UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

FEB 19 2015

James Simpson
Assistant Superintendent
MCRT Northeast Construction
5 Cabot Road
Medford, MA 02155

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Medford Mews site located at 5 Cabot Road, Medford, MA 02155, Middlesex County; Authorization # MAG910660

Dear Mr. Simpson:

Based on the review of a Notice of Intent (NOI) submitted by Brett R. Grunert and Associates at Haley & Aldrich, on behalf of the MCREF Medford Development LLC, 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 exceeded Appendix III limits. The checklist also includes other parameters in view of the historic contamination.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations.

For each parameter the dilution factor 7.3 for this site is within a dilution range greater than five to ten (>5 to 10) established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limits for arsenic of 50 ug/L, trivalent chromium of 244 ug/L, nickel of 145 ug/L, and iron of 5,000 ug/L, are required to achieve permit compliance at your site.

Finally, please note the checklist of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP regulations.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on December 31, 2015. Please know that you may have to reapply to continue discharging if the December 31, 2015 dead line has passed. In any case 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

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Paul Gere, Medford PDW
Brett R Grunert, Haley & Aldrich, Inc.

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910660**
Authorization Issued:	February, 2015
Facility/Site Name:	Medford Mews
Facility/Site Address:	5 Cabot Road Medford, MA 02155. Middlesex County
	Email address of owner: rhewitt@MCRTrust.com
Legal Name of Operator:	MCRT Northeast Construction LLC.
Operator contact name, title, and Address:	James Sipmson, Assistant Superintendent Telephone not provided.
	Email: jsimpson@mcrtrust.com
Estimated date of The Project Completion:	December 31, 2015
Category and Sub-Category:	Category III- Contaminated Construction Dewatering. Subcategory A. Urban Fill Sites.
RGP Termination Date:	September 10, 2015
Receiving Water:	Medford River

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

	Parameter	**Effluent Limit/Method#/ML** (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
	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	0.05 ug/l/ Me#8260C/ ML 10ug/L

	(EDB) (1,2-Dibromoethane)	
	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 Dichloroethane (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-	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L

	(ethylhexyl) Phthalate]	
	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 Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12] Freshwater Limits	Minimum level=ML
	39. Antimony	5.6	ML 10
√	40. Arsenic **	50	ML 20
	41. Cadmium **	0.2	ML 10
√	42. Chromium III (trivalent) **	244	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 **	145	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:

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 x 1,000ug/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 x 2 =2,000 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

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

Tel: 617.886.7400
Fax: 617.886.7600
HaleyAldrich.com

HALEY&
ALDRICH

26 January 2015
File No. 39858-044

US Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02109-3912

Attention: Remediation General Permit NOI Processing

Subject: Notice of Intent (NOI) - Temporary Construction Dewatering
Medford Mews
5 Cabot Road
Medford, Massachusetts

Ladies and Gentlemen:

On behalf of the project developer, MCREF Medford Development LLC, and in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts, MAG910000, this letter submits a Notice of Intent (NOI) and the applicable documentation as required by the US Environmental Protection Agency (EPA) for temporary construction site dewatering under the RGP. Temporary dewatering is planned in support of the proposed site development which includes construction of two four- to five-story residential buildings and a five-story parking garage for the proposed Medford Mews multi-family residential development located at 5 Cabot Road in Medford, Massachusetts as shown on Figure 1 – Project Locus. We anticipate construction dewatering will be conducted, as necessary, during foundation construction and below grade excavation.

The Site is the eastern portion of the property at One Cabot Road and currently consists of asphalt-paved parking lots, landscaped areas and pedestrian walkways. There are no structures at the subject site. The subject site is approximately 11.5 acres of the 19.6 acres which constitute the entire One Cabot Road property; a Site locus is provided on Figure 1. The Site is bound by a 4-story commercial building on the One Cabot Road parcel to the west (outside the limits of the RAM activities), Revere Beach Parkway to the south, Malden River to the east, and commercial/residential properties to the north. Site grades range from approximately El. 17 (in the southern landscaped area) to about El. 9 (generally along a pedestrian walkway at the eastern edge of the site). Grades drop relatively steeply from about El. 9 at the pedestrian walkway to about El. 0 at the adjacent Malden River. Existing site conditions are shown on the attached Figure 2.

SITE HISTORY

Previous reports indicate that the property at One Cabot Road existed as the Wellington Marshes in the late 1800s. The marshes were filled sometime between 1903 and 1917. In 1917, the subject site was

owned by the Commonwealth Chemical Company, which included a chemical manufacturing plant. In the 1920s, the subject site was reportedly occupied by the American Acid Company and later by the American Glue Company, both of which produced sulfuric acid for an undetermined number of years.

The Property was apparently vacant in the late 1930s, and was later occupied by the Medford Bowl, a midget auto racing track, which operated on the western half of One Cabot Road from approximately 1947 to 1955. The Medford Twin Drive-In Theater was constructed on the subject site in 1955, and continued operation until approximately 1983, when the subject site was purchased by CC&F Realty Trust. The existing building, paved areas and landscaping were constructed in 1988; the subject site was occupied by a parking lot and baseball field. The baseball field was converted to landscaped area (lawn) in 2001.

MASSACHUSETTS MCP REGULATORY BACKGROUND

Various site characterization studies completed at the One Cabot Road property between 1985 to 1993 have identified the presence of polycyclic aromatic hydrocarbons (PAHs), metals (arsenic, beryllium cadmium, chromium, copper, lead, mercury, nickel and zinc), and petroleum products as evidenced by testing for total petroleum hydrocarbons (TPH) in the fill materials. MassDEP was notified on 13 January 1986 and assigned RTN 3-0000010 to the site.

Additional subsurface exploration programs at the property in 1995 and 1996 identified concentrations of arsenic, PAHs, and TPH in two “hot spots”. The concentrations in these locations were found to exceed the Massachusetts Contingency Plan (MCP) Upper Concentration Limits (UCL) for one or more parameters analyzed. To delineate the extent of impacted soil at each of the “hot spots”, additional test borings were drilled in the vicinity of each “hot spot”. Laboratory testing confirmed the presence of two “hot spots”, both located within the subject site.

Release Abatement Measure (RAM) actions were completed in September 1996 to remove soils identified as exceeding Upper Concentration Limits (UCLs) for TPH, PAHs, and arsenic. Confirmatory sampling indicated arsenic, TPH, and PAHs remaining in soil at the limits of the excavation were well below their respective UCLs.

A Class A-3 RAO Statement prepared by Haley & Aldrich was submitted to MassDEP on 7 November 1996. The RAO indicated that for current and foreseeable site usage, site conditions present “No Significant Risk” of harm to human health, public welfare, safety, or the environment for anticipated exposures to a building occupant, potential future day care patron, a trespasser, a utility worker, or a jogger. Unrestricted use of the Property (including residential) was not evaluated as part of the 1996 RAO Statement, therefore, an Activity and Use Limitation (AUL) was implemented to maintain a condition of no significant risk at the Property. In general, the RAO indicated that although the concentrations of polycyclic aromatic hydrocarbons, petroleum, and metals in soil had not been reduced to background, remedial goals were met and a condition of No Significant Risk exists at the RTN 3-00010 site with the implementation of an Activity and Use Limitation. Historical groundwater data indicate that groundwater is not considered part of the Disposal Site.

Permitted uses under the AUL are consistent with the commercial and industrial history and current commercial use of the Property. Prohibited uses and obligations stipulated in the AUL include

residential uses, growing of fruits and vegetables for human consumption, and activities that resulted in penetration of the Protective Cover. As reported in the October 1996 RAO, existing building foundations, building slabs-on-grade, bituminous or concrete pavement and existing topsoil/loam surficial soil layers, which typically range in thickness from 0.5 to 1 ft (collectively the "Protective Cover") shall be maintained in order to eliminate certain exposure pathways to impacted soils to maintain a level of No Significant Risk. RAM activities are planned and the AUL will be amended to allow for multi-family residential use.

GROUNDWATER SAMPLING

In support of the NOI, groundwater samples were obtained from observation well HA13-2(OW) on 23 October 2014 and 2 December 2014. The groundwater samples, which were not field filtered, were submitted to Alpha Analytical, Inc. of Westborough, Massachusetts (Alpha Analytical) for analysis for NPDES permit parameters including VOCs; SVOCs; PAHs; total metals; TPH; PCBs; Total Suspended Solids (TSS); chloride; total, amenable, and free cyanide; total phenolics; and total residual chlorine. The analytical results identified concentrations of TSS and total iron above applicable NPDES RGP Category III Effluent Limits, however applicable MCP RCGW-2 Reportable Concentrations for these analytes are not established.

Appendix III of the RGP Permit indicates that the limits for cyanide are based on EPA's water quality criteria for free cyanide and that there currently is no EPA approved test method for free cyanide, therefore total cyanide must be reported. However since the 2010 RGP permit was published, Method 9016 was approved by EPA in June 2010 for free cyanide in water, soils and solid wastes by microdiffusion. This new Method was approved by EPA and replaces the old Method 4500 that is reportedly prone to numerous interferences. Substantial evidence exists that Method 4500 causes detection of cyanide that was not present in the sample. Total, free, and amenable cyanide testing has been conducted at the site. The results indicate that total cyanide is present, but free and amenable cyanide is non-detectable above the respective laboratory reporting limits. Accordingly we will be using the newer Method 9016 to monitor free cyanide levels in the construction dewatering effluent. Since free cyanide is below discharge criteria, no additional treatment for cyanide is planned.

