
Cyanide, Total	ND		mg/l	0.005	--	1	08/03/21 09:30	08/03/21 11:50	121,4500CN-CE	CR
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1531872-1										
Chloride	ND		mg/l	0.500	--	1	-	08/05/21 09:14	44,300.0	JT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1532063-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	08/05/21 18:00	08/06/21 18:55	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1532226-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	08/06/21 09:00	121,2540D	AC
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1532362-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	08/06/21 17:00	08/06/21 17:45	74,1664A	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141286

Report Date: 03/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1530745-2								
Chromium, Hexavalent	102		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1530769-2								
Chlorine, Total Residual	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1530796-2								
Phenolics, Total	104		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1530853-2								
Cyanide, Total	108		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1531872-2								
Chloride	102		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1532063-2								
Nitrogen, Ammonia	96		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1532226-2								
Solids, Total Suspended	105		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141286

Report Date: 03/21/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1532362-2					
TPH	84	-	64-132	-	34

Matrix Spike Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

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: WG1530745-4 QC Sample: L2141286-01 Client ID: HA16-3(OW)												
Chromium, Hexavalent	ND	0.1	0.100	100		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1530769-4 QC Sample: L2141286-01 Client ID: HA16-3(OW)												
Chlorine, Total Residual	ND	0.25	0.16	**64**	Q	-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1530796-4 QC Sample: L2141200-01 Client ID: MS Sample												
Phenolics, Total	0.081	0.4	0.33	**62**	Q	-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1530853-4 QC Sample: L2141286-01 Client ID: HA16-3(OW)												
Cyanide, Total	ND	0.2	0.204	102		-	-		90-110	-		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1531872-3 QC Sample: L2140610-01 Client ID: MS Sample												
Chloride	44.2	4	46.5	**58**	Q	-	-		90-110	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1532063-4 QC Sample: L2141286-01 Client ID: HA16-3(OW)												
Nitrogen, Ammonia	0.306	4	4.04	93		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1532362-4 QC Sample: L2141286-01 Client ID: HA16-3(OW)												
TPH	ND	19	5.33	**28**	Q	-	-		64-132	-		34

Lab Duplicate Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1530745-3 QC Sample: L2141286-01 Client ID: HA16-3(OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1530769-3 QC Sample: L2141286-01 Client ID: HA16-3(OW)						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1530796-3 QC Sample: L2141200-01 Client ID: DUP Sample						
Phenolics, Total	0.081	0.20	mg/l	**85**	Q	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1530853-3 QC Sample: L2141200-01 Client ID: DUP Sample						
Cyanide, Total	0.008	ND	mg/l	NC		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1531872-4 QC Sample: L2140610-01 Client ID: DUP Sample						
Chloride	44.2	44.1	mg/l	0		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1532063-3 QC Sample: L2141286-01 Client ID: HA16-3(OW)						
Nitrogen, Ammonia	0.306	0.321	mg/l	5		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1532226-3 QC Sample: L2141495-01 Client ID: DUP Sample						
Solids, Total Suspended	49	51	mg/l	4		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1532362-3 QC Sample: L2141389-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141286-01A	Vial unpreserved	C	NA		4.4	Y	Absent		SUB-ETHANOL(14)
L2141286-01B	Vial Na2S2O3 preserved	C	NA		4.4	Y	Absent		504(14)
L2141286-01C	Vial Na2S2O3 preserved	C	NA		4.4	Y	Absent		504(14)
L2141286-01D	Vial Na2S2O3 preserved	C	NA		4.4	Y	Absent		504(14)
L2141286-01E	Vial Na2S2O3 preserved	C	NA		4.4	Y	Absent		504(14)
L2141286-01F	Vial Na2S2O3 preserved	C	NA		4.4	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2141286-01G	Vial Na2S2O3 preserved	C	NA		4.4	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2141286-01H	Vial Na2S2O3 preserved	C	NA		4.4	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2141286-01I	Vial Na2S2O3 preserved	C	NA		4.4	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2141286-01J	Plastic 250ml HNO3 preserved	C	<2	<2	4.4	Y	Absent		HOLD-METAL-DISSOLVED(180)
L2141286-01K	Plastic 250ml HNO3 preserved	C	<2	<2	4.4	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),FE-UI(180),HARDU(180),CU-2008T(180),AS-2008T(180),SE-2008T(180),AG-2008T(180),HG-U(28),SB-2008T(180),CR-2008T(180),PB-2008T(180)
L2141286-01L	Plastic 250ml NaOH preserved	C	>12	>12	4.4	Y	Absent		TCN-4500(14)
L2141286-01M	Plastic 500ml H2SO4 preserved	C	<2	<2	4.4	Y	Absent		NH3-4500(28)
L2141286-01N	Plastic 950ml unpreserved	C	7	7	4.4	Y	Absent		CL-300(28),HEXCR-7196(1),HOLD-WETCHEM(),TRC-4500(1)
L2141286-01O	Plastic 950ml unpreserved	C	7	7	4.4	Y	Absent		TSS-2540(7)
L2141286-01P	Amber 950ml H2SO4 preserved	C	<2	<2	4.4	Y	Absent		TPHENOL-420(28)
L2141286-01Q	Amber 1000ml Na2S2O3	C	7	7	4.4	Y	Absent		PCB-608.3(365)
L2141286-01R	Amber 1000ml Na2S2O3	C	7	7	4.4	Y	Absent		PCB-608.3(365)
L2141286-01S	Amber 1000ml Na2S2O3	C	7	7	4.4	Y	Absent		PCB-608.3(365)
L2141286-01T	Amber 1000ml Na2S2O3	C	7	7	4.4	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L2141286-01U	Amber 1000ml Na2S2O3	C	7	7	4.4	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)

*Values in parentheses indicate holding time in days

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141286
Report Date: 03/21/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141286-01V	Amber 1000ml Na2S2O3	C	7	7	4.4	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L2141286-01W	Amber 1000ml HCl preserved	C	NA		4.4	Y	Absent		TPH-1664(28)
L2141286-01X	Amber 1000ml HCl preserved	C	NA		4.4	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141286
Project Number:	134110-100	**Report Date:**	03/21/22

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.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

Report Format: Data Usability Report

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141286
Project Number:	134110-100	**Report Date:**	03/21/22

Footnotes

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.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

Report Format: Data Usability Report

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141286
Project Number:	134110-100	**Report Date:**	03/21/22

Data Qualifiers

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.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141286
Project Number:	134110-100	**Report Date:**	03/21/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

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, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
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, SM4500NO2-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, SM9222D.**

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, EPA 537.1.

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.

ALPHA — CHAIN OF CUSTODY

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: 8/2/21

ALPHA Job #: L2141286

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

H&A Information	
H&A Client:	New England Development LLC
H&A Address	465 Medford St Boston, MA 0212-1400
H&A Phone:	617-886-7400
H&A Fax:	echristmas@haleyaldrich.com
H&A Email:	kchatterton@haleyaldrich.com

Project Information	
Project Name:	Allston Yards - Building B
Project Location:	Allston, MA
Project #	134110-100
(Use Project name as Project #)	
Project Manager:	Elizabeth Christmas, Doug Lindsay
ALPHAQuote #:	10692

Turn-Around Time
Standard X — Due Date:
(only if pre approved) — # of Days: 5

Deliverables
X Email — Fax
EQuIS (1 File) — X EQuIS (4 File)
Other:

Billing Information
X Same as Client Info
PO #

Regulatory Requirements (Program/Criteria)
EPA NPDES RGP
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 13. 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, or applicable method
6. HEXCR-3500 & Trivalent Chromium
7. TPHENOL-420
8. 8270TCL (including Diethylhexylphthalate)
9. 8270TCL-SIM, or applicable method
10. CL-300
11. Total Metals - Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Fe
12. Ammonia
13. Diss. Metals-Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Fe, Hg
14. A2-ALCOHOL (Ethanol)
15. TPH-1664
16. PCB-608

Sample Filtration
X 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
41286-01	HA16-3(OW)	8/2/21	1215	AQ	SRP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
																						field pH: 6.01

T o t a l B o t t l e s

Preservative Code:	Container Code
A = None	P = Plastic
B = HCl	A = Amber Glass
C = HNO_3	V = Vial
D = H_2SO_4	G = Glass
E = NaOH	B = Bacteria Cup
F = MeOH	C = Cube
G = $NaHSO_4$	O = Other
H = $Na_2S_2O_3$	E = Encore
K/E = Zn Ac/NaOH	D = BOD Bottle
O = Other	

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

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	8/2/21 1430	[illegible]	8/2/21 1650
[illegible]	8/2/21 1650	[illegible] Plum AAL	8/2/21 1650
[illegible]	8/2/21 1811	[illegible] AAL	8/2/21 1811

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)

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2141286

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria: RCS-1-14

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2141286

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	HA16-3(OW)	08-02-21 12:15	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		8/3/21		
Form No: AL_subcoc				

August 11, 2021

Melissa Gulli
Alpha Analytical
145 Flanders Road
Westborough, MA 01581
TEL: (603) 319-5010
FAX:

Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: L2141286 **WorkOrder:** 21080210

Dear Melissa Gulli:

TEKLAB, INC received 1 sample on 8/4/2021 9:55:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com

Report Contents

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 21080210
Client Project: L2141286
Report Date: 11-Aug-21

This reporting package includes the following:

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical **Work Order:** 21080210

Client Project: L2141286 **Report Date:** 11-Aug-21

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical **Work Order:** 21080210

Client Project: L2141286 **Report Date:** 11-Aug-21

Qualifiers

# - Unknown hydrocarbon	B - Analyte detected in associated Method Blank
C - RL shown is a Client Requested Quantitation Limit	E - Value above quantitation range
H - Holding times exceeded	I - Associated internal standard was outside method criteria
J - Analyte detected below quantitation limits	M - Manual Integration used to determine area response
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits
S - Spike Recovery outside recovery limits	T - TIC(Tentatively identified compound)
X - Value exceeds Maximum Contaminant Level	

Case Narrative

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 21080210
Client Project: L2141286
Report Date: 11-Aug-21

Cooler Receipt Temp: 3.0 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Accreditations

http://www.teklabinc.com/

Client: Alpha Analytical **Work Order:** 21080210

Client Project: L2141286 **Report Date:** 11-Aug-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2022	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2022	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2022	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2022	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville

Laboratory Results

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 21080210
Client Project: L2141286
Report Date: 11-Aug-21
Lab ID: 21080210-001
Client Sample ID: HA16-3(OW)
Matrix: AQUEOUS
Collection Date: 08/02/2021 12:15

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORGANICS								
Ethanol	*	20		**ND**	mg/L	1	08/10/2021 11:13	R296516

Quality Control Results

http://www.teklabinc.com/

Client: Alpha Analytical **Work Order:** 21080210

Client Project: L2141286 **Report Date:** 11-Aug-21

EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE OR

Batch R296516 **SampType:** MBLK Units mg/L

SampID: MBLK-081021

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**ND**						08/10/2021

Batch R296516 **SampType:** LCS Units mg/L

SampID: LCS-081021

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**250**	250.0	0	100.9	70	132	08/10/2021

Batch R296516 **SampType:** MS Units mg/L

SampID: 21080305-004BMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**230**	250.0	0	93.5	70	132	08/10/2021

Batch R296516 **SampType:** MSD Units mg/L RPD Limit **30**

SampID: 21080305-004BMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethanol	*	20		**240**	250.0	0	95.3	233.7	1.96	08/10/2021

Receiving Check List

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2141286

Work Order: 21080210
Report Date: 11-Aug-21

Carrier: UPS

Received By: PRY

Completed by: Emily Pohlman
On: 04-Aug-21

Reviewed by: Elizabeth A. Hurley
On: 04-Aug-21

Pages to follow: Chain of custody 1 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C **3.0**
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

L1080210

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2141286

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria: RCS-1-14

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2141286

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

3.0°C UTG Ice. OHS. PM 8/4/21

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
21080210-001	HA16-3(OW)	08-02-21 12:15	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		8/3/21	(UPS)	8/4/21 0955
Form No: AL_subcoc				

PM 8/4/21

ANALYTICAL REPORT

Lab Number:	L2141289
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Elizabeth Christmas
Phone:	(617) 886-7581
Project Name:	ALLSTON YARDS-BUILDING B
Project Number:	134110-100
Report Date:	08/16/21

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: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141289
Report Date: 08/16/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2141289-01	SURFACE WATER	WATER	ALLSTON, MA	08/02/21 14:00	08/02/21

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141289
Project Number:	134110-100	**Report Date:**	08/16/21

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:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141289
Project Number:	134110-100	**Report Date:**	08/16/21

Case Narrative (continued)

Report Submission

August 16, 2021: This final report includes the results of all requested analyses.

