



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

**5 Post Office Square, Suite 100
BOSTON, MA 02109-3912**

CERTIFIED MAIL RETURN RECEIPT REQUESTED

APR 03 2015

Mr. William McGuinness
Senior Project Manager
White Skanska Kiewit, JV
200 Innerbelt Rd.
Somerville, MA 02143

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Green Line Extension Project IGMP #3 / Washington Street Pump Station
and drainage site located at 132 Washington Street, Somerville, MA 02143, Middlesex
County; Authorization # MAG910673

Dear Mr. McGuinness:

Based on the review of a Notice of Intent (NOI) submitted by Frank Ricciardi, from
Weston & Sampson., on behalf of your company White Skanska Kiewit, JV, for the site
referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes
you, as the named Operator, to discharge in accordance with the provisions of the RGP at
that site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are
required to monitor. Also indicated on the checklist are the effluent limits, test methods
and minimum levels (MLs) for each pollutant. Please note that the checklist does not
represent the complete requirements of the RGP. Operators must comply with all of the
applicable requirements of this permit, including influent and effluent monitoring,
narrative water quality standards, record keeping, and reporting requirements, found in
Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete
RGP and other information at: <http://www.epa.gov/region1/npdes/mass.html#dgp>.

Please note the enclosed checklist includes parameters that your consultant marked
"Believed Present". The checklist also includes Polychlorinated Biphenyls (PCBs)
parameter for which your laboratory reports indicated that the water sample used for
testing PCBs exceeded the 7 days holding time and therefore it was established as "past
hold" by the laboratory performing the analysis. Repeating the testing within the suitable
holding time will insure the presence or absence of the pollutant in the discharge.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on a dilution factor range (DFR), due to the ample dilution at the point of discharge (203.8) the DFR applicable for this pollutant is within the ceiling values established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limit for arsenic of 540 ug/L, Chromium III of 1,710 ug/L and iron of 5,000 ug/L, shall not be exceeded in the discharge.

This EPA general permit and authorization to discharge will expire on September 9, 2015. You have reported this project will terminate on September 17, 2017. Please be aware you are required to reapply for coverage after the EPA expired permit has been reissued. The reissuance date as well as the reapplication submittal date will be posted on the EPA web site at that time. Also, regardless of your project termination date you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,



Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Stanley Coty, Commissioner, Somerville DPW
Frank Ricciardi, Weston & Sampson

**232010 Remediation General Permit
Summary of Monitoring Parameters^[1]**

NPDES Authorization Number:	MAG910673
Authorization Issued:	March, 2015
Facility/Site Name:	Green Line Extension/Washington Street Pump Station and Drainage - Project IGMP#3
Facility/Site Address:	132 Washington Street, Somerville, MA 02143
	Email address of owner: ddarby@mbta.com
Legal Name of Operator:	White Skanska Kiewit, JV
Operator contact name, title, and Address:	Mr. William McGuinness, Senior Project Manager, 200 Innerbelt Rd. Somerville, MA 02143
	Email: Williammcguinness@skanska.com
Estimated date of the site's Completion:	September 17, 2017
Category and Sub-Category:	Category III- Contaminated Construction Dewatering. Subcategory A. & B. General Urban Fill sites and Known Contaminated Sites, respectively.
RGP Termination Date:	September 10, 2015
Receiving Water:	Miller River

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing ** Me#160.2/ML5ug/L
✓	2. Total Residual Chlorine (TRC) ¹	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
✓	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) ^{2, 3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ML 2ug/L

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/L/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	14. Naphthalene ⁵	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
✓	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dchloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
✓	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
✓	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
✓	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
✓	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
✓	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl)	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	Phthalate]	5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	37. Total Polychlorinated Biphenyls (PCBs) ^{8, 9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal parameter	Total Recoverable MA/Metal Limit H¹⁰ = 50 mg/l CaCO₃, Units = ug/l^(11/12)		Minimum level=ML	
		Freshwater Limits			
	39. Antimony	5.6		ML	10
✓	40. Arsenic **	540		ML	20
	41. Cadmium **	0.2		ML	10
✓	42. Chromium III (trivalent) **	1,710		ML	15
	43. Chromium VI (hexavalent) **	11.4		ML	10
	44. Copper **	5.2		ML	15
	45. Lead **	1.3		ML	20
	46. Mercury **	0.9		ML	02
	47. Nickel **	29		ML	20
	48. Selenium **	5		ML	20
	49. Silver	1.2		ML	10
	50. Zinc **	66.6		ML	15
✓	51. Iron	5,000		ML	20

	Other Parameters	Limit
✓	52. Instantaneous Flow	Site specific in CFS
✓	53. Total Flow	Site specific in CFS
✓	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab ¹³
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab ¹⁴
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab ¹⁴
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab ¹⁴
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab ¹⁴
	61. Maximum Change in Temperature in MA - Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab ¹⁴
	62. Maximum Change in Temperature in MA - Any Class SA water body - Coastal	1.5°F; 1/Month/Grab ¹⁴
	63. Maximum Change in Temperature in MA - Any Class SB water body - July to September	1.5°F; 1/Month/Grab ¹⁴
	64. Maximum Change in Temperature in MA -Any Class SB water body - October to June	4°F; 1/Month/Grab ¹⁴

Footnotes:

¹ Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

² Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

³ Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

⁴ BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

⁵ Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

⁶ The sum of individual phthalate compounds (not including the #34, Bis (2-Ethylhexyl) Phthalate). The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁷ Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

⁸ In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Aroclor analyses." Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁹ Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

¹⁰ Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

¹¹ For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using $DF \times 1,000 \text{ ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ ug/L}$, etc. not to exceed the DF=5.

¹² Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

¹³ pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

¹⁴ Temperature sampling per Method 170.1

**Green Line Extension Project – IGMP #3
Weston & Sampson Project No. 2140547.B**

March 23, 2015

US Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 021109-3912

Attention: **Remediation General Permit NOI Processing**

Subject: **DRAFT Notice of Intent (NOI)
Temporary Construction Site Dewatering – NPDES RGP
Green Line Extension Project – IGMP #3
Washington Street Pump Station and Drainage
132 Washington Street
Somerville, Massachusetts**

To Whom it May Concern:

Weston & Sampson, on behalf of White-Skanska-Kiewit, JV (WSK), has prepared this Notice of Intent (NOI) in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) for Massachusetts (MAG910000) for Category III Contaminated Construction Dewatering. A copy of the NOI form is provided in Attachment A and a best management practices plan related to proper dewatering, treatment and maintenance is provided in Attachment B. This temporary dewatering is required to support excavation during construction of the stormwater drainage improvements associated with the Massachusetts Bay Transportation Authority's (MBTA) Green Line Extension (GLX) project. Specifically, this RGP NOI pertains to the installation of a new pump station and related drainage infrastructure located at the current location of 132 Washington Street in Somerville, Massachusetts. The location of the work is shown in Figure 1.

Operator(s)

The applicant for this NOI is:

White Skanska Kiewit, JV
William V. McGuinness, WSK Senior Project Manager
200 Inner Belt Road
Somerville, Massachusetts 02143
(617) 454-1643
William.mcguinness@skanska.com

Site History

According to documents published by Kleinfelder for this project, the area subject to this NOI has historically been associated with the Boston & Lowell and Boston & Maine Railroads since approximately 1888. The approximate area of the site where the monitoring wells for this NOI are located was formerly owned by American Oil Products Company.

The site, or portions thereof, is also the location of a documented release of oil and/or hazardous materials

to soil tracked under Release Tracking Number (RTN) 3-18503. This release was identified during the removal of a 5,000-gallon underground storage tank in 1999. However, according to the Weston & Sampson Phase I Initial Site Investigation, Tier Classification and Phase II Scope of Work Report published in 2000 the petroleum impacts were associated with historical fill materials in the area and not with the UST operations. The site was subsequently closed via the submittal of a Class B-2 Response Action Outcome Statement with an Activity and Use Limitation (AUL).

Based on a review of readily available information, groundwater beneath the site of the Washington Street Pump Station has been impacted by a release of chlorinated volatile organic compounds associated with RTN 3-23246 which has been assigned to the 50 Tufts Street facility. Site contaminants of concern include chlorinated volatile organic compounds (CVOCs) in soil and/or groundwater, as well as the limited presence of arsenic in groundwater from one monitoring well.

Summary of Proposed Construction

Proposed construction work associated with this RGP includes the installation of the Washington Street Pump Station and related stormwater infrastructure improvements. The location of the Millers River discharge outfall into the Charles River is immediately west of the Boston Sand and Gravel Facility in Cambridge, Massachusetts. Given that the final discharge is located in Cambridge, a Cambridge Dewatering Permit will be procured from that City. A copy of the Permit is included in Attachment C. The extent of the proposed work is shown in Figure 2.

ACEC, Endangered Species Act & Natural Historic Preservation Act Review

In accordance with Appendix I of the RGP NOI, we evaluated potential impacts to Areas of Critical Environmental Concern (ACEC) and have assessed that neither the project area, discharge locations nor receiving water bodies are in, near or adjacent to ACEC. Supporting documentation is provided in Attachment D.

Appendix II of the RGP NOI, requires an evaluation under the Endangered Species Act for endangered or threatened species and critical habitats in and around the project area, discharge points and receiving water bodies. Based upon our review of the Appendix II reference documents, we have assessed that none of the areas affected by this RGP will impact Federally Listed Endangered and Threatened Species or Critical Habitats. Supporting documentation is provided in Attachment D.

Lastly, Appendix VII of the RGP NOI requires a review to evaluate if any property in or around the project area is subject to the National Historic Preservation Act. We have conducted this review and we have assessed that no such properties exist. Further review of the Massachusetts Cultural Resource Information System (MACRIS) indicated that while some historically significant properties are located near the project site, none of the 1,195 Areas/Objects/Buildings/Structures/Burial Grounds listed within MACRIS in Somerville will be affected by the proposed activities listed in this RGP. Additional details and supporting information are included in Attachment E.

Groundwater Precharacterization Sampling & Analysis

In support of this NOI, Weston & Sampson conducted a subsurface investigation to characterize the groundwater in the area of planned construction at the project site located at 132 Washington Street. As part of the investigation, Weston & Sampson collected two groundwater samples for laboratory analysis from two previously installed monitoring wells. Weston & Sampson collected groundwater samples from monitoring wells KE202WSD and KE202WSS on February 18, 2015. The approximate location of the monitoring wells is shown in Figure 2.

Groundwater samples were submitted to Con-Test Analytical Laboratories of East Longmeadow, Massachusetts (Con-Test) and analyzed for the NPDES Category III Contaminated Construction Dewatering permit parameters, including:

- Volatile Organic Compounds (VOCs);
- Semi-volatile Organic Compounds (SVOCs);
- Total Metals;
- Total Petroleum Hydrocarbons (TPH);
- Polychlorinated Biphenyls (PCBs);
- Total Suspended Solids;
- Chloride;
- Total Cyanide; and
- Total Residual Chlorine.

Copies of the laboratory data packages, with the associated quality assurance and quality control information, are provided in Attachment F.

A summary of the groundwater precharacterization sampling results and applicable RGP effluent limitations and Massachusetts Reportable Concentrations (RCGW-2) is provided in Table 1. As shown in the table, groundwater contains detectable concentrations of several parameters, including metals (arsenic, trivalent chromium and iron), total petroleum hydrocarbons and VOCs. Cyanide analysis was conducted using SW-846 Method 9014 since this method is approved by the Massachusetts Department of Environmental Protection (DEP) and Method 335.5 is not a DEP approved method. In addition, Massachusetts laboratories are not readily available that perform this analysis and cyanide was not detected in groundwater samples collected from this area. The likelihood of cyanide being present in groundwater from this area is very low and the treatment methods proposed below would address removal.

Proposed Dewatering Operations

Dewatering will include the lowering of the water table through pumping to intercept groundwater from the slopes or bottoms of excavations. Excavation dewatering will be performed to the extent necessary to increase or maintain the stability of excavation and control groundwater seepage, precipitation, and surface water runoff. Based on groundwater measurements collected during groundwater sampling in February 2015, groundwater elevations within the area of proposed construction were approximately 12 feet below surface grade.

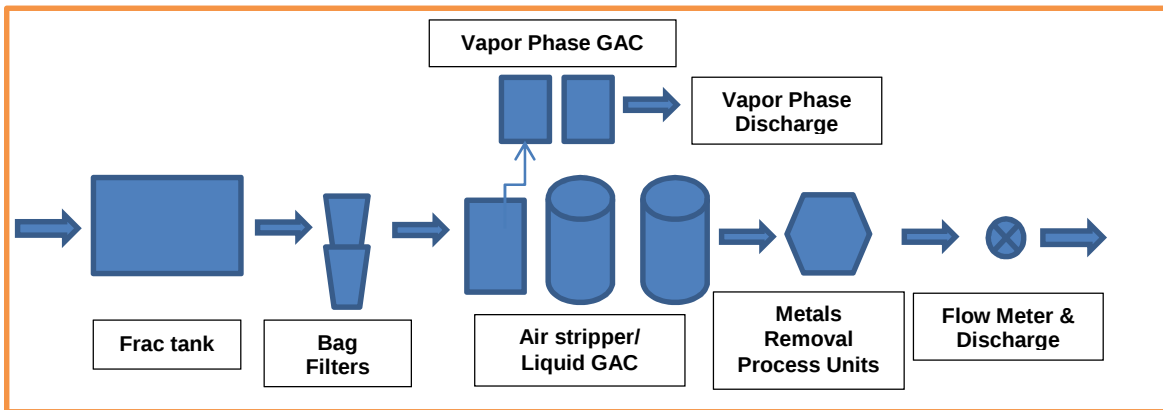
Dewatering will be completed using conventional pumps installed in open excavations, ditches, wells, trenches or sumps. All dewatering will be performed so that lowering the groundwater within the work area does not adversely affect structures, utilities, or wells outside the work area. Dewatering and associated treatment facilities will be located in areas where they will not interfere with public/private utilities, roads, active portions of the right-of-way, or construction work done by others.

Treatment of Dewatering Discharges

Based on review of existing information from the subject area, treatment of dewatering influent will be needed to meet the required RGP effluent limitations. The treatment is expected to include equipment for the removal of suspended solids, inorganic (total and dissolved metals) and organic (VOCs and TPH) contaminants. In addition, if non-aqueous phase liquid (NAPL) is encountered, treatment for the separation of oil from water may also be required.

Treatment equipment will likely include use of fractionation (frac) tank(s) for temporary storage, sediment removal, and/or oil/water separation. Additional sediment removal will be accomplished using particulate bag-type filters. For removal of organic contaminants, the system will likely include a shallow tray air

stripper and granular activated carbon (GAC) filters piped in series (primary and secondary treatment). Inorganic contaminants will be removed using various mixed media (anthracite coal, sand, zeolite/clay) filters materials precipitation/clarification or ion-exchange. The effluent air discharge from the air stripper will flow through vapor-phase granular activated carbon as well. A conceptual layout of the proposed treatment system is shown below.



Treated construction dewatering effluent under this RGP will be discharged to existing storm drains along the Washington Street through several catch basins within and near the work area. These storm drains discharge into the existing Millers River drainage system, and then travel east approximately where it eventually discharges at the Millers River outfall to the Charles River. The proposed dewatering discharge areas and route are shown in Figures 3 and 4, respectively.

Dilution Factor

A dilution factor (DF) was calculated for the receiving stream to determine the appropriate effluent limits for the inorganic contaminants including arsenic and iron. The calculated DF was used to find the appropriate dilution range concentrations for these metals. The DF was calculated using the following equation:

$$DF = (Q_d + Q_s) / Q_d$$

Where Q_d is the maximum discharge flow rate, assumed to be 100 gallons per minute (GPM) or approximately 0.22 cubic feet per second (cfs) based on dewatering flow estimates, and Q_s is the receiving water flow rate, minimum for 7 consecutive days with a recurrence interval of 10 years, assumed to be 44.62 cfs based on data collected by the United State Geological Survey (USGS) and published in the "Clean Charles 2005 Water Quality Report, 2003 Core Monitoring Report" prepared by the US EPA Office of Environmental Measurement and Evaluation dated November 2004. Using these assumed values, the DF is equal to 203.8. According to Appendix IV of the Remediation General Permit, the ceiling limitations for the calculated dilution factor for arsenic and iron are 540 $\mu\text{g/L}$, and 5,000 $\mu\text{g/L}$, respectively. If testing of the dewatering effluent indicates that the concentrations of arsenic or iron exceed these ceiling values, pretreatment of the dewatering will include implementation of ion-exchange or mixed media filtration to remove dissolved metals.

Please feel free to contact the undersigned at 978-532-1900 should you have any questions or wish to discuss the information contained in this NOI further.

Very truly yours,
WESTON & SAMPSON

A handwritten signature in black ink, appearing to read 'F. Ricciardi', with a stylized flourish at the end.

Frank Ricciardi, PE, LSP
Vice President

Attachments:

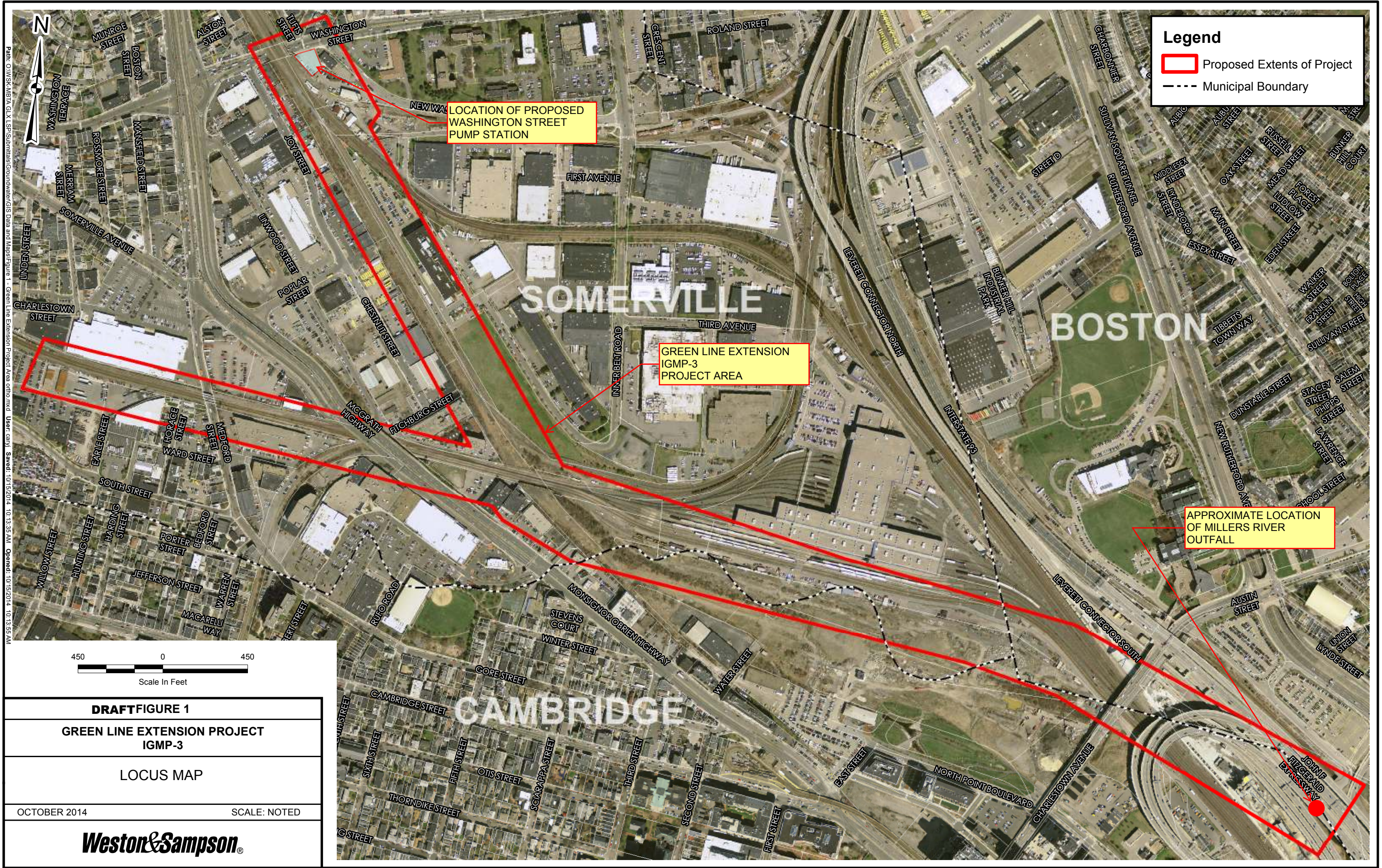


FIGURE 2
WASHINGTON STREET PUMP STATION & DRAINAGE
GREEN LINE EXTENSION PROJECT
SOMERVILLE, MASSACHUSETTS

LOCATION OF
PROPOSED
WASHINGTON
STREET
GROUNDWATER
DEWATERING
TREATMENT
SYSTEM &
DISCHARGE POINT
(SEE FIGURE 3)

AREA OF PROPOSED
WASHINGTON STREET
PUMPSTATION

GENERATOR PAD
(SEE SHEET
APS-C-8003)

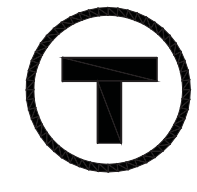
MONITORING WELL COUPLET
KE-202S & KE-202D

DRAINAGE SYSTEM CONSTRUCTED
UNDER OTHER GLX CONTRACT(S)
SEE NOTE 2 (TYP.)

FOR CONTINUATION, SEE SHEET 000-C-2010

DRAINAGE SYSTEM TO BE CONSTRUCTED
UNDER THIS CONTRACT SEE NOTE 1 (TYP.)

- NOTES:
1. WHEN PRINTING IN COLOR, THIS SHEET CONTAINS DRAINAGE SYSTEMS IN RED (PIPES AND MANHOLES) TO INDICATE DRAINAGE WORK CONSTRUCTED UNDER THIS CONTRACT (IGMP-03).
 2. WHEN PRINTING IN COLOR, THIS SHEET CONTAINS DRAINAGE SYSTEMS WITH LIGHTER BLACK LINEWORK (PIPES AND MANHOLES) TO INDICATE DRAINAGE WORK TO BE CONSTRUCTED UNDER OTHER GLX CONTRACT(S). THAT DRAINAGE IS SHOWN FOR REFERENCE PURPOSES ONLY.
 3. SEE THE UTILITY PLANS FOR FURTHER DESCRIPTION OF PROPOSED UTILITIES AND IN WHICH SPECIFIC GLX CONTRACT EACH IS TO BE INSTALLED.
 4. CORROSION CONTROL TEST STATIONS FOR 30" AND 10" DI FORCE MAINS AT THE WASHINGTON STREET PUMP STATION SITE SHALL BE AN AT-GRADE BOX AS SHOWN ON SHEET SYS-CC-0423. LOCATION AND FINISHED GRADE SHALL BE COORDINATED WITH THE ENGINEER.



MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GREEN LINE EXTENSION PROJECT
MBTA CONTRACT NO. E22CN04
CAMBRIDGE/SOMERVILLE, MASSACHUSETTS

MEDFORD BRANCH
DRAINAGE PLAN
NEW WASHINGTON STREET SHEET 4

FIGURE 2



NOT FOR
CONSTRUCTION



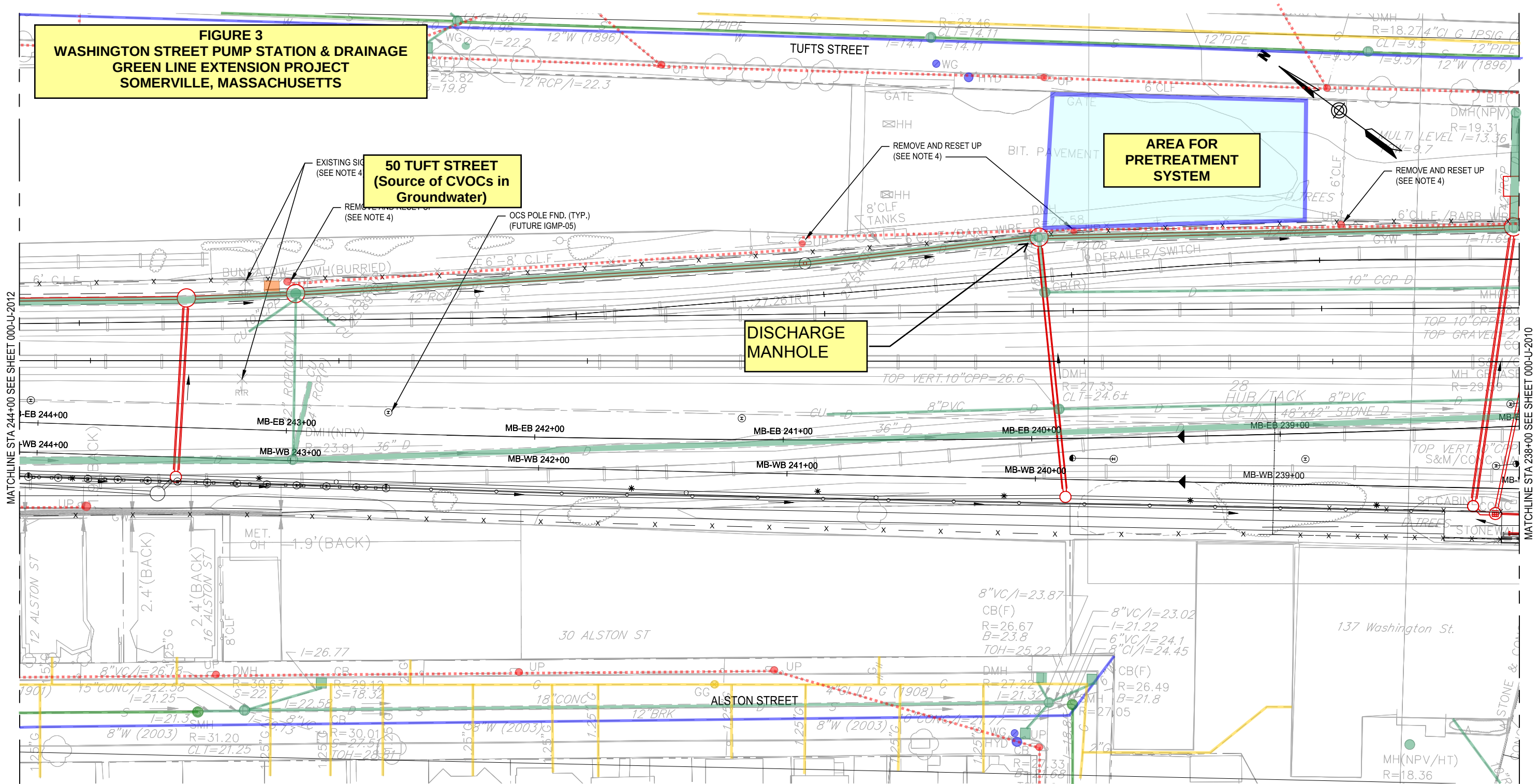
F	05/30/14	ADDENDUM 01 - IGMP-03			
E	04/15/14	100% DESIGN SUBMISSION - IGMP-03			
D	02/21/14	90% DESIGN SUBMISSION - IGMP-03			
C	11/01/13	60% DESIGN SUBMISSION - DESIGN PACKAGE 3			
ISSUE	DATE	DESCRIPTION	BY	CHKD	APP.

SCALE: 1"=20'	DRAWN BY: SN	DESIGN BY: PWB	CHECK BY: TMC	PLAN NO.	ISSUE
DATE: MAY 30, 2014				SHEET: 000-C-2074	F

PLOTTED: 05/19/14 3:39PM BY: RESSESS
DRAWING: C:\USERS\RESSESS\DRAWING\000-C-2074-IGMP3.DWG [000-C-2074-IGMP3] 05/27/14 7:24PM

IGMP #3 ADDENDUM #1 (100%) 05/30/14
MATCHLINE SEE SHEET 000-C-2073

FIGURE 3
WASHINGTON STREET PUMP STATION & DRAINAGE
GREEN LINE EXTENSION PROJECT
SOMERVILLE, MASSACHUSETTS



NOTES:

1. FOR WALL DETAILS, SEE MEDFORD BRANCH CORRIDOR WALL PLANS.
2. FOR DRAINAGE SYSTEM DETAILS, SEE MEDFORD BRANCH DRAINAGE PLANS.
3. FOR TRACK DETAILS, SEE MEDFORD BRANCH TRACK PLANS.
4. CONTRACTOR IS TO MAINTAIN ELECTRIC POWER AND SIGNAL COMMUNICATIONS DURING CONSTRUCTION. SEE TRACK SIGNAL PLANS FOR FINAL DISPOSITION OF THE SYSTEM.
5. ALL FEATURES NOT LABELED TO BE REMOVED SHALL BE RETAINED AND PROTECTED.



MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
GREEN LINE EXTENSION PROJECT
MBTA CONTRACT NO. E22CN05
CAMBRIDGE/SOMERVILLE/MEDFORD, MASSACHUSETTS

MEDFORD BRANCH
UTILITY PLAN
STA MB-EB 238+00 TO STA MB-EB 244+00

AECOM | HNTB

DRAFT
FIGURE 3

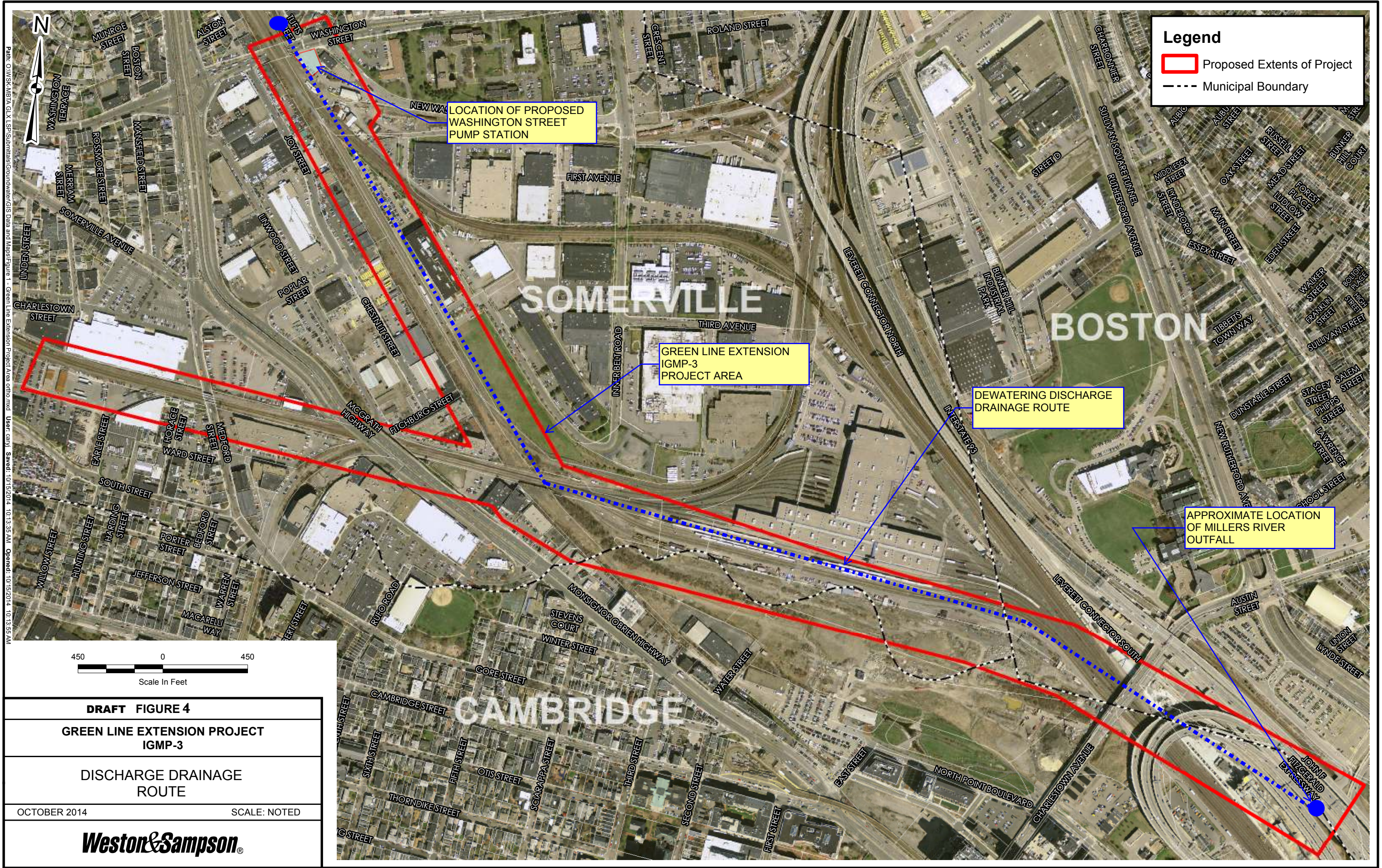
**NOT FOR
CONSTRUCTION**



massDOT
Massachusetts Department of Transportation

ISSUE	DATE	DESCRIPTION	BY	CHKD	APP.
E	11/21/14	100% DESIGN SUBMISSION - IGMP-04			
D	07/30/14	90% DESIGN SUBMISSION - IGMP-04			
B	08/30/14	ADVANCED PRELIMINARY ENGINEERING SUBMISSION			

SCALE: 1" = 20'	DRAWN BY: GTL	DESIGN BY: MM	CHECK BY: LAN	PLAN NO.	ISSUE
DATE: NOV 21, 2014				SHEET: 000-U-2011	E



TABLES

DRAFT TABLE 1
Summary of Groundwater Quality Data
Green Line Extension Project - Washington Street Pump Station & Drainage
Somerville, Massachusetts

Parameter	Units	MCP	NPDES RGP		Sample Location	
		Reportable Concentrations RCGW-2 (µg/L)	Category III Freshwater Effluent Criteria		KE202WSD	KE202WSS
			0 DF (µg/L)	>100 DF (µg/L)	2/18/20152 11:10:00 AM	2/18/2015 12:40:00 PM
Total Metals						
ANTIMONY, TOTAL	µg/L	8000	5.6	141	ND (1.0)	ND (1.0)
ARSENIC, TOTAL	µg/L	900	10	540	3.6	14
CADMIUM, TOTAL	µg/L	4	0.2	20	ND (0.50)	ND (0.50)
CHROMIUM, TRIVALENT (+3)	µg/L	300	48.8	1710	1.3	0.0000
CHROMIUM, HEXAVALENT (+6)	µg/L	300	11.4	1140	ND (0.0040)	ND (0.0040)
COPPER, TOTAL	µg/L	100000	5.2	520	ND (5.0)	ND (5.0)
IRON, TOTAL	µg/L	~	1000	5000	32000	32000
LEAD, TOTAL	µg/L	10	1.3	132	ND (1.0)	ND (1.0)
MERCURY, TOTAL	µg/L	20	0.9	2.3	ND (0.1)	ND (0.1)
NICKEL, TOTAL	µg/L	200	29	2380	ND (0.50)	ND (0.50)
SELENIUM, TOTAL	µg/L	100	5	408	ND (5.0)	ND (5.0)
SILVER, TOTAL	µg/L	7	1.2	115	ND (5.0)	ND (5.0)
ZINC, TOTAL	µg/L	900	66.6	1480	ND (10)	ND (10)
Polychlorinated Biphenyls						
PCB 1016	µg/L	5	~	~	ND (0.20)	ND (0.20)
PCB 1221	µg/L	5	~	~	ND (0.20)	ND (0.20)
PCB 1232	µg/L	5	~	~	ND (0.20)	ND (0.20)
PCB 1242	µg/L	5	~	~	ND (0.20)	ND (0.20)
PCB 1248	µg/L	5	~	~	ND (0.20)	ND (0.20)
PCB 1254	µg/L	5	~	~	ND (0.20)	ND (0.20)
PCB 1260	µg/L	5	~	~	ND (0.20)	ND (0.20)
PCB 1262	µg/L	5	~	~	ND (0.20)	ND (0.20)
PCB 1268	µg/L	5	~	~	ND (0.20)	ND (0.20)
TOTAL PCBs	µg/L	5	~	~	ND (0.20)	ND (0.20)
Total Petroleum Hydrocarbons	µg/L	5000	5000	~	340	ND (200)
Volatile Organic Compounds						
1,1-DICHLOROETHANE	µg/L	2000	70	70	2.8	ND (1.0)
1,1-DICHLOROETHYLENE	µg/L	80	3.2	3.2	1.9	ND (1.0)
CIS-1,2-DICHLOROETHYLENE	µg/L	20	70	70	37	ND (1.0)
TETRACHLOROETHYLENE	µg/L	50	5	5	110	ND (1.0)
TRICHLOROETHYLENE	µg/L	5	5	5	19	ND (1.0)
VINYL CHLORIDE	µg/L	2	2	2	2.1	ND (2.0)
Semi-Volatile Organic Compounds	µg/L	~	~	~	ND (5.0)	ND (5.0)
General Chemistry						
CHLORIDE	mg/L	~	Monitor only	~	340	130
CHLORINE, RESIDUAL	µg/L	~	11	~	0.27	0.17
CYANIDE	µg/L	30	5.2	~	ND (10.0)	ND (10.0)
OIL & GREASE (HEM) - via 1664B	µg/L	5000	5000	~	ND (1.4)	ND (1.4)
TOTAL SUSPENDED SOLIDS	mg/L	NA	30	~	20	ND (5.0)

NOTES:

1. DF = Dilution Factor
2. ND = Not detected above the lab reporting limits shown in parenthesis.
3. NT = Not tested.
4. ~ = No RCGW-2 or NPDES Standard
5. Shaded values exceed the MCP Reportable Concentrations (RCs) or NPDES RGP Limits (0 Dilution Factor)
6. **Bolded** values detected above laboratory reporting limits.
7. RCGW-2 standards from the Massachusetts Contingency Plan, April, 2014.
8. NPDES RGP Criteria From 2010 Final Remediation General Permit, September 2010.

ATTACHMENT A: NOI FORM

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of facility/site: Green Line Extension/Washington Street Pump Station		Facility/site mailing address: 200 Innerbelt Road	
Location of facility/site : longitude: 71° 5' 14"	Facility SIC code(s): 4011	Street: 132 Washington Street, Somerville, MA	
latitude: 42° 22' 50"			
b) Name of facility/site owner : Massachusetts Bay Transportation Authority		Town: Somerville	
Email address of facility/site owner: ddarby@mbta.com	State: MA	Zip: 02143	County: Suffolk
Telephone no. of facility/site owner : 617-222-3169			
Fax no. of facility/site owner :	Owner is (check one): 1. Federal____ 2. State/Tribal <u>X</u> 3. Private____ 4. Other ____ if so, describe:		
Address of owner (if different from site):			
Street: 10 Park Plaza			
Town: Boston	State: MA	Zip: 02116	County: Suffolk
c) Legal name of operator : White Skanska Kiewit, JV	Operator telephone no: 617-454-1643		
	Operator fax no.:		Operator email: William.mcguinness@skanska.com
Operator contact name and title: Mr. William McGuinness, Senior Project Manager			
Address of operator (if different from owner):	Street: 200 Innerbelt Rd		
Town: Somerville	State: MA	Zip: 02143	County: Middlesex

d) Check Y for "yes" or N for "no" for the following: 1. Has a prior NPDES permit exclusion been granted for the _____ discharge? Y N X , if Y, number: _____ 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Y N X , if Y, date _____ 3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y__ X _ N____ 4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y__ X __ N____	
e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y____ N__ X __ If Y, please list: 1. site identification # assigned by the state of NH or MA: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number:	f) Is the site/facility covered by any other EPA permit, including: 1. Multi-Sector General Permit? Y____ N__ X __, if Y, number: _____ 2. Final Dewatering General Permit? Y____ N__ X __, if Y, number: _____ 3. EPA Construction General Permit? Y__ X __ N____, if Y, number: MAR12B154 4. Individual NPDES permit? Y____ N__ X __, if Y, number: _____ 5. Any other water quality related individual or general permit? Y____ N__ X __, if Y, number: _____
g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y____ N__ X __	
h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.	
Activity Category	Activity Sub-Category
I - Petroleum Related Site Remediation	A. Gasoline Only Sites _____ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) _____ C. Petroleum Sites with Additional Contamination _____
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites _____ B. VOC Sites with Additional Contamination _____ C. Primarily Heavy Metal Sites _____
III - Contaminated Construction Dewatering	A. General Urban Fill Sites __ X __ B. Known Contaminated Sites __ X __

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ____ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ____ C. Hydrostatic Testing of Pipelines and Tanks ____ D. Long-Term Remediation of Contaminated Sumps and Dikes ____ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ____
---------------------------------------	---

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage: Construction excavation activities related to infrastructure installation for the Green Line Extension project between Cambridge and Medford, MA.	
b) Provide the following information about each discharge:	
1) Number of discharge points:1	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow: 0.144 Is maximum flow a design value ? Y <u>X</u> N ____ Average flow (include units) 50 gpm Is average flow a design value or estimate? Design
3) Latitude and longitude of each discharge within 100 feet:	
pt.1: lat. 42° 22' 53"	long. 71° 5' 18" ; pt.2: lat. long. ;
pt.3: lat. long.	; pt.4: lat. long. ;
pt.5: lat. long.	; pt.6: lat. long. ;
pt.7: lat. long.	; pt.8: lat. long. ; etc.
4) If hydrostatic testing, total volume of the discharge (gals): _____	Is the discharge intermittent <u>X</u> or seasonal ____? Is discharge ongoing? Y ____ N <u>X</u>
c) Expected dates of discharge (mm/dd/yy): start: 04/1/15 end: 09/17/17	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. Sources of intake water, 2. Contributing flow from the operation, 3. Treatment units, and 4. Discharge points and receiving waters(s). See Attached figures.	

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level	Maximum daily value		Average daily value	
							(ML) of	concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
							Test				
							Method				
1. Total Suspended Solids (TSS)		X		2	GRAB	2540D	10 mg/L	20000	4.54	11.25	2.27
2. Total Residual Chlorine (TRC)		X		2	GRAB	4500	0.020 mg/L	270	0.06	220	0.05
3. Total Petroleum Hydrocarbons (TPH)			X	2	GRAB	8100M	0.2 mg/L	340	0.0.8	170	0.04
4. Cyanide (CN)	57125	X		2	GRAB	9014	0.010 mg/L	ND		ND	
5. Benzene (B)	71432	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
6. Toluene (T)	108883	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
7. Ethylbenzene (E)	100414	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	X		2	GRAB	8260C	3.0 µg/L	ND		ND	
9. Total BTEX ²	n/a	X		2	GRAB	8260C	6.0 µg/L	ND		ND	
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	X		2	GRAB	8260C	0.50 µg/L	ND		ND	
11. Methyl-tert-Butyl Ether (MtBE)	1634044	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	X		2	GRAB	8260C	20 µg/L	ND		ND	

* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

² BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

³ EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum	Maximum daily value		Average daily value	
							Level	concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
							(ML) of Test Method				
13. tert-Amyl Methyl Ether (TAME)	9940508	X		2	GRAB	8260C	0.50 µg/L	ND		ND	
14. Naphthalene	91203	X		2	GRAB	8260C	2.0 µg/L	ND		ND	
15. Carbon Tetrachloride	56235	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
16. 1,2 Dichlorobenzene (o-DCB)	95501	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
17. 1,3 Dichlorobenzene (m-DCB)	541731	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
18. 1,4 Dichlorobenzene (p-DCB)	106467	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
18a. Total dichlorobenzene		X		2	GRAB	8260C	1.0 µg/L	ND		ND	
19. 1,1 Dichloroethane (DCA)	75343		X	2	GRAB	8260C	1.0 µg/L	2.8	0.00006	1.4	0.00003
20. 1,2 Dichloroethane (DCA)	107062	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
21. 1,1 Dichloroethene (DCE)	75354		X	2	GRAB	8260C	1.0 µg/L	1.9	0.00004	0.98	0.00002
22. cis-1,2 Dichloroethene (DCE)	156592		X	2	GRAB	8260C	1.0 µg/L	37	0.008	18.8	0.004
23. Methylene Chloride	75092	X		2	GRAB	8260C	5.0 µg/L	ND		ND	
24. Tetrachloroethene (PCE)	127184		X	2	GRAB	8260C	1.0 µg/L	110	0.03	55.3	0.015
25. 1,1,1 Trichloroethane (TCA)	71556	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
26. 1,1,2 Trichloroethane (TCA)	79005	X		2	GRAB	8260C	1.0 µg/L	ND		ND	
27. Trichloroethene (TCE)	79016		X	2	GRAB	8260C	1.0 µg/L	19	0.004	9.8	0.002

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum	Maximum daily value		Average daily value	
							Level	concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
							(ML) of				
							Test Method				
28. Vinyl Chloride (Chloroethene)	75014		X	2	GRAB	8260C	2.0 µg/L	2.1	0.0005	1.6	0.0003
29. Acetone	67641	X		2	GRAB	8260C	10 µg/L	ND		ND	
30. 1,4 Dioxane	123911	X		2	GRAB	8260C	50 µg/L	ND		ND	
31. Total Phenols	108952	X		2	GRAB	8270D	120 µg/L	ND		ND	
32. Pentachlorophenol (PCP)	87865	X		2	GRAB	8270D	10 µg/L	ND		ND	
33. Total Phthalates (Phthalate esters) ⁴		X		2	GRAB	8270D	60 µg/L	ND		ND	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	X		2	GRAB	8270D	10 µg/L	ND		ND	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		X		2	GRAB	8270D	35 µg/L	ND		ND	
a. Benzo(a) Anthracene	56553	X		2	GRAB	8270D	5 µg/L	ND		ND	
b. Benzo(a) Pyrene	50328	X		2	GRAB	8270D	5 µg/L	ND		ND	
c. Benzo(b) Fluoranthene	205992	X		2	GRAB	8270D	5 µg/L	ND		ND	
d. Benzo(k) Fluoranthene	207089	X		2	GRAB	8270D	5 µg/L	ND		ND	
e. Chrysene	21801	X		2	GRAB	8270D	5 µg/L	ND		ND	
f. Dibenzo(a,h)anthracene	53703	X		2	GRAB	8270D	5 µg/L	ND		ND	
g. Indeno(1,2,3-cd) Pyrene	193395	X		2	GRAB	8270D	5 µg/L	ND		ND	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		X		2	GRAB	8270D	45 µg/L	ND		ND	

⁴ The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum	Maximum daily value		Average daily value	
							Level				
							(ML) of	concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
							Test				
							Method				
h. Acenaphthene	83329	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
i. Acenaphthylene	208968	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
j. Anthracene	120127	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
k. Benzo(ghi) Perylene	191242	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
l. Fluoranthene	206440	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
m. Fluorene	86737	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
n. Naphthalene	91203	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
o. Phenanthrene	85018	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
p. Pyrene	129000	X		2	GRAB	8270D	5.0 µg/L	ND		ND	
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	X		2	GRAB	8082A	0.20 µg/L	N/A		N/A	
38. Chloride	16887006		X	2	GRAB	4500	100 mg/L	340,000	77.33	235	53.45
39. Antimony	7440360	X		2	GRAB	6020A	1.0 µg/L	ND		ND	
40. Arsenic	7440382		X	2	GRAB	6020A	0.40 µg/L	14	0.003	8.8	0.002
41. Cadmium	7440439	X		2	GRAB	6020A	0.50 µg/L	ND		ND	
42. Chromium III (trivalent)	16065831		X	2	GRAB	6020A	1.0 µg/L	1.3	0.0002	0.65	0.0001
43. Chromium VI (hexavalent)	18540299	X		2	GRAB	3500	0.0040 µg/L	ND		ND	
44. Copper	7440508	X		2	GRAB	6020A	5.0 µg/L	ND		ND	
45. Lead	7439921	X		2	GRAB	6020A	1.0 µg/L	ND		ND	
46. Mercury	7439976	X		2	GRAB	7470A	0.0001 µg/L	ND		ND	
47. Nickel	7440020	X		2	GRAB	6020A	5.0 µg/L	ND		ND	
48. Selenium	7782492	X		2	GRAB	6020A	5.0 µg/L	ND		ND	
49. Silver	7440224	X		2	GRAB	6020A	0.50 µg/L	ND		ND	
50. Zinc	7440666	X		2	GRAB	6020A	10 µg/L	ND		ND	
51. Iron	7439896		X	2	GRAB	6010C	0.050 µg/L	32,000	7.27	32,000	7.27
Other											

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum	Maximum daily value		Average daily value	
							Level	concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
							(ML) of				
							Test Method				
Fats, Oils & Grease		X		2	GRAB	1664B	1.4 mg/L	ND		ND	

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

<i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y__X__ N____	If yes, which metals? Iron
<i>Step 2:</i> For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: Iron DF: >100 (1988)	Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y__X__ N____ If Y, list which metals: Iron
Metal: DF:	
Metal: DF:	
Metal: DF:	

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including: a) A description of the treatment system, including a schematic of the proposed or existing treatment system: **Groundwater will be pumped from the excavation into one or more fractionation tanks, through 2 20-micron bag filters in series, through GAC unit(s) and if needed through either an ion exchange unit or zeolite filtration units through a flow meter prior to discharge to the storm drain system via catch basin or manhole. See accompanying letter for system schematic.**

b) Identify each applicable treatment unit (check all that apply):	Frac. tank X	Air stripper	Oil/water separator: X	Equalization tanks: X	Bag filter: X	GAC filter : X
	Chlorination	De-chlorination	Other (please describe): Ion Exchange; multi-media filter if necessary	Additional pretreatment as necessary to meet NPDES RGP Discharge Criteria.		

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:

Average flow rate of discharge **50 gpm** Maximum flow rate of treatment system **100 gpm**

Design flow rate of treatment system **100 gpm**

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

N/A

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water_____	Within facility (sewer) _____	Storm drain __ X __	Wetlands _____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: Excavation though treatment system into the nearest storm drain access into the Millers River (segment MA72-38)/Charles River immediately upstream of the Charles River Dam.					
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.					
d) Provide the state water quality classification of the receiving water: B					
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water: 45 cfs Please attach any calculation sheets used to support stream flow and dilution calculations.					
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y__ X __ N____ If yes, for which pollutant(s)? Heavy Metals, PCB, TPH, PAHs					
Is there a final TMDL? Y__ X __ N____ If yes, for which pollutant(s)? Phosphorus (Charles River)					

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ☒ B ☐ C ☐ D ☐ E ☐ F ☐

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ☐ N ☐ Underway ☐

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat received? Y ☐ N ☐

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ☐ 2 ☒ 3 ☐

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information.

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

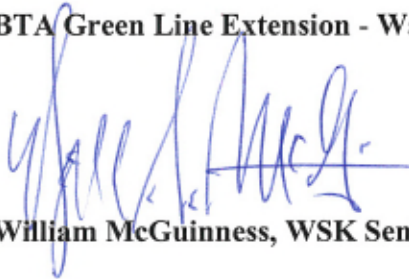
See accompanying letter for the above-referenced supporting documentation.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

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 gather and evaluate 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, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name: **MBTA Green Line Extension - Washington Street Pump Station**

Operator signature:

A handwritten signature in blue ink, appearing to read 'William McGuinness', is written over the printed name.

Printed Name & Title: **William McGuinness, WSK Senior Project Manager**

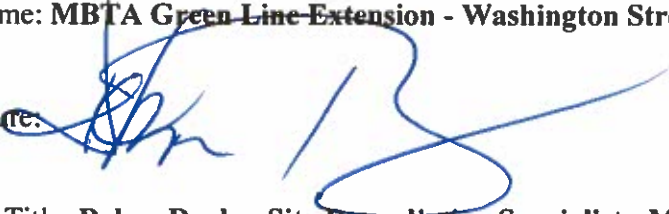
Date **3-23-15**

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

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 gather and evaluate 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, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name: ~~MBTA Green Line Extension~~ - Washington Street Pump Station

Operator signature:



Printed Name & Title: Debra Darby, Site Remediation Specialist - MBTA Debra Darby

Date

3/20/2015

ATTACHMENT B: BEST MANGEMENT PRACTICES PLAN

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDIAL GENERAL PERMIT
WASHINGTON STREET PUMP STATION & DRAINAGE
SOMERVILLE, MASSACHUSETTS**

Best Management Practices Plan

A Notice of Intent for a Remedial 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 during construction associated with the Massachusetts Bay Transportation Authority's (MBTA) Green Line Extension (GLX) project in Boston, Cambridge, and Somerville, Massachusetts. Best Management Practices (BMPs) related to site dewatering and treatment will be implemented during construction activities that will occur during installation of a new pump station and related infrastructure located at the current location of 132 Washington Street in Somerville, 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 period that temporary construction dewatering is occurring at the site.

Water Treatment and Management

Construction dewatering effluent is anticipated to be pumped from well points installed in sump pits within the excavations, through hoses or temporary pipe, and directly into a storage tank(s) for sedimentation control. The effluent will then flow through pretreatment systems to remove contaminants and discharge through hoses or temporary piping to catch basins and then the Charles River via existing and newly construction portions of the MBTA's right-of-way drainage system. Based on groundwater precharacterization sampling, treatment of the water will include use of bag filters for sediment removal, an air stripper for volatile organic compound (VOC) removal, and liquid and vapor-phase granular activated carbon (GAC) for further VOC removal from the post-stripper liquid and vapor process streams. Due to naturally occurring concentrations of iron, the system is also expected to include chemical precipitation/clarification prior to discharge of the dewatering effluent.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted at the influent to the system and the treated effluent as required by the RGP. This includes chemical testing required within the first week of discharge, and then monthly testing 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 discharge monitoring reports (DMRs) will be compiled and maintained by WSK and/or the owner's representative. Copies of DMRs will be kept on file at the field office trailer.

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDIAION GENERAL PERMIT
WASHINGTON STREET PUMP STATION & DRAINAGE
SOMERVILLE, MASSACHUSETTS**

System Maintenance

A number of maintenance methods will be used to minimize the potential for violations during 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 fractionation tanks, filters, hoses, pumps, treatment process units, and flow meters. Equipment will be monitored daily for potential issues or unscheduled maintenance requirements. WSK has all of the anticipated labor necessary to perform treatment system maintenance.

System Operator Training

Employees who have direct responsibility for ensuring compliance with the RGP will be trained by the Massachusetts Licensed wastewater treatment plant operator (minimum Grade 2) responsible for inspecting the treatment work in accordance with the Massachusetts Contingency Plan (310 CMR 40.0041(9)).

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 include the requirements for erosion control.

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

No adverse effects on designated uses of surrounding surface water bodies is anticipated. The nearest surface water body is the Charles River which is located over one mile south of the work area.

Management of Treatment System Materials

Dewatering effluent will be pumped via hose directly to the treatment system from the excavations associated with the project to minimize handling. To the extent practicable, the Contractor will establish staging areas for equipment or materials storage of any sources of pollution away from any dewatering activities.

Sediment/sludge generated from the treatment process will be characterized and removed from the site to an appropriate facility, in accordance with applicable laws and regulations. Granular activated carbon, multi-media filters and/or ion exchange resin may be recycled and/or removed from the site to an appropriate facility. Bag filters, if used, will be disposed of in accordance with applicable solid waste rules and regulation.

ATTACHMENT C: CAMBRIDGE DEWATERING PERMIT



PERMIT TO DEWATER

Location:

Temporary

Owner:

Permanent

Contractor:

The property owner, _____ agrees to hold harmless and indemnify the City of Cambridge for any liability on the part of the City directly or indirectly arising out of the dewatering operation.

The issuance of this permit is based in part in the submission packet of the applicant with documentation as follows:

In addition, the application has been reviewed by the City under third party agreement as documented in the following reports:

All activities conducted in conjunction with the issuance of this permit must be in accordance with the provisions of the aforementioned reports. Any deviations in conditions must be reported to and approved by the Commissioner of Public Works.

This permit is in addition to any other street permit issued by the Department in connection with any street excavation or obstruction; and all conditions as specified in the Discharge Permit for Dewatering.

For the entire period of time the groundwater is being discharged to a storm drain, the property owner shall provide copies of each Discharge Monitoring Report Form submitted to the EPA, pursuant to the owner's discharge permit.

If in the future the EPA requires the City of Cambridge to bring existing stormwater drainage into compliance with EPA quality standards, as a condition to the continuation of discharge of that stormwater (also including groundwater) into an EPA regulated system into which the _____ (property owner) drains, the owner will agree to maintain its water discharge with such EPA water quality standards.

The property owner and contractor shall at all times meet the conditions specified in the requisite legal agreement/affidavits.

All groundwater pumped from the work shall be disposed of without damage to pavements, other surfaces or property.

Where material or debris has washed or flowed into or has been placed in existing gutters, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of by the

Contractor during the progress of work as directed by the Public Works Department.

Any flooding or damage of property and possessions caused by siltation of existing gutters, pipes or structures shall be the responsibility of the Contractor.

Provisions shall be made to insure that no material, water or solid, will freeze on any pavement or in any location which will cause inconvenience or hazard to the general public.

Upon completion of the work, existing gutters, drains, pipes and structures shall be (bucket) cleaned and material disposed of satisfactorily prior to release by the Public Works Department.

Any permit issued by the City of Cambridge shall be revoked upon transfer of any ownership interest unless and until subsequent owner(s) or parties of interest agree to the foregoing terms.

This permit shall remain in effect for one year and shall be renewable thereafter at the agreement of the parties.

The following special conditions as set forth below are part of the permit.

City Manager

Property Manager: Corporate Entity
President, General Partner or Trustee
Trustee with Instrument of Authority

Date

Date

City Solicitor

Contractor

Date

Date

Commissioner of Public

Contractor

Date

Date

CC: Engineering
 Supervisor of Sewer Maintenance and Engineering
 Superintendent of Streets
 Commissioner of Inspectional Services

ATTACHMENT D: ENDANGERED SPECIES

**Remediation General Permit
Appendix I**

Areas of Critical Environmental Concern (ACEC) in Massachusetts

This appendix presents the June 2009 list of Massachusetts ACECs, Towns with ACECs within their Boundaries, and a map showing ACECs. If the project proposed is located in one of the communities listed on the “Towns with ACECs within their Boundaries”, the project may be located in an ACEC.

To confirm whether the project location is in an ACEC, contact the local Conservation Commission or the Massachusetts Department of Conservation & Recreation (DCR) ACEC program at:

Elizabeth Sorenson, Director
ACEC Program
Massachusetts Department of Conservation and Recreation
Bureau of Planning and Resource Protection
251 Causeway St., Ste. 700, Boston, MA 02114-2104
Phone: 617-626-1394
Email: Elizabeth.Sorenson@state.ma.us
Fax: 617-626-1349

For further information, please reference the Massachusetts DCR ACEC Program Home website at: <http://www.mass.gov/dcr/stewardship/acec/index.htm>

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN

June 2009

Total Approximate Acreage: 268,000 acres

Approximate acreage and designation date follow ACEC names below.