The results of water quality testing conducted for this NOI are summarized in Table I. The location of the observation well is shown on Figure 2.

DILUTION FACTOR APPLICATION FOR METALS

As noted previously, results from analytical testing on the water sample collected at the site indicate concentrations of total iron that exceed RGP discharge limits. Accordingly, a Dilution Factor (DF) was calculated for the detected levels of total iron greater than the applicable RGP Effluent Limits. The calculated DF was used to find the appropriate Dilution Range concentrations for iron. The DF was calculated using the following equation:

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

where Q_d is the maximum discharge flow rate, estimated to be 100 gallons per minute (GPM) or approximately 0.223 cubic feet per second (cfs), and Q_s is the receiving water flow rate, minimum for 7 consecutive days with a recurrence interval of 10 years. Q_s is estimated to be 1.41 cfs based on a

7Q10 value determined by the USGS Streamstats application at the proposed discharge location in the Malden River . Using these values, the DF is equal to 7.3.

According to Appendix IV of the Remediation General Permit, the ceiling limitation for the calculated dilution factor of 7.3 for iron is 5000 ug/L. If testing of the dewatering effluent indicates that the iron concentrations are greater than 5000 ug/L, pretreatment of the dewatering effluent will include bag filters or other technology to remove metals as shown on Figure 3.

DEWATERING SYSTEM AND OFF-SITE DISCHARGE

Dewatering will be conducted from sumps or wells located inside the proposed development area. Dewatering is necessary to control groundwater, seepage, precipitation, and surface water runoff and construction-generated water to enable below-grade construction activities in-the-dry. Construction activities which may require temporary construction dewatering are anticipated to begin in February 2015. Construction dewatering effluent will be recharged on-site to the extent possible.

An effluent treatment system will be designed by the Contractor to meet NPDES RGP discharge criteria. Prior to discharge, collected water will be routed through a sedimentation tank and bag filters to remove suspended solids and undissolved chemical constituents. Supplemental pretreatment may be required to meet discharge criteria as shown in the Proposed Treatment System Schematic included in Figure 3. Supplemental pretreatment may include Oil/Water Separators, Ion Exchange, granular activated carbon, and/or other treatment technologies as required to meet the NPDES discharge criteria. In addition it may be necessary to adjust the pH of the discharge water during the construction process involving placement of fresh concrete.

Construction dewatering under this RGP NOI will include piping and will discharge to a storm drain located near the site which ultimately discharges into the Malden River. The Malden River flows south for about ½-mile, where it converges into the Mystic River. Therefore, the receiving waters for this NPDES General Permit are the Malden River and the Mystic River. The proposed discharge route is shown on Figure 2.

APPENDICES

The completed "Suggested Notice of Intent" NOI form as provided in the RGP is enclosed in Appendix A. The site developer is MCREF Medford Development LLC. MCREF Medford Development LLC will hire a subcontractor to conduct the Site work, including dewatering activities. The excavation subcontractor will operate the dewatering system. Haley & Aldrich, Inc. will monitor the Contractor's dewatering activities on behalf of MCREF Medford Development LLC in accordance with the requirements for this NOI submission.

A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, is included in Appendix B. Appendices C and D include the National Register of Historic Places and Endangered Species Act Documentation, respectively. A copy of the groundwater testing laboratory results are provided in Appendix E.

CLOSING

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

Sincerely yours,
HALEY & ALDRICH, INC.

Brett R. Grunert, P.E.
Senior Engineer

Michael J. Weaver, P.E.
Senior Project Manager

Attachments:

Table I – Summary of Groundwater Quality Data
Figure 1 – Project Locus
Figure 2 – Site, Subsurface Exploration, and Discharge Location Plan
Figure 3 – Proposed Treatment System Schematic
Appendix A – Notice of Intent (NOI) for Remediation General Permit (RGP)
Appendix B – Best Management Practices Plan (BMPP)
Appendix C – National Register of Historic Places and Massachusetts Historical Commission Documentation
Appendix D – Endangered Species Act Documentation
Appendix E – Laboratory Data Reports

c: MCREF Medford Development LLC; Attn: Robb Hewitt
Massachusetts Department of Environmental Protection; Attn: Division of Watershed Management

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TABLE I - SUMMARY OF GROUNDWATER QUALITY DATA
MEDFORD MEWS
MEDFORD, MASSACHUSETTS
FILE NO. 39858-044

SAMPLE DESIGNATION SAMPLING DATE LAB SAMPLE ID	2014 MCP RCGW-2 Reportable Concentrations (ug/l)	NPDES RGP Category III Effluent Criteria Freshwater Discharge (ug/l)	HA13-02-RGP 10/28/2014 L1425722-01 L1425722-01 R1	HA13-02-RGP-A 12/2/2014 L1428900-01
VOCs by GC/MS (ug/l)				
Total VOCs	NA	NA	ND	-
Total BTEX	NA	100	ND	-
VOCs by GC/MS-SIM (ug/l)				
1,4-Dioxane	6000	Monitor Only	ND(1.5)	-
SVOCs by GC/MS (ug/l)				
Total SVOCs	NA	NA	ND	-
SVOCs by GC/MS-SIM (ug/l)				
Total Group I PAH	NA	10	ND	-
Acenaphthene	10000	-	0.23	-
Total Group II PAH	NA	100	0.23	-
Total SVOCs	NA	NA	0.23	-
Metals (ug/l)				
Antimony, Total	8000	5.6	ND(1.5)	-
Arsenic, Total	900	10	1.84	-
Cadmium, Total	4	0.2	ND(0.1)	-
Chromium, Total	300	48.8	1.37	-
Chromium, Hexavalent	300	11.4	ND(5)	-
Copper, Total	100000	5.2	ND(0.5)	-
Iron, Total	NA	1000	**12000**	-
Lead, Total	10	1.3	ND(0.25)	-
Mercury, Total	20	0.9	ND(0.1)	-
Nickel, Total	200	29	1.21	-
Selenium, Total	100	5	ND(2.5)	-
Silver, Total	7	1.2	ND(0.2)	-
Zinc, Total	900	66.6	ND(5)	-
PCBs by GC (ug/l)				
Total PCBs	5	0.000064	ND	-
Microextractables by GC (ug/l)				
1,2-Dibromoethane	2	0.005	ND(0.005)	-
Anions by Ion Chromatography (ug/l)				
Chloride	NA	Monitor Only	448000	-
General Chemistry (ug/l)				
Solids, Total Suspended	NA	30000	**34000**	-
Cyanide, Total	30	5.2	**78**	**109**
Cyanide, Amenable	30	NA	-	ND(5)
Cyanide, Free	30	NA	-	ND(1)
Chlorine, Total Residual	NA	11	ND(10)	-
TPH	5000	5000	ND(2000)	-
Phenolics, Total	NA	300	ND(15)	-

ABBREVIATIONS & NOTES:
NA: Not applicable
ND(2.5): Not detected; number in parentheses is half the laboratory reporting limit
1. NPDES Effluent Limits taken from Appendix III of the EPA Remediation & Miscellaneous Contaminated Sites General Permit.
2. NPDES RGP effluent limits provided for freshwater receiving waters.
3. This table includes only those compounds detected on the dates indicated.
4. **Bold black values exceed NPDES RGP effluent limits.**
5. **Blue bold values exceed MCP RCGW-2 concentrations and NPDES RGP effluent limits.**