August 09, 2021: This is a preliminary report.

Total Metals

L2141289-01: The sample has elevated detection limits for all analytes by method 200.8 due to the dilution required by the limited sample volume available for analysis.

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: Michelle M. Morris

Title: Technical Director/Representative Date: 08/16/21

METALS

Project Name: ALLSTON YARDS-BUILDING B
Lab Number: L2141289
Project Number: 134110-100
Report Date: 08/16/21

SAMPLE RESULTS

Lab ID: L2141289-01
Client ID: SURFACE WATER
Sample Location: ALLSTON, MA
Date Collected: 08/02/21 14:00
Date Received: 08/02/21
Field Prep: Not Specified

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	0.04000	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Arsenic, Total	ND		mg/l	0.01000	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Cadmium, Total	ND		mg/l	0.00200	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Chromium, Total	ND		mg/l	0.01000	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Copper, Total	ND		mg/l	0.01000	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Iron, Total	1.12		mg/l	0.050	--	1	08/05/21 09:06	08/05/21 16:01	EPA 3005A	19,200.7	PS
Lead, Total	ND		mg/l	0.01000	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Mercury, Total	ND		mg/l	0.00020	--	1	08/05/21 09:14	08/05/21 12:21	EPA 245.1	3,245.1	OU
Nickel, Total	ND		mg/l	0.02000	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Selenium, Total	ND		mg/l	0.05000	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Silver, Total	ND		mg/l	0.00400	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Zinc, Total	ND		mg/l	0.1000	--	10	08/05/21 09:06	08/13/21 14:04	EPA 3005A	3,200.8	CD
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	61.6		mg/l	0.660	NA	1	08/05/21 09:06	08/05/21 16:01	EPA 3005A	19,200.7	PS
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		08/13/21 14:04	NA	107,-	

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141289

Project Number: 134110-100 **Report Date:** 08/16/21

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: WG1531512-1										
Iron, Total	ND		mg/l	0.050	--	1	08/05/21 09:06	08/05/21 15:40	19,200.7	PS

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: WG1531512-1										
Hardness	ND		mg/l	0.660	NA	1	08/05/21 09:06	08/05/21 15:40	19,200.7	PS

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: WG1531513-1										
Antimony, Total	ND		mg/l	0.00400	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Arsenic, Total	ND		mg/l	0.00100	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Cadmium, Total	ND		mg/l	0.00020	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Chromium, Total	ND		mg/l	0.00100	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Copper, Total	ND		mg/l	0.00100	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Lead, Total	ND		mg/l	0.00100	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Nickel, Total	ND		mg/l	0.00200	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Selenium, Total	ND		mg/l	0.00500	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Silver, Total	ND		mg/l	0.00040	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD
Zinc, Total	ND		mg/l	0.01000	--	1	08/05/21 09:06	08/13/21 12:46	3,200.8	CD

Prep Information

Digestion Method: EPA 3005A

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141289

Project Number: 134110-100 **Report Date:** 08/16/21

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: WG1531514-1										
Mercury, Total	ND		mg/l	0.00020	--	1	08/05/21 09:14	08/05/21 12:14	3,245.1	OU

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141289

Report Date: 08/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1531512-2								
Iron, Total	92		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1531512-2								
Hardness	103		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1531513-2								
Antimony, Total	94		-		85-115	-		
Arsenic, Total	107		-		85-115	-		
Cadmium, Total	107		-		85-115	-		
Chromium, Total	100		-		85-115	-		
Copper, Total	99		-		85-115	-		
Lead, Total	103		-		85-115	-		
Nickel, Total	85		-		85-115	-		
Selenium, Total	109		-		85-115	-		
Silver, Total	108		-		85-115	-		
Zinc, Total	106		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1531514-2								
Mercury, Total	98		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141289
Report Date: 08/16/21

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: WG1531512-3 QC Sample: L2141289-01 Client ID: SURFACE WATER												
Iron, Total	1.12	2	2.99	94		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1531512-3 QC Sample: L2141289-01 Client ID: SURFACE WATER												
Hardness	61.6	132	201	105		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1531513-3 QC Sample: L2141289-01 Client ID: SURFACE WATER												
Antimony, Total	ND	1	0.9699	97		-	-		70-130	-		20
Arsenic, Total	ND	0.24	0.2520	105		-	-		70-130	-		20
Cadmium, Total	ND	0.106	0.1128	106		-	-		70-130	-		20
Chromium, Total	ND	0.4	0.4021	100		-	-		70-130	-		20
Copper, Total	ND	0.5	0.5016	100		-	-		70-130	-		20
Lead, Total	ND	1.06	1.102	104		-	-		70-130	-		20
Nickel, Total	ND	1	0.8797	88		-	-		70-130	-		20
Selenium, Total	ND	0.24	0.2651	110		-	-		70-130	-		20
Silver, Total	ND	0.1	0.1066	107		-	-		70-130	-		20
Zinc, Total	ND	1	1.088	109		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1531514-3 QC Sample: L2141289-01 Client ID: SURFACE WATER												
Mercury, Total	ND	0.005	0.00505	101		-	-		70-130	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141289
Report Date: 08/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1531512-4 QC Sample: L2141289-01 Client ID: SURFACE WATER						
Iron, Total	1.12	1.11	mg/l	1		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1531512-4 QC Sample: L2141289-01 Client ID: SURFACE WATER						
Hardness	61.6	62.4	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1531513-4 QC Sample: L2141289-01 Client ID: SURFACE WATER						
Antimony, Total	ND	ND	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	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		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	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1531514-4 QC Sample: L2141289-01 Client ID: SURFACE WATER						
Mercury, Total	ND	ND	mg/l	NC		20

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2141289
Report Date: 08/16/21

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1531512-6 QC Sample: L2141289-01 Client ID: SURFACE WATER						
Hardness	61.6	61.9	mg/l	0		20

INORGANICS
&
MISCELLANEOUS

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100
Lab Number: L2141289
Report Date: 08/16/21

SAMPLE RESULTS

Lab ID: L2141289-01
Client ID: SURFACE WATER
Sample Location: ALLSTON, MA
Sample Depth:
Matrix: Water

Date Collected: 08/02/21 14:00
Date Received: 08/02/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.8		SU	-	NA	1	-	08/03/21 05:55	121,4500H+-B	AW
Nitrogen, Ammonia	0.092		mg/l	0.075	--	1	08/05/21 18:00	08/06/21 19:01	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	08/03/21 00:40	08/03/21 01:21	1,7196A	KA

Project Name: ALLSTON YARDS-BUILDING B **Lab Number:** L2141289

Project Number: 134110-100 **Report Date:** 08/16/21

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: WG1531603-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	08/03/21 00:40	08/03/21 01:17	1,7196A	KA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1532063-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	08/05/21 18:00	08/06/21 18:55	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141289

Report Date: 08/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1531603-2								
Chromium, Hexavalent	101		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1531604-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1532063-2								
Nitrogen, Ammonia	96		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141289
Report Date: 08/16/21

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: WG1531603-4 QC Sample: L2141289-01 Client ID: SURFACE WATER												
Chromium, Hexavalent	ND	0.1	0.099	99		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1532063-4 QC Sample: L2141286-01 Client ID: MS Sample												
Nitrogen, Ammonia	0.306	4	4.04	93		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: ALLSTON YARDS-BUILDING B

Project Number: 134110-100

Lab Number: L2141289

Report Date: 08/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1531603-3 QC Sample: L2141289-01 Client ID: SURFACE WATER						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1531604-2 QC Sample: L2141168-27 Client ID: DUP Sample						
pH	4.6	4.7	SU	2		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1532063-3 QC Sample: L2141286-01 Client ID: DUP Sample						
Nitrogen, Ammonia	0.306	0.321	mg/l	5		20

Project Name: ALLSTON YARDS-BUILDING B
Project Number: 134110-100

Lab Number: L2141289
Report Date: 08/16/21

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(*)
L2141289-01A	Plastic 250ml HNO3 preserved	A	<2	<2	3.7	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),HARDU(180),CU-2008T(180),FE-UI(180),AS-2008T(180),SE-2008T(180),AG-2008T(180),HG-U(28),TRICR-CALC(1),CR-2008T(180),SB-2008T(180),PB-2008T(180)
L2141289-01B	Plastic 500ml H2SO4 preserved	A	<2	<2	3.7	Y	Absent		NH3-4500(28)
L2141289-01C	Plastic 500ml unpreserved	A	7	7	3.7	Y	Absent		HEXCR-7196(1),PH-4500(.01)

*Values in parentheses indicate holding time in days

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141289
Project Number:	134110-100	**Report Date:**	08/16/21

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.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

Report Format: Data Usability Report

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141289
Project Number:	134110-100	**Report Date:**	08/16/21

Footnotes

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.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

Report Format: Data Usability Report

Project Name:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141289
Project Number:	134110-100	**Report Date:**	08/16/21

Data Qualifiers

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:	ALLSTON YARDS-BUILDING B	**Lab Number:**	L2141289
Project Number:	134110-100	**Report Date:**	08/16/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

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

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.

107 Alpha Analytical - In-house calculation method.

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, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
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, SM4500NO2-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, SM9222D.**

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, EPA 537.1.

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

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 of

Date Rec'd in Lab: 8/2/21

ALPHA Job #: L2141289

Project Information
- Project Name: Allston Yards - Building B
- Project Location: Allston, MA
- Project #: 134110-100
- (Use Project name as Project #) ☐
- Project Manager: Elizabeth Christmas, Doug Lindsay
- ALPHAQuote #: 10692

Turn-Around Time
- Standard ☑ Due Date:
- Rush (only if pre approved) ☐ # of Days: 5 Day

H&A Information
- H&A Client: New England Development LLC
- H&A Address: 465 Medford Street
- Boston, MA 02129
- H&A Phone: 617-886-7400
- H&A Fax: echristmas@haleyaldrich.com
- H&A Email: kchatterton@haleyaldrich.com

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

Billing Information
- ☑ Same as Client Info
- PO #

Regulatory Requirements (Program/Criteria)
MA MCP

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:

Total Metals: Ag. As.Cd.Cr.Cu.Ni.Pb.Sb.Se.Zn.Fe.Hg

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. Hardness	3. Ammonia	4. Total Metals - see list	5. Cr VI + Cr III				Sample Specific Comments	Total Bottles
41289 -01	Surface Water	8/2/21	1400	AQ	SRB	X	X	X	X	X					3
														Field temp: 23.4°	

Container Type
Preservative

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
	8/2/21 1430		8/2/21 1600
	8/2/21 1650		8/2/21 1650
	8/2/21 1811		8/2/21 1811

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)

APPENDIX C
Dilution Factor and Effluent Limit Calculations

Enter number values in green boxes based on the instructions to the right

Enter values in the units specified

15.7	Q_R = Enter upstream flow in **MGD**
0.144	Q_P = Enter discharge flow in **MGD**
0	Downstream 7Q10

Enter a dilution factor for saltwater receiving water (this box does not apply to freshwater receiving waters)