Bourne Back River

(1,850 acres, 1989) Bourne

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

Cedar Swamp

(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley

(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed

(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor

(600 acres, 1980) Plymouth

Fowl Meadow and Ponkapoag Bog

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

Golden Hills

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

Great Marsh (originally designated as Parker River/Essex Bay)

(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed

(4,450 acres, 1991) Bourne and Plymouth

Hinsdale Flats Watershed

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

Hockomock Swamp

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

Inner Cape Cod Bay

(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin

(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed

(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds

(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary

(1,300 acres, 1995) Boston, Milton, and Quincy

Petapawag

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

Pleasant Bay

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

Pocasset River

(160 acres, 1980) Bourne

Rumney Marshes

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

Sandy Neck Barrier Beach System

(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin

(13,750 acres, 1990) Mount Washington and Sheffield

Squannassit

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

Three Mile River Watershed

(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River

(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay

(2,580 acres, 1979) Falmouth and Mashpee

Weir River

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

Wellfleet Harbor

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

Weymouth Back River

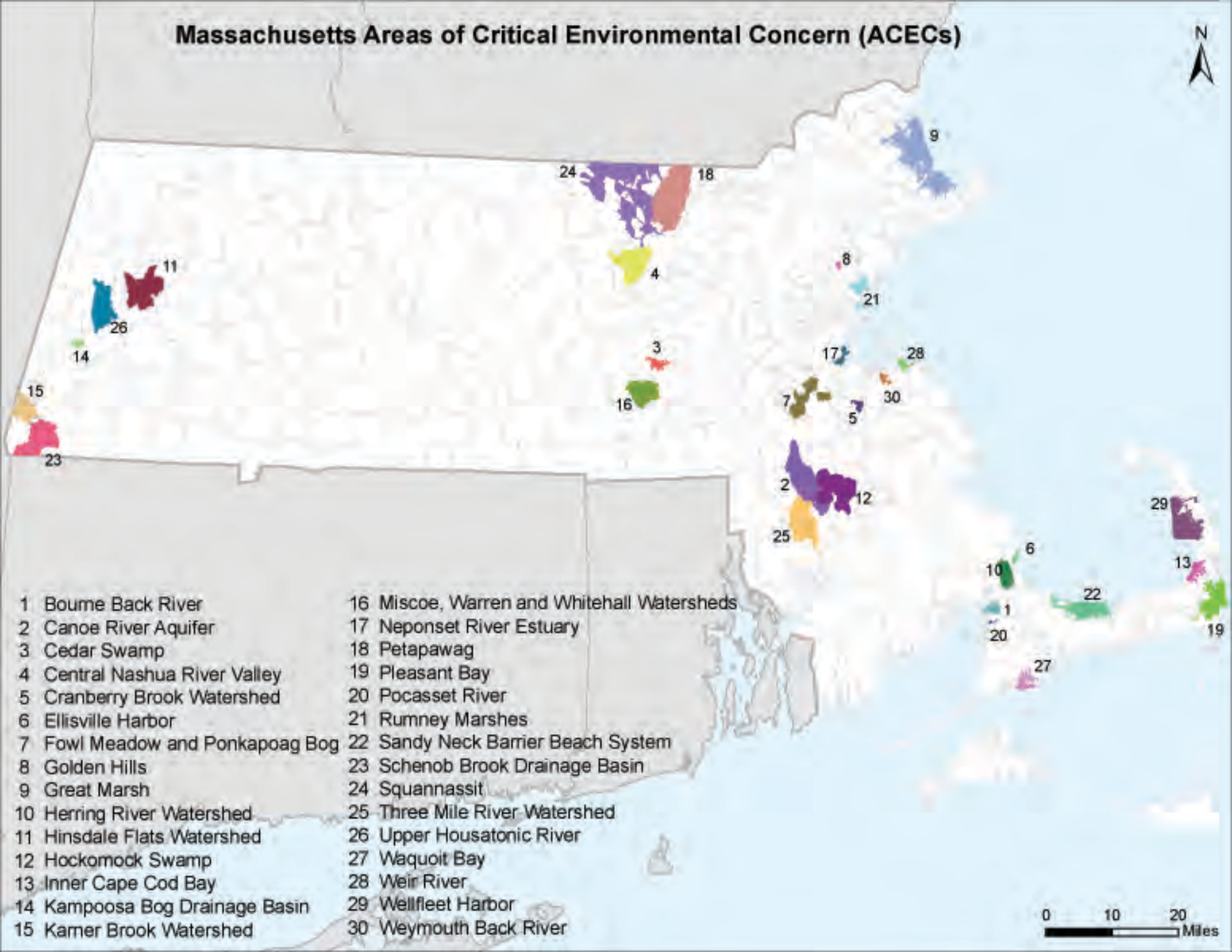
(800 acres, 1982) Hingham and Weymouth

Towns with ACECs within their Boundaries

June 2009

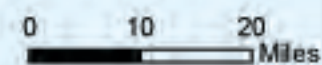
TOWN	ACEC	TOWN	ACEC
Ashby	Squannassit	Mt. Washington	Karner Brook Watershed
Ayer	Petapawag		Schenob Brook
	Squannassit	Newbury	Great Marsh
Barnstable	Sandy Neck Barrier Beach System	Norton	Hockomock Swamp
Bolton	Central Nashua River Valley		Canoe River Aquifer
Boston	Rumney Marshes		Three Mile River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

Massachusetts Areas of Critical Environmental Concern (ACECs)



- 1 Bourns Back River
- 2 Canoe River Aquifer
- 3 Cedar Swamp
- 4 Central Nashua River Valley
- 5 Cranberry Brook Watershed
- 6 Ellisville Harbor
- 7 Fowl Meadow and Ponkapoag Bog
- 8 Golden Hills
- 9 Great Marsh
- 10 Herring River Watershed
- 11 Hinsdale Flats Watershed
- 12 Hockomock Swamp
- 13 Inner Cape Cod Bay
- 14 Kampoosa Bog Drainage Basin
- 15 Kanner Brook Watershed

- 16 Miscoe, Warren and Whitehall Watersheds
- 17 Neponset River Estuary
- 18 Petapawag
- 19 Pleasant Bay
- 20 Pocasset River
- 21 Rumney Marshes
- 22 Sandy Neck Barrier Beach System
- 23 Schenob Brook Drainage Basin
- 24 Squannassit
- 25 Three Mile River Watershed
- 26 Upper Housatonic River
- 27 Waquoit Bay
- 28 Weir River
- 29 Wellfleet Harbor
- 30 Weymouth Back River



**Remediation General Permit
Appendix II**

**Endangered Species Act: List of Species by County
in Massachusetts and in New Hampshire**

The following is the U.S. Fish and Wildlife Service (FWS) listing of federally endangered and threatened species for counties in Massachusetts and New Hampshire. If you are located close to the border of a county or your site is located in one county and your discharge points are located in another, you must look under both counties.

The New Hampshire and Massachusetts lists were updated on 7/31/2008; however, please note that species are listed and de-listed periodically. To get the most current list at the time you are conducting your endangered species assessment, see the FWS Endangered Species Program website at <http://www.fws.gov/endangered/> and the U.S. FWS New England Field Office website at <http://www.fws.gov/newengland/index.htm>

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Raynham and Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Glocester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, and Wareham
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

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

7/31/2008

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN NEW HAMPSHIRE**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Eaton, Madison Wolfeboro, Brookfield and Wakefield
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzy, Keene and Surry
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Weare
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Danbury, Epsom, Warner and Allenstown
Rockingham	Piping Plover	Threatened	Coastal Beaches	Hampton and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Small whorled Pogonia	Threatened	Forests	Northwood, Nottingham, and Epping
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon and Walpole
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Jesup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont

- Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.
- Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.
- There is no federally-designated Critical Habitat in New Hampshire.

7/31/2008

ATTACHMENT E: REVIEW HISTORICAL/MACRIS REVIEW

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.A	Bow Street Historic District		Somerville	
SMV.B	Tufts, Nathan Park		Somerville	
SMV.C	Central Hill		Somerville	
SMV.D	Summit Avenue		Somerville	
SMV.E	Davis Square		Somerville	
smv.f	Powder House - Winter Hill Industrial Area		Somerville	
SMV.G	Union Square Commercial District		Somerville	
SMV.H	Ward Two Industrial Area		Somerville	
SMV.I	Assembly Square		Somerville	
SMV.J	Teele Square		Somerville	
SMV.K	Ball Square		Somerville	
SMV.L	Magoun Square		Somerville	
SMV.M	Gilman Square		Somerville	
SMV.N	Campbell Park - Meacham Road Historic District		Somerville	
SMV.O	Brastow and Harvard Street Subdivision		Somerville	
SMV.P	Concord Square - Concord Avenue		Somerville	
SMV.Q	Homer Square		Somerville	
SMV.R	Houghton - Oak Streets Area		Somerville	
SMV.S	Jacques - Bond - Heath Streets Subdivision		Somerville	
SMV.T	Kent Court		Somerville	
SMV.U	Mount Benedict		Somerville	
SMV.V	Clyde - Murdock Brickworker's Neighborhood		Somerville	
SMV.W	Russell, William A. Subdivision		Somerville	
SMV.X	Somerville Avenue		Somerville	
SMV.Y	Thurston - Dartmouth - School Streets Area		Somerville	
SMV.Z	Wesley Park		Somerville	
SMV.AA	Garrison Streetscape		Somerville	
SMV.AB	Partridge Street Area		Somerville	
SMV.AC	McGregor Street Area		Somerville	

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.AD	Highland Road Area		Somerville	
SMV.AE	Hall Street Area		Somerville	
SMV.AF	Bay State Avenue Area		Somerville	
SMV.AG	Fountain Avenue Area		Somerville	
SMV.AH	Florence Street Area		Somerville	
SMV.AI	Ellsworth Streetscape		Somerville	
SMV.AJ	Harrison Street Area		Somerville	
SMV.AK	Church Street Area		Somerville	
SMV.AL	Beacon Streetscape		Somerville	
SMV.AM	Powder House Boulevard Area		Somerville	
SMV.AN	Paulina Streetscape		Somerville	
SMV.AO	Ossippe Road Area		Somerville	
smv.ap	Westwood Road Historic District		Somerville	
SMV.AQ	Spring Hill Historic District		Somerville	
SMV.AR	Mount Vernon Street Historic District		Somerville	
SMV.AS	Professor's Row		Somerville	
SMV.AT	Westwood Road Historic District		Somerville	
SMV.AU	Hollander Blocks		Somerville	
SMV.AV	Chester Street Historic District		Somerville	
SMV.AW	Columbus Avenue - Warren Avenue Historic District		Somerville	
SMV.AX	Pleasant Avenue Historic District		Somerville	
SMV.AY	Somerville Multiple Resource Area		Somerville	
SMV.AZ	Water Supply System of Metropolitan Boston		Somerville	
SMV.BA	Somerville Single Building Local Historic District		Somerville	
SMV.BB	Metropolitan Park System of Greater Boston		Somerville	
SMV.BC	Diners of Massachusetts		Somerville	
smv.bd	Middlesex Canal Historic and Archaeological		Somerville	
smv.be	Middlesex Canal Historic and Archaeological		Somerville	
SMV.BF	Aldersey - Summit Historic District		Somerville	
SMV.BG	Alewife Brook Parkway		Somerville	
SMV.BH	Immaculate Conception Roman Catholic Church		Somerville	
SMV.BI	Cambridge Multiple Resource Area		Somerville	
SMV.BJ	Mystic Valley Parkway		Somerville	
SMV.BK	Orchard Street Area		Somerville	
smv.bl	Central - Atherton - Spring - Summer Streets		Somerville	
SMV.BM	Dane Street Local Historic District		Somerville	
SMV.BN	Florence - Myrtle Streets Local Historic District		Somerville	
SMV.BO	Everett Street Local Historic District		Somerville	
SMV.BP	Lowell Historic District		Somerville	
SMV.BQ	Lower Franklin Street Local Historic District		Somerville	
SMV.BR	Morrison Avenue Local Historic District		Somerville	
SMV.BS	Mount Vernon Street Local Historic District		Somerville	
SMV.BT	Linden Avenue, 60, Local Historic District		Somerville	

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.BU	Upper Perkins - Webster Streets Local Historic		Somerville	
SMV.BV	East Somerville Local Historic District		Somerville	
SMV.BW	Flint Street Local Historic District		Somerville	
SMV.BX	Pearl Street Local Historic District		Somerville	
SMV.BY	Prospect Hill Local Historic District		Somerville	
SMV.BZ	Thurston - Walnut Local Historic District		Somerville	
SMV.CA	Union Square Local Historic District		Somerville	
SMV.CB	Nine Brastow Avenue Local Historic District		Somerville	
SMV.CC	Bennett Street Industrial Area		Somerville	
SMV.CD	Properzi Way Area		Somerville	
SMV.CE	American Tube Works Company Complex		Somerville	
SMV.331	Harlow, George H. House	7 Adams St	Somerville	1893
SMV.145	Keyes, Amos House	12 Adams St	Somerville	c 1860
SMV.332	Bentley, Emma House	15 Adams St	Somerville	1894
SMV.493		30 Adams St	Somerville	c 1890
SMV.144	Downer Rowhouses	55-63 Adams St	Somerville	c 1880
SMV.143	Williams, F. G. House	37 Albion St	Somerville	c 1860
SMV.1144	Vinal, Quincy A. - Cheever, Albert House	6 Aldersey St	Somerville	c 1895
SMV.1143	Vinal, Quincy A. - Tead, Rev. Edward Sampson House	8 Aldersey St	Somerville	c 1880
SMV.1139	Vinal, Quincy A. House	9-11 Aldersey St	Somerville	c 1849
SMV.1142	Hammond, Stephen G. - Lovering, Joseph House	12 Aldersey St	Somerville	1869
SMV.1141	Elizabeth S. - Steven, Fenno House	14-16 Aldersey St	Somerville	1870
SMV.277	Taylor, Adoniram House and Stable	17-19A Aldersey St	Somerville	1868
SMV.1140	Lord, David D. House	18 Aldersey St	Somerville	r 1890
SMV.142	Mystic Pumping Station	Alewife Brook Pkwy	Somerville	1863
SMV.930	Alewife Brook Parkway - Northern Segment	Alewife Brook Pkwy	Somerville	1908
SMV.932	Alewife Brook Parkway Tree Border	Alewife Brook Pkwy	Somerville	r 1920
SMV.1280	Harding, Chester E. - Psilopoulos, Harry House	279 Alewife Brook Pkwy	Somerville	1928
SMV.1281	Pollock, James N. and Thomas House	283 Alewife Brook Pkwy	Somerville	1928
SMV.689	Alewife Brook Pumping Station	392 Alewife Brook Pkwy	Somerville	c 1927
SMV.367	Rowe, John House	10 Allen Ct	Somerville	c 1860
SMV.368		21 Allen St	Somerville	r 1845
SMV.369		42 Allen St	Somerville	r 1835
SMV.708	Faulkner Brothers Garage	11-15 Alpine St	Somerville	1950
SMV.494		41 Ames St	Somerville	r 1895
SMV.521	Kempton, Charles House	27 Appleton St	Somerville	c 1865
SMV.522	Parkhurst, Charles House	29 Appleton St	Somerville	c 1860
SMV.1008	Building #29	Arlington St	Somerville	c 1925
SMV.141	Williams, Charles Jr. House	1 Arlington St	Somerville	c 1858
SMV.140		10 Arlington St	Somerville	c 1885
SMV.1151	Saint Benedict's Roman Catholic Church Rectory	25 Arlington St	Somerville	1934
SMV.566	Rawson, James House	28 Arlington St	Somerville	1860
SMV.70	Carr, Martin W. School	25 Atherton St	Somerville	1898

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.93	Robinson, Enoch House	36 Atherton St	Somerville	1856
SMV.92	Robinson, William House	40 Atherton St	Somerville	c 1860
SMV.91		44-48 Atherton St	Somerville	c 1850
SMV.1031		47 Atherton St	Somerville	c 1880
SMV.1032	Rogers, Artemas House	53 Atherton St	Somerville	c 1850
SMV.1033	Frost, John O. House	54 Atherton St	Somerville	c 1880
SMV.1034	Dwyer, James A. - Murphy, Elizabeth House	55-57 Atherton St	Somerville	1916
SMV.90		58-60 Atherton St	Somerville	c 1850
SMV.1035	Edgerton, W. L. House	61 Atherton St	Somerville	c 1860
SMV.1036		65-67 Atherton St	Somerville	c 1870
SMV.915	Mystic Valley Parkway - Auburn Street Bridge	Auburn St	Somerville	1906
SMV.567	Baker, James B. T. House	7 Auburn St	Somerville	c 1860
SMV.617	Woods, John M. House	3 Avon St	Somerville	c 1890
SMV.2	Boston Engine Terminal Budd House	B & M Railroad	Somerville	1957
SMV.3	Boston Engine Terminal Yard #5 Shanty	B & M Railroad	Somerville	c 1930
SMV.4	Boston Engine Terminal Diesel Locomotive Shop	B & M Railroad	Somerville	1948
SMV.5	Boston Engine Terminal Tin Store House	B & M Railroad	Somerville	1932
SMV.7	Boston Engine Terminal Office Building	B & M Railroad	Somerville	1930
SMV.8	Boston Engine Terminal Service and Inspection Hse	B & M Railroad	Somerville	1972
SMV.9	Boston Engine Terminal Engine House	B & M Railroad	Somerville	1931
SMV.908	High Line Bridge	B & M Railroad	Somerville	1927
SMV.1152	Harris, Samuel T. - Scott, Herbert K. House	41 Bartlett St	Somerville	1894
SMV.913	Beacon Street Bridge over B and M Railroad	Beacon St	Somerville	1899
SMV.779	Beacon Street Garage	6-8 Beacon St	Somerville	1917
SMV.778	Boston Knitting Mill - Cambridge Rubber Company	10-12 Beacon St	Somerville	c 1925
SMV.777	Graff, George B. Manufacturing Company Factory	14-18 Beacon St	Somerville	1920
SMV.139		28-36 Beacon St	Somerville	c 1880
SMV.138	Wyatt, George House	33 Beacon St	Somerville	c 1860
SMV.370		38 Beacon St	Somerville	c 1885
SMV.371		46-48 Beacon St	Somerville	c 1886
SMV.1025	Delay, Honora Apartment House	50 Beacon St	Somerville	c 1890
SMV.1153	Dimmick, Calvin House	69-71 Beacon St	Somerville	1899
SMV.372		76 Beacon St	Somerville	c 1870
SMV.1154	Forsberg, Eric Bakery	99 Beacon St	Somerville	c 1926
SMV.780		108 Beacon St	Somerville	c 1890
SMV.373		185-187 Beacon St	Somerville	c 1890
SMV.783		189-191 Beacon St	Somerville	c 1928
SMV.784	Colonial Repair Service	225-227 Beacon St	Somerville	1925
SMV.227	Durell, George W. School	245 Beacon St	Somerville	1894
SMV.374		321-323 Beacon St	Somerville	c 1890
SMV.375		328 Beacon St	Somerville	c 1880
SMV.376		336 Beacon St	Somerville	c 1850
SMV.1338	Conant, George F. - Knapp, Oren S. House	11 Belmont St	Somerville	c 1855

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.216	James, Joseph Knightley House	83 Belmont St	Somerville	1893
SMV.618		2-4 Belmont Terr	Somerville	c 1848
SMV.568		23 Benedict St	Somerville	c 1868
SMV.1344	Bennett Auto Exchange Body Shop	26 Bennett St	Somerville	1941
SMV.1345	Prospect Iron and Steel Corporation Warehouse	32 Bennett St	Somerville	c 1970
SMV.1346	Prospect Iron and Steel Corporation	38 Bennett St	Somerville	1989
SMV.619	Benton, Reuben - Corwin, Charles R. House	1 Benton Rd	Somerville	c 1890
SMV.1088	Benton, Reuben - Hood, Charles H. House	2 Benton Rd	Somerville	c 1890
SMV.19	Raymond, Francis House	12 Benton Rd	Somerville	c 1910
SMV.18	Carr, Eugene House	18 Benton Rd	Somerville	c 1910
SMV.621	Haskell, Richard House	40 Benton Rd	Somerville	c 1858
SMV.137	Snow, Lemuel Jr. House	81 Benton Rd	Somerville	c 1890
SMV.136	Crowell, C. C. House	85 Benton Rd	Somerville	c 1890
SMV.622		70 Berkely St	Somerville	r 1895
SMV.1262	Morse, George H. House	4 Berwick St	Somerville	1890
SMV.272	Robbins, Henry House	2 Bigelow St	Somerville	1886
SMV.1155	Bean, Ivory - Bailey, Mary E. House	10 Bigelow St	Somerville	c 1887
SMV.464	Sharpe, Robert - Klenert, John F. House	4 Billingham St	Somerville	c 1890
SMV.465	Robie, Alma M. House	14 Billingham St	Somerville	c 1890
SMV.792	Boston Ice Company Building	Bleachery Ct	Somerville	c 1915
SMV.378		2-4 Bolton St	Somerville	r 1865
SMV.1026		6-8 Bolton St	Somerville	r 1865
SMV.239	Bonner, William House	17 Bonner Ave	Somerville	r 1850
SMV.1115	Bromfield - Pearson School and Engineering Bldg.	Boston Ave	Somerville	
SMV.926	Boston Engine Terminal Oil Separation House	Boston Eng. Terminal	Somerville	c 1932
SMV.1017	Boston Engine Terminal Power Plant	Boston Eng. Terminal	Somerville	1932
SMV.273	Blodgett, Elizabeth House	65 Boston St	Somerville	1887
SMV.1156	Dugan, John House	71-73 Boston St	Somerville	c 1845
SMV.450		79 Boston St	Somerville	r 1855
SMV.274	Marden, Jennie House	83 Boston St	Somerville	1892
SMV.55	Munroe, Edwin and Benjamin House	91 Boston St	Somerville	c 1850
SMV.775	Somerville National Bank	11-15 Bow St	Somerville	1908
SMV.774	U. S. Post Office - Union Square Branch	16-18 Bow St	Somerville	1919
SMV.20	Prospect Hill Congregational Church	17 Bow St	Somerville	1887
SMV.22	Bell, Dr. - Lambert House	26 Bow St	Somerville	c 1874
SMV.21	Orcutt, W. House	30 Bow St	Somerville	c 1874
SMV.1279	Dearborn, Dr. Alvah B. House	32 Bow St	Somerville	c 1890
SMV.26	Richmond, The	33-37 Bow St	Somerville	1892
SMV.23	Sanborn, Robert - Dearborn, Dr, Alvah B. House	34 Bow St	Somerville	c 1852
SMV.24	Plummer, S. N. House	36 Bow St	Somerville	c 1874
SMV.25	Market Building	38-40 Bow St	Somerville	c 1928
SMV.28		39-49 Bow St	Somerville	c 1900
SMV.33	Crumbie, William G. House	42 Bow St	Somerville	c 1874

Massachusetts Cultural Resource Information System

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Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.29	Mann, Dr. E. C. House	46 Bow St	Somerville	c 1874
SMV.32	Somerville Police Station	50 Bow St	Somerville	1874
SMV.31	Couch, Dr. - Arnold House	56 Bow St	Somerville	c 1874
SMV.30	Bow Street Hotel	58-68 Bow St	Somerville	c 1900
SMV.776	Cities Service Refining Company Fuel Station	69-71 Bow St	Somerville	c 1925
SMV.752	New England Telephone Building	2-6 Bradley St	Somerville	1904
SMV.623	Sewall, Charles E. House	9 Brastow Ave	Somerville	c 1873
SMV.1157	Sewall, Charles E. Stable	9R Brastow Ave	Somerville	c 1873
SMV.718	Arthur, The	102-114 Bristol Rd	Somerville	1909
SMV.927	Revere, Paul Park	Broadway	Somerville	
SMV.1011	Hurst's Broadway Theater	79-83 Broadway	Somerville	1915
SMV.1009	Columbia Building	84-86 Broadway	Somerville	1902
SMV.1010	Franklin Building	88-90 Broadway	Somerville	1919
SMV.1012		132-146 Broadway	Somerville	c 1915
SMV.1013	Park Garage Company Building	161 Broadway	Somerville	1914
SMV.1014	Somerville Fire Station Engine #2	165 Broadway	Somerville	1895
SMV.318	Holt, Chauncey House	257 Broadway	Somerville	1877
SMV.736	Welden Hall - Broadway Theater	310-318 Broadway	Somerville	c 1880
SMV.737		315-321A Broadway	Somerville	1924
SMV.735		322 Broadway	Somerville	1911
SMV.319	Princeton, The	333 Broadway	Somerville	1914
SMV.733	Princeton Garage	337-345 Broadway	Somerville	1926
SMV.734	Somerville Trust Company	338 Broadway	Somerville	1926
SMV.135	Langmaid Terrace	359-365 Broadway	Somerville	1892
SMV.333	Glidden, Walter House	380 Broadway	Somerville	1898
SMV.334		392-394 Broadway	Somerville	c 1874
SMV.1023		396-398 Broadway	Somerville	c 1874
SMV.1024		400 Broadway	Somerville	c 1874
SMV.134	Broadway Winter Hill Congregational Church	404 Broadway	Somerville	1890
SMV.335	Foote, Edward House	419 Broadway	Somerville	c 1865
SMV.133	Adams - Magoun House	438 Broadway	Somerville	c 1783
SMV.748		491-495 Broadway	Somerville	c 1915
SMV.740	Broadway Garage	643-645 Broadway	Somerville	c 1930
SMV.715	Ball Square Block	674-694 Broadway	Somerville	1910
SMV.1337	Kelly's Diner	674 Broadway	Somerville	1953
SMV.716	North Somerville Railroad Station	675R Broadway	Somerville	c 1880
SMV.717	Hillson Building	693-701 Broadway	Somerville	1925
SMV.714		710-712 Broadway	Somerville	1924
SMV.709		736-744 Broadway	Somerville	1924
SMV.1158	McDonough, Thomas E. House	771 Broadway	Somerville	1903
SMV.1159	Lewis, Andrew R. House	773 Broadway	Somerville	1904
SMV.1160	Cook, George House	787 Broadway	Somerville	1902
SMV.466	Valentine, Herbert E. House	1098 Broadway	Somerville	c 1875

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.686		1112-1122 Broadway	Somerville	c 1910
SMV.681	Cliff, The	1137-1147 Broadway	Somerville	c 1906
SMV.687		1150-1152 Broadway	Somerville	c 1906
SMV.682	Cliff, Zebedee E. Building	1151-1165 Broadway	Somerville	1905
SMV.683	Teele Square Theater	1154-1164 Broadway	Somerville	1922
SMV.1161	Saint James Episcopal Church	1170 Broadway	Somerville	1876
SMV.684		1198-1212 Broadway	Somerville	1923
SMV.1162	Hammond, Horace W. - Howard, Ralph House	66 Bromfield Rd	Somerville	1908
SMV.624	Morse, Albert House	10 Burnside St	Somerville	c 1845
SMV.187	Murphy, Thomas - Lea, James L. House	3-5 Campbell Pk	Somerville	1892
SMV.186	Simonds, Nathan House	7 Campbell Pk	Somerville	1891
SMV.185	Buttimer, Maurice House	9-11 Campbell Pk	Somerville	c 1891
SMV.184	Hillman, John House	13 Campbell Pk	Somerville	1891
SMV.183	Holbrook, Julia A. House	15 Campbell Pk	Somerville	1892
SMV.182	Weeks, Henry A. House	19 Campbell Pk	Somerville	1891
SMV.917	Cedar Street Bridge over B and M Railroad	Cedar St	Somerville	1888
SMV.524	Merrill, Seth W. House	111 Cedar St	Somerville	c 1890
SMV.661	White Cross Laundry	154 Cedar St	Somerville	1909
SMV.719	Royal White Laundry	165 Cedar St	Somerville	c 1929
SMV.938	Central Street Bridge over MBTA - B & M Railroad	Central St	Somerville	1889
SMV.1163	Stone, Jonathan House	7 Central St	Somerville	c 1870
SMV.1164	Stone, Nathaniel T. House	15 Central St	Somerville	1869
SMV.1165	Elk Club Meeting Hall	29 Central St	Somerville	1922
SMV.1037	Thierry, William O. - Galvin, James J. House	34 Central St	Somerville	c 1904
SMV.1038	Cox, Edward F. House	36 Central St	Somerville	c 1890
SMV.1039	Hemenway, Charles M. House	40 Central St	Somerville	1892
SMV.625	Haigh, John House	44 Central St	Somerville	c 1890
SMV.1090		58 Central St	Somerville	c 1898
SMV.626	Carnervan, The	60 Central St	Somerville	c 1895
SMV.627	Stevens, George House	71 Central St	Somerville	r 1865
SMV.495	Dacey, John House	121 Central St	Somerville	r 1865
SMV.327	Veazie, William Rowhouses	137-145 Central St	Somerville	1889
SMV.496	Keyes, Amos House	154 Central St	Somerville	c 1872
SMV.328	Yeaton, Martha and May House	155 Central St	Somerville	1889
SMV.329	Darling, Samuel House	158 Central St	Somerville	1879
SMV.330	Downer, Cutler House	170 Central St	Somerville	1868
SMV.132	Adams, Charles - Locke, Woodbury House	178 Central St	Somerville	c 1840
SMV.131	Downer Rowhouses	192-200 Central St	Somerville	c 1880
SMV.1166	Temple B'Nai B'Rith Synagogue	201 Central St	Somerville	1919
SMV.343	French, Horace F. House	9 Chandler St	Somerville	1873
SMV.467	Wade, Mary House	44 Chandler St	Somerville	c 1894
SMV.344	Snow, J. Parker House	58 Chandler St	Somerville	1890
SMV.1167	College Avenue Methodist Episcopal Church	14 Chapel St	Somerville	1925