SITE COORDINATES: 42°24'23"N,71°4'23"W

N
W E
S

U.S.G.S. QUADRANGLE: BOSTON NORTH, MA

HALEY & ALDRICH

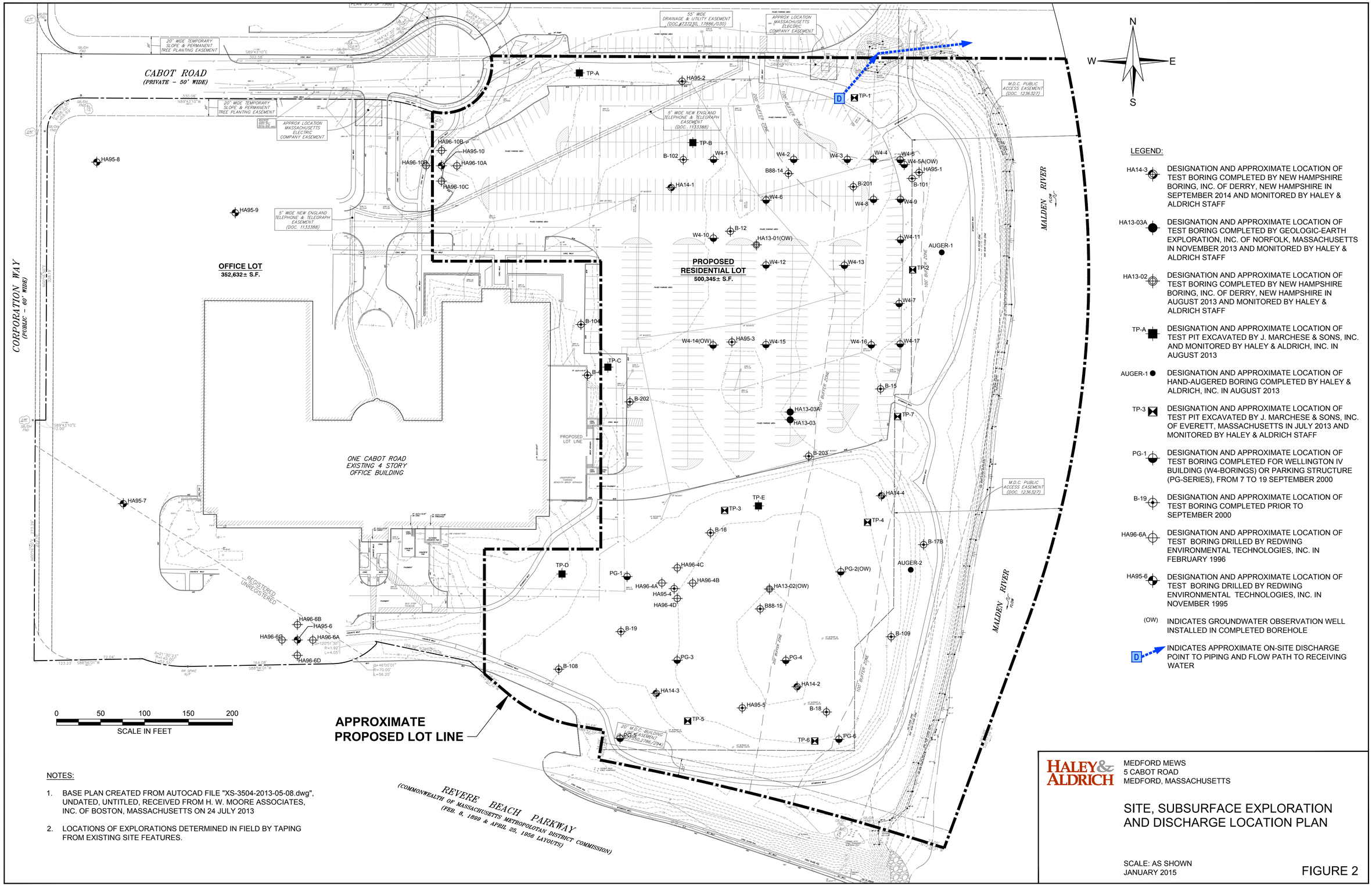
MEDFORD MEWS
5 CABOT ROAD
MEDFORD, MASSACHUSETTS

PROJECT LOCUS

SCALE: 1:24,000
JANUARY 2015

FIGURE 1

39858-044 1.PDF



NOTES:

1. BASE PLAN CREATED FROM AUTOCAD FILE "XS-3504-2013-05-08.dwg", UNDATED, UNTITLED, RECEIVED FROM H. W. MOORE ASSOCIATES, INC. OF BOSTON, MASSACHUSETTS ON 24 JULY 2013
2. LOCATIONS OF EXPLORATIONS DETERMINED IN FIELD BY TAPING FROM EXISTING SITE FEATURES.

LEGEND:

- HA14-3 — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING COMPLETED BY NEW HAMPSHIRE BORING, INC. OF DERRY, NEW HAMPSHIRE IN SEPTEMBER 2014 AND MONITORED BY HALEY & ALDRICH STAFF
- HA13-03A — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING COMPLETED BY GEOLOGIC-EARTH EXPLORATION, INC. OF NORFOLK, MASSACHUSETTS IN NOVEMBER 2013 AND MONITORED BY HALEY & ALDRICH STAFF
- HA13-02 — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING COMPLETED BY NEW HAMPSHIRE BORING, INC. OF DERRY, NEW HAMPSHIRE IN AUGUST 2013 AND MONITORED BY HALEY & ALDRICH STAFF
- TP-A — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY J. MARCHESE & SONS, INC. AND MONITORED BY HALEY & ALDRICH, INC. IN AUGUST 2013
- AUGER-1 — DESIGNATION AND APPROXIMATE LOCATION OF HAND-AUGERED BORING COMPLETED BY HALEY & ALDRICH, INC. IN AUGUST 2013
- TP-3 — DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY J. MARCHESE & SONS, INC. OF EVERETT, MASSACHUSETTS IN JULY 2013 AND MONITORED BY HALEY & ALDRICH STAFF
- PG-1 — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING COMPLETED FOR WELLINGTON IV BUILDING (W4-BORINGS) OR PARKING STRUCTURE (PG-SERIES), FROM 7 TO 19 SEPTEMBER 2000
- B-19 — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING COMPLETED PRIOR TO SEPTEMBER 2000
- HA96-6A — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY REDWING ENVIRONMENTAL TECHNOLOGIES, INC. IN FEBRUARY 1996
- HA95-6 — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY REDWING ENVIRONMENTAL TECHNOLOGIES, INC. IN NOVEMBER 1995
- (OW) — INDICATES GROUNDWATER OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE
- D — INDICATES APPROXIMATE ON-SITE DISCHARGE POINT TO PIPING AND FLOW PATH TO RECEIVING WATER

HALEY & ALDRICH

MEDFORD MEWS
5 CABOT ROAD
MEDFORD, MASSACHUSETTS

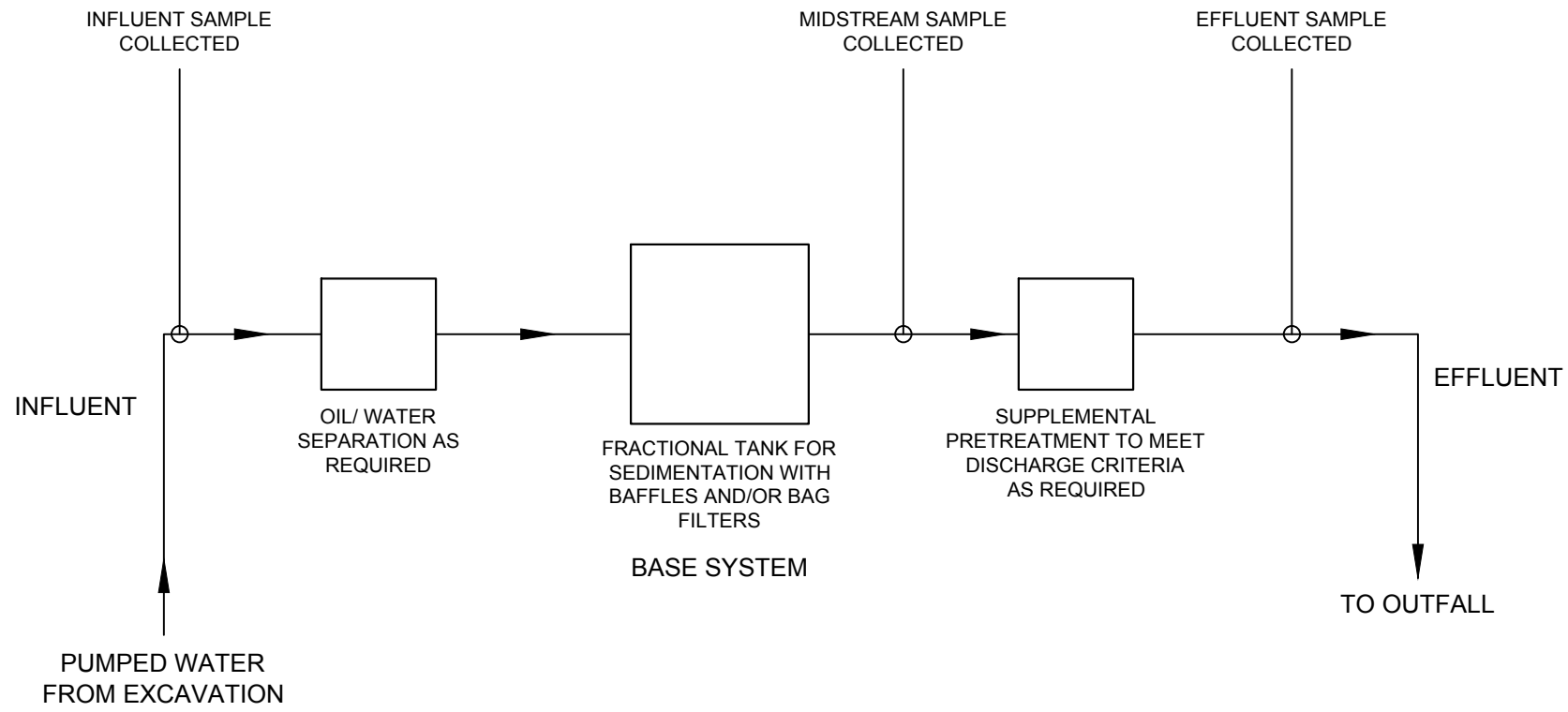
SITE, SUBSURFACE EXPLORATION AND DISCHARGE LOCATION PLAN

SCALE: AS SHOWN
JANUARY 2015

FIGURE 2

J:\GRAPHICS\39858\39858-044-D007.DWG

J:\GRAPHICS\39858\39858-044-A008.DWG



LEGEND:

→ DIRECTION OF FLOW

NOTE:

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

HALEY & ALDRICH

MEDFORD MEWS
5 CABOT ROAD
MEDFORD, MASSACHUSETTS

PROPOSED TREATMENT SYSTEM SCHEMATIC

SCALE: NONE
JANUARY 2015

FIGURE 3

APPENDIX A

Notice of Intent (NOI)
For Remediation General Permit (RGP)

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**: Medford Mews		**Facility/site** mailing address:		
Location of **facility/site**: longitude: 42deg 24' 19" latitude: 71deg 4' 25"	Facility SIC code(s): NA	Street: 5 Cabot Road		
b) Name of **facility/site owner:** MCREF Medford Development LLC		Town: Medford		
Email address of facility/site owner: rhewitt@MCRTrust.com		State: MA	Zip: 02155	County: Middlesex
Telephone no. of facility/site **owner**: 339.298.3969				
Fax no. of facility/site **owner**:		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ⊙ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):				
Street: 200 Wheeler Road				
Town: Burlington	State: MA	Zip: 01803	County: Middlesex	
c) Legal name of **operator**: MCRT Northeast Construction LLC	**Operator** telephone no: 339.298.3972	**Operator** fax no.:	**Operator** email: jsimpson@mcrtrust.com	
Operator contact name and title: James Simpson, Assistant Superintendent				
Address of **operator** (if different from owner):	Street: 5 Cabot Road			
Town: Medford	State: MA	Zip: 02155	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 ◉, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ○ N ◉, if Y, date and tracking #:
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ◉ N ○
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ◉ N ○

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ○ N ◉
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 ◉,
if Y, number:
2. Final Dewatering General Permit? Y ○ N ◉,
if Y, number:
3. EPA Construction General Permit? Y ◉ N ○,
if Y, number:
4. Individual NPDES permit? Y ○ N ◉,
if Y, number:
5. any other water quality related individual or general permit? Y ○ N ◉, if Y, number:

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ○ N ◉

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 ☒ B. Known Contaminated Sites ☐

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:

Temporary Construction Dewatering

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: 0.223 Is maximum flow a **design value**? Y ○ N ◉
Average flow (include units): 0.1 Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42deg 24' 23.6" long. 71deg 4' 22.5" 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): NA

5) Is the discharge intermittent ◉ or seasonal ○?
Is discharge ongoing? Y ○ N ◉

c) Expected dates of discharge (mm/dd/yy): start: Jan 5, 2015 end: Dec 31, 2015

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 Figures 3 & 4

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 (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☐	☒	1	Grab	32,2540D	5000	34,000		34,000	
2. Total Residual Chlorine (TRC)		☒	☐	1	Grab	30,4500CL-D	20	ND		ND	
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	Grab	74,1664A	4000	ND		ND	
4. Cyanide (CN)	57125	☐	☒	2	Grab	30,4500CN-CE	5	109		94	
5. Benzene (B)	71432	☒	☐	1	Grab	1,8260B	0.5	ND		ND	
6. Toluene (T)	108883	☒	☐	1	Grab	1,8260B	0.75	ND		ND	
7. Ethylbenzene (E)	100414	☒	☐	1	Grab	1,8260B	0.5	ND		ND	
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	Grab	1,8260B	1.0	ND		ND	
9. Total BTEX [2]	n/a	☒	☐	1	Grab	NA	NA	ND		ND	
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	Grab	1,8260B	2.0	ND		ND	
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	Grab	1,8260B	1.0	ND		ND	
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	Grab	1,8260B	10	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 Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	1	Grab	1,8260B	2	ND		ND	
14. Naphthalene	91203	☒	☐	1	Grab	1,8260B	2.5	ND		ND	
15. Carbon Tetrachloride	56235	☒	☐	1	Grab	1,8260B	0.5	ND		ND	
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	Grab	97,8270D	2.5	ND		ND	
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	Grab	97,8270D	2.5	ND		ND	
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	Grab	97,8270D	2.5	ND		ND	
18a. Total dichlorobenzene		☒	☐	1	Grab	97,8270D	NA	ND		ND	
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	Grab	1,8260B	0.75	ND		ND	
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	Grab	1,8260B	0.5	ND		ND	
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	Grab	1,8260B	0.5	ND		ND	
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	Grab	1,8260B	0.5	ND		ND	
23. Methylene Chloride	75092	☒	☐	1	Grab	1,8260B	3	ND		ND	
24. Tetrachloroethene (PCE)	127184	☒	☐	1	Grab	1,8260B	0.5	ND		ND	
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	Grab	1,8260B	0.5	ND		ND	
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	Grab	1,8260B	0.75	ND		ND	
27. Trichloroethene (TCE)	79016	☒	☐	1	Grab	1,8260B	0.5	ND		ND	

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	Grab	1,8260B	1	ND		ND	
29. Acetone	67641	☒	☐	1	Grab	1,8260B	5	ND		ND	
30. 1,4 Dioxane	123911	☒	☐	1	Grab	1,8260B(M)	3	ND		ND	
31. Total Phenols	108952	☒	☐	1	Grab	1,8270C	NA	ND		ND	
32. Pentachlorophenol (PCP)	87865	☒	☐	1	Grab	1,8270C-SIM	0.8	ND		ND	
33. Total Phthalates (Phthalate esters) [4]		☒	☐	1	Grab	1,8270C	NA	ND		ND	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	1	Grab	1,8270C	3.0	ND		ND	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	Grab	NA	NA	ND		ND	
a. Benzo(a) Anthracene	56553	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
b. Benzo(a) Pyrene	50328	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
c. Benzo(b)Fluoranthene	205992	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
d. Benzo(k)Fluoranthene	207089	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
e. Chrysene	21801	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	Grab	NA	NA	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 Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☐	☒	1	Grab	1,8270C-SIM	0.2	0.23		0.23	
i. Acenaphthylene	208968	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
j. Anthracene	120127	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
k. Benzo(ghi) Perylene	191242	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
l. Fluoranthene	206440	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
m. Fluorene	86737	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
n. Naphthalene	91203	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
o. Phenanthrene	85018	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
p. Pyrene	129000	☒	☐	1	Grab	1,8270C-SIM	0.2	ND		ND	
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	Grab	5,608	0.250	ND		ND	
38. Chloride	16887006	☐	☒	1	Grab	44,300.0	25000	448,000		448,000	
39. Antimony	7440360	☒	☐	1	Grab	1,6020	0.5	ND		ND	
40. Arsenic	7440382	☐	☒	1	Grab	1,6020	0.5	1.84		1.84	
41. Cadmium	7440439	☒	☐	1	Grab	1,6020	0.2	ND		ND	
42. Chromium III (trivalent)	16065831	☐	☒	1	Grab	1,6020	1	1.37		1.37	
43. Chromium VI (hexavalent)	18540299	☒	☐	1	Grab	30,3500CR-D	10	ND		ND	
44. Copper	7440508	☒	☐	1	Grab	1,6020	1	ND		ND	
45. Lead	7439921	☒	☐	1	Grab	3,245.1	0.5	ND		ND	
46. Mercury	7439976	☒	☐	1	Grab	1,6020	0.2	ND		ND	
47. Nickel	7440020	☐	☒	1	Grab	1,6020	0.5	1.21		1.21	
48. Selenium	7782492	☒	☐	1	Grab	1,6020	5	ND		ND	
49. Silver	7440224	☒	☐	1	Grab	1,6020	0.4	ND		ND	
50. Zinc	7440666	☒	☐	1	Grab	1,6020	10	ND		ND	
51. Iron	7439896	☐	☒	1	Grab	19,200.7	50	12,000		12,000	
Other (describe):		☐	☐								

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
Cyanide, Free	57125	☒	☐	1	grab	109,9016	2.00	ND		ND	
Cyanide, Amenable	57125	☒	☐	1	grab	30,4500CN-G	10	ND		ND	

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

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y◉ N○	If yes, which metals? Iron
Step 2: 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: 83.4 Metal: DF: Metal: DF: Metal: DF: Etc.	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◉ N○ If Y, list which metals: Iron

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:

See attached Figure 3

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☐
	Chlorination ☐	De-chlorination ☐	Other (please describe):	Ion Exchange, Oil/Water Separator, GAC Filter, as required		

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):

NA

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 ☒	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Effluent will be discharged to storm drains which discharge to the Malden River, a tributary to the Mystic River.

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 1.41 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 ◉ N ○ If yes, for which pollutant(s)? See Attachments

Is there a final TMDL? Y ○ N ◉ If yes, for which pollutant(s)?