110

Enter values in the units specified

104	C_d = Enter influent hardness in **mg/L** $CaCO_3$
61.6	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

Enter **receiving water** concentrations in the units specified

		Impaired for metals?
6.8	pH in **Standard Units**	↓
23.4	Temperature in **°C**	
0.092	Ammonia in **mg/L**	
61.6	Hardness in **mg/L** $CaCO_3$	
NA	Salinity in **ppt**	
0	Antimony in **µg/L**	no
0	Arsenic in **µg/L**	no
0	Cadmium in **µg/L**	yes
0	Chromium III in **µg/L**	yes
0	Chromium VI in **µg/L**	yes
0	Copper in **µg/L**	yes
1.12	Iron in **µg/L**	yes
0	Lead in **µg/L**	yes
0	Mercury in **µg/L**	yes
0	Nickel in **µg/L**	yes
0	Selenium in **µg/L**	yes
0	Silver in **µg/L**	yes
0	Zinc in **µg/L**	yes

Enter **influent** concentrations in the units specified

0	TRC in **µg/L**
0.306	Ammonia in **mg/L**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0.24	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
9.63	Copper in **µg/L**
0	Iron in **µg/L**
0	Lead in **µg/L**
0	Mercury in **µg/L**
2.78	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
11.4	Zinc in **µg/L**
0	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

Notes: Revised 1-24-20

Freshwater: leave 0 unless 7Q10 or alternate Q_R AND a dilution factor >1 approved by the State;
Saltwater (estuarine and marine): leave 0 unless QR approved by the State
Enter the design flow or 1 MGD, whichever is less (100 gpm design flow = 0.144 MGD and is entered by default)
Leave 0 unless Q_R approved by the State

Freshwater: leave 0 Saltwater
(estuarine and marine): leave 0 unless DF approved by the State

Applies to freshwater receiving waters only

pH, temperature, and ammonia required for all discharges
Hardness required for freshwater
Salinity required for saltwater (estuarine and marine)
Metals required for all discharges if detected in the influent and if dilution factor approved by State
Enter 0 if non-detect or testing not required
If receiving water is not listed as impaired for metals in State 303(d) List, change to "no" using dropdown

if >1 sample, enter maximum influent measurement
if >10 samples, may enter 95th percentile of influent measurements using
EPA's *Technical Support Document for Water Quality-based Toxics Control*
Enter 0 if non-detect or testing not required

HALEY & ALDRICH, INC.		**CALCULATIONS**	FILE NO.	134110-101	
			SHEET	1 of 1	
CLIENT	New England Development		DATE	3/18/2022	
PROJECT	Allston Yards - Building B		COMPUTED BY	EJC	
SUBJECT	Dilution Factor Calculations				

PURPOSE: Calculate Dilution Factor (DF) for project based on 7 Day 10 Year (7Q10) Low Flow values.

APPROACH: Calculate DF based on EPA formula $(Q_S + Q_D)/Q_D$, where Q_S is 7Q10 in million gallons per day (MGD) and Q_D is discharge flow in MGD.

ASSUMPTIONS:
1. 7Q10 is 24.3 cfs (from StreamStats 4.0)
2. A conversion of 7.48 is used to convert cubic feet to gallons
3. A discharge flowrate of 100 gpm is assumed

CALCULATIONS:

7Q10 Low Flow Value (Q_S)

$$Q_S = \frac{24.3\ ft^3}{sec} \times \frac{7.48\ gallons}{ft^3} \times \frac{86{,}400\ sec}{day} \times \frac{1\ MG}{1{,}000{,}000\ gallons}$$

Q_S = 15.7 MGD

Discharge Flowrate (Q_D)

$$Q_D = \frac{100\ gallons}{min} \times \frac{1{,}440\ min}{day} \times \frac{1\ MG}{1{,}000{,}000\ gallons}$$

Q_D = 0.144 MGD

Dilution Factor (DF)

$$DF = \frac{Q_S + Q_D}{QD} = \frac{15.7\ MGD + 0.144\ MGD}{0.144\ MGD} = 110.0$$

CONCLUSION: The dilution factor for this project is calculated to be 110.0 based on the provided 7Q10 low flow value and discharge flowrate.

Christmas, Elizabeth

From: Ruan, Xiaodan (DEP) <xiaodan.ruan@state.ma.us>
Sent: Monday, March 21, 2022 5:56 PM
To: Christmas, Elizabeth
Cc: Midgley, Amelia; Coniaris, Catherine (DEP)
Subject: RE: NPDES RGP Application - 7Q10 and Dilution Factor Confirmation

Hi Elizabeth,

I can confirm the 7Q10 flow of 24.3 cfs for the Charles River and the dilution factor of 110 for the proposed discharge with a design flow of 100 gpm from the project site at 400 Guest Street (60 Everett Street), Boston were correct.

Here is water quality information in assisting you in filling out the NOI:

> Waterbody and ID: Charles River (MA72-36) within Charles River Watershed
> Classification: B, CSO
> Outstanding Resource Water?: no
> State's most recent Integrated List is located here: https://www.mass.gov/doc/final-massachusetts-integrated-list-of-waters-for-the-clean-water-act-20182020-reporting-cycle/download, search for "MA72-36" to see the causes of impairments.
> TMDLs: there are two approved TMDL (pathogen and nutrients) for this segment.

Also, if this is not a *current* MCP site, then in addition to submitting the NOI to EPA, you need to apply with MassDEP and submit a $500 fee (unless fee exempt, e.g., municipality). For MassDEP's application, please use ePLACE, an online application submittal process where you will set up a user ID and be able to submit NOIs for various projects as well as pay by credit card. The instructions are located on this page: https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent. Technical assistant information is available on the front page of the ePLACE application webpage.

Please let me know if you have any questions.

Thanks,
Xiaodan

Xiaodan Ruan
Environmental Engineer
Massachusetts Department of Environmental Protection
One Winter Street, Boston, MA 02108
(857)-256-4172
xiaodan.ruan@mass.gov

From: Christmas, Elizabeth <EChristmas@haleyaldrich.com>
Sent: Friday, March 18, 2022 4:14 PM
To: Coniaris, Catherine (DEP) <Catherine.Coniaris@mass.gov>; Ruan, Xiaodan (DEP) <xiaodan.ruan@mass.gov>
Cc: Midgley, Amelia <AMidgley@haleyaldrich.com>
Subject: NPDES RGP Application - 7Q10 and Dilution Factor Confirmation

Good afternoon,

In accordance with the NPDES RGP, I have attached to this email our StreamStats report and dilution factor for the below project for your review and confirmation.

Project:
Allston Yards – Building B Development
400 Guest Street (60 Everett Street)
Boston, MA

7 Day 10 Year Low Flow value (from attached StreamStats report) = 24.3 cfs or 15.7 MGD

Dilution Factor (from attached calculations) = 110.0

Can you please confirm these values are appropriate for use for our project?

Thank you,
Liz

Elizabeth J. Christmas, P.E. (NH)
Assistant Project Manager

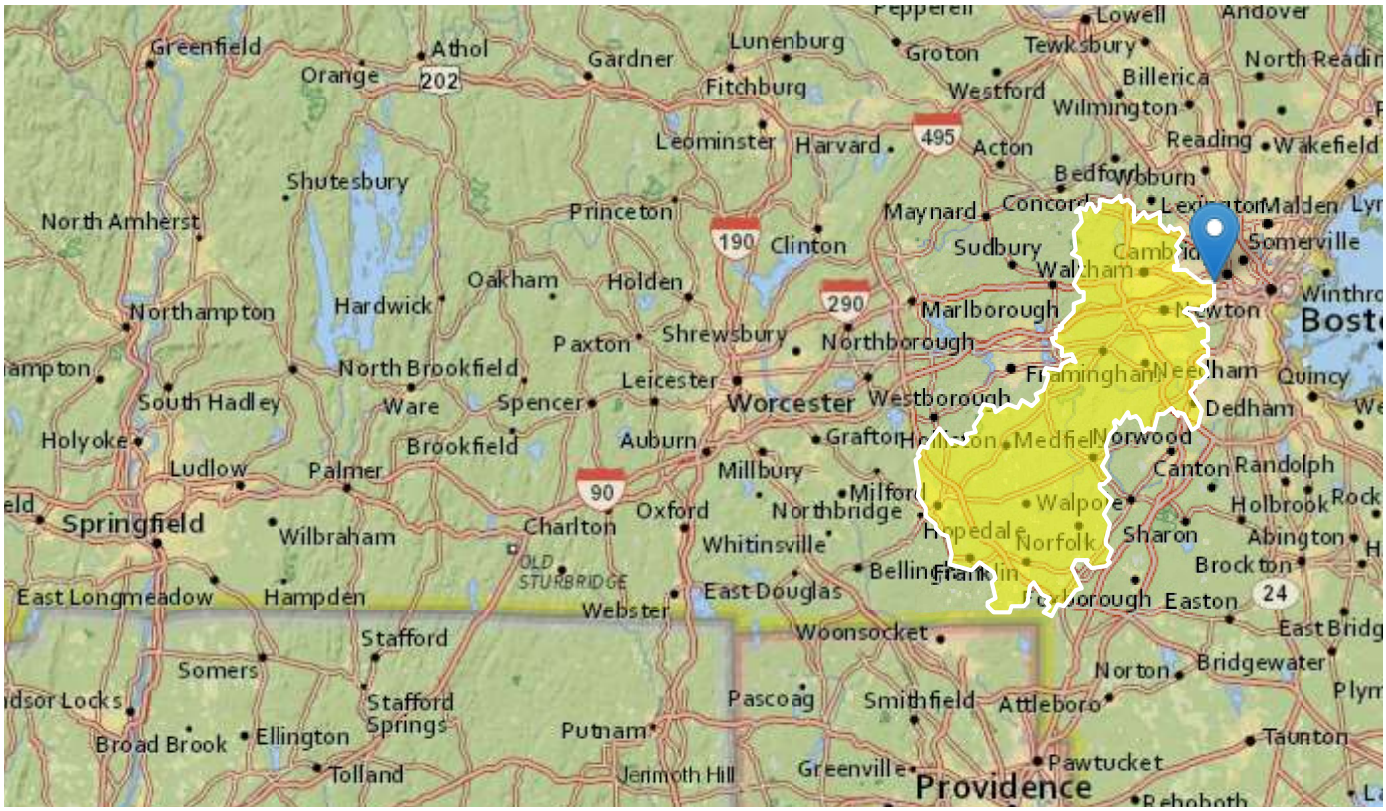
Haley & Aldrich, Inc.
465 Medford Street | Suite 2200
Boston, MA 02129-1400

T: (617) 886-7581
C: (978) 621-9611

www.haleyaldrich.com

StreamStats Report

Region ID: MA
Workspace ID: MA20220318195848233000
Clicked Point (Latitude, Longitude): 42.36517, -71.13798
Time: 2022-03-18 15:59:09 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	279	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.342	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.23	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Low-Flow Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	279	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.342	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.23	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Statewide Low Flow WRIR00 4135]