Massachusetts Cultural Resource Information System

MACRIS

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Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.469	Baldwin, Robert E. House	17 Chapel St	Somerville	c 1890
SMV.210		8 Cherry St	Somerville	1908
SMV.628		17 Cherry St	Somerville	c 1820
SMV.631		30 Cherry St	Somerville	c 1860
SMV.629	Demmon, D. L. House - Fireman's Hospital and Home	31 Cherry St	Somerville	1855
SMV.630	Vincent, George House	32 Cherry St	Somerville	c 1855
SMV.130	Mentzner, W. C. House	36 Cherry St	Somerville	1890
SMV.1169	Fletcher, William G. - Haskell, Frederika E. House	19 Chester St	Somerville	1867
SMV.206	Chapman, Kendrick W. House	20 Chester St	Somerville	1873
SMV.205	Perry, John - Page, Lemuel House	23 Chester St	Somerville	1867
SMV.207	Smith, Alonzo R. House	24 Chester St	Somerville	1857
SMV.129	Bacon, Clifton House	27 Chester St	Somerville	c 1885
SMV.540	Poor, F. N. House	30 Chester St	Somerville	r 1880
SMV.128		14 Chestnut St	Somerville	c 1860
SMV.1168	Tripp, George H. House	7 Clarendon Ave	Somerville	1875
SMV.231	Clark, J. H. House	11 Clark St	Somerville	c 1860
SMV.379	Clark, Joseph House	17 Clark St	Somerville	c 1860
SMV.433		37 Clark St	Somerville	r 1825
SMV.726	Uzeit Soap Manufacturing Company	32 Clifton Ave	Somerville	c 1900
SMV.525		5 Clyde St	Somerville	r 1855
SMV.526		9 Clyde St	Somerville	r 1855
SMV.127		25 Clyde St	Somerville	c 1850
SMV.721	Carlisle-Ayer Door Manufacturing Company	50 Clyde St	Somerville	1926
SMV.720	Agar Manufacturing Corrugated Box Company Building	55 Clyde St	Somerville	c 1928
SMV.702		12-14 College Ave	Somerville	1909
SMV.703		28 College Ave	Somerville	c 1890
SMV.65	West Somerville Branch Library	40 College Ave	Somerville	1909
SMV.342	Third Universalist Church	45 College Ave	Somerville	1884
SMV.345	Lockhardt, Charles H. House	88 College Ave	Somerville	1889
SMV.1171	First Congregational Church of West Somerville	89 College Ave	Somerville	1912
SMV.470	Porter, Isaac House	97 College Ave	Somerville	r 1895
SMV.1172	Garten, Rev. J. Vanor House	113 College Ave	Somerville	1901
SMV.1173	Colson, H. W. P. - Knowles, David S. House	149 College Ave	Somerville	1897
SMV.1174	Dartnell, M. - Winward, Edwin Double House	151 College Ave	Somerville	1897
SMV.1175	Cook, Washington - Brisben, Edwin R. House	215 College Ave	Somerville	1903
SMV.1112	Cook, Thomas House	21 College Hill Rd	Somerville	c 1850
SMV.240	Gustin, Julia House	27 Columbus Ave	Somerville	1892
SMV.451	Richardson, Artemas C. House	39 Columbus Ave	Somerville	1870
SMV.241	Richardson, Artemus C. House	41 Columbus Ave	Somerville	c 1865
SMV.242	Richardson, Artemus C. House	45 Columbus Ave	Somerville	1889
SMV.243	Eberle, Phillip House	47 Columbus Ave	Somerville	c 1882
SMV.267	Gould, Aaron House	50 Columbus Ave	Somerville	1897
SMV.244		53 Columbus Ave	Somerville	1874

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MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.245	McCormic, Thomas J. House	55 Columbus Ave	Somerville	r 1880
SMV.266	Cushman, Charles A. House	56 Columbus Ave	Somerville	1875
SMV.246	Canavan, William - High, William C. House	57 Columbus Ave	Somerville	1877
SMV.265	Kimball, George House	58 Columbus Ave	Somerville	c 1874
SMV.247	Canavan, William - High, William C. House	59 Columbus Ave	Somerville	1877
SMV.126	Brooks, James H. House	61 Columbus Ave	Somerville	c 1880
SMV.52	Brackett, S. E. House	63 Columbus Ave	Somerville	c 1880
SMV.248	Ryder, Henry House	67 Columbus Ave	Somerville	c 1873
SMV.255	Ambrose, John House	68 Columbus Ave	Somerville	1890
SMV.249	Thompson, Benjamin - Flanders, John C. House	69 Columbus Ave	Somerville	1885
SMV.254	Sturtevant, Lindley - Coolidge, Aaron House	70 Columbus Ave	Somerville	1875
SMV.250	Drouet, Charles House	73 Columbus Ave	Somerville	c 1885
SMV.251	Sturtevant, Richard House	75-77 Columbus Ave	Somerville	c 1884
SMV.253	Sanborn, Robert - Sturtevant, Lindley House	76 Columbus Ave	Somerville	c 1882
SMV.1021	Sanborn, Robert - Sturtevant, Lindley Barn	76 Columbus Ave	Somerville	c 1882
SMV.252	Sanborn, Robert - Sturtevant, Richard House	78 Columbus Ave	Somerville	c 1882
SMV.380	Downing, M. C. House	69 Concord Ave	Somerville	c 1880
SMV.1335		22 Connecticut Ave	Somerville	c 1910
SMV.541	Bower, F. E. Milk Company Stable	6 Cottage Ave	Somerville	r 1875
SMV.542		12 Cottage Ave	Somerville	r 1865
SMV.543		18 Cottage Ave	Somerville	c 1853
SMV.544	Morse, Perley House	24 Cottage Ave	Somerville	r 1865
SMV.546	Wilson, Nathan House	3 Cottage Cir	Somerville	c 1850
SMV.214	Spring, Andrew Craigie House	23 Craigie St	Somerville	c 1860
SMV.1176	Dickerman, Frank E. House	47 Craigie St	Somerville	1892
SMV.632		63 Craigie St	Somerville	c 1890
SMV.215	Brownell, William S. House	70 Craigie St	Somerville	1873
SMV.569	Trott, H. House	24 Crescent St	Somerville	c 1870
SMV.923	Cross Street Bridge over B and M Railroad	Cross St	Somerville	1928
SMV.572		16 Cross St	Somerville	c 1855
SMV.316	Grace Baptist Church	59 Cross St	Somerville	1892
SMV.573		67 Cross St	Somerville	c 1885
SMV.1015		76-78 Cross St	Somerville	1922
SMV.112	Williams, Charles House	108 Cross St	Somerville	c 1848
SMV.571	First Universalist Church	138-140 Cross St	Somerville	1869
SMV.315	Klous, Seman Rowhouses	8-16 Cross St East	Somerville	1879
SMV.1334		44 Cross St East	Somerville	c 1940
SMV.1016	M and M Transportation Company Building	60 Cross St East	Somerville	c 1934
SMV.471	Holden, Simon House	97 Curtis St	Somerville	c 1860
SMV.914	Dane Street Bridge over B and M Railroad	Dane St	Somerville	1913
SMV.1109	American Tube Works Boiler House	24 Dane St	Somerville	c 1915
SMV.381	Hadley and Lombard House	50 Dane St	Somerville	c 1880
SMV.382	Hodson, Richard - Branagan, James House	62 Dane St	Somerville	c 1855

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MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.1177	Littlefield, Rufus - James, William House	64 Dane St	Somerville	c 1851
SMV.1178	Mills, William - Proctor, Levi H. House	65 Dane St	Somerville	c 1856
SMV.1179	Mills, William - Healey, Michael House	66 Dane St	Somerville	c 1855
SMV.102		72R Dane St	Somerville	r 1775
SMV.100		21 Dartmouth St	Somerville	c 1890
SMV.701		37-39 Davis Sq	Somerville	c 1885
SMV.660	Somerville Theatre	55 Davis Sq	Somerville	1914
SMV.547	Collins, Richard House	23-25 Day St	Somerville	c 1865
SMV.204	Stebbins, Eliza House	30 Day St	Somerville	1878
SMV.125	Knight, R. A. - Lacount, Eugene House	34 Day St	Somerville	c 1870
SMV.662	Sprague, W.D. and Hathaway, J. F. Studio Annex	58 Day St	Somerville	1890
SMV.1180	Mendum, Samuel W. - Lambert, Frederick D. House	16 Dearborn Rd	Somerville	c 1894
SMV.1310		29 Derby St	Somerville	c 1910
SMV.1309		33 Derby St	Somerville	c 1910
SMV.1308		35 Derby St	Somerville	c 1910
SMV.1305		41 Derby St	Somerville	c 1915
SMV.1304		45 Derby St	Somerville	c 1910
SMV.549	Lovering, John W. House	55 Dover St	Somerville	c 1874
SMV.550		72 Dover St	Somerville	c 1880
SMV.551		74 Dover St	Somerville	c 1870
SMV.552		89 Dover St	Somerville	c 1860
SMV.553	Blanchard, B. House	93 Dover St	Somerville	c 1860
SMV.663	Dollaris, Neils A. Automotible Service Station	102 Dover St	Somerville	c 1910
SMV.1181	Abbot, Alice K. - Mayo, Frank A. House	24 Electric Ave	Somerville	1916
SMV.472		81 Electric St	Somerville	c 1890
SMV.1041	Johnson, Josiah D. House	21-23 Elm Pl	Somerville	c 1870
SMV.1040		22-24 Elm Pl	Somerville	c 1910
SMV.1042		25 Elm Pl	Somerville	c 1890
SMV.900	British Soldiers Graves Marker	Elm St	Somerville	
SMV.633	Henderson, William House	20 Elm St	Somerville	1870
SMV.729		143-149 Elm St	Somerville	1923
SMV.696		240-244 Elm St	Somerville	c 1931
SMV.699		245-249 Elm St	Somerville	c 1926
SMV.697		246-254 Elm St	Somerville	c 1940
SMV.700	Medina, John Block	263-269 Elm St	Somerville	1888
SMV.698	Studio Building	274-282 Elm St	Somerville	c 1933
SMV.1149	Cambridge Almshouse	Endicott Ave	Somerville	1850
SMV.1150	Matignon Central Catholic High School	Endicott Ave	Somerville	1946
SMV.124	Cooper - Davenport Tavern Wing	81 Eustis St	Somerville	1808
SMV.575	Horton, Calvin House	26 Everett Ave	Somerville	c 1885
SMV.1182	Tuttle, Samuel A. - Phillips, George House	14 Everett St	Somerville	c 1852
SMV.634		1-8 Evergreen Sq	Somerville	c 1865
SMV.123	Dow, L. W. Farmhouse	13 Fairmount Ave	Somerville	1848

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Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.434		18 Farragut St	Somerville	c 1885
SMV.943	Foss Park	Fellsway West	Somerville	
SMV.562	Smith, T. G. Rowhouse	18-26 Fellsway West	Somerville	r 1880
SMV.563	Keene, Helen House	56 Fellsway West	Somerville	c 1890
SMV.1183	Christ Episcopal Church	66 Fellsway West	Somerville	1914
SMV.1263	Hennesey, Michael House	23 Fisk Ave	Somerville	1870
SMV.1184	Knox, Warren - Mahoney, Cornelius House	25 Fisk Ave	Somerville	c 1871
SMV.1185	Farnham, William House	37 Fisk Ave	Somerville	c 1866
SMV.905	New Hampshire Railroad Bridge	Fitchburg Railroad	Somerville	1924
SMV.664	Great Atlantic & Pacific Tea Co. Distribution Ctr	1 Fitchburg St	Somerville	1920
SMV.1186	Matson, Edward A. - Hoyt, Alfred D. House	11-13 Flint St	Somerville	1858
SMV.1187	Davis, John - Nickerson, John F. House	14 Flint St	Somerville	1857
SMV.1188	Whitman, William D. House	15-17 Flint St	Somerville	1860
SMV.1189	Nickerson, John Double House	16-18 Flint St	Somerville	1883
SMV.1190	Donahoe, Patrick - Davis, Charles M. House	22 Flint St	Somerville	1857
SMV.577	Furber, W. H. House	37 Florence St	Somerville	c 1870
SMV.578	Wood, James Wood Row House	39-43 Florence St	Somerville	c 1875
SMV.1191	Higgins, Charles - Jewell, Nathan Double House	42-44 Florence St	Somerville	c 1874
SMV.579	Conant, Ezra Double House	45-47 Florence St	Somerville	1878
SMV.580	Cole, Herbert A. - Wilson, Seth Apartment House	46-48 Florence St	Somerville	1885
SMV.1030	Cole, Herbert A. - Wilson, Seth Apartment House	50-52 Florence St	Somerville	1885
SMV.581	Bagley, John T. House	61 Florence St	Somerville	1855
SMV.1192	Hardy, Isaac House	67 Florence St	Somerville	1857
SMV.582	Cole, Herbert A. Apartment House	69-71 Florence St	Somerville	1886
SMV.583	Buffam, Thomas J. House	75 Florence St	Somerville	1866
SMV.1004	First National Store Warehouse	Foley St	Somerville	c 1929
SMV.1005	B & M Railroad East Somerville Locomotive Shop	Foley St	Somerville	c 1925
SMV.1006	Porter, H. K. Tool Manufacturing Company	74 Foley St	Somerville	c 1945
SMV.226	Phillips, Franklin House	30 Forest St	Somerville	c 1870
SMV.1193	Chandler, John T. House	8 Franklin St	Somerville	1889
SMV.1194	Bowers, Alonzo House	47 Franklin St	Somerville	c 1870
SMV.584	Blodgett, Nathan - Slade, Frederick W. House	74 Franklin St	Somerville	c 1848
SMV.1117		77 Franklin St	Somerville	c 1874
SMV.1118		79-79A Franklin St	Somerville	c 1875
SMV.1195	Blodgett, Nathan - Gee, John Double House	80 Franklin St	Somerville	c 1848
SMV.1119		81 Franklin St	Somerville	c 1897
SMV.1120		83 Franklin St	Somerville	c 1897
SMV.1121		85A Franklin St	Somerville	c 1897
SMV.1122		87 Franklin St	Somerville	c 1874
SMV.1123		91-93 Franklin St	Somerville	c 1874
SMV.1124		95R Franklin St	Somerville	c 1897
SMV.586		10-12 George St	Somerville	r 1835
SMV.311	Lattimore - Pratt House	20 George St	Somerville	r 1880

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Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.53		6A-B Giles Pk	Somerville	c 1900
SMV.497	Gilman, Charles E. House	108 Gilman St	Somerville	r 1840
SMV.636		6 Gilson Terr	Somerville	c 1885
SMV.1196	Horton, Calvin Double House	34 Glen St	Somerville	1857
SMV.587	Rigg, Alfred Double House	116 Glen St	Somerville	c 1880
SMV.1125		127-133 Glen St	Somerville	c 1889
SMV.1126		137-139 Glen St	Somerville	c 1925
SMV.1127		147-151 Glen St	Somerville	c 1889
SMV.1128		152-154 Glen St	Somerville	c 1889
SMV.483		34 Glenwood Rd	Somerville	c 1870
SMV.554		3 Glover Cir	Somerville	c 1880
SMV.665	Carr, Martin W. Novelty and Jewelry Factory	Gorham St	Somerville	c 1894
SMV.452		12 Grandview Ave	Somerville	c 1870
SMV.1029		14 Grandview Ave	Somerville	c 1870
SMV.453	Taylor, Charles - Briggs, J. Albion House	23 Grandview Ave	Somerville	1891
SMV.1316		51 Grant St	Somerville	c 1920
SMV.1315		55 Grant St	Somerville	c 1910
SMV.1314		59 Grant St	Somerville	c 1920
SMV.1313		62 Grant St	Somerville	c 1910
SMV.1312		64 Grant St	Somerville	c 1920
SMV.1311		72 Grant St	Somerville	c 1910
SMV.454	Dugan, John - Twombly, Joseph Q. House	19 Greenville St	Somerville	c 1850
SMV.383		8 Greenwood Terr	Somerville	
SMV.384	Price, E. House	12-14 Greenwood Terr	Somerville	c 1895
SMV.707	Harding, Arthur Oil Can Manufacturing Company	48-50 Grove St	Somerville	c 1924
SMV.1129		10 Hadley Ct	Somerville	c 1874
SMV.11		14 Hall Ave	Somerville	c 1895
SMV.1113		15 Hall Ave	Somerville	
SMV.1197	Chick, Herbert A. - Jenness, Mary S. Stable	25 Hamlet St	Somerville	1887
SMV.666	McGann, Thomas F. Bronze Foundry	Hanson St	Somerville	1909
SMV.97	Chestnut Court Houses	1-3 Harvard Pl	Somerville	c 1850
SMV.96	Chestnut Court Houses	9-11 Harvard Pl	Somerville	c 1850
SMV.1043	Johnson, Amos - Purdy, Edmund C. House	10 Harvard Pl	Somerville	r 1865
SMV.1044	Purdy, Edmund C. - Clark, Joseph House	14 Harvard Pl	Somerville	r 1865
SMV.1045		7-9 Harvard St	Somerville	c 1910
SMV.1046		11 Harvard St	Somerville	c 1920
SMV.1047	Boyden, Dr. Wyatt C. - Bradford, William R. House	12 Harvard St	Somerville	1850
SMV.1048		16 Harvard St	Somerville	c 1920
SMV.1049		18 Harvard St	Somerville	c 1920
SMV.1050		20 Harvard St	Somerville	c 1950
SMV.1051		22 Harvard St	Somerville	c 1950
SMV.1052		35 Harvard St	Somerville	c 1890
SMV.1053		37 Harvard St	Somerville	c 1880

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Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.1054	Stetson, Susan House	38 Harvard St	Somerville	1891
SMV.1055		40 Harvard St	Somerville	c 1885
SMV.588	Gilman, Sarah House	11 Hathorn St	Somerville	c 1890
SMV.1198	Saint Benedict's Roman Catholic Church	25 Hathorn St	Somerville	1911
SMV.1264	Zweirelites, John House	10 Henderson St	Somerville	1890
SMV.1265	Corey, Frank J. House	13 Henderson St	Somerville	1890
SMV.1266	McDonald, Allen J. House	21 Henderson St	Somerville	1890
SMV.1267	Kennedy, Thomas F. House	22 Henderson St	Somerville	1897
SMV.1268	Bezanson, John G. House	23 Henderson St	Somerville	1890
SMV.1199	Zinn, Gilbert J. - Gertz, Erwin A. House	25-27 High St	Somerville	c 1921
SMV.69	Somerville High School	Highland Ave	Somerville	1928
SMV.302		13-15 Highland Ave	Somerville	c 1884
SMV.1022		17-19 Highland Ave	Somerville	c 1884
SMV.301	Carvill, Alphonso and Jemima House	28 Highland Ave	Somerville	1894
SMV.359	Cumberland, The	40-42 Highland Ave	Somerville	c 1890
SMV.300	Langmaid Building	48-52 Highland Ave	Somerville	1889
SMV.101	Highland, The	66 Highland Ave	Somerville	1892
SMV.358	Legg, George M. D. House	72 Highland Ave	Somerville	c 1890
SMV.36	Loring, George House	76 Highland Ave	Somerville	c 1895
SMV.66	Central Library	79 Highland Ave	Somerville	1914
SMV.936	Somerville Spanish War Monument	79 Highland Ave	Somerville	1929
SMV.937	Somerville Civil War Memorial	79 Highland Ave	Somerville	1908
SMV.37	Somerville City Hall	93 Highland Ave	Somerville	1852
SMV.919	Dilboy, George Bust	93 Highland Ave	Somerville	1930
SMV.755	Somerville Y. M. C. A.	101-103 Highland Ave	Somerville	1904
SMV.322		117-119 Highland Ave	Somerville	c 1850
SMV.122	First Universalist Church	125 Highland Ave	Somerville	r 1920
SMV.121	First Unitarian Church	130 Highland Ave	Somerville	1894
SMV.323	Wadleigh, William House	135 Highland Ave	Somerville	1893
SMV.38	Gaut, Samuel House	137 Highland Ave	Somerville	c 1850
SMV.39	Barnes, Melissa E. and Walter S. House	140 Highland Ave	Somerville	r 1890
SMV.363	Conant, Harlan Page House	145 Highland Ave	Somerville	c 1870
SMV.728		148-152 Highland Ave	Somerville	c 1915
SMV.756	Central Building, The	149-153 Highland Ave	Somerville	1921
SMV.360	Lovejoy, George S. House	167 Highland Ave	Somerville	1899
SMV.361		169 Highland Ave	Somerville	c 1910
SMV.710	Somerville Armory	191 Highland Ave	Somerville	1903
SMV.711		215-217 Highland Ave	Somerville	c 1917
SMV.712	Somerville Fire Station Engine #7	265 Highland Ave	Somerville	c 1890
SMV.362	Lawrence, Bernard House	289 Highland Ave	Somerville	c 1885
SMV.1205	Curran, John House	309 Highland Ave	Somerville	c 1871
SMV.713	Taylor, Mary Dry Good Store	317 Highland Ave	Somerville	1914
SMV.120		343 Highland Ave	Somerville	c 1880

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Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.727	Somerville Sales and Service Building	363 Highland Ave	Somerville	1922
SMV.555	Rice, W. P. House	368 Highland Ave	Somerville	c 1885
SMV.705	A and W Hastings Door Company Factory	373 Highland Ave	Somerville	r 1923
SMV.695	Davis Building	402 Highland Ave	Somerville	c 1928
SMV.694	Somerville Trust Company Building	406-408 Highland Ave	Somerville	1919
SMV.692	Beal, A. B. Commercial Block	407 Highland Ave	Somerville	1909
SMV.693	Dreyfus, Edwin J. Building	420-424 Highland Ave	Somerville	1922
SMV.1202	Hobbs, Joseph House	8 Hinckley St	Somerville	1871
SMV.1203	Peters, Cyrus S. - Ring, Matthew C. House	12 Hinckley St	Somerville	c 1870
SMV.1204	Kane, Patrick House	16 Hinckley St	Somerville	1886
SMV.1269	Chute, David A. House	23 Hinckley St	Somerville	1867
SMV.1270	Hood, James H. - Doyle, Andrew House	80 Hinckley St	Somerville	1890
SMV.1271	Stengard, Peter House	84 Hinckley St	Somerville	1890
SMV.918	Deco Panels	14-48 Holland St	Somerville	1989
SMV.688	Teele Square Fire Station	218-220 Holland St	Somerville	c 1920
SMV.685		235-237 Holland St	Somerville	c 1890
SMV.667	Norton, George W. Soap Works	Horace St	Somerville	1903
SMV.786	Mystic Valley Foundry	14-16 Horace St	Somerville	c 1940
SMV.1027		26-32 Houghton St	Somerville	r 1865
SMV.385		36-40 Houghton St	Somerville	r 1865
SMV.229	Fairborn, T. House	39 Houghton St	Somerville	c 1854
SMV.119		53 Hudson St	Somerville	c 1890
SMV.529	Blaikie, Thomas House	145 Hudson St	Somerville	c 1890
SMV.386	Tarbell and Tarbell Apartment House	2-6 Ivaloo St	Somerville	c 1890
SMV.387	Chase, Daniel E. House	8-10 Ivaloo St	Somerville	c 1860
SMV.388	Chase, Daniel E. House	16 Ivaloo St	Somerville	c 1860
SMV.798	Amercian Radiator Company Warehouse	17 Ivaloo St	Somerville	c 1928
SMV.389	Mansfield, E. G. House	18 Ivaloo St	Somerville	c 1895
SMV.390	Stevens, Charles House	36 Ivaloo St	Somerville	c 1870
SMV.564	Littlefield, Samuel House	60-64 Jacques St	Somerville	c 1850
SMV.565		93 Jacques St	Somerville	r 1845
SMV.1323		12 Jaques St	Somerville	c 1900
SMV.1320		13 Jaques St	Somerville	c 1920
SMV.1322		14 Jaques St	Somerville	c 1885
SMV.1319		15 Jaques St	Somerville	c 1920
SMV.1321		16 Jaques St	Somerville	c 1885
SMV.1318		17 Jaques St	Somerville	c 1920
SMV.1317		19 Jaques St	Somerville	c 1920
SMV.1018	New England Baking Company	66-68 Joy St	Somerville	1919
SMV.391		2 Kent Ct	Somerville	c 1840
SMV.118		6 Kent Ct	Somerville	c 1750
SMV.392		14 Kent Ct	Somerville	c 1840
SMV.393		47 Kent Ct	Somerville	r 1835

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Inv. No.	Property Name	Street	Town	Year
SMV.394	Flemming, Nicolas House	53 Kent Ct	Somerville	c 1850
SMV.668	Victoria Iron Works	32 Kent St	Somerville	1889
SMV.530		22 Kidder Ave	Somerville	
SMV.338	Lewis, Laurence House	44 Kidder Ave	Somerville	1895
SMV.635		10 Knapp St	Somerville	c 1890
SMV.1170	Sawyer, Augustus T. - Lange, Adolphus House	14 Knapp St	Somerville	c 1893
SMV.1130		32 Knowlton St	Somerville	c 1894
SMV.1131		35-37 Knowlton St	Somerville	c 1894
SMV.1106	American Tube Works - Building #2	Lake St	Somerville	1912
SMV.395		5 Lake St	Somerville	r 1855
SMV.794	American Tube Works Garage and Warehouse	40 Lake St	Somerville	c 1912
SMV.224	Bonner - Snow House	16-18 Laurel St	Somerville	c 1860
SMV.637	Lockwood, Rhodes Apartment House	35-41 Laurel St	Somerville	c 1890
SMV.117	Foster, Alexander House	45 Laurel St	Somerville	c 1860
SMV.531	Parsons, John House	96 Lexington St	Somerville	c 1890
SMV.589	Wild, Charles D. Jr. Double House	12-14 Lincoln Ave	Somerville	c 1871
SMV.1206	Lattermoor, Peter J. House	20 Lincoln Ave	Somerville	1871
SMV.1207	Towle, Albion House	16 Lincoln St	Somerville	1885
SMV.1208	Gulliver, Lemuel Double House	20-22 Lincoln St	Somerville	1873
SMV.1114	Story, Isaac House	11 Linden Ave	Somerville	c 1853
SMV.1201	Clancy, Michael House	60 Linden Ave	Somerville	r 1865
SMV.638	Scott, James House	15 Linden St	Somerville	r 1845
SMV.396		78 Line St	Somerville	c 1820
SMV.1020	Kiley, James A. Wagon Shop	5-9 Linwood St	Somerville	c 1896
SMV.916	Lowell Street Bridge over B and M Railroad	Lowell St	Somerville	1910
SMV.939	Lowell Street Bridge over MBTA - B & M Railroad	Lowell St	Somerville	1910
SMV.722	Winter Hill Motor Company	226 Lowell St	Somerville	1915
SMV.723	Dad's Cookie Company	231 Lowell St	Somerville	c 1926
SMV.724	Fruit Nut Cereal Company	259 Lowell St	Somerville	1921
SMV.1272	Cotter, Michael House	282 Lowell St	Somerville	1875
SMV.1273	Shannahan, Dennis House	283 Lowell St	Somerville	1867
SMV.484		300 Lowell St	Somerville	c 1850
SMV.337	Spelan, Michael House	302 Lowell St	Somerville	1874
SMV.1274	McGrath, William - Harrington, Jeremiah House	308 Lowell St	Somerville	1876
SMV.1275	Binney, Moses Double House	326-328 Lowell St	Somerville	1851
SMV.1209	Hennesey, Michael House	342 Lowell St	Somerville	1861
SMV.1276	Sumner, Samuel R. - Dugan, Patrick House	5-7 Lowell Terr	Somerville	1851
SMV.1277	Dugan, Patrick House	10 Lowell Terr	Somerville	c 1870
SMV.336	Hunt, Benjamin House	52 Main St	Somerville	c 1870
SMV.435		25 Malvern St	Somerville	r 1885
SMV.397	Green, Julia Three Decker	16-18 Mansfield St	Somerville	c 1890
SMV.398	Purcell, Mary Three Decker	51-53 Mansfield St	Somerville	c 1890
SMV.1212	Jones, William Preble House	13 Maple Ave	Somerville	c 1880

Massachusetts Cultural Resource Information System

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MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.320	Marston, Elias House	27 Maple Ave	Somerville	1874
SMV.499	Beals, H. M. House	28 Maple Ave	Somerville	c 1870
SMV.1059		7 Mardell Cir	Somerville	c 1880
SMV.1200	Barber, William L. Barn	36A Marshall St	Somerville	r 1890
SMV.1282	Smith, Cyrus A. - Rand, Ira House	36 Marshall St	Somerville	c 1859
SMV.500	Moore, William A. House	72 Marshall St	Somerville	c 1870
SMV.501	Dowd, C. O. House	88 Marshall St	Somerville	c 1870
SMV.399	Sturtevant Brothers Provisions Company Warehouse	1-5 May Pl	Somerville	c 1880
SMV.911	McGrath Highway Bridge over B and M Railroad	McGrath Hwy	Somerville	1926
SMV.1332		McGrath Hwy	Somerville	c 1970
SMV.1333		McGrath Hwy	Somerville	c 1970
SMV.1019	Jackson and Newton Door and Sash Manufacturing Co.	51 McGrath Hwy	Somerville	r 1905
SMV.590	Griffin Florist Shop	561 McGrath Hwy	Somerville	c 1925
SMV.1331		709 McGrath Hwy	Somerville	c 1940
SMV.116	Sparrow, Edmund House	27 Meacham Rd	Somerville	c 1890
SMV.203	Waters, Lucretia G. House	38 Meacham Rd	Somerville	c 1891
SMV.188	Lea, James L. House	39-41 Meacham Rd	Somerville	1892
SMV.202	Taylor, Nellie F. House	42 Meacham Rd	Somerville	c 1891
SMV.201	Glover, Henry R. House	44 Meacham Rd	Somerville	c 1892
SMV.189	Glover, Henry R. House	45 Meacham Rd	Somerville	1892
SMV.200	Glover, Henry R. House	46 Meacham Rd	Somerville	c 1892
SMV.190	Glover, Henry R. House	47 Meacham Rd	Somerville	c 1892
SMV.199	Glover, Henry R. House	48 Meacham Rd	Somerville	c 1892
SMV.191	Farnham, Wilbert D. House	51 Meacham Rd	Somerville	1890
SMV.192	Glover, Henry R. House	53-55 Meacham Rd	Somerville	1892
SMV.198	Glover, Henry R. House	54 Meacham Rd	Somerville	1892
SMV.197	Simpson House	56 Meacham Rd	Somerville	c 1874
SMV.193	Glover, Henry R. House	57 Meacham Rd	Somerville	1892
SMV.196	Glover, Henry R. House	58 Meacham Rd	Somerville	c 1892
SMV.195	Glover, Henry R. House	62 Meacham Rd	Somerville	c 1892
SMV.194	Smith, W. and T. G. House	64 Meacham Rd	Somerville	c 1874
SMV.556	Glover, Henry R. House	36 Meacham St	Somerville	c 1885
SMV.557	Glover, Henry R. Stable	50-52 Meacham St	Somerville	c 1880
SMV.474	Austin House	18 Mead St	Somerville	c 1870
SMV.6	Boston and Maine Signal System Tower H	Medford St	Somerville	1927
SMV.909	B and M Railroad Bridge over Medford Street	Medford St	Somerville	1913
SMV.922	Medford Street Bridge over B and M Railroad	Medford St	Somerville	1910
SMV.1001	Squire, John P. and Company	33 Medford St	Somerville	1916
SMV.799	North Packing and Provision Company	35-37 Medford St	Somerville	c 1880
SMV.1000	North Packing and Provision Company	37R Medford St	Somerville	c 1880
SMV.400		46 Medford St	Somerville	r 1845
SMV.401		54 Medford St	Somerville	c 1855
SMV.669	Hill - Michie Company Automobile Garage	295-297 Medford St	Somerville	1906