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 attachments

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:	Medford Mews
Operator signature:	
Printed Name &Title:	Superintendent
Date:	

http://iaspub.epa.gov/tmdl_waters10/attains_waterbody.control?p_list_id=MA71-05&p_cycle=&p_report_type=

Last updated on 12/11/2014

Watershed Assessment, Tracking & Environmental Results

You are here: EPA Home Water WATERS Water Quality Assessment and TMDL Information
Waterbody Quality Assessment Report

Return to home page

On This Page

State: Massachusetts
Waterbody ID: MA71-05
Location: Headwaters south of Exchange Street, Malden to confluence with Mystic River, Everett/Medford.
State Waterbody Type: River
EPA Waterbody Type: Rivers and Streams
Water Size: 2.3
Units: miles
Watershed Name: Charles

Waterbody History Report

Data are also available for these years: 2010 2006 2004 2002 1998

2012 Waterbody Report fc Malden River

Click on the waterbody for an interactive r

Features

- About This Database (Integrated Report)
- Assessing Water Quality (Questions and Answers)
- Integrated Reporting Guidance
- Previous National Water Quality Reports
- EnviroMapper for Water
- AskWATERS
- EPA WATERS Homepage
- Exchange Network
- Assessment Database
- Statewide Statistical Surveys
- *How's My Waterway* Local Search tool
- Pollution Categories Summary Document
- Nitrogen and Phosphorus Pollution Data Access Tool (NPDAT)

Water Quality Assessment Status for Reporting Year 2012

The overall status of this waterbody is Impaired.

Description of this table

Designated Use	Designated Use Group	Status
Aesthetic	Aesthetic Value	Impaired
Fish Consumption	Aquatic Life Harvesting	Impaired
Fish, Other Aquatic Life And Wildlife	Fish, Shellfish, And Wildlife Protection And Propagation	Impaired
Primary Contact Recreation	Recreation	Impaired
Secondary Contact Recreation	Recreation	Impaired

Causes of Impairment for Reporting Year 2012

Description of this table

Cause of Impairment	Cause of Impairment Group	Designated Use(s)	State TMDL Development Status
Chlordane	Pesticides	Fish Consumption	TMDL needed
DDT	Pesticides	Fish Consumption	TMDL needed
Debris/Floatables/Trash	Trash	Aesthetic	Non-pollutant impairment
Dissolved Oxygen	Organic Enrichment/Oxygen Depletion	Fish, Other Aquatic Life And Wildlife	TMDL needed
Dissolved Oxygen Saturation	Organic Enrichment/Oxygen Depletion	Fish, Other Aquatic Life And Wildlife	TMDL needed
Escherichia Coli (E. Coli)	Pathogens	Secondary Contact Recreation, Primary Contact Recreation	TMDL needed
Fecal Coliform	Pathogens	Secondary Contact Recreation	TMDL needed
Foam/Flocs/Scum/Oil Slicks	Other Cause	Aesthetic	TMDL needed
PCB(s) in Fish Tissue	Polychlorinated Biphenyls (PCBs)	Fish Consumption	TMDL needed
Phosphorus, Total	Nutrients	Fish, Other Aquatic Life And Wildlife	TMDL needed
Secchi Disk Transparency	Turbidity	Secondary Contact Recreation, Primary Contact Recreation, Aesthetic	TMDL needed
Sediment Bioassay	Total Toxics	Fish, Other Aquatic Life And Wildlife	TMDL needed
Taste and Odor	Taste, Color and Odor	Aesthetic, Primary Contact Recreation, Secondary Contact Recreation	TMDL needed
Total Suspended Solids (TSS)	Turbidity	Fish, Other Aquatic Life And Wildlife	TMDL needed
pH, High	pH/Acidity/Caustic Conditions	Fish, Other Aquatic Life And Wildlife	TMDL needed

Probable Sources Contributing to Impairment for Reporting Year 2012

Description of this table

Probable Source	Probable Source Group	Cause(s) of Impairment
Combined Sewer Overflows	Municipal Discharges/Sewage	Dissolved Oxygen; Fecal Coliform; Total Suspended Solids (TSS)
Contaminated Sediments	Legacy/Historical Pollutants	Dissolved Oxygen Saturation; Phosphorus, Total; Sediment Bioassay; pH, High
Source Unknown	Unknown	Chlordane; DDT; PCB(s) in Fish Tissue
Unspecified Urban Stormwater	Urban-Related Runoff/Stormwater	Debris/Floatables/Trash; Dissolved Oxygen; Dissolved Oxygen Saturation; Escherichia Coli (E. Coli); Fecal Coliform; Foam/Flocs/Scum/Oil Slicks; Phosphorus, Total; Secchi Disk Transparency; Sediment Bioassay; Taste and Odor; Total Suspended Solids (TSS); pH, High

TMDLs That Apply to this waterbody

No TMDL data have been recorded by EPA for this waterbody.

Previous Causes of Impairments Now Attaining All Uses

No causes of impairment are recorded as attaining all uses for this waterbody.

MYSTIC RIVER WATERSHED AND COASTAL DRAINAGE AREA
2004-2008 WATER QUALITY ASSESSMENT REPORT

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
IAN BOWLES, SECRETARY
MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
LAURIE BURT, COMMISSIONER
BUREAU OF RESOURCE PROTECTION
GLENN HAAS, ACTING ASSISTANT COMMISSIONER
DIVISION OF WATERSHED MANAGEMENT
GLENN HAAS, DIRECTOR

MALDEN RIVER (SEGMENT MA71-05)

Segment Description: Headwaters south of Exchange Street, Malden to confluence with Mystic River, Everett/Medford
Segment Length: 2.3 miles
Segment Classification: B/WW
2008 Integrated List of Waters: This segment is on the 2008 Integrated List of Waters in Category 5 - Waters Requiring a TMDL (Pesticides, Priority organics, Organic enrichment/Low DO, Pathogens, Oil and grease, Taste, odor and color, Suspended solids, (Objectionable deposits*)) * denotes a non-pollutant.
NPDES Permits: None
WMA: None

Designated Use	Use Assessment	Alert
Aquatic Life	**Impaired**	**--**
A USGS study found that some chemicals are present in sufficiently high concentrations in Malden River sediment to pose a threat to benthic organisms and impair the Aquatic Life Use. MWRA and MyRWA documented highly productive conditions, including: elevated total phosphorus levels, high pH, and frequent supersaturation of dissolved oxygen. The Aquatic Life Use is also impaired for low dissolved oxgygen conditions documented by MWRA. The fish community was dominated by macrohabitat fish species classified as moderately tolerant to pollution, which is consistent with an impaired condition. One andromous fish species (Alewife) was present at both stations sampled. **Cause(s) of Impairment:** Sediment Bioassays -- Chronic Toxicity Freshwater, Low Dissolved Oxygen, Dissolved oxygen saturation, High pH, Phosphorus (total) **Source(s) of Impairment:** Contaminated Sediments, Unspecified Urban Stormwater *Data Sources: 1,3,5, 11*		
Fish Consumption	**Impaired**	**--**
Due to the presence of PCBs, DDT, and Chlordane, MA DPH has issued the following advisory for the Malden River recommending: “No one should consume any fish from this water body.” **Cause(s) of Impairment:** DDT, Chlordane and PCB in fish tissue **Source(s) of Impairment:** Cause Unknown *Data Sources: 9*		
Primary Contact	**Impaired**	**--**
Yearly *E. coli* geometric means calculated for the Primary Contact Recreation season from 1 MWRA station sampled monthly from 2002 to 2007 in this segment did not exceed 126 cfu/100mL. 0 out of 6 years of Primary Contact Recreation geomeans exceeded standards. Yearly *E. coli* geometric means calculated for the Primary Contact Recreation season from 1 MyRWA baseline monitoring station sampled monthly from 2002 to 2008 in this segment exceeded 126 cfu/100mL. 7 out of 7 years of Primary Contact Recreation geomeans for MyWRA bacteria data exceeded standards, most recently in 2008. The MyRWA station is upstream of the MWRA station, and a seperate MyRWA study indicates that bacteria levels are extremely high in the upper 2/3 of the segment but tend to decrease at the bottom. The chronic high bacteria numbers at the upper station justify impairing this segment. In addition, MWRA documented poor Secchi disk transparencies sufficient to impair the Aesthetics Use and thus the Primary Contact Use. **Cause(s) of Impairment:** *Escherichia coli*, Secchi disk transparency, Taste and Odor **Source(s) of Impairment:** Unspecified Urban Stormwater *Data Sources: 1,3,4*		

MALDEN RIVER (SEGMENT MA71-05)

Segment Description: Headwaters south of Exchange Street, Malden to confluence with Mystic River, Everett/Medford
Segment Length: 2.3 miles
Segment Classification: B/WW
2008 Integrated List of Waters: This segment is on the 2008 Integrated List of Waters in Category 5 - Waters Requiring a TMDL (Pesticides, Priority organics, Organic enrichment/Low DO, Pathogens, Oil and grease, Taste, odor and color, Suspended solids, (Objectionable deposits*)). * denotes a non-pollutant
NPDES Permits: None
WMA: None

Secondary Contact	**Impaired**	**--**
Yearly *E. coli* geometric means from 1 MWRA station sampled monthly from 2002 to 2007 in this segment did not exceed 630 cfu/100mL. 0 out of 6 yearly geomeans exceeded standards. Yearly *E. coli* geometric means from 1 MyRWA baseline monitoring station sampled monthly from 2002 to 2008 in this segment exceeded 630 cfu/100mL. 1 out of 7 yearly geomeans exceeded for MyWRA bacteria data, most recently in 2002. Bacteria levels indicate Support with “Alert Status”, however MWRA documented poor Secchi disk transparencies as well as objectionable odors sufficient to impair the Aesthetics Use and thus the Secondary Contact use is impaired. **Cause(s) of Impairment:** Secchi disk transparency, Taste and Odor **Source(s) of Impairment:** Unspecified Urban Stormwater *Data Sources: 1,3*		
Aesthetics	**Impaired**	**--**
MWRA documented poor Secchi disk transparencies sufficient to impair the Aesthetics Use. 77 Secchi disk depths were recorded between 2002 and 2006, with 72 reported as less than 1.2 meters (94%). MyRWA volunteers most often recorded no odor, but also noted smells such as " oily, chemical/acidic, fruity, slightly fishy, decay, soapy, rotten eggs, vegetal, slight detergent," and others at their monitoring station. **Cause(s) of Impairment:** Secchi disk transparency, Taste and Odor **Source(s) of Impairment:** Unspecified Urban Stormwater *Data Sources: 1,3*		

USGS Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Mon Jan 5 2015 23:19:37 Mountain Standard Time
Site Location: Massachusetts
NAD27 Latitude: 42.4044 (42 24 16)
NAD27 Longitude: -71.0727 (-71 04 22)
NAD83 Latitude: 42.4045 (42 24 16)
NAD83 Longitude: -71.0722 (-71 04 20)
Drainage Area: 10.6 mi2
Percent Urban: 78 %
Percent Impervious: 47.2 %

Warning from delineation: Warning! Outside the hydrologic region (Massachusetts) defined by the study. Accuracy of regression equations is unknown.