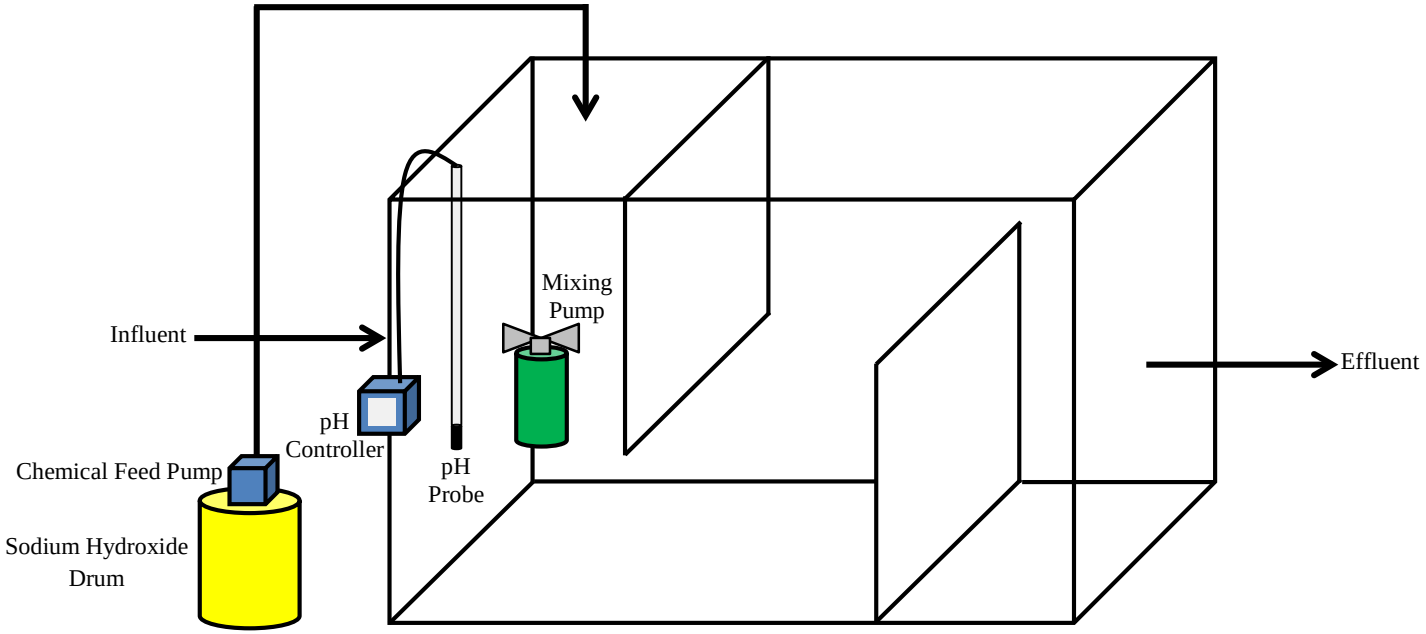
Statistic	Value	Unit
7 Day 2 Year Low Flow	48.9	ft^3/s
7 Day 10 Year Low Flow	24.3	ft^3/s

Low-Flow Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Application Version: 4.7.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

APPENDIX D
Contractor's Dewatering System



Notes:

1.) Figure is not to scale.
2.) System layout can vary with site conditions.

Configuration of pH Adjustment System

Job Safety Analysis

pH/Chem Feed System

Required PPE: Hard Hat, Safety Toe Boots, Reflective Vest, Safety Glasses, Chemical Resistant Gloves

TASK	POTENTIAL RISK/HAZARD	CONTROLS
Transporting acid/chemical drum	Splash, spill, heavy lifting	Inspect condition of drum prior to transportation. Use material handling devices when possible to move equipment (lift gates, pallet jacks, hand trucks, etc.). If necessary, use a ramp for loading/unloading wheeled devices, ensuring the ramp is properly supported prior to use. Lift with your knees and use drum dolly. Make sure drum is secure in vehicle prior to transportation. Review SDS on acid/chemical. Wear proper PPE and dispose of materials after clean up in a sealed container. Immediately use the eye wash station if acid or chemical comes in contact with your eye.
Opening acid drum	Splash, spill	Review MSDS on acid/chemical. Wear proper PPE and dispose of materials after clean up in a sealed container. Immediately use the eye wash station if acid or chemical comes in contact with your eye. Use bung wrench to open the drum properly.
Set up chemical feed pump	Splash, spill, leak	Wear proper PPE and dispose of materials after clean up in a sealed container. Immediately use the eye wash station if acid or chemical comes in contact with your eye. Monitor chem feed pump to assure its working and not leaking. Use chemical resistant tubing to transport liquid from the pump.
Notes:		

Note any changes/deviations to this JSA

One Controller for the Broadest Range of Sensors.

Choose from 30 digital and analog sensor families for up to 17 di:erent 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 o:ers 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.

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

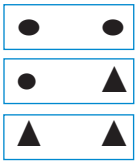
Choose from Hach's Broad Range of Digital and Analog Sensors

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	▲

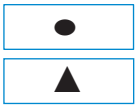
● = Digital ▲ = Analog

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



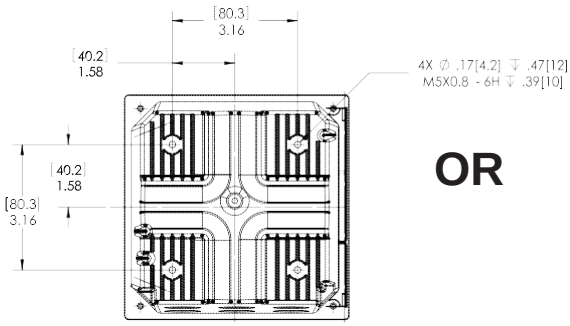
Specifications*

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.*

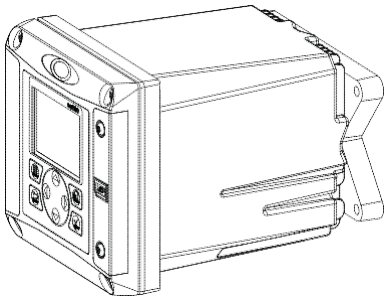
Dimensions

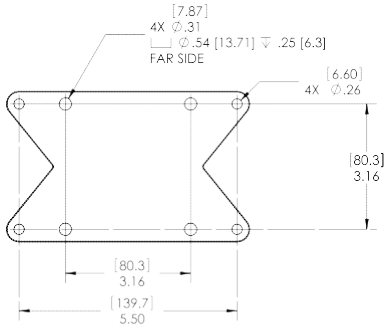
Surface Mounting Dimensions



Mounting Dimensions
(Rear View)

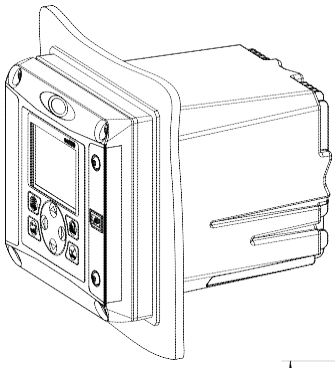
OR

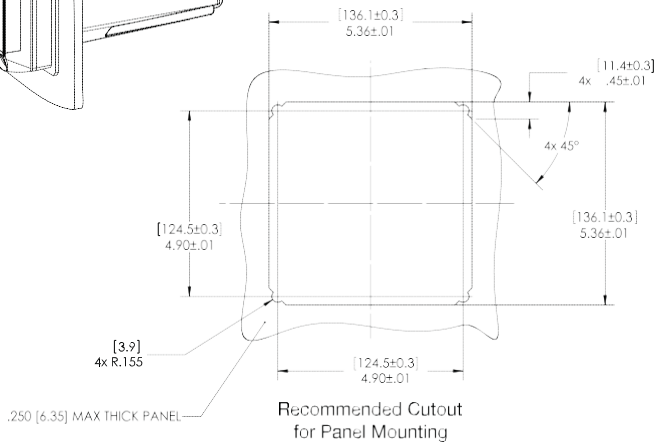




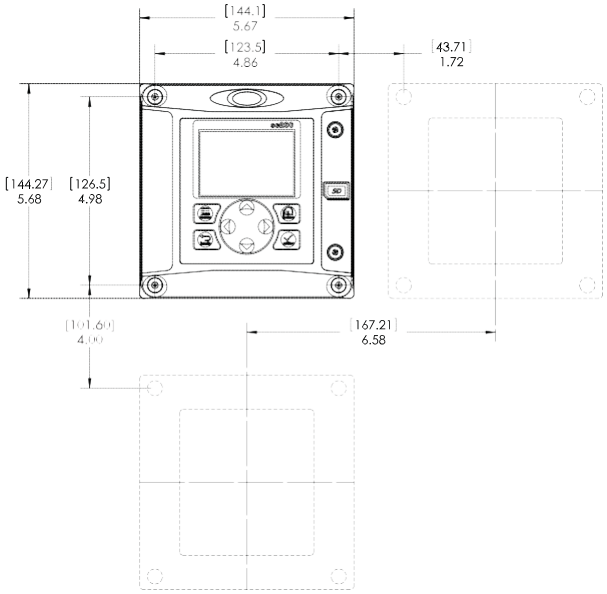
Bracket (supplied) for Surface Mounting
(Not compatible with Weather and Sun Shield
p/n 9220600 when surface mounting.)

Panel Mounting Dimensions



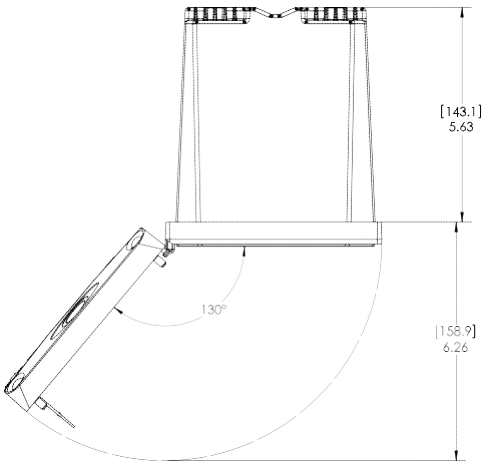


Recommended Cutout
for Panel Mounting

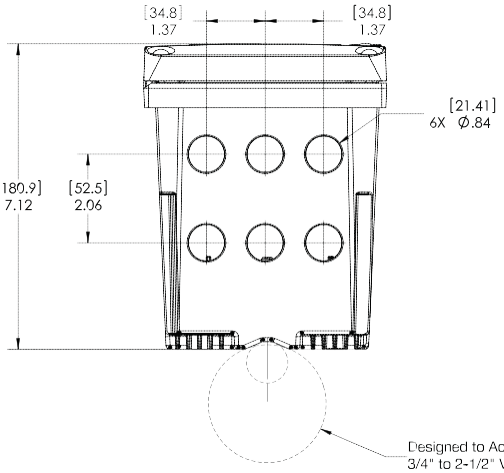


Minimum Spacing Dimensions
for Group Mounting

Top and Bottom Views



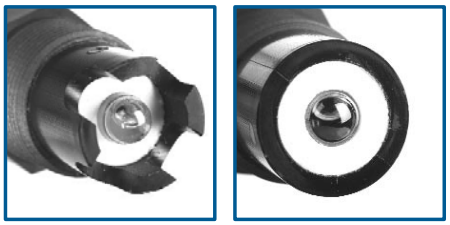
Door Opening Details



Designed to Accommodate
3/4" to 2-1/2" Vertical / Horizontal Pipe

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 Teflon®. 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 105ºC (32 to 221ºF)

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

Pressure Range
0 to 6.9 bar at 100ºC (0 to 100 psig at 212ºF)

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 Teflon 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 105ºC (32 to 221ºF)

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

Pressure Range
0 to 6.9 bar at 100ºC (0 to 100 psig at 212ºF)

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 Teflon 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 Teflon® 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.