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MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.742	Malta Temple - Signet Commandery #188	339-343 Medford St	Somerville	1902
SMV.1210	Saint Ann's Roman Catholic Church	339 Medford St	Somerville	1897
SMV.753	Reid and Murdock Wholesale Grocery Warehouse	350 Medford St	Somerville	1929
SMV.324	Robinson, James House	371 Medford St	Somerville	1887
SMV.502	Rich, Lyman B. House	381 Medford St	Somerville	1886
SMV.1211	Saint Ann's Roman Catholic Church Rectory	399A Medford St	Somerville	1885
SMV.739		415-415C Medford St	Somerville	c 1930
SMV.503	Brown, Charles H. House	421 Medford St	Somerville	c 1850
SMV.504	Keyes, Charles A. House	481 Medford St	Somerville	c 1880
SMV.746		495-499 Medford St	Somerville	c 1896
SMV.747		498-498B Medford St	Somerville	c 1928
SMV.745		503-505 Medford St	Somerville	c 1924
SMV.744		507-509 Medford St	Somerville	c 1920
SMV.743	Magoun Square Building	529-535 Medford St	Somerville	1924
SMV.670	Ford Motor Company Assembly Plant	Middlesex Ave	Somerville	1926
SMV.1002		Middlesex Ave	Somerville	c 1940
SMV.1003	First National Store Garage	Middlesex Ave	Somerville	c 1927
SMV.671	First National Store Warehouse and office	5 Middlesex Ave	Somerville	c 1927
SMV.942	Middlesex Canal	Middlesex Canal	Somerville	1802
SMV.944	Middlesex Canal	Middlesex Canal	Somerville	1802
SMV.402	Allen, Benjamin House	4 Milk Pl	Somerville	c 1860
SMV.403		10-12 Miller St	Somerville	r 1830
SMV.680	Miller Brothers Coffin Factory	11 Miller St	Somerville	1881
SMV.404	Chase, Daniel E. Rowhouse	12-26 Mondamon Ct	Somerville	r 1865
SMV.1056	Williston, Belvin T. House	3 Monmouth St	Somerville	c 1896
SMV.1057	Hook, George Greenleaf House	9 Monmouth St	Somerville	c 1845
SMV.1058	Hinckley, William V. T. House	10 Monmouth St	Somerville	1894
SMV.1105	Pushee, John E. - Watts, Albert E. House	17 Monmouth St	Somerville	c 1896
SMV.94	Chestnut Court Houses	23-25 Monmouth St	Somerville	c 1850
SMV.95	Chestnut Court Houses	31-33 Monmouth St	Somerville	c 1850
SMV.505	Fiske, Mary House	16 Montrose St	Somerville	c 1875
SMV.181		53 Moore St	Somerville	
SMV.63	Lowe, Martha Perry School	Morrison Ave	Somerville	1903
SMV.340	Pierce, William Rowhouses	140-148 Morrison Ave	Somerville	c 1870
SMV.532		163 Morrison Ave	Somerville	c 1885
SMV.533		169 Morrison Ave	Somerville	c 1890
SMV.115		197 Morrison Ave	Somerville	c 1860
SMV.534		211 Morrison Ave	Somerville	c 1880
SMV.535	Shedd, William C. House	216-218 Morrison Ave	Somerville	c 1870
SMV.341	Shedd, William House	222 Morrison Ave	Somerville	1873
SMV.639		5 Mossland St	Somerville	c 1820
SMV.211	Foster, Jacob House	10 Mossland St	Somerville	1875
SMV.640		12 Mossland St	Somerville	c 1870

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MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.641		14 Mossland St	Somerville	c 1880
SMV.114	Worthen, Daniel House	8 Mount Pleasant St	Somerville	1841
SMV.591	Robinson, Augustus House	15 Mount Pleasant St	Somerville	c 1840
SMV.592		17 Mount Pleasant St	Somerville	c 1840
SMV.594	Kent's Block	21-39 Mount Pleasant St	Somerville	c 1870
SMV.593	Poor, S. House	28 Mount Pleasant St	Somerville	r 1855
SMV.595	Treadwell, Abbie - Poor, S. Double House	34 Mount Pleasant St	Somerville	c 1850
SMV.87	Davis, Ebenezer House	8 Mount Vernon St	Somerville	r 1845
SMV.85	Howard, Henry House	12R Mount Vernon St	Somerville	c 1820
SMV.86	Howard, Henry House	12 Mount Vernon St	Somerville	c 1850
SMV.84	Hutchins, Harrison M. House	16 Mount Vernon St	Somerville	c 1850
SMV.1213	Fitz, Able - Curtis, Edward House	17 Mount Vernon St	Somerville	1845
SMV.1086		18 Mount Vernon St	Somerville	c 1850
SMV.75		20 Mount Vernon St	Somerville	r 1850
SMV.596	Curtis, E. A. Double House	22-24 Mount Vernon St	Somerville	c 1865
SMV.1214	Cutter, Edmund F. House	26 Mount Vernon St	Somerville	1846
SMV.113		29 Mount Vernon St	Somerville	c 1845
SMV.308	Poole, George House	46 Mount Vernon St	Somerville	1885
SMV.309	Coburn, Fred House	47 Mount Vernon St	Somerville	1885
SMV.1215	Davis, Thomas L. House	50 Mount Vernon St	Somerville	1895
SMV.1216	Hosmer, Frederick H. House	51 Mount Vernon St	Somerville	1892
SMV.307	Webcowit Club	64 Mount Vernon St	Somerville	c 1870
SMV.306	Lombard, Lewis House	68 Mount Vernon St	Somerville	1879
SMV.305	Durell, Walter House	74 Mount Vernon St	Somerville	1873
SMV.597		80-82 Mount Vernon St	Somerville	c 1875
SMV.901	Prospect Hill Tower and Observatory	Munroe St	Somerville	1903
SMV.455	Elliot, Matthew P. House	5-7 Munroe St	Somerville	c 1865
SMV.456	Newton, Alonzo House	12 Munroe St	Somerville	1852
SMV.268	Gilson House	15 Munroe St	Somerville	c 1845
SMV.47		25 Munroe St	Somerville	1900
SMV.49	Grandview, The	82 Munroe St	Somerville	1893
SMV.48	Munroe, Benjamin House	88 Munroe St	Somerville	c 1850
SMV.271	Niles, Louville House	97 Munroe St	Somerville	1890
SMV.598		26 Myrtle St	Somerville	c 1870
SMV.1217	Mullay, John - Mullay, Thomas Double House	37-39 Myrtle St	Somerville	1870
SMV.1219	Stevens, Seth Double House	53-55 Myrtle St	Somerville	1856
SMV.1218	Hubbard, Abraham P. - Merritt, Obediah House	54 Myrtle St	Somerville	1853
SMV.1220	Stevens, Seth Double House	57-59 Myrtle St	Somerville	1853
SMV.1336		Mystic Ave	Somerville	c 1960
SMV.754	Williams Table and Lumber Company	356 Mystic Ave	Somerville	c 1888
SMV.1288		500 Mystic Ave	Somerville	c 2000
SMV.1289		500 Mystic Ave	Somerville	c 1999
SMV.1290		500 Mystic Ave	Somerville	c 1960

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MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.1291		500 Mystic Ave	Somerville	c 1900
SMV.1287		708 Mystic Ave	Somerville	c 1991
SMV.1286		712 Mystic Ave	Somerville	c 1900
SMV.903	B and M Railroad Bridge over Mystic River	Mystic River	Somerville	1894
SMV.904	B and M Railroad Bridge over Mystic River	Mystic River	Somerville	1835
SMV.906	B and M Railroad Bridge over Mystic Valley Parkway	Mystic Valley Pkwy	Somerville	1908
SMV.912	Mystic Valley Parkway - Alewife Brook Bridge	Mystic Valley Pkwy	Somerville	1908
SMV.931	Mystic Valley Rotary and Meters	Mystic Valley Pkwy	Somerville	r 1920
SMV.934	Mystic Valley Parkway - Central Segment	Mystic Valley Pkwy	Somerville	c 1905
SMV.935	Mystic Valley Parkway Tree Canopy	Mystic Valley Pkwy	Somerville	r 1920
SMV.691		600A Mystic Valley Pkwy	Somerville	c 1915
SMV.1285		600 Mystic Valley Pkwy	Somerville	c 1910
SMV.1278	Donovan, Jeremiah House	28 Nashua St	Somerville	r 1820
SMV.405		411 Norfolk St	Somerville	r 1855
SMV.1223	Dunbar, Victor Y. - Windsor, Percy House	122 North St	Somerville	1921
SMV.1227	Andrews, William H. - Elliot, William M. House	128-130 North St	Somerville	1916
SMV.406	Hunter House	39 Oak St	Somerville	c 1855
SMV.407		43 Oak St	Somerville	c 1855
SMV.408	Haines, Edward House	73 Oak St	Somerville	c 1860
SMV.409	Eagle Roller Shade Company Worker Housing	2-4 Olive Sq	Somerville	c 1880
SMV.1132		20-22 Olive St	Somerville	c 1884
SMV.599		3 Oliver St	Somerville	c 1850
SMV.208	Russell, Edward House	97 Orchard St	Somerville	1868
SMV.558	Wilkins, Henry Stable	135 Orchard St	Somerville	c 1885
SMV.642		Oxford St	Somerville	c 1915
SMV.643	Stanley, T. House	46 Oxford St	Somerville	c 1860
SMV.377	Oxford, The	146-148 Oxford St	Somerville	1901
SMV.1133		5 Palmer Ave	Somerville	c 1887
SMV.476	Stevens, John H. House	11 Park St	Somerville	c 1880
SMV.559	Boyden, F. House	14 Park St	Somerville	c 1870
SMV.477	Collieson, John F. House	21 Park St	Somerville	c 1870
SMV.672	Forg, Peter Hardware Factory	50 Park St	Somerville	c 1892
SMV.304	Wright, Henry House	31 Pearl St	Somerville	1896
SMV.601	Callahan, Charles House	32 Pearl St	Somerville	1887
SMV.602	Reed, Nathan H. House	35 Pearl St	Somerville	1894
SMV.603	Buffram and Adams Double House	45-47 Pearl St	Somerville	c 1890
SMV.1224	Conant, Ezra D. - Hadley, S. Henry House	46 Pearl St	Somerville	r 1870
SMV.1225	Burke, Edward House	70 Pearl St	Somerville	1871
SMV.111		81 Pearl St	Somerville	c 1860
SMV.1226	Davis, Oliver J. House	94 Pearl St	Somerville	1870
SMV.1111	Kemp Nut Company	226 Pearl St	Somerville	r 1922
SMV.741	Litchfield Block	247-251 Pearl St	Somerville	1891
SMV.1228	Teague, Charles I. - Fowler, H. M. House	5 Pearson Rd	Somerville	1902

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Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.1229	Moir, George - Auerbach, Bernard House	31-33 Pearson Rd	Somerville	1905
SMV.507	Fletcher, Annie House	6-12 Pembroke Ct	Somerville	c 1890
SMV.110	Prescott, Gustavus G. House	65-67 Perkins St	Somerville	r 1845
SMV.310	Bailey House	77 Perkins St	Somerville	c 1830
SMV.604	Lockwood, R. Apartment House	79-85 Perkins St	Somerville	c 1880
SMV.605	Dole, Charles A. House	84 Perkins St	Somerville	1870
SMV.606	Whiting, John Apartment House	91 Perkins St	Somerville	c 1890
SMV.607	Hughes, John A. House	129 Perkins St	Somerville	c 1870
SMV.312	Waters, Charles House	132 Perkins St	Somerville	c 1860
SMV.608	Waters, Charles House	136 Perkins St	Somerville	c 1850
SMV.609	Hadley, G. W. House	139 Perkins St	Somerville	r 1865
SMV.313	Hemenway, Dr. Horace House	143-145 Perkins St	Somerville	c 1884
SMV.314	Roberts Brothers House	157 Perkins St	Somerville	c 1850
SMV.1060		4 Phillips Pl	Somerville	c 1900
SMV.610		15 Pinckney St	Somerville	c 1870
SMV.611	Wood, Joseph House	26-28 Pinckney St	Somerville	c 1880
SMV.612	Callahan, Charles House	35-37 Pinckney St	Somerville	1890
SMV.1103	Hollander Block, The	4-6 Pleasant Ave	Somerville	c 1890
SMV.279	Tyler, James L. House	8-10 Pleasant Ave	Somerville	1883
SMV.296	White, Hiram L. House	9 Pleasant Ave	Somerville	r 1885
SMV.295	White, Hiram L. House	11 Pleasant Ave	Somerville	r 1885
SMV.280	Walker, Elijah House	12 Pleasant Ave	Somerville	1873
SMV.294	Clary, John - Hollander, Charles B. House	13 Pleasant Ave	Somerville	1872
SMV.293	Walker, Elijah House	15 Pleasant Ave	Somerville	c 1884
SMV.281	Marston, Walter F. - Walker, Elijah House	16 Pleasant Ave	Somerville	c 1874
SMV.292	Walker, Elijah House	17 Pleasant Ave	Somerville	c 1874
SMV.282	Colson, Henry W. P. House	18 Pleasant Ave	Somerville	1895
SMV.283	Colson, Henry W. P. House	20 Pleasant Ave	Somerville	1895
SMV.291	Harwood, P. Merrick House	21 Pleasant Ave	Somerville	1881
SMV.284	Colson, Henry W. P. House	22 Pleasant Ave	Somerville	c 1890
SMV.290	Colson, Henry W. P. House	23 Pleasant Ave	Somerville	1893
SMV.285	Wellington, J. Frank House	24 Pleasant Ave	Somerville	1875
SMV.212		22 Porter St	Somerville	c 1850
SMV.213		23 Porter St	Somerville	c 1850
SMV.645	Winship, Henry A. - Fisher, Mary G. House	31 Porter St	Somerville	c 1846
SMV.646	Emerson, Enoch House	32 Porter St	Somerville	r 1855
SMV.647		36 Porter St	Somerville	c 1850
SMV.902	Reynolds, James A. Traffic Circle Memorial	Powder House Blvd	Somerville	1940
SMV.933	Powder House Boulevard Rotary and Meters	Powder House Blvd	Somerville	r 1935
SMV.346		52 Powder House Blvd	Somerville	1916
SMV.479		143 Powder House Blvd	Somerville	c 1905
SMV.1231	Clarendon Hill Presbyterian Church	155 Powder House Blvd	Somerville	1923
SMV.928	Powder House Windmill	Powder House Park	Somerville	c 1704

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Inv. No.	Property Name	Street	Town	Year
SMV.929	Tufts, Nathan Park	Powder House Park	Somerville	c 1710
SMV.1104	Tufts, Nathan Park Field House	Powder House Park	Somerville	1935
SMV.108	Cliff, Zebedee E. House	29 Powder House Terr	Somerville	c 1900
SMV.109		16-18 Preston Rd	Somerville	c 1910
SMV.221	Ireland, George House	20 Preston Rd	Somerville	1853
SMV.347	Capen, Elmer Hewitt House	8 Professor's Row	Somerville	1875
SMV.348	Anthony, Gardner C. House	14 Professor's Row	Somerville	r 1895
SMV.349	Ballou, Hosea II - Lewis, Leo R. House	20 Professor's Row	Somerville	1854
SMV.350	Schneider, Jerome - Richardson, Mary House	28 Professor's Row	Somerville	1857
SMV.351	Marshall, John P. House	48 Professor's Row	Somerville	1857
SMV.1145	Metcalf Hall	56 Professor's Row	Somerville	1895
SMV.352	Tweed, Benjamin F. - Dearborn, Heman A. House	72 Professor's Row	Somerville	1857
SMV.353	Shipman, William R. House	80 Professor's Row	Somerville	1868
SMV.354	Fay, Charles Earnest House	92 Professor's Row	Somerville	c 1875
SMV.355	Tufts University - Delta Tau Delta Fraternity	98 Professor's Row	Somerville	1936
SMV.356	Tousey, William C. - Rockwell, Edward H. House	106 Professor's Row	Somerville	1875
SMV.357	Sawyer, Dr. Thomas J. - Knight, George T. House	114 Professor's Row	Somerville	c 1860
SMV.1146	Hooper, William L. House	124 Professor's Row	Somerville	1892
SMV.1147		128 Professor's Row	Somerville	c 1930
SMV.1148	Tufts University - Alpha Tau Omega Fraternity	134 Professor's Row	Somerville	c 1935
SMV.410	Cotter, Thomas House	7-9 Properzi Way	Somerville	c 1890
SMV.1232	Saint Anthony of Padua Roman Catholic Church	12 Properzi Way	Somerville	c 1916
SMV.411		22 Properzi Way	Somerville	c 1870
SMV.1350	Fitzgerald, Peter J. House	72 Properzi Way	Somerville	c 1890
SMV.1351	Woodwell, Charles H. House	76 Properzi Way	Somerville	c 1850
SMV.1352	Woodwell, Charles H. - McGarr, John H. House	80 Properzi Way	Somerville	c 1850
SMV.1353	Smith, Joseph - O'Brien, John Duplex	84-86 Properzi Way	Somerville	c 1870
SMV.1354	Chase, Mary A. House	85 Properzi Way	Somerville	c 1890
SMV.1355	Maloy, James W. House	88 Properzi Way	Somerville	c 1850
SMV.1356	Maloy, James W. - Marchant, Albert L. House	92 Properzi Way	Somerville	c 1850
SMV.1357	Chase, Daniel E. House	93 Properzi Way	Somerville	c 1870
SMV.45	Hines, Richard A. House	5 Prospect Hill Ave	Somerville	1886
SMV.940	Prospect Street Bridge over B & M Railroad	Prospect St	Somerville	r 1915
SMV.1221	Bennett, Clark House	26-28 Prospect St	Somerville	r 1865
SMV.1222	Frost, John A. House	30 Prospect St	Somerville	r 1890
SMV.1347	Bennett Auto Exchange Garage	32-34 Prospect St	Somerville	1924
SMV.1348	Schertzer Offices	36-38 Prospect St	Somerville	1973
SMV.412	Sanborn, David A. Double House	41-43 Prospect St	Somerville	r 1860
SMV.1349	Propsect Waste Paper Corporation	50-52R Prospect St	Somerville	c 1951
SMV.413	Briggs, Harris House	75 Prospect St	Somerville	r 1855
SMV.673	O'Neill, James P. Garage	92-96 Prospect St	Somerville	1911
SMV.788	A and P Grocery Store	97 Prospect St	Somerville	c 1925
SMV.414	Norcross, Edmund D. House	105 Prospect St	Somerville	c 1860

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Inv. No.	Property Name	Street	Town	Year
SMV.230	Walsh, John House	122 Prospect St	Somerville	c 1880
SMV.235	Lord, David Apartments	5-13 Putnam St	Somerville	1892
SMV.447	Hadley, Benjamin - Giles, Joseph House	35 Putnam St	Somerville	c 1868
SMV.1235	Dyer, Frances S. - Woodman, Herbert K. House	61 Putnam St	Somerville	1867
SMV.448		4-8 Quincy St	Somerville	r 1880
SMV.233	Quincy, The	15 Quincy St	Somerville	1895
SMV.449	Marcy, Rev. Icabod House	22 Quincy St	Somerville	c 1870
SMV.234	Hills, John D. House	29-31 Quincy St	Somerville	1873
SMV.51		46 Quincy St	Somerville	1900
SMV.1134		6 Reed Ct	Somerville	c 1880
SMV.1135		7 Reed Ct	Somerville	c 1880
SMV.1234	Ryan, James House	31 Richardson St	Somerville	r 1850
SMV.107	Russell, Philemon House	25 Russell St	Somerville	c 1850
SMV.560	Bowers, F. E. House	41 Russell St	Somerville	c 1865
SMV.561		51 Russell St	Somerville	1900
SMV.910	Sacramento Street Pedestrian Subway Bridge	Sacramento St	Somerville	1897
SMV.415	Lomax, George House	111 Sacramento St	Somerville	c 1852
SMV.437		12 Sanborn Ave	Somerville	c 1900
SMV.237		18 Sanborn Ave	Somerville	1908
SMV.1236	Brackett - Frost, George Row House	29-33 Sargent Ave	Somerville	c 1880
SMV.1237	Simmons, Peabody House	50 Sargent Ave	Somerville	c 1870
SMV.68	Cummings School	School St	Somerville	1931
SMV.921	School Street Bridge over B and M Railroad	School St	Somerville	r 1900
SMV.648	Ridgeway, Edward W. Rowhouse	5-9 School St	Somerville	c 1880
SMV.439		21 School St	Somerville	c 1900
SMV.440	Craig, James P. House	25 School St	Somerville	c 1875
SMV.649	Landers, Alvin Apartment House	40 School St	Somerville	c 1900
SMV.674	Boston Elevated Railway Somerville Substation	76 School St	Somerville	c 1920
SMV.223		101 School St	Somerville	1889
SMV.441		107 School St	Somerville	r 1865
SMV.222	Long, James House	117 School St	Somerville	c 1870
SMV.321	Montrose, The	156 School St	Somerville	1894
SMV.1238	Stickney, Rufus B. - Babb, Nathaniel T. House	193 School St	Somerville	c 1870
SMV.106	Warren, H. House	205 School St	Somerville	c 1870
SMV.508	Hunt, Georgiana House	218 School St	Somerville	c 1890
SMV.509	Ham, Lemuel House	220 School St	Somerville	c 1890
SMV.510	Miles, Frank House	232 School St	Somerville	c 1885
SMV.511	Bingham, N. W. House	235 School St	Somerville	c 1880
SMV.105	Hopkins, Elisha House	237 School St	Somerville	1867
SMV.228	Leonard, Patrick House	9 Smith Ave	Somerville	r 1870
SMV.416		10 Smith Ct	Somerville	c 1870
SMV.800	Old Cemetery - Milk Row Cemetery	Somerville Ave	Somerville	1804
SMV.771	Northern Artery Filling Station	181 Somerville Ave	Somerville	1927

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.765		218-222 Somerville Ave	Somerville	1926
SMV.417	Fitzpatrick, Honora - Fitzpatrick, Michael House	223-225 Somerville Ave	Somerville	1890
SMV.766	Barnes and Walsh Auto Body Company	224 Somerville Ave	Somerville	c 1933
SMV.1339	O'Keefe, Thomas House	261 Somerville Ave	Somerville	c 1890
SMV.772	Union Square Garage	267-271 Somerville Ave	Somerville	1914
SMV.1340	Saint Thomas Episcopal Church	300 Somerville Ave	Somerville	1870
SMV.767	Rafferty - Wasserman Shop	314-316 Somerville Ave	Somerville	1890
SMV.1341	Rafferty, Patrick Block	318-322 Somerville Ave	Somerville	c 1880
SMV.1342	Rafferty, Patrick Rowhouse	318R Somerville Ave	Somerville	c 1880
SMV.768	Young, J. F. Block	324-328 Somerville Ave	Somerville	c 1880
SMV.769	Bremner, J. A. and Company Building	344-346 Somerville Ave	Somerville	c 1910
SMV.1343	Bent, Cyrus House	349 Somerville Ave	Somerville	c 1860
SMV.770	Star Theater	374 Somerville Ave	Somerville	c 1890
SMV.1240	Bennett, William F. Block	380 Somerville Ave	Somerville	1892
SMV.364	Towne, George B. Rowhouse	431-439 Somerville Ave	Somerville	c 1870
SMV.104		437 Somerville Ave	Somerville	c 1830
SMV.1359	American Tube Works Blacksmith Shop	438R Somerville Ave	Somerville	r 1905
SMV.103	Hollingsworth, Robert House	439-441R Somerville Ave	Somerville	c 1840
SMV.365	Hollingsworth, Robert House	439-441 Somerville Ave	Somerville	c 1880
SMV.793	American Tube Works Machine and Pattern Shop	440R Somerville Ave	Somerville	c 1900
SMV.1110	American Tube Works Administration Office Building	440 Somerville Ave	Somerville	1913
SMV.1107	American Tube Works Drawing Mill	444 Somerville Ave	Somerville	c 1900
SMV.1108	American Tube Works Rolling and Drawing Mill	460 Somerville Ave	Somerville	c 1900
SMV.1241	Ireland, Jonathan - Dane, Osgood House	461 Somerville Ave	Somerville	c 1791
SMV.366	Campbell, William House	467 Somerville Ave	Somerville	c 1868
SMV.731		577-579 Somerville Ave	Somerville	c 1924
SMV.225	Flanagan, Edward House	589 Somerville Ave	Somerville	c 1850
SMV.790	Dahlquist Manufacturing Company	610-620 Somerville Ave	Somerville	c 1940
SMV.791		624 Somerville Ave	Somerville	c 1900
SMV.730		665 Somerville Ave	Somerville	c 1926
SMV.1360	Llewellyn, Edward J. Building	216 Somerville Ave	Somerville	1896
SMV.418	Koenig, H. F. - McCue, M. House	26 South St	Somerville	r 1860
SMV.651		16 Spring Hill Terr	Somerville	1896
SMV.89		15 Spring St	Somerville	c 1845
SMV.1061	Marsh, Henry J. - Bradford, William House	18-20 Spring St	Somerville	c 1850
SMV.1062	Bugbee, James R. - Morse, Enoch R. House	22-24 Spring St	Somerville	1854
SMV.1063		28 Spring St	Somerville	c 1960
SMV.1065	Jaskun, Justin J. - Clarke, George A. House	31-33 Spring St	Somerville	c 1925
SMV.1064		32 Spring St	Somerville	c 1950
SMV.1066	Robinson, George N. - Lovejoy, Loyal House	34 Spring St	Somerville	c 1852
SMV.1067		35 Spring St	Somerville	c 1900
SMV.1068		37 Spring St	Somerville	c 1920
SMV.1069	Robinson, Ezra B. - Bird, Henry M. House	38 Spring St	Somerville	c 1852

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.1070	Pond, William - Hayden, J. Orlin House	42 Spring St	Somerville	c 1845
SMV.1071	Carlton, Amos D. - Proctor, George O. House	44 Spring St	Somerville	1868
SMV.1072	Lavelli, Edwin C. House	45 Spring St	Somerville	1960
SMV.1073	Sutherland, George E. House	46-46A Spring St	Somerville	r 1890
SMV.1074	Woods, John House	47 Spring St	Somerville	c 1860
SMV.88	Rymes, Christopher House	49 Spring St	Somerville	c 1883
SMV.1075	Freeman, Moses H. - Daniels, Edward S. House	50 Spring St	Somerville	c 1850
SMV.1076	Clark, James - Andrews, Harriet M. House	54 Spring St	Somerville	1850
SMV.1007	Sears Roebuck and Company Warehouse	Sturtevant St	Somerville	1941
SMV.27	First United Methodist Church	1 Summer St	Somerville	r 1865
SMV.442	Simonds, George H. Rowhouse	8-20 Summer St	Somerville	c 1880
SMV.1244	Huff, Orrison - Mullholland, James House	22 Summer St	Somerville	1870
SMV.1245	Odiorne, William - Langley, George M. House	24 Summer St	Somerville	1870
SMV.1246	Price, Rev. Lewis V. House	26 Summer St	Somerville	c 1885
SMV.1247	Fish, Eugene W. - Hart, Mary House	28 Summer St	Somerville	c 1885
SMV.757	Perry, Oscar Barber Shop	36-38 Summer St	Somerville	c 1899
SMV.443	Henry, William G. Rowhouse	57 Summer St	Somerville	c 1880
SMV.652		91 Summer St	Somerville	r 1855
SMV.220		104 Summer St	Somerville	1908
SMV.219	Homer, Jacob House	125 Summer St	Somerville	1848
SMV.653	Durell, Rev. George W. House	137 Summer St	Somerville	c 1865
SMV.654	Locke, Marshall House	139 Summer St	Somerville	c 1860
SMV.655	Rice, Charles F. House	143 Summer St	Somerville	c 1890
SMV.218	Haigh, John House	151 Summer St	Somerville	1891
SMV.98	Crane, Edward House	152 Summer St	Somerville	1895
SMV.1077	Cox, Edward F. - Polsey, Henry S. House	154 Summer St	Somerville	c 1890
SMV.1078	Somerset Chambers	156-158 Summer St	Somerville	r 1935
SMV.1079		162 Summer St	Somerville	c 1960
SMV.1080		166-168 Summer St	Somerville	c 1895
SMV.656	Howie, John House	170 Summer St	Somerville	c 1865
SMV.1082		172 Summer St	Somerville	c 1890
SMV.1083	Hayden, J. Orlin House	174 Summer St	Somerville	1899
SMV.217	Bradshaw, Charles House	175 Summer St	Somerville	1884
SMV.1084	Dolliver, Edwin C. House	176 Summer St	Somerville	c 1890
SMV.1085		184 Summer St	Somerville	c 1890
SMV.706	Texas Company Oils Building	360-366 Summer St	Somerville	c 1920
SMV.704	Highland Trust Company - Winter Hill Coop Bank	361-371 Summer St	Somerville	c 1930
SMV.732		379 Summer St	Somerville	c 1930
SMV.209	Rosebud, The	381 Summer St	Somerville	1941
SMV.1138	Jackman, Edward N. House	16-18 Summit Ave	Somerville	c 1871
SMV.278	Sylvester, John House	26 Summit Ave	Somerville	1885
SMV.445	Hopkins, James House	27 Summit Ave	Somerville	c 1890
SMV.74		13 Summit St	Somerville	c 1890