Low Flows Basin Characteristics

100% Statewide Low Flow (10.6 mi2)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	10.6	1.61	149
Mean Basin Slope from 250K DEM (percent)	2.65	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.33	0	1.29
Massachusetts Region (dimensionless)	1	0	1

Probability of Perennial Flow Basin Characteristics

100% Perennial Flow Probability (10.6 mi2)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	10.6 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	36.17	0	100
Percent Forest (percent)	15.89	0	100
Massachusetts Region (dimensionless)	1	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Low Flows Streamflow Statistics

Statistic	Flow (ft^3/s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	10.6	18		6.1	18.4
D60	8.2	20		3.3	20.3
D70	7.42	24		2.47	22
D75	6.51	26		2.26	18.5
D80	5.8	28		2.07	16.1
D85	4.6	32		1.57	13.2
D90	3.9	37		1.33	11.2
D95	2.5	46		0.74	8.17
D98	1.85	60		0.48	6.79
D99	1.43	65		0.35	5.53
M7D2Y	2.49	49		0.7	8.59
AUGD50	5.27	33		1.7	16
M7D10Y	1.41	71		0.31	5.86

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi2, as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics

Statistic	Value	Standard Error (percent)
PROBPEREN	1	

APPENDIX B

Best Management Practices Plan (BMPP)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDIATION GENERAL PERMIT
TEMPORARY CONSTRUCTION DEWATERING
MEDFORD MEWS
MEDFORD, MASSACHUSETTS

Best Management Practices Plan

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction site dewatering planned to occur during proposed construction of two four- to five-story residential buildings and a five-story parking garage for the proposed Medford Mews multi-family residential development located at 7 Cabot Road in Medford, 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 will be conducted from sumps located inside the proposed development area. The treatment system will be designed by the contractor. Prior to discharge, collected water will likely be routed through sedimentation or bag filters, at a minimum, to remove suspended solids and undissolved chemical constituents. Supplemental pretreatment may be required to meet discharge criteria as shown in the Proposed Treatment System Schematic included in Figure 3. Supplemental pretreatment may include Oil/Water Separator, GAC Filter, and/or Ion Exchange. Construction dewatering under this RGP NOI will include piping and will discharge to a storm drain located near the site which ultimately discharges into the Mystic River.

Discharge Monitoring and Compliance

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

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

The total monthly flow will be monitored by checking and documenting the flow through the flow meter to be installed on the system.

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

System Maintenance

A number of methods will be used to minimize the potential for violations for the term of this permit. Scheduled regular maintenance of the treatment system will be conducted to verify proper operation. Regular maintenance will include checking the condition of the treatment system equipment such as the

fractionization tanks, filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues or unscheduled maintenance requirements.

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

Miscellaneous Items

Due to the nature of the excavation, planned erosion control measures and the nature of the site and surrounding infrastructure, run off into the site from other sources and run off from the site are not anticipated.

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

No adverse affects of designated water uses of surrounding surface water bodies is anticipated. The Mystic River is the nearest surface water body to the site located within approximately 200 feet from the construction activities on site. As mentioned earlier, the discharged effluent will be pumped directly to a storm drain located near the site and into existing below grade infrastructure.

Management of Treatment System Materials

No potential sources of pollutants are anticipated to impact the dewatering effluent during construction dewatering activities. Dewatering effluent will be pumped directly to the treatment system from the excavation with the use of hoses and sumps to minimize handling. The contractor will establish staging areas on the site for any equipment or materials storage which may be possible sources of pollution away from any dewatering activities.

Sediment from the fractionalization tank used in the treatment system will be characterized and disposed of as soil at an appropriate receiving facility in accordance with applicable laws and regulations. If used, Ion Exchange resin will be likely recycled and/or manifested to the appropriate receiving facility. Bag filters, if used, will be placed in drums and manifested for off-site disposal.

APPENDIX C

National Register of Historic Places and Massachusetts Historical Commission Documentation

Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Cultural Resource Information System

MACRIS

Scanned forms and photos now available for selected towns!

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

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

Click here to begin your search of the MACRIS database.

Home | Search | Index | Feedback | Contact

Massachusetts Cultural Resource Information System
MACRIS

MHC Home | MACRIS Home

Login

Results

Get Results in Report Format
○ PDF ◉ Spreadsheet

Below are the results of your search, using the following search criteria:
Town(s): Medford
Place: Wellington
Resource Type(s): Area, Building, Burial Ground, Object, Structure

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

Inv. No.	Property Name	Street	Town	Year	SR			
MDF.U	Metropolitan Park System of Greater Boston		Medford		SR		INV	NR CS
MDF.906	MBTA Tunnel		Medford	1978			INV	
MDF.933	Fells Connector Parkway - The Fellsway	The Fellsway	Medford	1897	SR		INV	
MDF.934	Fells Connector Parkway - Fellsway Median System	The Fellsway	Medford	1897	SR			
MDF.935	Boston and Maine Railroad Bridge	The Fellsway	Medford	1897	SR			
MDF.936	Fells Connector Parkway - Wellington Circle Rotary	The Fellsway	Medford	1931	SR			

6 Properties Found

New Search | New Search – Same Town(s) | Previous

MHC Home | MACRIS Home

National Register of Historic Places
National Register Documentation on Listed Properties
Note: Not all National Register properties have been digitized yet

Reference Number	State	County	City	Resource Name	Address	Listed Date
76000256	MASSACHUSETTS	Middlesex	Medford	Albree-Hall-Lawrence House	353 Lawrence Rd.	19760430
75000267	MASSACHUSETTS	Middlesex	Medford	Angier, John B., House	129 High St.	19750423
75000268	MASSACHUSETTS	Middlesex	Medford	Bigelow Block	NE Corner of Forest and Salem Sts.	19750224
75000269	MASSACHUSETTS	Middlesex	Medford	Brooks, Charles, House	309 High St.	19750618
75000270	MASSACHUSETTS	Middlesex	Medford	Brooks, Jonathan, House	2 Woburn St.	19750626
75000271	MASSACHUSETTS	Middlesex	Medford	Brooks, Shepherd, Estate	275 Grove St.	19750421
75000272	MASSACHUSETTS	Middlesex	Medford	Curtis, Paul, House	114 South St.	19750506
76000258	MASSACHUSETTS	Middlesex	Medford	Fernald, George P., House	12 Rock Hill St.	19760430
75000274	MASSACHUSETTS	Middlesex	Medford	Fletcher, Jonathan, House	283 High St.	19750623
72000139	MASSACHUSETTS	Middlesex	Medford	Grace Episcopal Church	160 High St.	19721103
75000275	MASSACHUSETTS	Middlesex	Medford	Hall, Isaac, House	43 High St.	19750416
75000276	MASSACHUSETTS	Middlesex	Medford	Hillside Avenue Historic District	Property on both sides of Hillside and Grand View Aves.	19750421
75000277	MASSACHUSETTS	Middlesex	Medford	Lawrence Light Guard Armory	90 High St.	19750310
88000712	MASSACHUSETTS	Middlesex	Medford	Manning, Joseph K., House	35--37 Forest St.	19890407
80000640	MASSACHUSETTS	Middlesex	Medford	McGill, John H., House	56 Vernon St.	19800409
89002253	MASSACHUSETTS	Middlesex	Medford	Medford Pipe Bridge	Over the Mystic River, between S. Court St. and Mystic Ave.	19900118
80000639	MASSACHUSETTS	Middlesex	Medford	Oakes, Edward, House	5 Sylvia Rd.	19800409
83004068	MASSACHUSETTS	Middlesex	Medford	Old Medford High School	22-24 Forest St.	19831006
75000279	MASSACHUSETTS	Middlesex	Medford	Old Ship Street Historic District	Both sides of Pleasant St. from Riverside Ave. to Park St.	19750414
75000280	MASSACHUSETTS	Middlesex	Medford	Park Street Railroad Station	20 Magoun Ave.	19750421
07001399	MASSACHUSETTS	Middlesex	Medford	Pinkham, Richard, House	24 Brooks Park	20080116
66000786	MASSACHUSETTS	Middlesex	Medford	Royall, Isaac, House	15 George St.	19661015
81000115	MASSACHUSETTS	Middlesex	Medford	Salem Street Burying Ground	Medford Sq.	19810827
68000044	MASSACHUSETTS	Middlesex	Medford	Tufts, Peter, House	350 Riverside Ave.	19681124
75000281	MASSACHUSETTS	Middlesex	Medford	Unitarian Universalist Church and Parsonage	141 and 147 High St.	19750421
86001346	MASSACHUSETTS	Middlesex	Medford	US Post Office--Medford Main	20 Forest St.	19860618
75000282	MASSACHUSETTS	Middlesex	Medford	Wade, John, House	253 High St.	19750618
75000283	MASSACHUSETTS	Middlesex	Medford	Wade, Jonathan, House	13 Bradlee Rd.	19750421