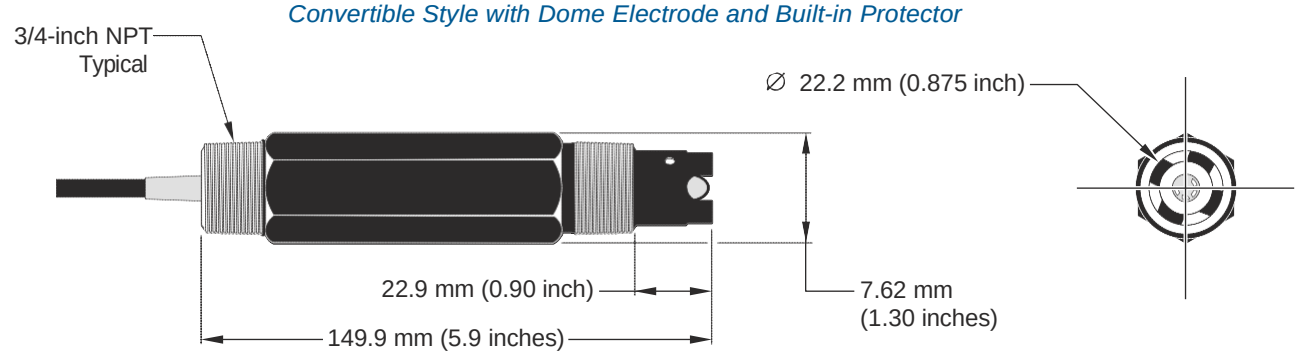
Insertion Style Sensor

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.

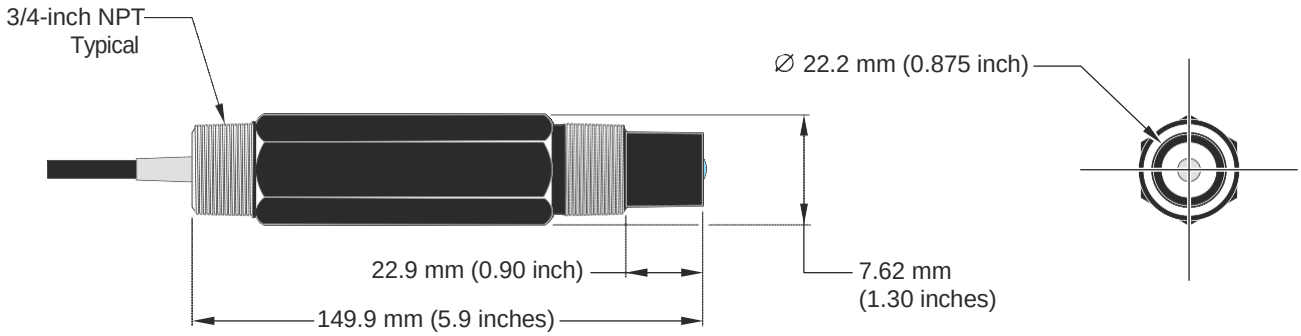
Sanitary Style Sensor

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



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 GPO (1.9 lph), and flow capacities to 58 GPO (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.

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
External Pace w/ Stop (125 SPM only)	--	Auto / Manual Selection [2]
Manual Stroke Rate	10:1 Ratio	100:1 Raio
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.

Operating Benefits

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

Aftermarket

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

Series A Plus
Electronic Metering Pumps

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
		GPO	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 <; N code) wITFE 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 IDegas Liquid End		150 (10)							150 (10)		
Connections:		Tubina	1.14" ID X 3.18" OD						3.18" D X 1.12" OD	1.14" D X 3.18" OD		
		Pioina	1.14" 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/0-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 capacty
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 hput Power:	130 Watts
Average Input Power @ Max SPM:	50 Watts

Custom Engineered Designs - Pre-Engineered Systems

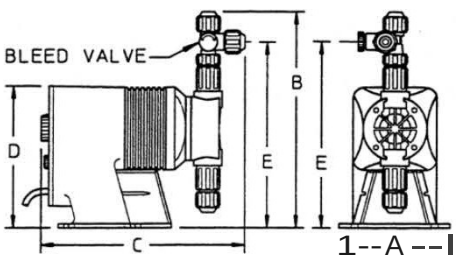
Pre-Engineered Systems

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 HOPE 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 IS2	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 IS3	5.0	9.9	9.5	6.5	8.5	10
LB0[illegible]4	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



95-Gallon OverPack - 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
# per Pallet:	3
Incinerable:	No
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

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."

SAFETY DATA SHEET

M32415 - ANSI - EN

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415 **SDS Revision Date:** 13-Jan-2016

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 5005 LBJ Freeway P.O. Box 809050 Dallas, TX 75380-9050 1-800-752-5151
24 Hour Emergency Telephone Number:	1-800-733-3665 or 1-972-404-3228 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186
To Request an SDS:	MSDS@oxy.com or 1-972-404-3245
Customer Service:	1-800-752-5151 or 1-972-404-3700 (55) 55959542 (Mexico)
Product Identifier:	**CAUSTIC SODA LIQUID (ALL GRADES)**
Trade Name:	Caustic Soda Diaphragm Grade 10%, 15%, 18%, 20%, 25%, 30%, 35%, 40%, 50%, Caustic Soda Membrane 6%, 18%, 20%, 25%, 30%, 48%, 50%, 50% Caustic Soda Membrane OS, 50% Caustic Soda Diaphragm OS, Caustic Soda Low Salt 50%, Membrane Blended, 50% Caustic Soda Diaphragm (West Coast), Membrane Cell Liquor
Synonyms:	Sodium hydroxide solution, Liquid Caustic, Lye Solution, Caustic, Lye, Soda Lye, Secondary Caustic Soda Liquids
Product Use:	Metal finishing, Cleaner, Process chemical, Petroleum Industry
Uses Advised Against:	None identified

SECTION 2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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EMERGENCY OVERVIEW:

Color: Colorless to slightly colored
Physical State: Liquid
Appearance: Clear to opaque
Odor: Odorless

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: CORROSIVE. CAUSES SERIOUS EYE DAMAGE. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. MAY CAUSE RESPIRATORY IRRITATION. EFFECTS OF CONTACT OR INHALATION MAY BE DELAYED.

PHYSICAL HAZARDS: MAY BE CORROSIVE TO METALS. Mixing with water, acid or incompatible materials may cause splattering and release of heat. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated.

ECOLOGICAL HAZARDS: This material has exhibited moderate toxicity to aquatic organisms. Keep out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters.

PRECAUTIONARY STATEMENTS: Do not get in eyes, on skin, or on clothing. Wear eye protection, face protection, protective gloves. Do not breathe mist, vapors, or spray. Do not ingest. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling- exposure can cause burns which are not immediately painful or visible.

ADDITIONAL HAZARD INFORMATION: This material is corrosive. It may cause severe burns and permanent damage to any tissue with which it comes into contact. Toxicity may be delayed, and may not be readily visible. To treat contacted tissue, flush with water to dilute. There is no specific antidote. Significant exposures must be referred for medical attention immediately.

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GHS CLASSIFICATION:

GHS: PHYSICAL HAZARDS:	Corrosive to Metals Mixing with water may cause splattering and release of heat
GHS: CONTACT HAZARD - SKIN:	Category 1B - Causes severe skin burns and eye damage.
GHS: CONTACT HAZARD - EYE:	Category 1 - Causes serious eye damage

GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	Category 3 - May cause respiratory irritation
GHS: CARCINOGENICITY:	Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC or OSHA.
GHS: HAZARDOUS TO AQUATIC ENVIRONMENT - ACUTE HAZARD:	Category 3 - Harmful to aquatic life

UNKNOWN ACUTE TOXICITY: 100% of the mixture consists of ingredient(s) of unknown toxicity. There is no acute toxicity data available for this product.

GHS SYMBOL: Corrosive

GHS SIGNAL WORD: **DANGER**

GHS HAZARD STATEMENTS:

GHS - Physical Hazard Statement(s)
• May be corrosive to metals

GHS - Health Hazard Statement(s)
• Causes serious eye damage
• Causes severe skin burns and eye damage
• May cause respiratory irritation

GHS - Precautionary Statement(s) - Prevention
• Do not breathe mist, vapors, or spray
• Wear protective gloves, protective clothing, eye, and face protection
• Wash thoroughly after handling
• Keep only in original container
• Use only outdoors or in a well-ventilated area

GHS - Precautionary Statement(s) - Response
• IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower
• Wash contaminated clothing before reuse
• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
• Immediately call a POISON CENTER or doctor/physician
• IF INHALED: Remove person to fresh air and keep comfortable for breathing
• Immediately call a POISON CENTER or doctor/physician
• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
• Specific treatment (see First Aid information on product label and/or Section 4 of the SDS)
• Absorb spillage to prevent material damage

GHS - Precautionary Statement(s) - Storage
• Store locked up
• Store in a well-ventilated place. Keep container tightly closed
• Store in corrosive resistant and NON-ALUMINUM container with a resistant inner liner (NOTE: flammable hydrogen gas may be generated if aluminum container and/or aluminum fittings are used)

GHS - Precautionary Statement(s) - Disposal
• Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Hazards Not Otherwise Classified (HNOC)
Mixing with water may cause splattering and release of heat

Additional Hazard Information
Mixing with water may cause splattering and release of heat.

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Sodium hydroxide solution, Liquid Caustic, Lye Solution, Caustic, Lye, Soda Lye, Secondary Caustic Soda Liquids

Component	Percent [%]	CAS Number
Water	48.5 - 94.5	7732-18-5
Sodium Hydroxide	5.5 - 51.5	1310-73-2
Sodium Chloride	0 - 35	7647-14-5

Notes: *All hazardous and non-hazardous components of product composition are listed.*

SECTION 4. FIRST AID MEASURES

INHALATION: If inhalation of mists, vapors, or spray occurs and adverse effects result, remove to uncontaminated area. Evaluate ABC's (is Airway constricted, is Breathing occurring, and is blood Circulating) and treat symptomatically. GET MEDICAL ATTENTION IMMEDIATELY. There is no specific antidote, treat symptomatically.

SKIN CONTACT: Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with large amounts of water. GET MEDICAL ATTENTION IMMEDIATELY. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods.

EYE CONTACT: Immediately flush contaminated eyes with a directed stream of water for as long as possible. Remove contact lenses, if present and easy to do. Continue rinsing. GET MEDICAL ATTENTION IMMEDIATELY. Washing eyes within several seconds is essential to achieve maximum effectiveness.

INGESTION: If swallowed, do not induce vomiting. For definite or probable ingestion, do not administer oral fluids. If vomiting occurs spontaneously, keep airway clear. Monitor airway. Volume resuscitation (IV fluids) and circulatory support (CPR) may be required. Never give anything by mouth to an unconscious or convulsive person. GET MEDICAL ATTENTION IMMEDIATELY.

Most Important Symptoms/Effects (Acute and Delayed) Corrosive. This material may be corrosive to any tissue it comes in contact with. It can cause serious burns and extensive tissue destruction resulting in: liquefaction, necrosis, and/or perforation.

Acute Symptoms/Effects: Listed below.
Inhalation (Breathing): Respiratory System Effects: Exposure to airborne material may cause irritation, redness of upper and lower airways, coughing, laryngeospasm, shortness of breath, bronchoconstriction, and possible pulmonary edema. Severe and permanent scarring may occur. Pulmonary edema may develop several hours after a severe acute exposure. Aspiration of this material may cause the same conditions.
Skin: Skin Corrosion. Exposure to skin may cause redness, itching, irritation, swelling, burns (first, second, or third degree), liquefaction of skin, and damage to underlying tissues (deep and painful wounds).
Eye: Serious Eye Damage. Eye exposures may cause eye lid burns, conjunctivitis, corneal edema, corneal burn, corneal perforation, damage to internal contents of the eye, permanent visual defects, and blindness and/or loss of the eye.
Ingestion (Swallowing): Gastrointestinal System Effects: Exposure by ingestion may cause irritation, swelling, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur.

Delayed Symptoms/Effects:
- Skin: Repeated and prolonged skin contact may cause a chronic dermatitis

Interaction with Other Chemicals Which Enhance Toxicity: None known.

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions such as: eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin; and respiratory conditions including asthma and other breathing disorders.

Protection of First-Aiders: Protect yourself by avoiding contact with this material. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Do not ingest. Use personal protective equipment. Refer to Section 8 for specific personal protective equipment recommendations. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: Medical observation and assessment is recommended for all ingestions, all eye exposures, and symptomatic inhalation and dermal exposures. For symptomatic ingestion, do not administer oral fluids and consider investigation by endoscopy, X-ray, or CT scan. Esophageal perforation, airway compromise, hypotension, and shock are possible. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. There is no antidote. Treatment is supportive care. Follow normal parameters for airway, breathing, and circulation. Surgical intervention may be required.