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.480		15 Summit St	Somerville	c 1895
SMV.481	Nichols, John F. House	17 Summit St	Somerville	c 1890
SMV.71		12 Sunnyside St	Somerville	1880
SMV.72		14 Sunnyside St	Somerville	1880
SMV.73		16 Sunnyside St	Somerville	1880
SMV.920	Sycamore Street Bridge over B and M Railroad	Sycamore St	Somerville	1902
SMV.40	Russell, Susan House	58 Sycamore St	Somerville	r 1835
SMV.41	Tufts, Peter and Oliver House	78 Sycamore St	Somerville	c 1714
SMV.512	Hanscom, Edgar F. House	137 Sycamore St	Somerville	c 1884
SMV.325	Dempsey, Addis House	143 Sycamore St	Somerville	1899
SMV.516	Broadway Congregational Church Chapel	Sycamore Terr	Somerville	1867
SMV.515	Hill, William P. House	155 Sycamore Terr	Somerville	1891
SMV.1294		Sydney St	Somerville	c 1915
SMV.1307		32 Sydney St	Somerville	c 1916
SMV.1306		36 Sydney St	Somerville	c 1916
SMV.1303		40 Sydney St	Somerville	c 1916
SMV.1301		44 Sydney St	Somerville	c 1910
SMV.1302		46 Sydney St	Somerville	c 1910
SMV.1300		48-50 Sydney St	Somerville	c 1910
SMV.1299		52 Sydney St	Somerville	c 1910
SMV.1298		54 Sydney St	Somerville	c 1900
SMV.1297		56 Sydney St	Somerville	c 1910
SMV.1296		60 Sydney St	Somerville	c 1915
SMV.1295		64 Sydney St	Somerville	c 1910
SMV.675	Hillson, Hyman M. Tinware Factory	16 Taylor St	Somerville	c 1893
SMV.1		35 Temple St	Somerville	r 1765
SMV.34		65 Temple St	Somerville	c 1885
SMV.1249	Saint Polycarp's Roman Catholic Church	100 Temple St	Somerville	c 1927
SMV.1292		107 Temple St	Somerville	c 1920
SMV.1258	Saint Polycarp's Roman Catholic Church Rectory	114 Temple St	Somerville	c 1930
SMV.517		5-5A Tennyson St	Somerville	c 1900
SMV.326	Spinney, Lawrence House	45 Tennyson St	Somerville	1875
SMV.276		11 Thorpe St	Somerville	c 1830
SMV.446		22 Thorpe St	Somerville	c 1875
SMV.518	Mathison, Joseph House	21 Thurston St	Somerville	c 1885
SMV.1259	Saint Ann's Roman Catholic Church	50B Thurston St	Somerville	1881
SMV.1260	Saint Ann's Roman Catholic Church Parochial School	50A Thurston St	Somerville	1916
SMV.1261	Saint Ann's Roman Catholic Church Convent	50 Thurston St	Somerville	1923
SMV.99	Otis - Wyman House	67 Thurston St	Somerville	c 1883
SMV.419	Flynn, Michael House	4-6 Tremont Pl	Somerville	c 1884
SMV.485	Johnson, Phillip House	40 Trull St	Somerville	c 1870
SMV.486		45 Trull St	Somerville	c 1880
SMV.487		57 Trull St	Somerville	c 1815

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.690	Vinal, Robert A. House	15 Union Sq	Somerville	1845
SMV.760	Union Building	16-19 Union Sq	Somerville	c 1922
SMV.761	Hurley Building	20-29 Union Sq	Somerville	1932
SMV.762	Eberle, Philip Building	31-34 Union Sq	Somerville	c 1884
SMV.1358	Cobb, Eberle Weston Building	35 Union Sq	Somerville	r 1880
SMV.773	Hill Building	38 Union Sq	Somerville	1874
SMV.763	Stone Building - Barrister's Hall	61 Union Sq	Somerville	1888
SMV.764	Somerville Police Headquarters	66-70 Union Sq	Somerville	1932
SMV.67	Somerville Fire Station	92 Union Sq	Somerville	1903
SMV.488	Pollard, Warren Quarry Worker Housing	13 Vernon St	Somerville	c 1845
SMV.750	Derby Desk Company Building	20 Vernon St	Somerville	1887
SMV.489	Pollard, Warren Quarry Worker Housing	38-40 Vernon St	Somerville	c 1870
SMV.738	Gavel, Harry Garage	55 Vernon St	Somerville	c 1910
SMV.490	Pollard, Warren Quarry Worker Housing	90-92 Vernon St	Somerville	c 1840
SMV.1250	Waugh, William Lindsay House	37 Victoria St	Somerville	1914
SMV.797	Somerville Charcoal Company	19-21 Village St	Somerville	c 1918
SMV.1251	McCarthy, Catherine E. House	21 Vinal Ave	Somerville	c 1890
SMV.42	Hammond, A. P. - Watson, J. Sumner House	42 Vinal Ave	Somerville	1884
SMV.287	Wellington, Lizzie House	45 Vinal Ave	Somerville	c 1875
SMV.286	Wellington, Lizzie House	47 Vinal Ave	Somerville	c 1875
SMV.288	Parker - Burnett House	48 Vinal Ave	Somerville	1873
SMV.43	Hailey, Fred House	49 Vinal Ave	Somerville	1895
SMV.44	Wright House	54 Vinal Ave	Somerville	c 1895
SMV.299		56 Vinal Ave	Somerville	1913
SMV.64	Southern Junior High School	8 Vinal St	Somerville	1930
SMV.458		11 Vinal St	Somerville	
SMV.289	Parker, Silas House	50 Vinal St	Somerville	1873
SMV.436	Pond, S. H. House	58 Vinal St	Somerville	c 1880
SMV.795		21-29 Vine St	Somerville	c 1930
SMV.420	McGrath House	80 Vine St	Somerville	c 1850
SMV.421		88 Vine St	Somerville	c 1840
SMV.796	Bailie Basket Company	100 Vine St	Somerville	c 1920
SMV.925	Walnut Street Bridge over B & M Railroad	Walnut St	Somerville	1894
SMV.459	Sturtevant, Richard Apartment House	3-5 Walnut St	Somerville	c 1890
SMV.236	Somerville Journal Building	8-10 Walnut St	Somerville	1894
SMV.460	Somerville District Court House	19 Walnut St	Somerville	1925
SMV.56		24 Walnut St	Somerville	r 1890
SMV.57	Munroe, Robert House	37 Walnut St	Somerville	c 1849
SMV.58	Brooks, Elbridge Streeter House	44 Walnut St	Somerville	1887
SMV.59	Niles, Louville House	45 Walnut St	Somerville	1890
SMV.60	Hollander Block, The	56-58 Walnut St	Somerville	1895
SMV.297		60 Walnut St	Somerville	1935
SMV.298	Thorpe, Eliza House	63 Walnut St	Somerville	c 1870

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.1253	Folsom, Abraham - Duxbury, Caleb House	67 Walnut St	Somerville	c 1860
SMV.751	Kemp Nut Company	98-100 Walnut St	Somerville	1918
SMV.519	Veazie, William House	133 Walnut St	Somerville	c 1870
SMV.317	Ayre, John House	141 Walnut St	Somerville	c 1870
SMV.520	Fuller, Stephen W. House	151 Walnut St	Somerville	1861
SMV.422	Sullivan, D. House	32 Ward St	Somerville	r 1860
SMV.1255	Weinheimer, John - Murphy, Michael F. House	9 Warner St	Somerville	1905
SMV.260	Almy, Benjamin - Ellis, Frank House	24 Warren Ave	Somerville	1874
SMV.259	Thompson, Benjamin - Shattuck, Francelia M. House	26 Warren Ave	Somerville	c 1875
SMV.261	Baxter, George L. House	27 Warren Ave	Somerville	1874
SMV.258	Munroe, Emery H. House	28 Warren Ave	Somerville	c 1875
SMV.262	Hines, Richard A. House	29 Warren Ave	Somerville	1873
SMV.257	Lovejoy, Alvan L. House	30 Warren Ave	Somerville	1871
SMV.263	Sturtevant, Hazen House	31 Warren Ave	Somerville	1873
SMV.256	Ambrose, John L. House	32 Warren Ave	Somerville	c 1880
SMV.264	Kimball, George A. House	33 Warren Ave	Somerville	1877
SMV.423	Quinn, William House and Store	51 Warren St	Somerville	c 1860
SMV.536		Warwick St	Somerville	r 1860
SMV.537	Boston Brick Company Boarding House	26 Warwick St	Somerville	c 1870
SMV.613		4 Washington Ave	Somerville	r 1820
SMV.907	B and M Railroad Bridge over Washington Street	Washington St	Somerville	1928
SMV.941	Washington Street Bridge over B & M Railroad	Washington St	Somerville	r 1915
SMV.303	Buddy's Truck Stop	113 Washington St	Somerville	1929
SMV.12	Ireland, Samuel House	117 Washington St	Somerville	c 1792
SMV.758		157-161 Washington St	Somerville	c 1902
SMV.759		163-179 Washington St	Somerville	c 1927
SMV.462	Holt, Samuel House	197 Washington St	Somerville	c 1860
SMV.463		198 Washington St	Somerville	r 1840
SMV.676	Boston Elevated Railway - MBTA Bus Garage	208-220 Washington St	Somerville	1926
SMV.1361	Allen, Hannah J. Building	210 Washington St	Somerville	c 1890
SMV.238	Walker, William House	215 Washington St	Somerville	c 1865
SMV.10	U. S. Post Office - Somerville Main Branch	237 Washington St	Somerville	1936
SMV.424	Burt, William House	264 Washington St	Somerville	c 1865
SMV.425	Saint Joseph's Roman Catholic Parochial School	272 Washington St	Somerville	c 1890
SMV.426	Ashley, John House	273 Washington St	Somerville	c 1870
SMV.232	Smith, John House	275-277 Washington St	Somerville	c 1870
SMV.678	Brown, I. H. Moulding Company	285 Washington St	Somerville	r 1885
SMV.1254	Saint Joseph's Roman Catholic Church	294 Washington St	Somerville	1871
SMV.677	Fresh Pond Ice Company	321 Washington St	Somerville	c 1892
SMV.427	Leland, John House	377 Washington St	Somerville	r 1865
SMV.13	Schuebeler, Charles House	384 Washington St	Somerville	c 1860
SMV.428	Devine, Michael H. Building	388 Washington St	Somerville	c 1890
SMV.1028	Devine, Michael H. Building	392 Washington St	Somerville	c 1890

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.782		406 Washington St	Somerville	c 1888
SMV.781		415-427 Washington St	Somerville	1932
SMV.1256	Clough, Elmer Three-Decker	27-29 Waterhouse St	Somerville	1919
SMV.538	Wentworth, L. Roger House	16 Watson St	Somerville	c 1900
SMV.924	Webster - Newton Street Bridge over B & M Railroad	Webster Ave	Somerville	1911
SMV.789	Canny, Michael J. Used Cars Dealership	45 Webster Ave	Somerville	1924
SMV.787	O'Neill, J. P. Coal Company Truck Garage	62 Webster Ave	Somerville	1924
SMV.614	Edgerly, John S. House	1 Webster St	Somerville	1851
SMV.615	Junkins, R. F. House	27 Webster St	Somerville	c 1850
SMV.14	Somerville Historical Society	1 Westwood Rd	Somerville	c 1925
SMV.15	Berry - Kelley House	2 Westwood Rd	Somerville	c 1900
SMV.16	Sibley, Edwin D. House	3 Westwood Rd	Somerville	c 1895
SMV.1091		5 Westwood Rd	Somerville	c 1898
SMV.1092		6 Westwood Rd	Somerville	c 1910
SMV.1093	Bradshaw, Charles H. House	7 Westwood Rd	Somerville	1899
SMV.17	Newton, Elbridge W. House	8 Westwood Rd	Somerville	c 1896
SMV.1094		9 Westwood Rd	Somerville	c 1898
SMV.1095		10 Westwood Rd	Somerville	
SMV.1096		11 Westwood Rd	Somerville	c 1900
SMV.1097		12 Westwood Rd	Somerville	c 1900
SMV.1098		14 Westwood Rd	Somerville	c 1900
SMV.1099		15 Westwood Rd	Somerville	c 1900
SMV.1100		16 Westwood Rd	Somerville	c 1910
SMV.1101		17 Westwood Rd	Somerville	c 1900
SMV.1102		18 Westwood Rd	Somerville	c 1900
SMV.1328		25 Wheatland St	Somerville	c 1885
SMV.1327		29 Wheatland St	Somerville	c 1885
SMV.1325		30 Wheatland St	Somerville	c 1900
SMV.1326		31-33 Wheatland St	Somerville	c 1885
SMV.1324		34 Wheatland St	Somerville	c 1890
SMV.616		14 Wheeler St	Somerville	c 1895
SMV.1257	Littlefield, H. L. Three-Decker	20 Wheeler St	Somerville	1899
SMV.657		28-30 White St	Somerville	c 1845
SMV.482	Wilmont, Charles W. House	11 William St	Somerville	c 1890
SMV.76		1 Williams Ct	Somerville	c 1855
SMV.77		2 Williams Ct	Somerville	c 1855
SMV.78		5 Williams Ct	Somerville	c 1855
SMV.79		6 Williams Ct	Somerville	c 1855
SMV.80		7 Williams Ct	Somerville	c 1855
SMV.81		8 Williams Ct	Somerville	c 1855
SMV.82		11 Williams Ct	Somerville	c 1855
SMV.83		12 Williams Ct	Somerville	c 1855
SMV.658	Fiske, Benjamin M. House	46 Willow Ave	Somerville	c 1875

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Somerville; Resource Type(s): Building, Area, Burial Ground, Structure, Object;

Inv. No.	Property Name	Street	Town	Year
SMV.679	Somerville Electric Light Generating Station	106 Willow Ave	Somerville	1887
SMV.1116	Brown, Benjamin G. Elementary School	199 Willow Ave	Somerville	1900
SMV.725	Smith, Walter S. Auto Company	80-84 Winslow Ave	Somerville	c 1912
SMV.339	Walker Garage	88 Winslow Ave	Somerville	1911
SMV.539	Hill, Ira House	21 Winter St	Somerville	c 1870

ATTACHMENT F: ANALYTICAL DATA

February 25, 2015

Ross Hartman
JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590

Project Location: Green Line Extension
Client Job Number:
Project Number: 2140547
Laboratory Work Order Number: 15B0577

Enclosed are results of analyses for samples received by the laboratory on February 18, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Meghan E. Kelley". The signature is written in a cursive, flowing style.

Meghan E. Kelley
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590
ATTN: Ross Hartman

REPORT DATE: 2/25/2015

PURCHASE ORDER NUMBER: 20141204

PROJECT NUMBER: 2140547

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15B0577

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Green Line Extension

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KE202WSD	15B0577-01	Ground Water		EPA 1664B	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7470A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
				Tri Chrome Calc.	
KE202WSS	15B0577-02	Ground Water		EPA 1664B	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL B	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7470A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
				Tri Chrome Calc.	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6020, only a select list of metals was requested and reported.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SM21-22 3500 Cr B**Qualifications:****MS-07A**

Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery.

Possibility of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:**Hexavalent Chromium**

15B0577-02[KE202WSS], B115560-MS1, B115560-MSD1

SM21-22 4500 H B**Qualifications:****H-05**

Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

Analyte & Samples(s) Qualified:**pH**

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

SW-846 8260C**Qualifications:****L-02**

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:**Naphthalene**

B115615-BS1, B115615-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:**Vinyl Chloride**

B115615-BSD1

L-14

Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.

Analyte & Samples(s) Qualified:**Acetone**

B115615-BS1, B115615-BSD1

Bromomethane

B115615-BS1, B115615-BSD1

Chloromethane

B115615-BS1, B115615-BSD1

Dichlorodifluoromethane (Freon 12)

B115615-BS1, B115615-BSD1

RL-07

Elevated reporting limit based on lowest point in calibration.

MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:**1,2-Dibromo-3-chloropropane (DBP)**

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

2-Butanone (MEK)

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

2-Hexanone (MBK)

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

4-Methyl-2-pentanone (MIBK)

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

Bromochloromethane

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

Bromomethane

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

Chloromethane

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

tert-Butyl Ethyl Ether (TBEE)

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

Tetrahydrofuran

15B0577-01[KE202WSD], 15B0577-02[KE202WSS]

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:**1,4-Dioxane**

15B0577-01[KE202WSD], 15B0577-02[KE202WSS], B115615-BLK1, B115615-BS1, B115615-BSD1

SW-846 8270D

Qualifications:**V-04**

Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria.

Analyte & Samples(s) Qualified:**2,4-Dinitrophenol**

15B0577-01[KE202WSD], 15B0577-02[KE202WSS], B115747-BLK1, B115747-BS1, B115747-BSD1

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:**Di-n-octylphthalate**

B115747-BS1, B115747-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**Di-n-octylphthalate**

15B0577-01[KE202WSD], 15B0577-02[KE202WSS], B115747-BLK1

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

SW-846 8260C

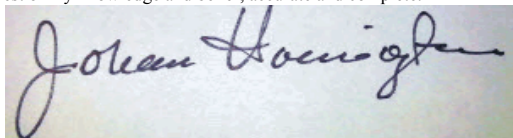
Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for "difficult analytes" listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in blue ink, reading "Johanna Harrington", is written over a light blue rectangular background.

Johanna K. Harrington

Manager, Laboratory Reporting

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSD

Sampled: 2/18/2015 11:10

Sample ID: 15B0577-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Bromochloromethane	ND	2.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
2-Butanone (MEK)	ND	50	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	1.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Chloromethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,1-Dichloroethane	2.8	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,1-Dichloroethylene	1.9	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
cis-1,2-Dichloroethylene	37	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSD

Sampled: 2/18/2015 11:10

Sample ID: 15B0577-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
2-Hexanone (MBK)	ND	50	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
4-Methyl-2-pentanone (MIBK)	ND	50	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Tetrachloroethylene	110	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Tetrahydrofuran	ND	5.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Trichloroethylene	19	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
Vinyl Chloride	2.1	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:05	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	107	70-130	
Toluene-d8	99.0	70-130	
4-Bromofluorobenzene	96.6	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSD

Sampled: 2/18/2015 11:10

Sample ID: 15B0577-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Acetophenone	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Aniline	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2,4-Dinitrophenol	ND	10	µg/L	1	V-04	SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Di-n-octylphthalate	ND	10	µg/L	1	V-20	SW-846 8270D	2/21/15	2/23/15 15:40	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Hexachlorobenzene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Hexachlorobutadiene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Isophorone	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSD

Sampled: 2/18/2015 11:10

Sample ID: 15B0577-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Phenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 15:40	BGL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2-Fluorophenol	39.1	15-110						2/23/15 15:40	
Phenol-d6	25.3	15-110						2/23/15 15:40	
Nitrobenzene-d5	85.5	30-130						2/23/15 15:40	
2-Fluorobiphenyl	85.9	30-130						2/23/15 15:40	
2,4,6-Tribromophenol	86.8	15-110						2/23/15 15:40	
p-Terphenyl-d14	96.8	30-130						2/23/15 15:40	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Sampled: 2/18/2015 11:10

Field Sample #: KE202WSD

Sample ID: 15B0577-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	0.34	0.20	mg/L	1		SW-846 8100 Modified	2/19/15	2/20/15 15:22	SCS
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
o-Terphenyl	91.2		40-140					2/20/15 15:22	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Sampled: 2/18/2015 11:10

Field Sample #: KE202WSD

Sample ID: 15B0577-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Arsenic	3.6	0.40	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Chromium	1.3	1.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Chromium, Trivalent	0.0013		mg/L	1		Tri Chrome Calc.	2/19/15	2/20/15 11:21	KSH
Copper	ND	5.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Iron	32	0.050	mg/L	1		SW-846 6010C	2/19/15	2/20/15 19:01	AMP
Lead	ND	1.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	2/19/15	2/19/15 14:07	SCB
Nickel	ND	5.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Selenium	ND	5.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH
Zinc	ND	10	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:21	KSH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSD

Sampled: 2/18/2015 11:10

Sample ID: 15B0577-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	340	10	mg/L	10		SM21-22 4500 CL B	2/20/15	2/20/15 20:20	DJM
Chlorine, Residual	0.27	0.020	mg/L	1		SM21-22 4500 CL G	2/18/15	2/18/15 21:05	DJM
Cyanide	ND	0.010	mg/L	1		SW-846 9014	2/24/15	2/24/15 17:00	ABH
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	2/18/15	2/18/15 23:15	DJM
pH @17.7°C	6.5		pH Units	1	H-05	SM21-22 4500 H B	2/19/15	2/19/15 8:45	LL
Total Suspended Solids	20	5.0	mg/L	1		SM21-22 2540D	2/19/15	2/19/15 13:35	LL
Oil & Grease (HEM)	ND	1.4	mg/L	1		EPA 1664B	2/24/15	2/24/15 11:30	LL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSS

Sampled: 2/18/2015 12:40

Sample ID: 15B0577-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Bromochloromethane	ND	2.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
2-Butanone (MEK)	ND	50	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	1.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Chloromethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSS

Sampled: 2/18/2015 12:40

Sample ID: 15B0577-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
2-Hexanone (MBK)	ND	50	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
4-Methyl-2-pentanone (MIBK)	ND	50	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Tetrahydrofuran	ND	5.0	µg/L	1	RL-07	SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	2/19/15	2/19/15 15:33	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	99.3	70-130	
4-Bromofluorobenzene	97.7	70-130	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSS

Sampled: 2/18/2015 12:40

Sample ID: 15B0577-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Acetophenone	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Aniline	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2,4-Dinitrophenol	ND	10	µg/L	1	V-04	SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Di-n-octylphthalate	ND	10	µg/L	1	V-20	SW-846 8270D	2/21/15	2/23/15 16:04	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Hexachlorobenzene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Hexachlorobutadiene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Isophorone	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSS

Sampled: 2/18/2015 12:40

Sample ID: 15B0577-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Phenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	2/21/15	2/23/15 16:04	BGL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2-Fluorophenol	32.2	15-110						2/23/15 16:04	
Phenol-d6	21.6	15-110						2/23/15 16:04	
Nitrobenzene-d5	70.5	30-130						2/23/15 16:04	
2-Fluorobiphenyl	74.0	30-130						2/23/15 16:04	
2,4,6-Tribromophenol	81.1	15-110						2/23/15 16:04	
p-Terphenyl-d14	82.5	30-130						2/23/15 16:04	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSS

Sampled: 2/18/2015 12:40

Sample ID: 15B0577-02

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	ND	0.20	mg/L	1		SW-846 8100 Modified	2/19/15	2/20/15 15:39	SCS
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
o-Terphenyl	89.4		40-140					2/20/15 15:39	

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Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSS

Sampled: 2/18/2015 12:40

Sample ID: 15B0577-02

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Arsenic	14	0.40	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Chromium	ND	1.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Chromium, Trivalent	0.0		mg/L	1		Tri Chrome Calc.	2/19/15	2/20/15 11:25	KSH
Copper	ND	5.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Iron	32	0.050	mg/L	1		SW-846 6010C	2/19/15	2/20/15 19:07	AMP
Lead	ND	1.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	2/19/15	2/19/15 14:09	SCB
Nickel	ND	5.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Selenium	ND	5.0	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH
Zinc	ND	10	µg/L	1		SW-846 6020A	2/19/15	2/20/15 11:25	KSH

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Project Location: Green Line Extension

Sample Description:

Work Order: 15B0577

Date Received: 2/18/2015

Field Sample #: KE202WSS

Sampled: 2/18/2015 12:40

Sample ID: 15B0577-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	130	5.0	mg/L	5		SM21-22 4500 CL B	2/20/15	2/20/15 20:20	DJM
Chlorine, Residual	0.17	0.020	mg/L	1		SM21-22 4500 CL G	2/18/15	2/18/15 21:05	DJM
Cyanide	ND	0.010	mg/L	1		SW-846 9014	2/24/15	2/24/15 17:00	ABH
Hexavalent Chromium	ND	0.0040	mg/L	1	MS-07A	SM21-22 3500 Cr B	2/18/15	2/18/15 23:15	DJM
pH @19.6°C	6.3		pH Units	1	H-05	SM21-22 4500 H B	2/19/15	2/19/15 8:45	LL
Total Suspended Solids	ND	5.0	mg/L	1		SM21-22 2540D	2/19/15	2/19/15 13:35	LL
Oil & Grease (HEM)	ND	1.4	mg/L	1		EPA 1664B	2/24/15	2/24/15 11:30	LL

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Sample Extraction Data

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
15B0577-01 [KE202WSD]	B115853	970	02/24/15
15B0577-02 [KE202WSS]	B115853	970	02/24/15

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
15B0577-01 [KE202WSD]	B115582	100	02/19/15
15B0577-02 [KE202WSS]	B115582	100	02/19/15

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115560	50.0	50.0	02/18/15
15B0577-02 [KE202WSS]	B115560	50.0	50.0	02/18/15

SM21-22 4500 CL B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115746	100	100	02/20/15
15B0577-02 [KE202WSS]	B115746	100	100	02/20/15

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115554	100	100	02/18/15
15B0577-02 [KE202WSS]	B115554	100	100	02/18/15

SM21-22 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date
15B0577-01 [KE202WSD]	B115579	50.0	02/19/15
15B0577-02 [KE202WSS]	B115579	50.0	02/19/15

Prep Method: SW-846 3005A-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115625	50.0	50.0	02/19/15
15B0577-02 [KE202WSS]	B115625	50.0	50.0	02/19/15

Prep Method: SW-846 3005A-SW-846 6020A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115636	50.0	50.0	02/19/15
15B0577-02 [KE202WSS]	B115636	50.0	50.0	02/19/15

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Sample Extraction Data

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115605	6.00	6.00	02/19/15
15B0577-02 [KE202WSS]	B115605	6.00	6.00	02/19/15

Prep Method: SW-846 3510C-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115638	1000	1.00	02/19/15
15B0577-02 [KE202WSS]	B115638	1000	1.00	02/19/15

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115615	5	5.00	02/19/15
15B0577-02 [KE202WSS]	B115615	5	5.00	02/19/15

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115747	1000	1.00	02/21/15
15B0577-02 [KE202WSS]	B115747	1000	1.00	02/21/15

SW-846 9014

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115866	50.0	50.0	02/24/15
15B0577-02 [KE202WSS]	B115866	50.0	50.0	02/24/15

Prep Method: SW-846 3005A-Tri Chrome Calc.