APPENDIX D

Endangered Species Act Documentation

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
November 2010

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

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

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

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

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

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

Ellisville Harbor
(600 acres, 1980) Plymouth

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

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

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

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

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

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

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

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

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

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

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

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

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

Pocasset River
(160 acres, 1980) Bourne

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

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

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

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

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

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

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

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

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

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

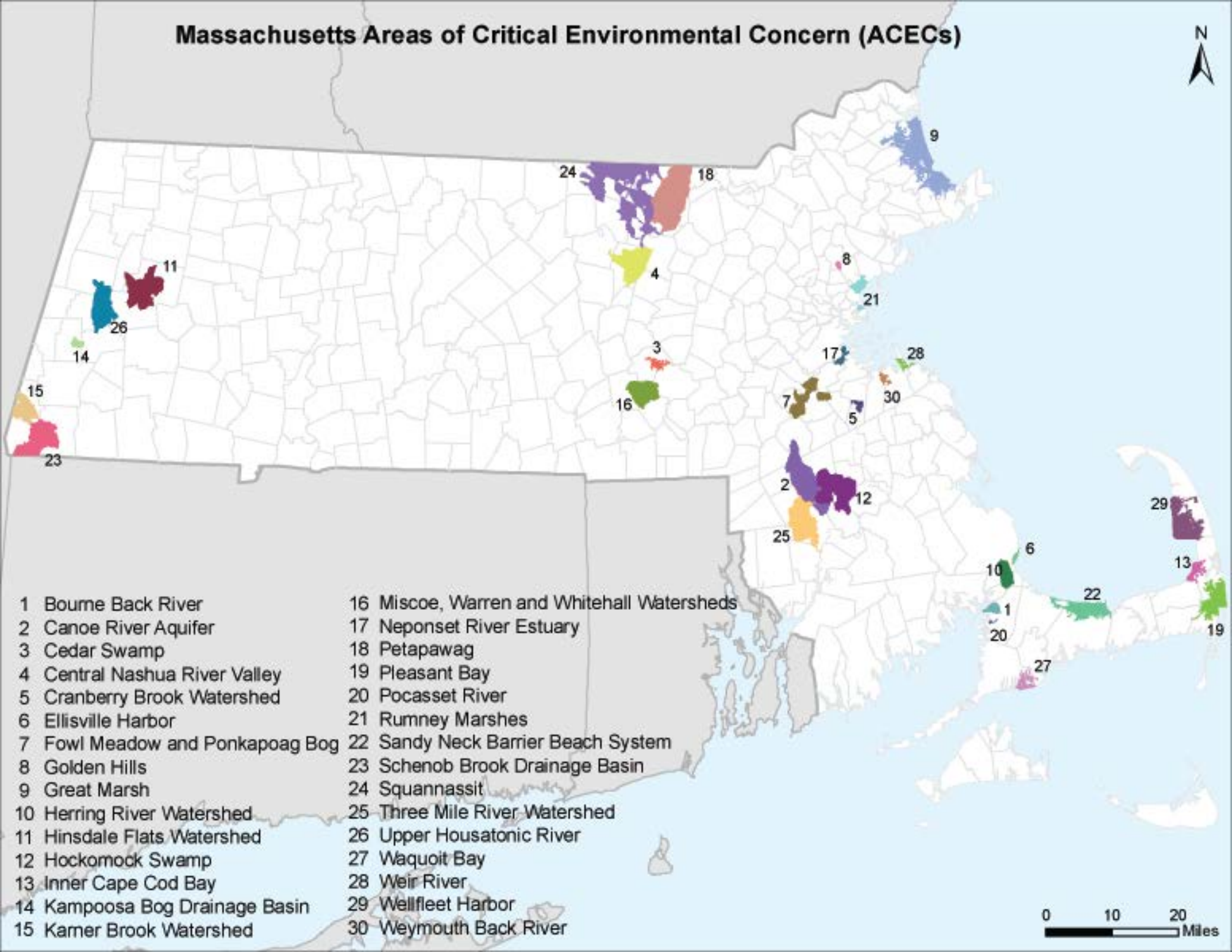
ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether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

Towns with ACECs within their Boundaries — November 2010

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

.

Massachusetts Areas of Critical Environmental Concern (ACECs)



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

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	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	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	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.	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, Wareham, Halifax, and Pembroke
	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.

Revised 10/7/2011

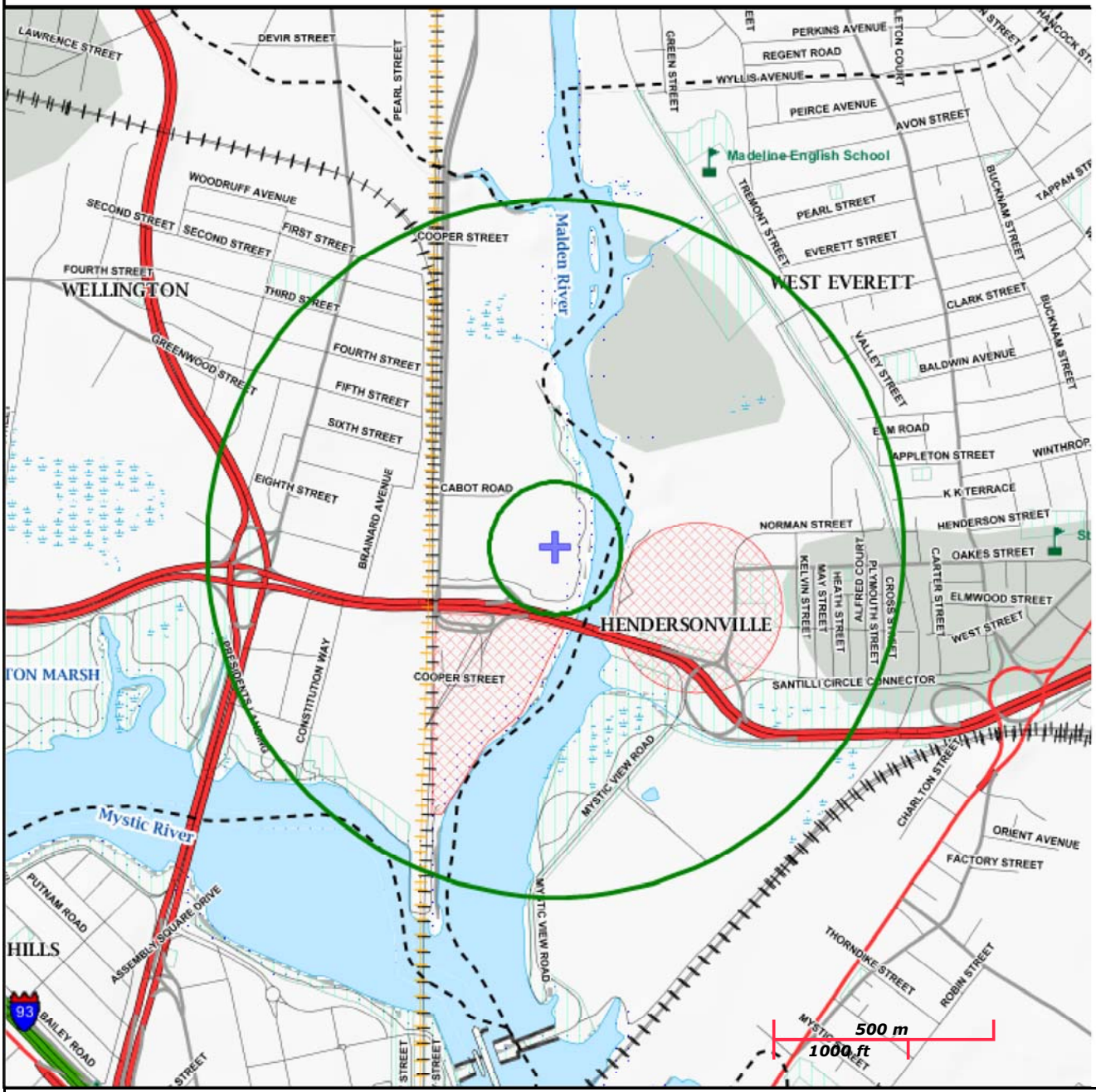
MassDEP - Bureau of Waste Site Cleanup

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

Site Information:
7 CABOT ROAD MEDFORD, MA
NAD83 UTM Meters:
4696882mN , 329373mE (Zone: 19)
December 8, 2014