SECTION 5. FIRE-FIGHTING MEASURES

Fire Hazard: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. May react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas which can form explosive mixtures in air.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Fire Fighting: Move container from fire area if it can be done without risk. Cool containers with water. Do not apply water directly on this product. Heat is generated when mixed with water. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Avoid contact with skin.

Component	Immediately Dangerous to Life/ Health (IDLH)
Sodium Hydroxide 1310-73-2	10 mg/m^3 IDLH

Hazardous Combustion Products: Sodium hydroxide fumes can be generated by thermal decomposition at elevated temperatures

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: Not flammable

Auto-ignition Temperature: Not applicable

GHS: PHYSICAL HAZARDS:
- Corrosive to Metals
- Mixing with water may cause splattering and release of heat

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Do not get in eyes, on skin or on clothing. Avoid breathing mist, vapor, or spray. Do not ingest. Wear appropriate personal protective equipment recommended in Section 8 of the SDS.

Methods and Materials for Containment and Cleaning Up:
In case of spill or leak, stop the leak as soon as possible, if safe to do so. Completely contain spilled materials with dikes, sandbags, etc. Shovel dry material into suitable container. Liquid material may be removed with a vacuum truck. Remaining material may be diluted with water and neutralized with dilute acid, then absorbed and collected. Flush spill area with water, if appropriate.

Environmental Precautions:
Keep out of water supplies and sewers. Do not flush into surface water or sanitary sewer system. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling:
Avoid breathing vapor or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not ingest. Do not eat, drink or smoke in areas where this material is used. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS. NEVER add water to product. When mixing, slowly add to water to minimize heat generation and spattering.

Safe Storage Conditions:
Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Incompatibilities/ Materials to Avoid:
Acids and halogenated compounds, Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys, Releases heat when diluted in water

GHS: PHYSICAL HAZARDS:
- Corrosive to Metals
- Mixing with water may cause splattering and release of heat

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Regulatory Exposure Limit(s): Listed below for the product components that have regulatory occupational exposure limits (OEL's).

Component	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PELCeiling
Sodium Hydroxide 1310-73-2	2 mg/m^3	-----	-----

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

NON-REGULATORY EXPOSURE LIMIT(S): Listed below for the product components that have non-regulatory occupational exposure limits (OEL's).

Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Sodium Hydroxide	-----	-----	2 mg/m^3	-----	-----	2 mg/m^3

- The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

Component	OXY REL 8 hr TWA	OXY REL STEL	OXY REL Ceiling
Sodium Chloride 7647-14-5 (0 - 35)	-----	-----	-----

ENGINEERING CONTROLS: Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear chemical safety goggles with a face-shield to protect against eye and skin contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear protective clothing to minimize skin contact. Wear chemical resistant clothing and rubber boots when potential for contact with the material exists. Always place pants legs over boots. Contaminated clothing should be removed, then discarded or laundered. Discard contaminated leather goods.

Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types:
- Natural rubber
- Neoprene
- Nitrile
- Polyvinyl chloride (PVC)
- Tyvek®
- Tychem®

Respiratory Protection: A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. If eye irritation occurs, a full face style mask should be used. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Component	Immediately Dangerous to Life/ Health (IDLH)
Sodium Hydroxide 1310-73-2	10 mg/m^3 IDLH

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practices. Wash hands and affected skin immediately after handling, before breaks, and at the end of the workday. When using do not eat or drink. When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Clear to opaque
Color:	Colorless to slightly colored
Odor:	Odorless
Odor Threshold [ppm]:	No data available.
Molecular Weight:	40.01
Molecular Formula:	NaOH
Decomposition Temperature:	No data available
Boiling Point/Range:	215 - 291°F (102 - 144°C)
Freezing Point/Range:	-26 to 59°F (-32 to 15 °C).
Vapor Pressure:	13 - 135 mmHg @ 60 °C
Vapor Density (air=1):	No data available
Relative Density/Specific Gravity (water=1):	1.05 – 1.56 @ 15.6 °C
Density:	8.8 - 13.0 lbs/gal @ 15.6 °C
Water Solubility:	100%
pH:	14.0 (theoretical value of 7.5% solution)
Volatility:	No data available
Evaporation Rate (ether=1):	No data available
Partition Coefficient (n-octanol/water):	No data available
Flash point:	Not flammable
Flammability (solid, gas):	Not flammable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Auto-ignition Temperature:	Not applicable
Viscosity:	About 24cp for 50% solution at 40 °C (104 °F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Soluble in water, releasing heat sufficient to ignite combustibles. Reacts with metals, and may form hydrogen gas.

Chemical Stability: Stable at normal temperatures and pressures.

Possibility of Hazardous Reactions:
Mixing with water, acid, or incompatible materials may cause splattering and release of large amounts of heat. Will react with some metals forming flammable hydrogen gas. Carbon monoxide gas may form upon contact with reducing sugars, food and beverage products in enclosed spaces.

Conditions to Avoid: (e.g., static discharge, shock, or vibration) -. None known.

Incompatibilities/ Materials to Avoid: Acids and halogenated compounds. Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys. Releases heat when diluted in water.

Hazardous Decomposition Products: Toxic fumes of sodium oxide

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

IRRITATION DATA: PRIMARY SKIN IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr)
PRIMARY EYE IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr)

TOXICITY DATA:

PRODUCT TOXICITY DATA: CAUSTIC SODA LIQUID (ALL GRADES)

LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
No reliable data available	No reliable data available	No data available

COMPONENT TOXICITY DATA:
Note: The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given.

Component	LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
Water 7732-18-5	90 mL/kg (Rat)	-----	-----
Sodium Hydroxide 1310-73-2	140-3400 mg/kg	1350 mg/kg (Rabbit)	-----
Sodium Chloride 7647-14-5	3 g/kg (Rat)	-----	42 g/m^3 (1 hr-Rat)

****

POTENTIAL HEALTH EFFECTS:

Eye contact: Corrosive. Causes serious eye damage which can result in: severe irritation, pain and burns, and permanent damage including blindness.

Skin contact: Corrosive. Causes severe skin burns. Prolonged or repeat skin exposures can result in dermatitis.

Inhalation: Corrosive. Inhalation injury may result from ingestion and/or aspiration of this material. May cause severe irritation of the respiratory tract with potential airway compromise, coughing, choking, pain, and burns of the mucous membrane and respiratory system. This material can be extremely destructive to the tissue of the mucus membranes and respiratory system. Aspiration may cause chemical pneumonitis, pulmonary edema, damage to lung tissue, death.

Ingestion: Corrosive. If swallowed, may cause severe oral and esophageal, mucus membrane, and gastrointestinal burns and possible perforation. If swallowed, may pose a lung aspiration hazard during vomiting.

Chronic Effects: Repeated or prolonged skin contact may result in dermatitis.

SIGNS AND SYMPTOMS OF EXPOSURE:
This material may cause severe burns and permanent damage to any tissue with which it comes into contact. It can cause serious burns and extensive tissue destruction resulting in liquefaction, necrosis and/or perforation. Signs and symptoms of exposure vary, and are dependent on the route of exposure, degree of exposure, and duration of exposure.

Inhalation (Breathing): Respiratory System Effects: Exposure to airborne material may cause irritation, redness of upper and lower airways, coughing, laryngeospasm, shortness of breath, bronchoconstriction, and possible pulmonary edema. Severe and permanent scarring may occur. Pulmonary edema may develop several hours after a severe acute exposure. Aspiration of this material may cause the same conditions.
Skin: Skin Corrosion. Exposure to skin may cause redness, itching, irritation, swelling, burns (first, second, or third degree), liquefaction of skin, and damage to underlying tissues (deep and painful wounds).
Eye: Serious Eye Damage. Eye exposures may cause eye lid burns, conjunctivitis, corneal edema, corneal burn, corneal perforation, damage to internal contents of the eye, permanent visual defects, and blindness and/or loss of the eye.
Ingestion (Swallowing): Gastrointestinal System Effects: Exposure by ingestion may cause irritation, swelling, and perforation of upper and lower gastrointestinal tissues. Permanent scarring may occur.

TOXICITY:
When in solution, this material will affect all tissues with which it comes in contact. The severity of the tissue damage is a function of its concentration, the length of tissue contact time, and local tissue conditions. After exposure there may be a time delay before irritation and other effects occur. This material is a strong irritant and is corrosive to the skin, eyes, and mucus membranes. This material may cause severe burns and permanent damage to any tissue with which it comes into contact.

Interaction with Other Chemicals Which Enhance Toxicity: None known.

****

GHS HEALTH HAZARDS:

GHS: CONTACT HAZARD - EYE: Category 1 - Causes serious eye damage

GHS: CONTACT HAZARD - SKIN: Category 1B - Causes severe skin burns and eye damage

Skin Absorbent / Dermal Route? No.

GHS: CARCINOGENICITY:
Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC or OSHA.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):
Category 3 - Respiratory Irritation

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

Aquatic Toxicity:
This material has exhibited moderate toxicity to aquatic organisms. Data provided are for sodium hydroxide

Component	Freshwater Fish	Invertebrate Toxicity:	Algae Toxicity:	Other Toxicity:
Sodium Chloride 7647-14-5 (0 - 35)		340.7 - 469.2 mg/L EC50 = 1000 mg/L EC50	-----	

FATE AND TRANSPORT:

BIODEGRADATION: This material is inorganic and not subject to biodegradation

PERSISTENCE: This material is alkaline and may raise the pH of surface waters with low buffering capacity This material is believed to exist in the disassociated state in the environment

BIOCONCENTRATION: This material is not expected to bioconcentrate in organisms.

BIOACCUMULATIVE POTENTIAL: Does not bioaccumulate.

MOBILITY IN SOIL: No data available.

ADDITIONAL ECOLOGICAL INFORMATION: This material has exhibited slight toxicity to terrestrial organisms. This material has exhibited moderate toxicity to aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:
Reuse or reprocess, if possible. May be subject to disposal regulations. Dispose in accordance with all applicable regulations.

Container Management:
Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

UN NUMBER: UN1824
PROPER SHIPPING NAME: Sodium Hydroxide Solution
HAZARD CLASS/ DIVISION: 8

PACKING GROUP: II
LABELING REQUIREMENTS: 8
RQ (lbs): RQ 1000 lbs. (Sodium Hydroxide)

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

UN NUMBER: UN1824
SHIPPING NAME: Sodium hydroxide solution
CLASS OR DIVISION: 8
PACKING/RISK GROUP: II
LABELING REQUIREMENTS: 8

MARITIME TRANSPORT (IMO / IMDG) :

UN NUMBER: UN1824
PROPER SHIPPING NAME: Sodium hydroxide solution
HAZARD CLASS / DIVISION: 8
Packing Group: II
LABELING REQUIREMENTS: 8

SECTION 15. REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Component	CERCLA Reportable Quantities:
Sodium Hydroxide	1000 lb (final RQ)

SARA EHS Chemical (40 CFR 355.30)
No components are listed

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):
Acute Health Hazard

EPCRA SECTION 313 (40 CFR 372.65):
No components are listed

DEPARTMENT OF HOMELAND SECURITY (DHS)- Chemical Facility Anti-Terrorism Standards (6 CFR 27):
No components in this material are regulated under DHS

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):
Not regulated

FDA: This material has Generally Recognized as Safe (GRAS) status under specific FDA regulations. Additional information is available from the Code of Federal Regulations which is accessible on the FDA's website. This product is not produced under all current Good Manufacturing Practices (cGMP) requirements as defined by the Food and Drug Administration (FDA).