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0577-01 [KE202WSD]	B115627	1.00	1.00	02/19/15
15B0577-02 [KE202WSS]	B115627	1.00	1.00	02/19/15

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B115615 - SW-846 5030B

Blank (B115615-BLK1)

Prepared & Analyzed: 02/19/15

Acetone	ND	10	µg/L
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L
Benzene	ND	1.0	µg/L
Bromobenzene	ND	1.0	µg/L
Bromochloromethane	ND	1.0	µg/L
Bromodichloromethane	ND	1.0	µg/L
Bromoform	ND	1.0	µg/L
Bromomethane	ND	2.0	µg/L
2-Butanone (MEK)	ND	10	µg/L
n-Butylbenzene	ND	1.0	µg/L
sec-Butylbenzene	ND	1.0	µg/L
tert-Butylbenzene	ND	1.0	µg/L
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L
Carbon Disulfide	ND	5.0	µg/L
Carbon Tetrachloride	ND	1.0	µg/L
Chlorobenzene	ND	1.0	µg/L
Chlorodibromomethane	ND	0.50	µg/L
Chloroethane	ND	2.0	µg/L
Chloroform	ND	2.0	µg/L
Chloromethane	ND	2.0	µg/L
2-Chlorotoluene	ND	1.0	µg/L
4-Chlorotoluene	ND	1.0	µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L
1,2-Dibromoethane (EDB)	ND	0.50	µg/L
Dibromomethane	ND	1.0	µg/L
1,2-Dichlorobenzene	ND	1.0	µg/L
1,3-Dichlorobenzene	ND	1.0	µg/L
1,4-Dichlorobenzene	ND	1.0	µg/L
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L
1,1-Dichloroethane	ND	1.0	µg/L
1,2-Dichloroethane	ND	1.0	µg/L
1,1-Dichloroethylene	ND	1.0	µg/L
cis-1,2-Dichloroethylene	ND	1.0	µg/L
trans-1,2-Dichloroethylene	ND	1.0	µg/L
1,2-Dichloropropane	ND	1.0	µg/L
1,3-Dichloropropane	ND	0.50	µg/L
2,2-Dichloropropane	ND	1.0	µg/L
1,1-Dichloropropene	ND	0.50	µg/L
cis-1,3-Dichloropropene	ND	0.40	µg/L
trans-1,3-Dichloropropene	ND	0.40	µg/L
Diethyl Ether	ND	2.0	µg/L
Diisopropyl Ether (DIPE)	ND	0.50	µg/L
1,4-Dioxane	ND	50	µg/L
Ethylbenzene	ND	1.0	µg/L
Hexachlorobutadiene	ND	0.50	µg/L
2-Hexanone (MBK)	ND	10	µg/L
Isopropylbenzene (Cumene)	ND	1.0	µg/L
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L
Methylene Chloride	ND	5.0	µg/L
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L
Naphthalene	ND	2.0	µg/L

V-16

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115615 - SW-846 5030B										
Blank (B115615-BLK1)										
Prepared & Analyzed: 02/19/15										
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	2.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	2.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	26.4		µg/L	25.0		105	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	24.7		µg/L	25.0		98.7	70-130			
LCS (B115615-BS1)										
Prepared & Analyzed: 02/19/15										
Acetone	138	10	µg/L	100		138	40-160			L-14 †
tert-Amyl Methyl Ether (TAME)	10.6	0.50	µg/L	10.0		106	70-130			
Benzene	9.82	1.0	µg/L	10.0		98.2	70-130			
Bromobenzene	9.41	1.0	µg/L	10.0		94.1	70-130			
Bromochloromethane	8.24	1.0	µg/L	10.0		82.4	70-130			
Bromodichloromethane	10.6	1.0	µg/L	10.0		106	70-130			
Bromoform	10.4	1.0	µg/L	10.0		104	70-130			
Bromomethane	5.85	2.0	µg/L	10.0		58.5	40-160			L-14 †
2-Butanone (MEK)	119	10	µg/L	100		119	40-160			†
n-Butylbenzene	10.7	1.0	µg/L	10.0		107	70-130			
sec-Butylbenzene	10.3	1.0	µg/L	10.0		103	70-130			
tert-Butylbenzene	10.2	1.0	µg/L	10.0		102	70-130			
tert-Butyl Ethyl Ether (TBEE)	10.5	0.50	µg/L	10.0		105	70-130			
Carbon Disulfide	7.47	5.0	µg/L	10.0		74.7	70-130			
Carbon Tetrachloride	9.53	1.0	µg/L	10.0		95.3	70-130			
Chlorobenzene	9.56	1.0	µg/L	10.0		95.6	70-130			
Chlorodibromomethane	9.35	0.50	µg/L	10.0		93.5	70-130			
Chloroethane	7.36	2.0	µg/L	10.0		73.6	70-130			
Chloroform	9.49	2.0	µg/L	10.0		94.9	70-130			
Chloromethane	5.33	2.0	µg/L	10.0		53.3	40-160			L-14 †
2-Chlorotoluene	9.36	1.0	µg/L	10.0		93.6	70-130			
4-Chlorotoluene	9.73	1.0	µg/L	10.0		97.3	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	10.6	2.0	µg/L	10.0		106	70-130			
1,2-Dibromoethane (EDB)	9.76	0.50	µg/L	10.0		97.6	70-130			
Dibromomethane	10.6	1.0	µg/L	10.0		106	70-130			
1,2-Dichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130			
1,3-Dichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130			
1,4-Dichlorobenzene	9.79	1.0	µg/L	10.0		97.9	70-130			

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QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115615 - SW-846 5030B										
LCS (B115615-BS1)				Prepared & Analyzed: 02/19/15						
Dichlorodifluoromethane (Freon 12)	4.07	2.0	µg/L	10.0		40.7	40-160			L-14 †
1,1-Dichloroethane	10.2	1.0	µg/L	10.0		102	70-130			
1,2-Dichloroethane	9.51	1.0	µg/L	10.0		95.1	70-130			
1,1-Dichloroethylene	10.2	1.0	µg/L	10.0		102	70-130			
cis-1,2-Dichloroethylene	9.76	1.0	µg/L	10.0		97.6	70-130			
trans-1,2-Dichloroethylene	10.7	1.0	µg/L	10.0		107	70-130			
1,2-Dichloropropane	9.79	1.0	µg/L	10.0		97.9	70-130			
1,3-Dichloropropane	10.1	0.50	µg/L	10.0		101	70-130			
2,2-Dichloropropane	10.0	1.0	µg/L	10.0		100	70-130			
1,1-Dichloropropene	10.9	0.50	µg/L	10.0		109	70-130			
cis-1,3-Dichloropropene	9.42	0.40	µg/L	10.0		94.2	70-130			
trans-1,3-Dichloropropene	11.0	0.40	µg/L	10.0		110	70-130			
Diethyl Ether	11.5	2.0	µg/L	10.0		115	70-130			
Diisopropyl Ether (DIPE)	10.0	0.50	µg/L	10.0		100	70-130			
1,4-Dioxane	93.4	50	µg/L	100		93.4	40-160			V-16 †
Ethylbenzene	9.57	1.0	µg/L	10.0		95.7	70-130			
Hexachlorobutadiene	10.2	0.50	µg/L	10.0		102	70-130			
2-Hexanone (MBK)	114	10	µg/L	100		114	40-160			†
Isopropylbenzene (Cumene)	9.32	1.0	µg/L	10.0		93.2	70-130			
p-Isopropyltoluene (p-Cymene)	10.5	1.0	µg/L	10.0		105	70-130			
Methyl tert-Butyl Ether (MTBE)	11.6	1.0	µg/L	10.0		116	70-130			
Methylene Chloride	9.97	5.0	µg/L	10.0		99.7	70-130			
4-Methyl-2-pentanone (MIBK)	106	10	µg/L	100		106	40-160			†
Naphthalene	13.5	2.0	µg/L	10.0		135 *	70-130			L-02
n-Propylbenzene	10.1	1.0	µg/L	10.0		101	70-130			
Styrene	10.2	1.0	µg/L	10.0		102	70-130			
1,1,1,2-Tetrachloroethane	9.81	1.0	µg/L	10.0		98.1	70-130			
1,1,2,2-Tetrachloroethane	11.0	0.50	µg/L	10.0		110	70-130			
Tetrachloroethylene	9.78	1.0	µg/L	10.0		97.8	70-130			
Tetrahydrofuran	12.0	2.0	µg/L	10.0		120	70-130			
Toluene	9.46	1.0	µg/L	10.0		94.6	70-130			
1,2,3-Trichlorobenzene	12.0	2.0	µg/L	10.0		120	70-130			
1,2,4-Trichlorobenzene	11.5	1.0	µg/L	10.0		115	70-130			
1,1,1-Trichloroethane	10.0	1.0	µg/L	10.0		100	70-130			
1,1,2-Trichloroethane	9.99	1.0	µg/L	10.0		99.9	70-130			
Trichloroethylene	9.47	1.0	µg/L	10.0		94.7	70-130			
Trichlorofluoromethane (Freon 11)	9.57	2.0	µg/L	10.0		95.7	70-130			
1,2,3-Trichloropropane	10.7	2.0	µg/L	10.0		107	70-130			
1,2,4-Trimethylbenzene	10.4	1.0	µg/L	10.0		104	70-130			
1,3,5-Trimethylbenzene	9.77	1.0	µg/L	10.0		97.7	70-130			
Vinyl Chloride	7.00	2.0	µg/L	10.0		70.0	70-130			
m+p Xylene	18.8	2.0	µg/L	20.0		94.0	70-130			
o-Xylene	9.46	1.0	µg/L	10.0		94.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	27.3		µg/L	25.0		109	70-130			
Surrogate: Toluene-d8	24.5		µg/L	25.0		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	24.3		µg/L	25.0		97.4	70-130			

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QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115615 - SW-846 5030B										
LCS Dup (B115615-BSD1)				Prepared & Analyzed: 02/19/15						
Acetone	134	10	µg/L	100		134	40-160	2.77	20	L-14 †
tert-Amyl Methyl Ether (TAME)	10.5	0.50	µg/L	10.0		105	70-130	0.853	20	
Benzene	9.62	1.0	µg/L	10.0		96.2	70-130	2.06	20	
Bromobenzene	9.32	1.0	µg/L	10.0		93.2	70-130	0.961	20	
Bromochloromethane	8.16	1.0	µg/L	10.0		81.6	70-130	0.976	20	
Bromodichloromethane	10.1	1.0	µg/L	10.0		101	70-130	4.93	20	
Bromoform	10.5	1.0	µg/L	10.0		105	70-130	0.959	20	
Bromomethane	6.32	2.0	µg/L	10.0		63.2	40-160	7.72	20	L-14 †
2-Butanone (MEK)	118	10	µg/L	100		118	40-160	0.363	20	†
n-Butylbenzene	10.9	1.0	µg/L	10.0		109	70-130	1.57	20	
sec-Butylbenzene	10.1	1.0	µg/L	10.0		101	70-130	1.18	20	
tert-Butylbenzene	10.1	1.0	µg/L	10.0		101	70-130	0.984	20	
tert-Butyl Ethyl Ether (TBEE)	10.5	0.50	µg/L	10.0		105	70-130	0.476	20	
Carbon Disulfide	7.15	5.0	µg/L	10.0		71.5	70-130	4.38	20	
Carbon Tetrachloride	9.27	1.0	µg/L	10.0		92.7	70-130	2.77	20	
Chlorobenzene	9.43	1.0	µg/L	10.0		94.3	70-130	1.37	20	
Chlorodibromomethane	9.29	0.50	µg/L	10.0		92.9	70-130	0.644	20	
Chloroethane	8.64	2.0	µg/L	10.0		86.4	70-130	16.0	20	
Chloroform	9.42	2.0	µg/L	10.0		94.2	70-130	0.740	20	
Chloromethane	5.75	2.0	µg/L	10.0		57.5	40-160	7.58	20	L-14 †
2-Chlorotoluene	9.35	1.0	µg/L	10.0		93.5	70-130	0.107	20	
4-Chlorotoluene	9.39	1.0	µg/L	10.0		93.9	70-130	3.56	20	
1,2-Dibromo-3-chloropropane (DBCP)	11.0	2.0	µg/L	10.0		110	70-130	3.98	20	
1,2-Dibromoethane (EDB)	9.83	0.50	µg/L	10.0		98.3	70-130	0.715	20	
Dibromomethane	10.4	1.0	µg/L	10.0		104	70-130	1.72	20	
1,2-Dichlorobenzene	10.0	1.0	µg/L	10.0		100	70-130	1.98	20	
1,3-Dichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130	0.593	20	
1,4-Dichlorobenzene	9.90	1.0	µg/L	10.0		99.0	70-130	1.12	20	
Dichlorodifluoromethane (Freon 12)	4.00	2.0	µg/L	10.0		40.0	40-160	1.73	20	L-14 †
1,1-Dichloroethane	10.1	1.0	µg/L	10.0		101	70-130	0.789	20	
1,2-Dichloroethane	9.60	1.0	µg/L	10.0		96.0	70-130	0.942	20	
1,1-Dichloroethylene	9.91	1.0	µg/L	10.0		99.1	70-130	2.39	20	
cis-1,2-Dichloroethylene	9.79	1.0	µg/L	10.0		97.9	70-130	0.307	20	
trans-1,2-Dichloroethylene	10.5	1.0	µg/L	10.0		105	70-130	1.89	20	
1,2-Dichloropropane	9.85	1.0	µg/L	10.0		98.5	70-130	0.611	20	
1,3-Dichloropropane	9.99	0.50	µg/L	10.0		99.9	70-130	1.39	20	
2,2-Dichloropropane	9.48	1.0	µg/L	10.0		94.8	70-130	5.74	20	
1,1-Dichloropropene	10.6	0.50	µg/L	10.0		106	70-130	2.98	20	
cis-1,3-Dichloropropene	9.36	0.40	µg/L	10.0		93.6	70-130	0.639	20	
trans-1,3-Dichloropropene	11.0	0.40	µg/L	10.0		110	70-130	0.727	20	
Diethyl Ether	11.1	2.0	µg/L	10.0		111	70-130	3.62	20	
Diisopropyl Ether (DIPE)	9.87	0.50	µg/L	10.0		98.7	70-130	1.41	20	
1,4-Dioxane	92.0	50	µg/L	100		92.0	40-160	1.49	20	V-16 †
Ethylbenzene	9.49	1.0	µg/L	10.0		94.9	70-130	0.839	20	
Hexachlorobutadiene	9.96	0.50	µg/L	10.0		99.6	70-130	1.89	20	
2-Hexanone (MBK)	115	10	µg/L	100		115	40-160	1.11	20	†
Isopropylbenzene (Cumene)	9.11	1.0	µg/L	10.0		91.1	70-130	2.28	20	
p-Isopropyltoluene (p-Cymene)	10.3	1.0	µg/L	10.0		103	70-130	1.54	20	
Methyl tert-Butyl Ether (MTBE)	11.2	1.0	µg/L	10.0		112	70-130	3.67	20	
Methylene Chloride	10.5	5.0	µg/L	10.0		105	70-130	5.56	20	
4-Methyl-2-pentanone (MIBK)	109	10	µg/L	100		109	40-160	2.80	20	†
Naphthalene	13.9	2.0	µg/L	10.0		139 *	70-130	3.29	20	L-02

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QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115615 - SW-846 5030B										
LCS Dup (B115615-BSD1)				Prepared & Analyzed: 02/19/15						
n-Propylbenzene	9.89	1.0	µg/L	10.0		98.9	70-130	2.00	20	
Styrene	10.0	1.0	µg/L	10.0		100	70-130	1.09	20	
1,1,1,2-Tetrachloroethane	9.72	1.0	µg/L	10.0		97.2	70-130	0.922	20	
1,1,2,2-Tetrachloroethane	11.1	0.50	µg/L	10.0		111	70-130	0.634	20	
Tetrachloroethylene	9.51	1.0	µg/L	10.0		95.1	70-130	2.80	20	
Tetrahydrofuran	12.0	2.0	µg/L	10.0		120	70-130	0.250	20	
Toluene	9.43	1.0	µg/L	10.0		94.3	70-130	0.318	20	
1,2,3-Trichlorobenzene	11.8	2.0	µg/L	10.0		118	70-130	1.93	20	
1,2,4-Trichlorobenzene	11.5	1.0	µg/L	10.0		115	70-130	0.0869	20	
1,1,1-Trichloroethane	10.0	1.0	µg/L	10.0		100	70-130	0.200	20	
1,1,2-Trichloroethane	9.86	1.0	µg/L	10.0		98.6	70-130	1.31	20	
Trichloroethylene	9.25	1.0	µg/L	10.0		92.5	70-130	2.35	20	
Trichlorofluoromethane (Freon 11)	9.03	2.0	µg/L	10.0		90.3	70-130	5.81	20	
1,2,3-Trichloropropane	11.2	2.0	µg/L	10.0		112	70-130	4.20	20	
1,2,4-Trimethylbenzene	10.3	1.0	µg/L	10.0		103	70-130	0.867	20	
1,3,5-Trimethylbenzene	9.71	1.0	µg/L	10.0		97.1	70-130	0.616	20	
Vinyl Chloride	6.94	2.0	µg/L	10.0		69.4 *	70-130	0.861	20	L-07
m+p Xylene	18.7	2.0	µg/L	20.0		93.7	70-130	0.373	20	
o-Xylene	9.29	1.0	µg/L	10.0		92.9	70-130	1.81	20	
Surrogate: 1,2-Dichloroethane-d4	27.5		µg/L	25.0		110	70-130			
Surrogate: Toluene-d8	24.6		µg/L	25.0		98.3	70-130			
Surrogate: 4-Bromofluorobenzene	24.6		µg/L	25.0		98.3	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115747 - SW-846 3510C										
Blank (B115747-BLK1)				Prepared: 02/21/15 Analyzed: 02/23/15						
Acenaphthene	ND	5.0	µg/L							
Acenaphthylene	ND	5.0	µg/L							
Acetophenone	ND	10	µg/L							
Aniline	ND	5.0	µg/L							
Anthracene	ND	5.0	µg/L							
Benzo(a)anthracene	ND	5.0	µg/L							
Benzo(a)pyrene	ND	5.0	µg/L							
Benzo(b)fluoranthene	ND	5.0	µg/L							
Benzo(g,h,i)perylene	ND	5.0	µg/L							
Benzo(k)fluoranthene	ND	5.0	µg/L							
Bis(2-chloroethoxy)methane	ND	10	µg/L							
Bis(2-chloroethyl)ether	ND	10	µg/L							
Bis(2-chloroisopropyl)ether	ND	10	µg/L							
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L							
4-Bromophenylphenylether	ND	10	µg/L							
Butylbenzylphthalate	ND	10	µg/L							
4-Chloroaniline	ND	10	µg/L							
2-Chloronaphthalene	ND	10	µg/L							
2-Chlorophenol	ND	10	µg/L							
Chrysene	ND	5.0	µg/L							
Dibenz(a,h)anthracene	ND	5.0	µg/L							
Dibenzofuran	ND	5.0	µg/L							
Di-n-butylphthalate	ND	10	µg/L							
1,2-Dichlorobenzene	ND	5.0	µg/L							
1,3-Dichlorobenzene	ND	5.0	µg/L							
1,4-Dichlorobenzene	ND	5.0	µg/L							
3,3-Dichlorobenzidine	ND	10	µg/L							
2,4-Dichlorophenol	ND	10	µg/L							
Diethylphthalate	ND	10	µg/L							
2,4-Dimethylphenol	ND	10	µg/L							
Dimethylphthalate	ND	10	µg/L							
2,4-Dinitrophenol	ND	10	µg/L							V-04
2,4-Dinitrotoluene	ND	10	µg/L							
2,6-Dinitrotoluene	ND	10	µg/L							
Di-n-octylphthalate	ND	10	µg/L							V-20
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L							
Fluoranthene	ND	5.0	µg/L							
Fluorene	ND	5.0	µg/L							
Hexachlorobenzene	ND	10	µg/L							
Hexachlorobutadiene	ND	10	µg/L							
Hexachloroethane	ND	10	µg/L							
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L							
Isophorone	ND	10	µg/L							
2-Methylnaphthalene	ND	5.0	µg/L							
2-Methylphenol	ND	10	µg/L							
3/4-Methylphenol	ND	10	µg/L							
Naphthalene	ND	5.0	µg/L							
Nitrobenzene	ND	10	µg/L							
2-Nitrophenol	ND	10	µg/L							
4-Nitrophenol	ND	10	µg/L							
Pentachlorophenol	ND	10	µg/L							
Phenanthrene	ND	5.0	µg/L							

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QUALITY CONTROL
Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115747 - SW-846 3510C										
Blank (B115747-BLK1)				Prepared: 02/21/15 Analyzed: 02/23/15						
Phenol	ND	10	µg/L							
Pyrene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	5.0	µg/L							
2,4,5-Trichlorophenol	ND	10	µg/L							
2,4,6-Trichlorophenol	ND	10	µg/L							
Surrogate: 2-Fluorophenol	89.3		µg/L	200		44.7	15-110			
Surrogate: Phenol-d6	58.8		µg/L	200		29.4	15-110			
Surrogate: Nitrobenzene-d5	91.6		µg/L	100		91.6	30-130			
Surrogate: 2-Fluorobiphenyl	89.2		µg/L	100		89.2	30-130			
Surrogate: 2,4,6-Tribromophenol	197		µg/L	200		98.5	15-110			
Surrogate: p-Terphenyl-d14	102		µg/L	100		102	30-130			
LCS (B115747-BS1)				Prepared: 02/21/15 Analyzed: 02/23/15						
Acenaphthene	46.0	5.0	µg/L	50.0		92.0	40-140			
Acenaphthylene	44.5	5.0	µg/L	50.0		89.1	40-140			
Acetophenone	47.2	10	µg/L	50.0		94.3	40-140			
Aniline	24.1	5.0	µg/L	50.0		48.3	40-140			
Anthracene	47.2	5.0	µg/L	50.0		94.5	40-140			
Benzo(a)anthracene	47.4	5.0	µg/L	50.0		94.8	40-140			
Benzo(a)pyrene	48.8	5.0	µg/L	50.0		97.5	40-140			
Benzo(b)fluoranthene	48.9	5.0	µg/L	50.0		97.8	40-140			
Benzo(g,h,i)perylene	46.2	5.0	µg/L	50.0		92.3	40-140			
Benzo(k)fluoranthene	47.8	5.0	µg/L	50.0		95.5	40-140			
Bis(2-chloroethoxy)methane	48.8	10	µg/L	50.0		97.5	40-140			
Bis(2-chloroethyl)ether	46.4	10	µg/L	50.0		92.8	40-140			
Bis(2-chloroisopropyl)ether	47.4	10	µg/L	50.0		94.8	40-140			
Bis(2-Ethylhexyl)phthalate	59.4	10	µg/L	50.0		119	40-140			
4-Bromophenylphenylether	48.1	10	µg/L	50.0		96.2	40-140			
Butylbenzylphthalate	58.4	10	µg/L	50.0		117	40-140			
4-Chloroaniline	24.1	10	µg/L	50.0		48.1	15-140			†
2-Chloronaphthalene	40.5	10	µg/L	50.0		81.0	40-140			
2-Chlorophenol	39.5	10	µg/L	50.0		79.0	30-130			
Chrysene	47.4	5.0	µg/L	50.0		94.9	40-140			
Dibenz(a,h)anthracene	46.3	5.0	µg/L	50.0		92.6	40-140			
Dibenzofuran	44.1	5.0	µg/L	50.0		88.1	40-140			
Di-n-butylphthalate	55.7	10	µg/L	50.0		111	40-140			
1,2-Dichlorobenzene	41.0	5.0	µg/L	50.0		82.0	40-140			
1,3-Dichlorobenzene	40.5	5.0	µg/L	50.0		81.1	40-140			
1,4-Dichlorobenzene	40.4	5.0	µg/L	50.0		80.8	40-140			
3,3-Dichlorobenzidine	44.4	10	µg/L	50.0		88.9	40-140			
2,4-Dichlorophenol	41.1	10	µg/L	50.0		82.2	30-130			
Diethylphthalate	52.1	10	µg/L	50.0		104	40-140			
2,4-Dimethylphenol	41.9	10	µg/L	50.0		83.7	30-130			
Dimethylphthalate	48.4	10	µg/L	50.0		96.9	40-140			
2,4-Dinitrophenol	57.3	10	µg/L	50.0		115	15-140			V-04 †
2,4-Dinitrotoluene	46.3	10	µg/L	50.0		92.5	40-140			
2,6-Dinitrotoluene	50.3	10	µg/L	50.0		101	40-140			
Di-n-octylphthalate	64.1	10	µg/L	50.0		128	40-140			V-06
1,2-Diphenylhydrazine (as Azobenzene)	50.5	10	µg/L	50.0		101	40-140			
Fluoranthene	48.7	5.0	µg/L	50.0		97.3	40-140			
Fluorene	45.9	5.0	µg/L	50.0		91.7	40-140			
Hexachlorobenzene	47.8	10	µg/L	50.0		95.6	40-140			

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QUALITY CONTROL
Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115747 - SW-846 3510C										
LCS (B115747-BS1)										
Prepared: 02/21/15 Analyzed: 02/23/15										
Hexachlorobutadiene	42.2	10	µg/L	50.0		84.4	40-140			
Hexachloroethane	44.2	10	µg/L	50.0		88.4	40-140			
Indeno(1,2,3-cd)pyrene	50.0	5.0	µg/L	50.0		99.9	40-140			
Isophorone	49.4	10	µg/L	50.0		98.9	40-140			
2-Methylnaphthalene	43.1	5.0	µg/L	50.0		86.3	40-140			
2-Methylphenol	33.9	10	µg/L	50.0		67.9	30-130			
3/4-Methylphenol	31.1	10	µg/L	50.0		62.2	30-130			
Naphthalene	42.8	5.0	µg/L	50.0		85.6	40-140			
Nitrobenzene	44.9	10	µg/L	50.0		89.7	40-140			
2-Nitrophenol	45.2	10	µg/L	50.0		90.3	30-130			
4-Nitrophenol	20.1	10	µg/L	50.0		40.3	15-140			†
Pentachlorophenol	49.1	10	µg/L	50.0		98.2	30-130			
Phenanthrene	45.9	5.0	µg/L	50.0		91.9	40-140			
Phenol	14.4	10	µg/L	50.0		28.7	15-140			†
Pyrene	48.6	5.0	µg/L	50.0		97.3	40-140			
1,2,4-Trichlorobenzene	42.3	5.0	µg/L	50.0		84.6	40-140			
2,4,5-Trichlorophenol	46.8	10	µg/L	50.0		93.5	30-130			
2,4,6-Trichlorophenol	44.5	10	µg/L	50.0		89.1	30-130			
Surrogate: 2-Fluorophenol	86.7		µg/L	200		43.4	15-110			
Surrogate: Phenol-d6	57.9		µg/L	200		28.9	15-110			
Surrogate: Nitrobenzene-d5	89.1		µg/L	100		89.1	30-130			
Surrogate: 2-Fluorobiphenyl	92.6		µg/L	100		92.6	30-130			
Surrogate: 2,4,6-Tribromophenol	210		µg/L	200		105	15-110			
Surrogate: p-Terphenyl-d14	110		µg/L	100		110	30-130			
LCS Dup (B115747-BS1)										
Prepared: 02/21/15 Analyzed: 02/23/15										
Acenaphthene	46.1	5.0	µg/L	50.0		92.2	40-140	0.304	20	
Acenaphthylene	45.1	5.0	µg/L	50.0		90.2	40-140	1.27	20	
Acetophenone	47.0	10	µg/L	50.0		94.0	40-140	0.297	20	
Aniline	25.3	5.0	µg/L	50.0		50.6	40-140	4.69	20	
Anthracene	44.8	5.0	µg/L	50.0		89.5	40-140	5.39	20	
Benzo(a)anthracene	45.6	5.0	µg/L	50.0		91.1	40-140	3.98	20	
Benzo(a)pyrene	45.9	5.0	µg/L	50.0		91.9	40-140	5.98	20	
Benzo(b)fluoranthene	44.6	5.0	µg/L	50.0		89.2	40-140	9.13	20	
Benzo(g,h,i)perylene	45.9	5.0	µg/L	50.0		91.8	40-140	0.630	20	
Benzo(k)fluoranthene	44.1	5.0	µg/L	50.0		88.2	40-140	7.95	20	
Bis(2-chloroethoxy)methane	49.2	10	µg/L	50.0		98.4	40-140	0.878	20	
Bis(2-chloroethyl)ether	47.6	10	µg/L	50.0		95.1	40-140	2.45	20	
Bis(2-chloroisopropyl)ether	48.6	10	µg/L	50.0		97.3	40-140	2.58	20	
Bis(2-Ethylhexyl)phthalate	61.0	10	µg/L	50.0		122	40-140	2.56	20	
4-Bromophenylphenylether	48.1	10	µg/L	50.0		96.2	40-140	0.0416	20	
Butylbenzylphthalate	57.0	10	µg/L	50.0		114	40-140	2.50	20	
4-Chloroaniline	27.8	10	µg/L	50.0		55.7	15-140	14.6	20	†
2-Chloronaphthalene	42.6	10	µg/L	50.0		85.2	40-140	5.08	20	
2-Chlorophenol	39.4	10	µg/L	50.0		78.7	30-130	0.330	20	
Chrysene	46.8	5.0	µg/L	50.0		93.6	40-140	1.38	20	
Dibenz(a,h)anthracene	48.0	5.0	µg/L	50.0		96.0	40-140	3.63	20	
Dibenzofuran	44.6	5.0	µg/L	50.0		89.2	40-140	1.26	20	
Di-n-butylphthalate	52.3	10	µg/L	50.0		105	40-140	6.41	20	
1,2-Dichlorobenzene	41.4	5.0	µg/L	50.0		82.8	40-140	0.923	20	
1,3-Dichlorobenzene	40.7	5.0	µg/L	50.0		81.3	40-140	0.320	20	
1,4-Dichlorobenzene	41.5	5.0	µg/L	50.0		83.0	40-140	2.66	20	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115747 - SW-846 3510C										
LCS Dup (B115747-BSD1)				Prepared: 02/21/15 Analyzed: 02/23/15						
3,3-Dichlorobenzidine	45.6	10	µg/L	50.0		91.1	40-140	2.51	20	
2,4-Dichlorophenol	41.4	10	µg/L	50.0		82.9	30-130	0.775	20	
Diethylphthalate	49.9	10	µg/L	50.0		99.8	40-140	4.27	20	
2,4-Dimethylphenol	41.8	10	µg/L	50.0		83.5	30-130	0.263	20	
Dimethylphthalate	47.1	10	µg/L	50.0		94.2	40-140	2.80	20	
2,4-Dinitrophenol	50.1	10	µg/L	50.0		100	15-140	13.3	20	V-04 †
2,4-Dinitrotoluene	45.7	10	µg/L	50.0		91.4	40-140	1.26	20	
2,6-Dinitrotoluene	48.2	10	µg/L	50.0		96.4	40-140	4.24	20	
Di-n-octylphthalate	60.0	10	µg/L	50.0		120	40-140	6.51	20	V-06
1,2-Diphenylhydrazine (as Azobenzene)	51.0	10	µg/L	50.0		102	40-140	0.966	20	
Fluoranthene	44.4	5.0	µg/L	50.0		88.7	40-140	9.27	20	
Fluorene	45.7	5.0	µg/L	50.0		91.4	40-140	0.371	20	
Hexachlorobenzene	46.2	10	µg/L	50.0		92.3	40-140	3.53	20	
Hexachlorobutadiene	43.3	10	µg/L	50.0		86.7	40-140	2.71	20	
Hexachloroethane	45.1	10	µg/L	50.0		90.3	40-140	2.08	20	
Indeno(1,2,3-cd)pyrene	49.6	5.0	µg/L	50.0		99.2	40-140	0.703	20	
Isophorone	50.1	10	µg/L	50.0		100	40-140	1.39	20	
2-Methylnaphthalene	43.1	5.0	µg/L	50.0		86.2	40-140	0.0928	20	
2-Methylphenol	33.4	10	µg/L	50.0		66.9	30-130	1.45	20	
3/4-Methylphenol	30.9	10	µg/L	50.0		61.9	30-130	0.451	20	
Naphthalene	42.8	5.0	µg/L	50.0		85.7	40-140	0.0934	20	
Nitrobenzene	45.3	10	µg/L	50.0		90.6	40-140	0.954	20	
2-Nitrophenol	45.9	10	µg/L	50.0		91.7	30-130	1.56	20	
4-Nitrophenol	17.3	10	µg/L	50.0		34.6	15-140	15.2	20	†
Pentachlorophenol	43.8	10	µg/L	50.0		87.5	30-130	11.5	20	
Phenanthrene	44.1	5.0	µg/L	50.0		88.1	40-140	4.18	20	
Phenol	14.0	10	µg/L	50.0		27.9	15-140	2.68	20	†
Pyrene	46.8	5.0	µg/L	50.0		93.7	40-140	3.77	20	
1,2,4-Trichlorobenzene	43.1	5.0	µg/L	50.0		86.2	40-140	1.90	20	
2,4,5-Trichlorophenol	46.0	10	µg/L	50.0		91.9	30-130	1.70	20	
2,4,6-Trichlorophenol	46.3	10	µg/L	50.0		92.6	30-130	3.85	20	
Surrogate: 2-Fluorophenol	86.0		µg/L	200		43.0	15-110			
Surrogate: Phenol-d6	56.3		µg/L	200		28.2	15-110			
Surrogate: Nitrobenzene-d5	90.2		µg/L	100		90.2	30-130			
Surrogate: 2-Fluorobiphenyl	91.8		µg/L	100		91.8	30-130			
Surrogate: 2,4,6-Tribromophenol	193		µg/L	200		96.7	15-110			
Surrogate: p-Terphenyl-d14	102		µg/L	100		102	30-130			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B115638 - SW-846 3510C