NATIONAL INVENTORY STATUS

U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA): All components are listed or exempt

Component	U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):
Water 7732-18-5 (48.5 - 94.5)	Listed
Sodium Hydroxide 1310-73-2 (5.5 - 51.5)	Listed
Sodium Chloride 7647-14-5 (0 - 35)	Listed

TSCA 12(b): This product is not subject to export notification.

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

STATE REGULATIONS

California Proposition 65:
This product and its ingredients are not listed, but it may contain impurities/trace elements known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act. For additional information, contact OxyChem Technical Services at 1-800-733-1165.

Component	California Proposition 65 Cancer WARNING:	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List
Sodium Hydroxide 1310-73-2	Not Listed	Not Listed	Not Listed	Listed	1706	corrosive

Component	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List	Rhode Island Right to Know Hazardous Substance List
Water 7732-18-5	Not Listed	Listed	Not Listed	Not Listed	Not Listed
Sodium Hydroxide 1310-73-2	Not Listed	Listed	Not Listed	Present	Listed

CANADIAN REGULATIONS

• This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations

Component	Water
WHMIS - Classifications of Substances: Uncontrolled product according to WHMIS classification criteria	
Component	Sodium Hydroxide
WHMIS - Classifications of Substances: E	
Component	Sodium Chloride
WHMIS - Classifications of Substances: Uncontrolled product according to WHMIS classification criteria	

SECTION 16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS - Product Stewardship

Rev. Date: 13-Jan-2016

Other information:
The Safety Data Sheet for Caustic Soda Liquid (ALL Grades) can be used for hazard communication purposes for off-specification, secondary caustic soda liquids generated when cleaning caustic soda storage tanks, including the general disclaimer found in section 16 of the Safety Data Sheet

HMIS: (SCALE 0-4) (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

Health Rating: 3 **Flammability Rating:** 0 **Reactivity Rating:** 1

NFPA 704 - Hazard Identification Ratings (SCALE 0-4) : Listed below.

Health Rating: 3 **Flammability:** 0 **Reactivity Rating:** 1

Reason for Revision:
• Changed GHS Classification: SEE SECTION 2
• Toxicological Information has been revised: SEE SECTION 11

CAUSTIC SODA LIQUID (ALL GRADES)

SDS No.: M32415 **SDS Revision Date:** 13-Jan-2016

IMPORTANT:
The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESSED OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and OxyChem assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees

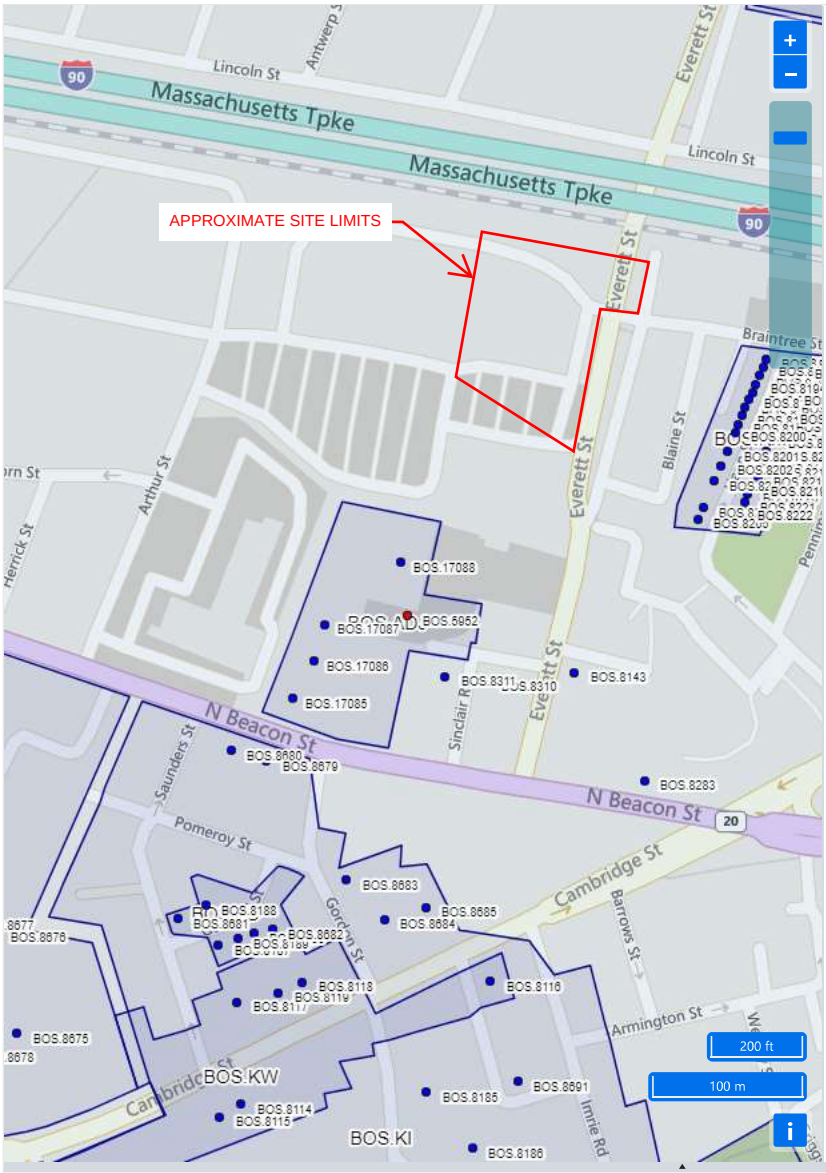
End of Safety Data Sheet

APPENDIX E
National Register of Historic Places Documentation

National Register of Historic Places

National Park Service
U.S. Department of the Interior

Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. …



Address Search | Tools | Layers

Enter a street address, intersection, or place of interest and a Massachusetts town.

Street address, intersection, or place name

Town/City

MA

Search

Clear

APPENDIX F
Endangered Species Act Documentation

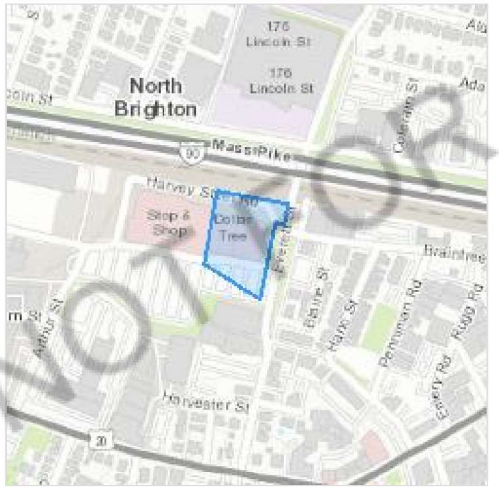
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Suffolk County, Massachusetts



Local office

New England Ecological Services Field Office

(603) 223-2541
(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

http://www.fws.gov/newengland

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird

species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Blue-winged Warbler *Vermivora pinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10

Cerulean Warbler Dendroica cerulea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 29 to Jul 20
Kentucky Warbler Oporornis formosus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

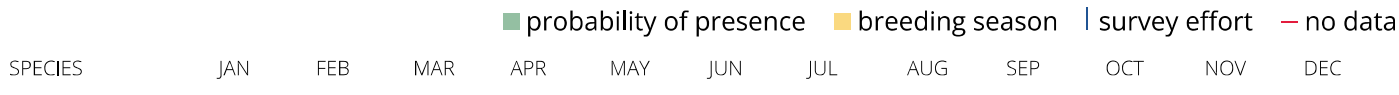
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

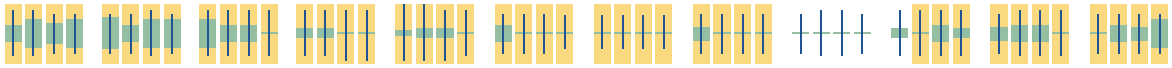
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

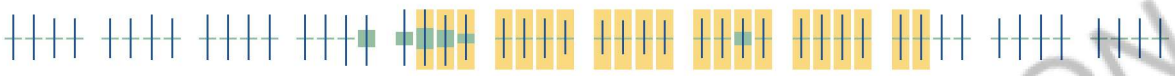
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

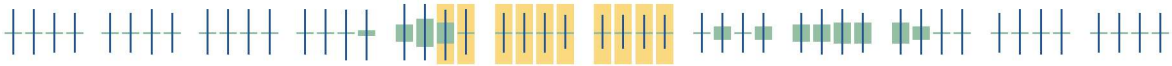


Black-billed Cuckoo
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

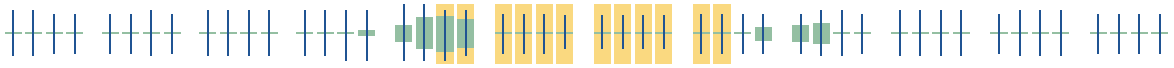


Blue-winged Warbler
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

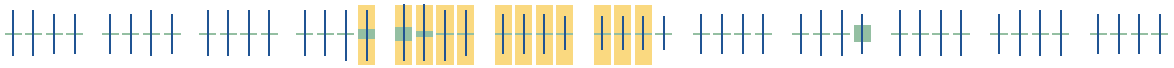
Bobolink
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



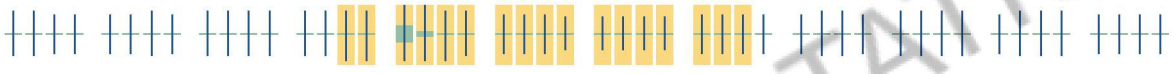
Canada Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



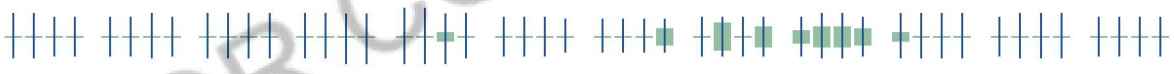
Cerulean Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



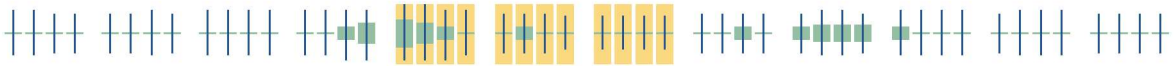
Kentucky Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

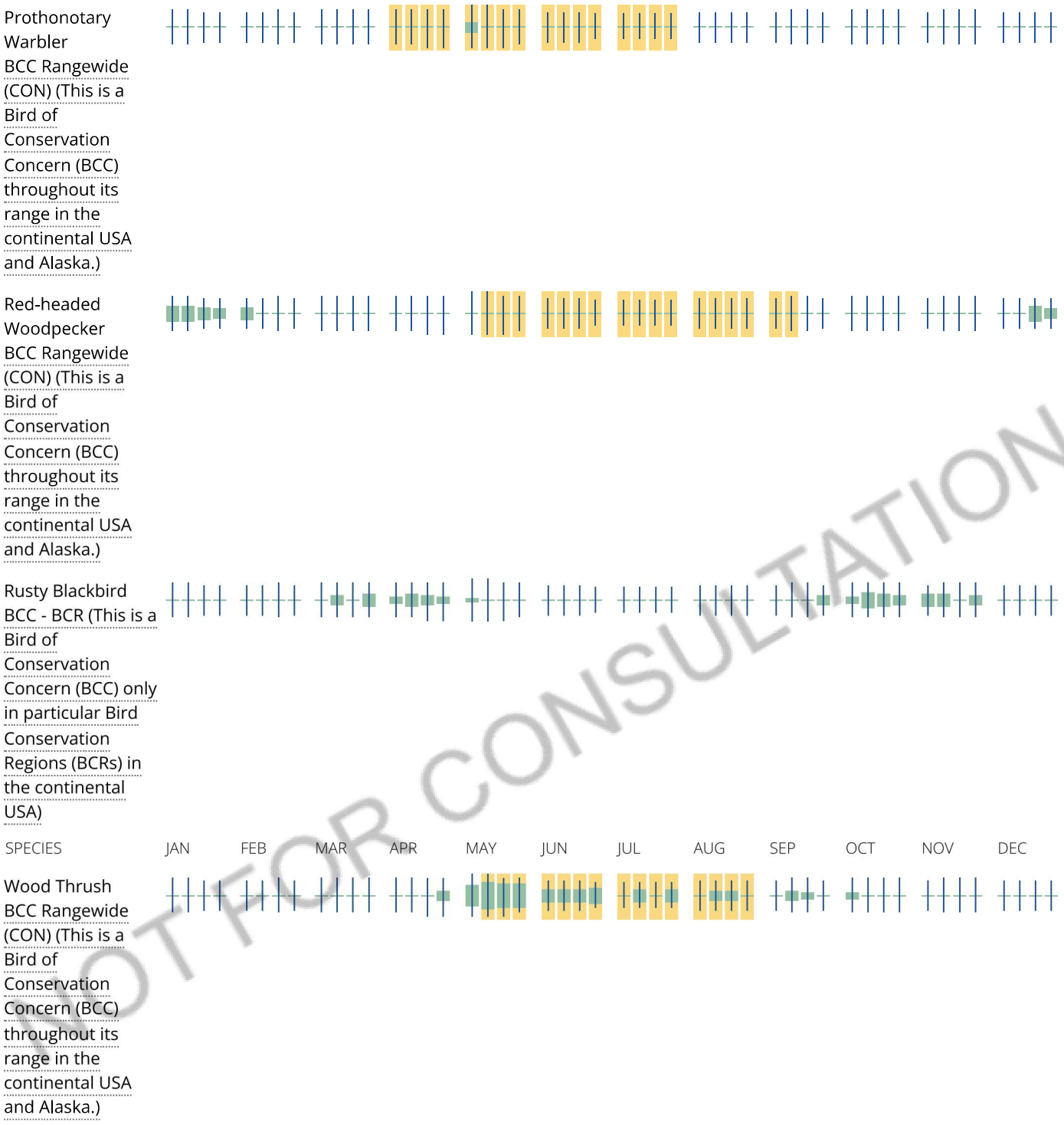


Lesser Yellowlegs BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Prairie Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

MassDEP - Bureau of Waste Site Cleanup

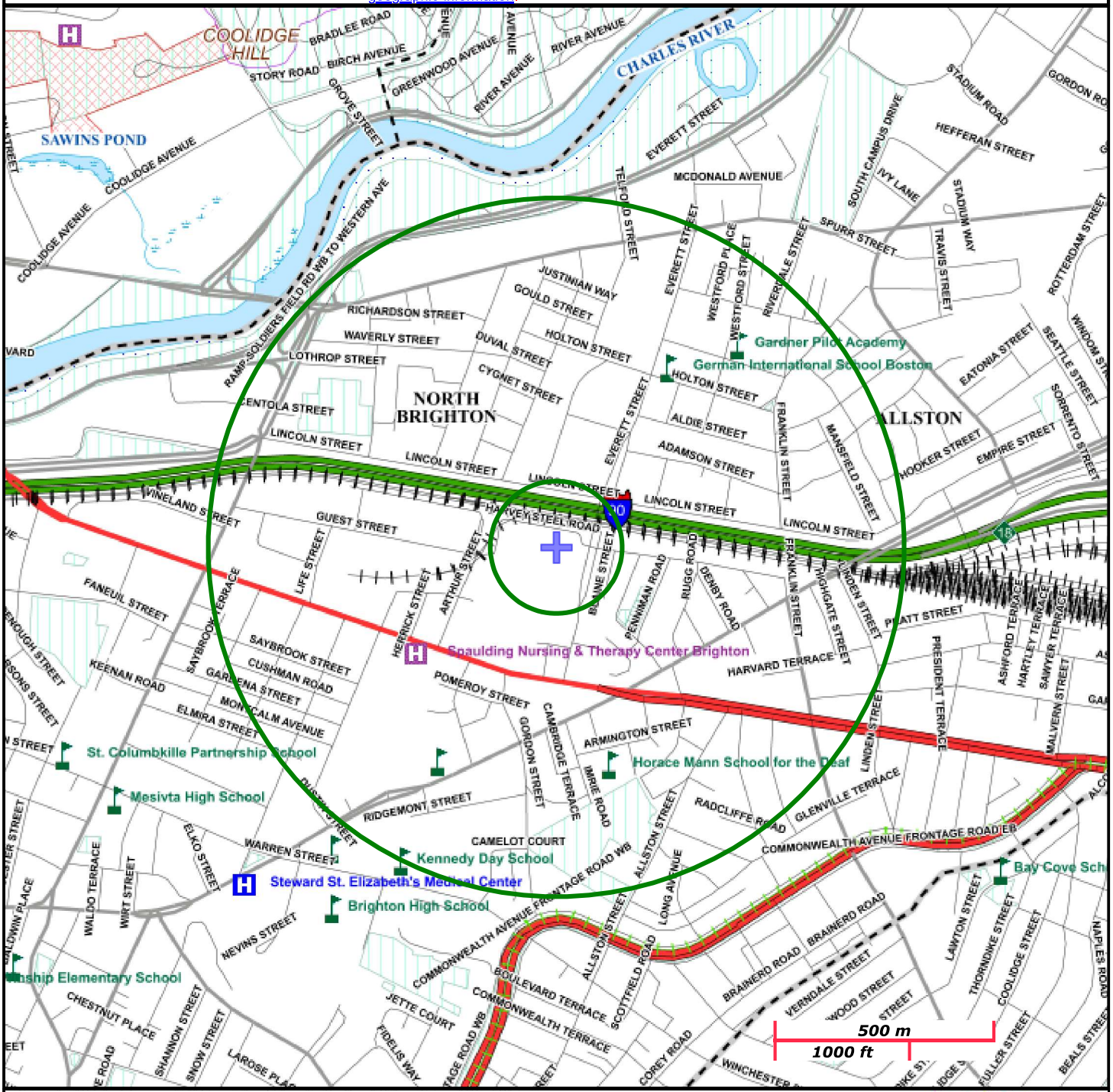
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
ALLSTON YARDS BUILDING B
400 GUEST STREET BOSTON, MA

NAD83 UTM Meters:
4691586mN , 323820mE (Zone: 19)
March 8, 2022

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

APPENDIX G
Copy of BWSC Permit Application

HALEY & ALDRICH, INC.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

30 March 2022
File No. 134110-101

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

Attention: Jodi Dobay

Subject: Request for Approval of Temporary Construction Dewatering
Allston Yards
400 Guest Street
Allston, Massachusetts

Dear Jodi Dobay:

On behalf of our client, Allston Yards Parcel B Developer LLC, this letter submits the Dewatering Discharge Permit Application in support of the planned Allston Yards project located at 400 Guest Street in Allston, Massachusetts.

Dewatering is necessary to enable construction in-the-dry and is anticipated to begin in October 2022 and continue for up to 24 months. Prior to discharge, collected water will be routed through a sedimentation/fractionation tank, bag filters (5-micron), and pH adjustment to remove suspended solids and undissolved chemical constituents. Other pre-treatment may be conducted as necessary to comply with National Pollutant Discharge Elimination System (NPDES) discharge criteria. The site location is shown on Figures 1 and 2, and the proposed dewatering discharge route and BWSC outfall location are shown on Figures 3 and 4.

A Notice of Intent to discharge under the 2017 NPDES Remediation General Permit (RGP) has been submitted to the Environmental Protection Agency (EPA). A copy of the submitted application is attached. If you have any questions, please feel free to contact the undersigned at 617-886-7477.

Sincerely yours,
HALEY & ALDRICH, INC.

Amelia Midgley
Staff Geologist

Douglas M. Lindsay, PG (NH), LSP
Senior Project Manager | Associate

Attachments:

- Dewatering Discharge Permit Application
- Figure 1 – Project Locus
- Figure 2 – Site and Subsurface Exploration Location Plan
- Figures 3 and 4 – Proposed Discharge Route
- Copy of NPDES RGP Application

\\haleyaldrich\share\CF\Projects\134110\Building B\NPDES RGP\Appendix G - BWSC Permit Application\2022-0330-HAI-Allston Yards-Building B-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: Turner Construction Co. Address: 2 Seaport Lane

Phone Number: 617-592-2331 Fax number: _____

Contact person name: James Delaney Title: Site Superintendent

Cell number: 617-592-2331 Email address: jpdelaney@tcco.com

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

Owner's Information (if different from above):

Owner of property being dewatered: Allston Yards Parcel B Developer LLC c/o New England Development LLC

Owner's mailing address: 75 Park Plaza, 3rd floor, Boston, MA 02216 Phone number: 617-243-9052

Location of Discharge & Proposed Treatment System(s):

Street number and name: 400 Guest Street Neighborhood Allston

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

Describe Proposed Pre-Treatment System(s): Sedimentation tank, bag filters, pH adjustment

BWSC Outfall No. CG 133 Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From October 2022 To October 2024

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

Permanent Discharges

☐ Foundation Drainage	☐ Crawl Space/Footing Drain
☐ Accumulated Surface Water	☐ Non-contact/Uncontaminated Cooling
☐ Non-contact/Uncontaminated Process	☐ 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: James Delaney Date: 3/26/2022

APPENDIX H
Best Management Practices Plan (BMPP)

APPENDIX H – BEST MANAGEMENT PRACTICES PLAN
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDIATION GENERAL PERMIT
ALLSTON YARDS
ALLSTON, MASSACHUSETTS

Best Management Practices Plan

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction dewatering planned to occur during the construction of the proposed Allston Yards construction project located at 400 Guest Street in Allston, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP and will be posted at the site during the time that temporary construction dewatering is occurring at the site.

Water Treatment and Management

Construction dewatering will be conducted using a combination of sumps located inside the excavations. The treatment system has been designed by the Contractor. Prior to discharge, collected water will be routed through a sedimentation tank and bag filters, as required, to remove suspended solids and undissolved chemical constituents. The Proposed Treatment System Schematic is shown on Figure 5.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted by the Contractor of the treated effluent as required by the RGP. This includes chemical testing required within the first month of discharging and the monthly testing to be conducted through the end of the scheduled discharge.

Monitoring will include checking the condition of the treatment system, assessing the need for treatment system adjustments based on monitoring data, observing, and recording daily flow rates and discharge quantities, and verifying the flow path of the discharged effluent.

The total monthly flow will be monitored by checking and documenting the flow through the flow meter to be installed on the system. Flow will be maintained below the “system design flow” by regularly monitoring flow and adjusting the amount of construction dewatering as needed.

Monthly monitoring reports will be compiled and maintained at the site.

System Maintenance

A number of methods will be used to minimize the potential for violations for the term of this permit. Scheduled regular maintenance of the treatment system will be conducted to verify proper operation. Regular maintenance will include checking the condition of the treatment system equipment such as the sedimentation tanks, filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues or unscheduled maintenance requirements.

Employees who have direct or indirect responsibility for ensuring compliance with the RGP will be trained by the Operator.

Miscellaneous Items

It is anticipated that the excavation support system, erosion control measures, and the nature of the site and surrounding infrastructure will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control.

Site security for the treatment system will be covered within the overall site security plan.

No adverse effects of designated water use of surrounding surface water bodies is anticipated. The Charles River is the nearest surface water body to the site. Dewatering effluent will be pumped to a sedimentation tank, bag filters, and any other treatment components (as required), prior to discharge to the storm drains.

Management of Treatment System Materials

Dewatering effluent will be pumped directly to the treatment system from the excavation with use of hoses and sumps to minimize handling. The Contractor will establish staging areas on the site for any equipment or materials storage which may be possible sources of pollution away from any dewatering activities.

Sediment from the sedimentation tank used in the treatment system will be characterized and disposed of as soil at an appropriate receiving facility in accordance with applicable laws and regulations.

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