Blank (B115638-BLK1)

Prepared: 02/19/15 Analyzed: 02/20/15

TPH (C9-C36)	ND	0.20	mg/L							
Surrogate: o-Terphenyl	0.0879		mg/L	0.100		87.9	40-140			

LCS (B115638-BS1)

Prepared: 02/19/15 Analyzed: 02/20/15

TPH (C9-C36)	0.781	0.20	mg/L	1.00		78.1	40-140			
Surrogate: o-Terphenyl	0.0887		mg/L	0.100		88.7	40-140			

LCS Dup (B115638-BSD1)

Prepared: 02/19/15 Analyzed: 02/20/15

TPH (C9-C36)	0.833	0.20	mg/L	1.00		83.3	40-140	6.39	30	
Surrogate: o-Terphenyl	0.0923		mg/L	0.100		92.3	40-140			

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QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115605 - SW-846 7470A Prep										
Blank (B115605-BLK1)				Prepared & Analyzed: 02/19/15						
Mercury	ND	0.00010	mg/L							
LCS (B115605-BS1)				Prepared & Analyzed: 02/19/15						
Mercury	0.00196	0.00010	mg/L	0.00200		97.8	80-120			
LCS Dup (B115605-BSD1)				Prepared & Analyzed: 02/19/15						
Mercury	0.00210	0.00010	mg/L	0.00200		105	80-120	7.28	20	
Duplicate (B115605-DUP1)				Source: 15B0577-01			Prepared & Analyzed: 02/19/15			
Mercury	ND	0.00010	mg/L		ND			NC	20	
Matrix Spike (B115605-MS1)				Source: 15B0577-01			Prepared & Analyzed: 02/19/15			
Mercury	0.00157	0.00010	mg/L	0.00200	ND	78.5	75-125			
Batch B115625 - SW-846 3005A										
Blank (B115625-BLK1)				Prepared: 02/19/15 Analyzed: 02/20/15						
Iron	ND	0.050	mg/L							
LCS (B115625-BS1)				Prepared: 02/19/15 Analyzed: 02/20/15						
Iron	2.04	0.050	mg/L	2.00		102	80-120			
LCS Dup (B115625-BSD1)				Prepared: 02/19/15 Analyzed: 02/20/15						
Iron	2.10	0.050	mg/L	2.00		105	80-120	2.86	20	
Batch B115636 - SW-846 3005A										
Blank (B115636-BLK1)				Prepared: 02/19/15 Analyzed: 02/20/15						
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.40	µg/L							
Cadmium	ND	0.50	µg/L							
Chromium	ND	1.0	µg/L							
Copper	ND	5.0	µg/L							
Lead	ND	1.0	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.50	µg/L							
Zinc	ND	10	µg/L							
LCS (B115636-BS1)				Prepared: 02/19/15 Analyzed: 02/20/15						
Antimony	255	5.0	µg/L	250		102	80-120			
Arsenic	252	2.0	µg/L	250		101	80-120			
Cadmium	255	2.5	µg/L	250		102	80-120			
Chromium	252	5.0	µg/L	250		101	80-120			
Copper	257	25	µg/L	250		103	80-120			
Lead	258	5.0	µg/L	250		103	80-120			
Nickel	249	25	µg/L	250		99.7	80-120			
Selenium	248	25	µg/L	250		99.0	80-120			
Silver	259	2.5	µg/L	250		104	80-120			
Zinc	256	50	µg/L	250		102	80-120			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B115636 - SW-846 3005A

LCS Dup (B115636-BSD1)

Prepared: 02/19/15 Analyzed: 02/20/15

Antimony	261	5.0	µg/L	250		104	80-120	2.37	20	
Arsenic	253	2.0	µg/L	250		101	80-120	0.401	20	
Cadmium	261	2.5	µg/L	250		104	80-120	2.35	20	
Chromium	249	5.0	µg/L	250		99.7	80-120	1.14	20	
Copper	254	25	µg/L	250		102	80-120	1.16	20	
Lead	263	5.0	µg/L	250		105	80-120	1.82	20	
Nickel	252	25	µg/L	250		101	80-120	1.26	20	
Selenium	254	25	µg/L	250		102	80-120	2.72	20	
Silver	266	2.5	µg/L	250		107	80-120	2.67	20	
Zinc	260	50	µg/L	250		104	80-120	1.63	20	

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115554 - SM21-22 4500 CL G										
Blank (B115554-BLK1)				Prepared & Analyzed: 02/18/15						
Chlorine, Residual	ND	0.020	mg/L							
LCS (B115554-BS1)				Prepared & Analyzed: 02/18/15						
Chlorine, Residual	1.5	0.020	mg/L	1.25		118	81.9-127			
LCS Dup (B115554-BSD1)				Prepared & Analyzed: 02/18/15						
Chlorine, Residual	1.5	0.020	mg/L	1.25		119	81.9-127	0.886	9.61	
Reference (B115554-SRM1)				Prepared & Analyzed: 02/18/15						
Chlorine, Residual	1.14	0.020	mg/L	1.00		114	0-200			
Batch B115560 - SM21-22 3500 Cr B										
Blank (B115560-BLK1)				Prepared & Analyzed: 02/18/15						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B115560-BS1)				Prepared & Analyzed: 02/18/15						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		102	92.1-114			
LCS Dup (B115560-BSD1)				Prepared & Analyzed: 02/18/15						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		105	92.1-114	2.49	8.55	
Duplicate (B115560-DUP1)				Prepared & Analyzed: 02/18/15						
Hexavalent Chromium	ND	0.0040	mg/L		ND			NC	20	
Matrix Spike (B115560-MS1)				Prepared & Analyzed: 02/18/15						
Hexavalent Chromium	0.0032	0.0040	mg/L	0.100	ND	3.16	* 17.2-160			MS-07A
Matrix Spike Dup (B115560-MSD1)				Prepared & Analyzed: 02/18/15						
Hexavalent Chromium	0.0032	0.0040	mg/L	0.100	ND	3.16	* 17.2-160	0.00	18.2	MS-07A
Reference (B115560-SRM1)				Prepared & Analyzed: 02/18/15						
Hexavalent Chromium	0.109	0.0040	mg/L	0.100		109	0-200			
Batch B115579 - SM21-22 4500 H B										
LCS (B115579-BS1)				Prepared & Analyzed: 02/19/15						
pH	5.99		pH Units	6.00		99.8	98.5-102			
Batch B115582 - SM21-22 2540D										
Blank (B115582-BLK1)				Prepared & Analyzed: 02/19/15						
Total Suspended Solids	ND	2.5	mg/L							

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B115582 - SM21-22 2540D										
LCS (B115582-BS1)				Prepared & Analyzed: 02/19/15						
Total Suspended Solids	170	10	mg/L	200		85.0	74.6-112			
Duplicate (B115582-DUP1)				Source: 15B0577-01 Prepared & Analyzed: 02/19/15						
Total Suspended Solids	20	5.0	mg/L		20			0.00	5	
Batch B115746 - SM21-22 4500 CL B										
Blank (B115746-BLK1)				Prepared & Analyzed: 02/20/15						
Chloride	ND	1.0	mg/L							
LCS (B115746-BS1)				Prepared & Analyzed: 02/20/15						
Chloride	13	1.0	mg/L	11.8		107	81.5-116			
LCS Dup (B115746-BSD1)				Prepared & Analyzed: 02/20/15						
Chloride	12	1.0	mg/L	11.8		103	81.5-116	3.96	8.97	
Batch B115853 - EPA 1664B										
Blank (B115853-BLK1)				Prepared & Analyzed: 02/24/15						
Oil & Grease (HEM)	ND	1.4	mg/L							
LCS (B115853-BS1)				Prepared & Analyzed: 02/24/15						
Oil & Grease (HEM)	35		mg/L	40.0		86.8	78-114			
Batch B115866 - SW-846 9014										
Blank (B115866-BLK1)				Prepared & Analyzed: 02/24/15						
Cyanide	ND	0.010	mg/L							
LCS (B115866-BS1)				Prepared & Analyzed: 02/24/15						
Cyanide	0.57	0.010	mg/L	0.608		94.0	80-120			
LCS Dup (B115866-BSD1)				Prepared & Analyzed: 02/24/15						
Cyanide	0.58	0.010	mg/L	0.608		96.1	80-120	2.17	20	
Matrix Spike (B115866-MS1)				Source: 15B0577-02 Prepared & Analyzed: 02/24/15						
Cyanide	0.37	0.010	mg/L	0.342	ND	107	75-125			
Matrix Spike Dup (B115866-MSD1)				Source: 15B0577-02 Prepared & Analyzed: 02/24/15						
Cyanide	0.35	0.010	mg/L	0.342	ND	103	75-125	4.46	20	

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
MS-07A	Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.
RL-07	Elevated reporting limit based on lowest point in calibration.
	MA CAM reporting limit not met.
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 1664B in Water</i>	
Oil & Grease (HEM)	CT,MA,NH,NY,RI,NC,ME,VA,NJ
<i>SM21-22 2540D in Water</i>	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA,NJ
<i>SM21-22 3500 Cr B in Water</i>	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NJ,NC
<i>SM21-22 4500 CL B in Water</i>	
Chloride	NH,CT,MA,NY,RI,NC,ME,VA,NJ
<i>SM21-22 4500 CL G in Water</i>	
Chlorine, Residual	CT,MA,RI,ME
<i>SM21-22 4500 H B in Water</i>	
pH	CT,MA,RI
<i>SW-846 6010C in Water</i>	
Iron	CT,NH,NY,ME,NC,VA,NJ
<i>SW-846 6020A in Water</i>	
Antimony	CT,NH,NY,NC,ME,VA,NJ
Arsenic	CT,NH,NY,NC,ME,VA,NJ
Cadmium	CT,NH,NY,RI,NC,ME,VA,NJ
Chromium	CT,NH,NY,NC,ME,VA,NJ
Copper	CT,NH,NY,NC,ME,VA,NJ
Lead	CT,NH,NY,NC,ME,VA,NJ
Nickel	CT,NH,NY,NC,ME,VA,NJ
Selenium	CT,NH,NY,NC,ME,VA,NJ
Silver	CT,NH,NY,NC,ME,VA,NJ
Zinc	CT,NH,NY,NC,ME,VA,NJ
<i>SW-846 7470A in Water</i>	
Mercury	CT,NH,NY,NC,ME,VA,NJ
<i>SW-846 8260C in Water</i>	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
SW-846 8270D in Water	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Aniline	CT,NY
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	CT,NY,NH
1,3-Dichlorobenzene	CT,NY,NH
1,4-Dichlorobenzene	CT,NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Water	
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

SW-846 9014 in Water

Cyanide NY,CT,NH,NC,ME,VA,NJ

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015



con-test
ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name: Weston & Sampson

Telephone: 800 SAMPSON

Address: 5 Centennial Drive

Project # 2140547

Peabody, MA 01960

Client PO# 20141204

Attention: Todd Bridgeo

DATA DELIVERY (check all that apply)

☐ FAX ☒ EMAIL ☒ WEBSITE

Project Location: Green Line Extension

Fax # 978-214-5577

Sampled By: SMS

Email: bridgeot@wseinc.com

Project Proposal Provided? (for billing purposes)

☐ yes ☐ no proposal date

Format: ☒ PDF ☒ EXCEL ☐ OGIS

☒ OTHER Special data package for this project.

☐ "Enhanced Data Package"

*Matrix Code

Grab

Composite

Collection

Beginning Date/Time

Ending Date/Time

Matrix Code

Conc Code

Client Sample ID / Description

01 KE20ZWS D

2/18/15 11:00

02 KE20ZWS S

2/18/15 12:00

Signature: [Signature]

Date/Time: 2/18/15 13:00

Signature: [Signature]

Date/Time: 2/18/15 13:00

Signature: [Signature]

Date/Time: 2/18/15 16:00

Signature: [Signature]

Date/Time: 2/18/15 16:00

Signature: [Signature]

Date/Time: 2/18/15 16:00

Signature: [Signature]

Date/Time: 2/18/15 16:00

Signature: [Signature]

Date/Time: 2/18/15 16:00

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East Longmeadow, MA. 01028
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Page 1 of 2

Sample Receipt Checklist

CLIENT NAME: Weston and Sampson RECEIVED BY: JDL DATE: 2/18/15

1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included

2) Does the chain agree with the samples? Yes No

If not, explain:

3) Are all the samples in good condition? Yes No

If not, explain:

4) How were the samples received:

On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.6

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified David Date 2/18/15 Time 1600

7) Location where samples are stored:

19

Permission to subcontract samples? Yes No

(Walk-in clients only) if not already approved

Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	<u>12</u>	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic	<u>2</u>	Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	<u>6</u>	Non-ConTest Container	
40 mL Vial - type listed below	<u>6</u>	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl 6 # Methanol _____

Doc# 277 # Bisulfate _____ # DI Water _____

Rev. 4 August 2013 # Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Login Sample Receipt Checklist
(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False)		Comment
	T/F/NA		
1) The cooler's custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	T		
4) Cooler Temperature is acceptable.	T		
5) Cooler Temperature is recorded.	T		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) There are no discrepancies between the sample IDs on the container and the COC.	T		
10) Samples are received within Holding Time.	T		
11) Sample containers have legible labels.	T		
12) Containers are not broken or leaking.	T		
13) Air Cassettes are not broken/open.	NA		
14) Sample collection date/times are provided.	T		
15) Appropriate sample containers are used.	T		
16) Proper collection media used.	T		
17) No headspace sample bottles are completely filled.	T		
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
19) Trip blanks provided if applicable.	NA		
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T		
21) Samples do not require splitting or compositing.	T		

Doc #277 Rev. 4 August 2013

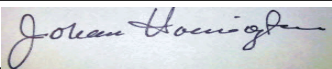
Who notified of False statements?

Log-In Technician Initials: JDL

Date/Time:

Date/Time: 2/18/15 1600

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 15B0577				
Project Location: Green Line Extension	RTN:				
This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)] 15B0577-01 thru 15B0577-02					
Matrices: Water					
CAM Protocol (check all that below)					
8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B (X)	7010 Metals CAM III C ()	MassDEP EPH CAM IV A ()	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D (X)	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A (X)	6860 Perchlorate CAM VIII B ()	
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 ☐ No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				☒ Yes ☐ No ¹
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 ☐ No ¹
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 ☐ No ¹
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).				☐ Yes ☐ No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?				☐ Yes ☐ No ¹
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 ☐ No ¹
A response to questions G, H and I below 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 ☒ No ¹
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				☐ Yes ☒ No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				☐ Yes ☒ No ¹
¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature: 		Position: Manager, Laboratory Reporting			
Printed Name: Johanna K. Harrington		Date: 02/25/15			

March 3, 2015

Ross Hartman
JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590

Project Location: Green Line Extension
Client Job Number:
Project Number: 2140547
Laboratory Work Order Number: 15B0813

Enclosed are results of analyses for samples received by the laboratory on February 25, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Meghan E. Kelley". The signature is written in a cursive, flowing style.

Meghan E. Kelley
Project Manager

Table of Contents

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JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590
ATTN: Ross Hartman

REPORT DATE: 3/3/2015

PURCHASE ORDER NUMBER: 20141204

PROJECT NUMBER: 2140547

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15B0813

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Green Line Extension

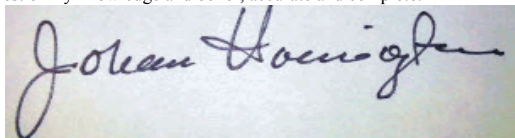
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KE202WSS	15B0813-01	Ground Water		SW-846 8082A	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Johanna Harrington", is written over a light-colored, slightly textured background.

Johanna K. Harrington

Manager, Laboratory Reporting

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15B0813

Date Received: 2/25/2015

Field Sample #: KE202WSS

Sampled: 2/18/2015 12:40

Sample ID: 15B0813-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	2/25/15	2/26/15 22:26	KAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	79.2	30-150							
Decachlorobiphenyl [2]	91.4	30-150							
Tetrachloro-m-xylene [1]	92.9	30-150							
Tetrachloro-m-xylene [2]	102	30-150							

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Sample Extraction Data

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15B0813-01 [KE202WSS]	B115972	1000	10.0	02/25/15

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QUALITY CONTROL
Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B115972 - SW-846 3510C
Blank (B115972-BLK1)

Prepared: 02/25/15 Analyzed: 02/26/15

Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	1.84		µg/L	2.00		92.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.14		µg/L	2.00		107	30-150			
Surrogate: Tetrachloro-m-xylene	1.77		µg/L	2.00		88.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.95		µg/L	2.00		97.7	30-150			

LCS (B115972-BS1)

Prepared: 02/25/15 Analyzed: 02/26/15

Aroclor-1016	0.50	0.20	µg/L	0.500		99.4	40-140			
Aroclor-1016 [2C]	0.57	0.20	µg/L	0.500		113	40-140			
Aroclor-1260	0.52	0.20	µg/L	0.500		103	40-140			
Aroclor-1260 [2C]	0.61	0.20	µg/L	0.500		123	40-140			
Surrogate: Decachlorobiphenyl	1.83		µg/L	2.00		91.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.11		µg/L	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	1.77		µg/L	2.00		88.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.94		µg/L	2.00		97.1	30-150			

LCS Dup (B115972-BSD1)

Prepared: 02/25/15 Analyzed: 02/26/15

Aroclor-1016	0.51	0.20	µg/L	0.500		101	40-140	1.94	20	
Aroclor-1016 [2C]	0.58	0.20	µg/L	0.500		116	40-140	2.19	20	
Aroclor-1260	0.53	0.20	µg/L	0.500		105	40-140	1.73	20	
Aroclor-1260 [2C]	0.63	0.20	µg/L	0.500		125	40-140	2.12	20	
Surrogate: Decachlorobiphenyl	1.83		µg/L	2.00		91.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.11		µg/L	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene	1.79		µg/L	2.00		89.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.96		µg/L	2.00		98.1	30-150			

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B115972-BS1 Date(s) Analyzed: 02/26/2015 02/26/2015

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.50	
	2	0.00	0.00	0.00	0.57	14
Aroclor-1260	1	0.00	0.00	0.00	0.52	
	2	0.00	0.00	0.00	0.61	17

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***SW-846 8082A***LCS Dup**Lab Sample ID: B115972-BSD1 Date(s) Analyzed: 02/26/2015 02/26/2015

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.51	
	2	0.00	0.00	0.00	0.58	13
Aroclor-1260	1	0.00	0.00	0.00	0.53	
	2	0.00	0.00	0.00	0.63	18

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FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
- † Wide recovery limits established for difficult compound.
- ‡ Wide RPD limits established for difficult compound.
- # Data exceeded client recommended or regulatory level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8082A in Water</i>	
Aroclor-1016	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1221	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1232	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1242	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1248	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1254	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1260	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com



Page 1 of 2

Sample Receipt Checklist

CLIENT NAME: Weston and Sampson RECEIVED BY: JDL DATE: 2/18/15

1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included

2) Does the chain agree with the samples?

If not, explain:

3) Are all the samples in good condition?

If not, explain:

4) How were the samples received:

On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.6

5) Are there Dissolved samples for the lab to filter?

Yes No

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples?

Yes No

Who was notified David Date 2/18/15 Time 1600

7) Location where samples are stored:

19

Permission to subcontract samples? Yes No

(Walk-in clients only) if not already approved

Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	<u>12</u>	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic	<u>2</u>	Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	<u>6</u>	Non-ConTest Container	
40 mL Vial - type listed below	<u>6</u>	Perchlorate Kit	
Collsure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl 6 # Methanol _____

Doc# 277 # Bisulfate _____ # DI Water _____

Rev. 4 August 2013 # Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False)		Comment
	T/F/NA		
1) The cooler's custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	T		
4) Cooler Temperature is acceptable.	T		
5) Cooler Temperature is recorded.	T		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) There are no discrepancies between the sample IDs on the container and the COC.	T		
10) Samples are received within Holding Time.	T		
11) Sample containers have legible labels.	T		
12) Containers are not broken or leaking.	T		
13) Air Cassettes are not broken/open.	NA		
14) Sample collection date/times are provided.	T		
15) Appropriate sample containers are used.	T		
16) Proper collection media used.	T		
17) No headspace sample bottles are completely filled.	T		
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
19) Trip blanks provided if applicable.	NA		
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T		
21) Samples do not require splitting or compositing.	T		

Doc #277 Rev. 4 August 2013

Who notified of False statements?

Log-In Technician Initials: JDL

Date/Time:

Date/Time: 2/18/15 1600

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 15B0813
Project Location: Green Line Extension	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
15B0813-01

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A ()	7470/7471 Hg CAM IIIB ()	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	MassDEP EPH CAM IV A ()	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	

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 ☐ No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No ¹
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 ☐ No ¹
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 ☐ No ¹
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).	☐ Yes ☐ No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ¹
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 ☐ No ¹

A response to questions G, H and I below is required for "Presumptive Certainty" status

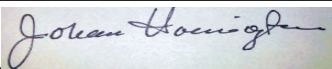
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒ Yes ☐ No ¹
----------	---	--

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☒ Yes ☐ No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No ¹

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: 	Position: Manager, Laboratory Reporting
Printed Name: Johanna K. Harrington	Date: 03/03/15

March 11, 2015

Ross Hartman
JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590

Project Location: Green Line Extension
Client Job Number:
Project Number: 2140547
Laboratory Work Order Number: 15C0183

Enclosed are results of analyses for samples received by the laboratory on March 5, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Meghan E. Kelley". The signature is written in a cursive, flowing style. The first name "Meghan" is written in a larger, more prominent script, followed by "E." and "Kelley". The signature is set against a light gray rectangular background.

Meghan E. Kelley
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

JM Environmental Corporation
362 Putnam Hill Road
Sutton, MA 01590
ATTN: Ross Hartman

REPORT DATE: 3/11/2015

PURCHASE ORDER NUMBER: 20141204

PROJECT NUMBER: 2140547

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15C0183

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Green Line Extension

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KE202WSD	15C0183-01	Ground Water		SW-846 8082A	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

H-10

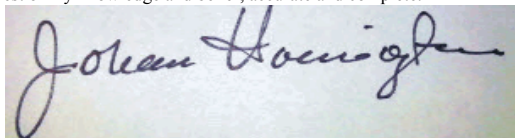
Analysis was requested after the recommended holding time had passed.

Analyte & Samples(s) Qualified:

15C0183-01[KE202WSD]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Johanna Harrington", is written over a light-colored, slightly textured background.

Johanna K. Harrington

Manager, Laboratory Reporting

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Green Line Extension

Sample Description:

Work Order: 15C0183

Date Received: 3/5/2015

Field Sample #: KE202WSD

Sampled: 2/18/2015 11:10

Sample ID: 15C0183-01

Sample Matrix: Ground Water

Sample Flags: H-10

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/6/15	3/9/15 17:05	JMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	97.5	30-150						3/9/15 17:05	
Decachlorobiphenyl [2]	96.8	30-150						3/9/15 17:05	
Tetrachloro-m-xylene [1]	91.4	30-150						3/9/15 17:05	
Tetrachloro-m-xylene [2]	87.3	30-150						3/9/15 17:05	

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Sample Extraction Data

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15C0183-01 [KE202WSD]	B116430	1000	10.0	03/06/15

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B116430 - SW-846 3510C										
Blank (B116430-BLK1)										
Prepared: 03/06/15 Analyzed: 03/09/15										
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	2.54		µg/L	2.00		127	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.49		µg/L	2.00		125	30-150			
Surrogate: Tetrachloro-m-xylene	2.10		µg/L	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	2.00		µg/L	2.00		99.8	30-150			
LCS (B116430-BS1)										
Prepared: 03/06/15 Analyzed: 03/09/15										
Aroclor-1016	0.61	0.20	µg/L	0.500		122	40-140			
Aroclor-1016 [2C]	0.58	0.20	µg/L	0.500		117	40-140			
Aroclor-1260	0.61	0.20	µg/L	0.500		122	40-140			
Aroclor-1260 [2C]	0.60	0.20	µg/L	0.500		120	40-140			
Surrogate: Decachlorobiphenyl	2.52		µg/L	2.00		126	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.48		µg/L	2.00		124	30-150			
Surrogate: Tetrachloro-m-xylene	2.21		µg/L	2.00		110	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	2.09		µg/L	2.00		105	30-150			
LCS Dup (B116430-BSD1)										
Prepared: 03/06/15 Analyzed: 03/09/15										
Aroclor-1016	0.55	0.20	µg/L	0.500		110	40-140	10.6	20	
Aroclor-1016 [2C]	0.54	0.20	µg/L	0.500		109	40-140	7.16	20	
Aroclor-1260	0.57	0.20	µg/L	0.500		115	40-140	6.28	20	
Aroclor-1260 [2C]	0.57	0.20	µg/L	0.500		114	40-140	5.93	20	
Surrogate: Decachlorobiphenyl	2.06		µg/L	2.00		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.03		µg/L	2.00		101	30-150			
Surrogate: Tetrachloro-m-xylene	1.93		µg/L	2.00		96.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.84		µg/L	2.00		92.0	30-150			

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B116430-BS1 Date(s) Analyzed: 03/09/2015 03/09/2015

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.61	
	2	0.00	0.00	0.00	0.58	5
Aroclor-1260	1	0.00	0.00	0.00	0.61	
	2	0.00	0.00	0.00	0.60	2

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B116430-BSD1 Date(s) Analyzed: 03/09/2015 03/09/2015

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.55	
	2	0.00	0.00	0.00	0.54	2
Aroclor-1260	1	0.00	0.00	0.00	0.57	
	2	0.00	0.00	0.00	0.57	1

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-10	Analysis was requested after the recommended holding time had passed.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8082A in Water</i>	
Aroclor-1016	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1221	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1232	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1242	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1248	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1254	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1260	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,NJ
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com



Page 1 of 2

Sample Receipt Checklist

CLIENT NAME: Weston and Sampson RECEIVED BY: JDL DATE: 2/18/15

1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included

2) Does the chain agree with the samples?

If not, explain:

3) Are all the samples in good condition?

If not, explain:

4) How were the samples received:

On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.6

5) Are there Dissolved samples for the lab to filter?

Yes No

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples?

Yes No

Who was notified David Date 2/18/15 Time 1600

7) Location where samples are stored:

19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	<u>12</u>	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic	<u>2</u>	Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	<u>6</u>	Non-ConTest Container	
40 mL Vial - type listed below	<u>6</u>	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl 6 # Methanol _____

Doc# 277 # Bisulfate _____ # DI Water _____

Rev. 4 August 2013 # Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Any False statement will be brought to the attention of Client		Comment
	Answer (True/False)		
	T/F/NA		
1) The cooler's custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	T		
4) Cooler Temperature is acceptable.	T		
5) Cooler Temperature is recorded.	T		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) There are no discrepancies between the sample IDs on the container and the COC.	T		
10) Samples are received within Holding Time.	T		
11) Sample containers have legible labels.	T		
12) Containers are not broken or leaking.	T		
13) Air Cassettes are not broken/open.	NA		
14) Sample collection date/times are provided.	T		
15) Appropriate sample containers are used.	T		
16) Proper collection media used.	T		
17) No headspace sample bottles are completely filled.	T		
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
19) Trip blanks provided if applicable.	NA		
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T		
21) Samples do not require splitting or compositing.	T		

Doc #277 Rev. 4 August 2013

Who notified of False statements?

Log-In Technician Initials: JDL

Date/Time:

Date/Time: 2/18/15 1600

Meghan Kelley

From: Gendron, Kenneth [GendronK@wseinc.com]
Sent: Thursday, March 05, 2015 4:13 PM
To: Meghan Kelley
Subject: RE: PCBs

That's what I thought but yes, please run the analysis on that sample

Thanks Meghan

Ken

Kenneth J. Gendron, P.G., LSP
PROJECT MANAGER

Weston&Sampson®

427 Main Street, Suite 400

Worcester, MA 01608

www.westonandsampson.com

Cell: 508-479-2924

Office: 978-532-1900 ext. 2501

From: Meghan Kelley [<mailto:mkelley@contestlabs.com>]

Sent: Thursday, March 05, 2015 4:12 PM

To: Gendron, Kenneth

Subject: RE: PCBs

PCB waters only have a 7 day hold time, this sample is past hold. Do you want me to proceed with the analysis?

From: Gendron, Kenneth [<mailto:GendronK@wseinc.com>]

Sent: Thursday, March 05, 2015 4:07 PM

To: Meghan Kelley

Subject: PCBs

Good afternoon Meghan,

Do you have enough sample and if so, is it still inside the hold time for PCBs for 15B0577?

If so, please run sample KE202WSD for PCBs

Thanks

Ken

Kenneth J. Gendron, P.G., LSP

PROJECT MANAGER

Weston&Sampson®

427 Main Street, Suite 400

Worcester, MA 01608
www.westonandsampson.com
Cell: 508-479-2924
Office: 978-532-1900 ext. 2501

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MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 15C0183
Project Location: Green Line Extension	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
15C0183-01

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A ()	7470/7471 Hg CAM IIIB ()	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	MassDEP EPH CAM IV A ()	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	

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 ☒ No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No ¹
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 ☐ No ¹
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 ☐ No ¹
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).	☐ Yes ☐ No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ¹
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 ☐ No ¹

A response to questions G, H and I below is required for "Presumptive Certainty" status

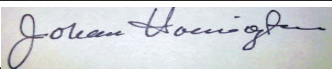
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒ Yes ☐ No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☒ Yes ☐ No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No ¹

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: 	Position: Manager, Laboratory Reporting
Printed Name: Johanna K. Harrington	Date: 03/11/15