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection

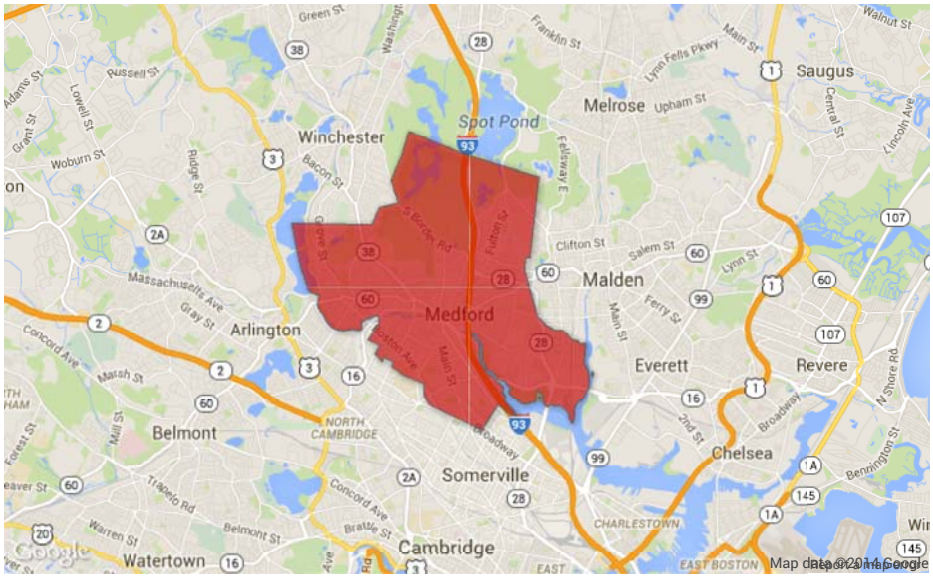


Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg.,Non-Com.

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

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

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



Showing 1 to 17 of 17 entries Search:

First Previous 1 Next Last

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Obs
MEDFORD	Vascular Plant	Boechera missouriensis	Green Rock-cress	T	1894
MEDFORD	Butterfly/Moth	Callophrys irus	Frosted Elfin	SC	1988
MEDFORD	Vascular Plant	Carex gracilescens	Slender Woodland Sedge	E	1870
MEDFORD	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC	1903
MEDFORD	Beetle	Cicindela rufiventris hentzii	Eastern Red-bellied Tiger Beetle	T	1988
MEDFORD	Vascular Plant	Clematis occidentalis	Purple Clematis	SC	1904
MEDFORD	Vascular Plant	Desmodium cuspidatum	Large-bracted Tick-trefoil	T	2008
MEDFORD	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E	1899
MEDFORD	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC	1891
MEDFORD	Mussel	Ligumia nasuta	Eastern Pondmussel	SC	Historic
MEDFORD	Crustacean	Limnadia lenticularis	American Clam Shrimp	SC	2009
MEDFORD	Vascular Plant	Nabalus serpentarius	Lion's Foot	E	2011
MEDFORD	Butterfly/Moth	Pyrrhia aurantiago	Orange Sallow Moth	SC	2010
MEDFORD	Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	E	Historic
MEDFORD	Vascular Plant	Sagittaria montevidensis ssp. spongiosa	Estuary Arrowhead	E	1876
MEDFORD	Butterfly/Moth	Satyrium favonius	Oak Hairstreak	SC	1988
MEDFORD	Vascular Plant	Sphenopholis nitida	Shining Wedgegrass	T	1864

Show 100 entries

Hide Additional Info

Status

- E = Endangered • T = Threatened • SC = Special Concern

Most Recent Observation

This field represents the most recent observation of that species in a town. However, because they are rare, many MESA-listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to be able to conduct methodical species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five years historic.

Town	Taxonomic Group	ScientificName	CommonName	MESA Status	Federal Status	Most Recent Observation
MEDFORD	Vascular Plant	Boechera missouriensis	Green Rock-cress	T		1894
MEDFORD	Butterfly/Moth	Callophrys irus	Frosted Elfin	SC		1988
MEDFORD	Vascular Plant	Carex gracilescens	Slender Woodland Sedge	E		1870
MEDFORD	Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC		1903
MEDFORD	Beetle	Cicindela rufiventris hentzii	Eastern Red-bellied Tiger Beetle	T		1988
MEDFORD	Vascular Plant	Clematis occidentalis	Purple Clematis	SC		1904
MEDFORD	Vascular Plant	Desmodium cuspidatum	Large-bracted Tick-trefoil	T		2008
MEDFORD	Vascular Plant	Houstonia longifolia	Long-leaved Bluet	E		1899
MEDFORD	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		1891
MEDFORD	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		Historic
MEDFORD	Crustacean	Limnadia lenticularis	American Clam Shrimp	SC		2009
MEDFORD	Vascular Plant	Nabalus serpentarius	Lion's Foot	E		2011
MEDFORD	Butterfly/Moth	Pyrrhia aurantiago	Orange Sallow Moth	SC		2010
MEDFORD	Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	E		1800s
MEDFORD	Vascular Plant	Sagittaria montevidensis ssp. spongiosa	Estuary Arrowhead	E		1876
MEDFORD	Butterfly/Moth	Satyrium favonius	Oak Hairstreak	SC		1988
MEDFORD	Vascular Plant	Sphenopholis nitida	Shining Wedgegrass	T		1864

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

January 7, 2014

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

APPENDIX E

Laboratory Data Reports

ANALYTICAL REPORT

Lab Number:	L1425722
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Abby Cohan
Phone:	(617) 886-7473
Project Name:	MEDFORD MEWS
Project Number:	39858-044
Report Date:	11/03/14

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1425722-01	HA13-02-RGP	WATER	Not Specified	10/28/14 12:00	10/28/14
L1425722-02	TRIP BLANK	WATER	Not Specified	10/28/14 00:00	10/28/14

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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

Please contact Client Services at 800-624-9220 with any questions.

Project Name: MEDFORD MEWS **Lab Number:** L1425722
Project Number: 39858-044 **Report Date:** 11/03/14

Case Narrative (continued)

Semivolatile Organics

The WG735382-3 LCSD recovery, associated with L1425722-01 (HA13-02-RGP), is below the acceptance criteria for benzoic acid (9%); however, it has been identified as a "difficult" analyte. The results of the associated sample are reported.

Metals

The WG736099-4 MS recovery for iron (200%), performed on L1425722-01 (HA13-02-RGP), does not apply because the sample concentration is greater than four times the spike amount added.

The WG735665-3 Laboratory Duplicate RPD, performed on L1425722-01 (HA13-02-RGP), is above the acceptance criteria for chromium (27%); however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 11/03/14

ORGANICS

VOLATILES

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1425722
Report Date: 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01
Client ID: HA13-02-RGP
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/30/14 12:26
Analyst: MM

Date Collected: 10/28/14 12:00
Date Received: 10/28/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1

Project Name: MEDFORD MEWS **Lab Number:** L1425722

Project Number: 39858-044 **Report Date:** 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01 Date Collected: 10/28/14 12:00

Client ID: HA13-02-RGP Date Received: 10/28/14

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1

Project Name: MEDFORD MEWS **Lab Number:** L1425722

Project Number: 39858-044 **Report Date:** 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01 Date Collected: 10/28/14 12:00

Client ID: HA13-02-RGP Date Received: 10/28/14

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	109		70-130

Project Name: MEDFORD MEWS
Lab Number: L1425722
Project Number: 39858-044
Report Date: 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01
Client ID: HA13-02-RGP
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/30/14 12:26
Analyst: MM

Date Collected: 10/28/14 12:00
Date Received: 10/28/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: MEDFORD MEWS
Lab Number: L1425722
Project Number: 39858-044
Report Date: 11/03/14

SAMPLE RESULTS

Lab ID:	L1425722-01	Date Collected:	10/28/14 12:00
Client ID:	HA13-02-RGP	Date Received:	10/28/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	14,504.1	Extraction Date:	10/30/14 09:15
Analytical Date:	10/30/14 11:35		
Analyst:	NS		

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

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 10/30/14 10:43
Analyst: NS

Extraction Date: 10/30/14 09:15

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG735893-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/30/14 07:32
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG735899-3					
1,4-Dioxane	ND		ug/l	3.0	--

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/30/14 07:32
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG736103-3					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--
1,2-Dichloroethene, Total	ND		ug/l	0.50	--

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/30/14 07:32
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG736103-3					
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.5	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/30/14 07:32
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG736103-3					
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	107		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MEDFORD MEWS

Project Number: 39858-044

Lab Number: L1425722

Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG735893-2						
1,2-Dibromoethane	91		-		70-130	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MEDFORD MEWS

Project Number: 39858-044

Lab Number: L1425722

Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG735899-1 WG735899-2								
1,4-Dioxane	108		104		70-130	4		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG736103-1 WG736103-2								
Methylene chloride	95		96		70-130	1		20
1,1-Dichloroethane	92		94		70-130	2		20
Chloroform	94		97		70-130	3		20
Carbon tetrachloride	84		88		63-132	5		20
1,2-Dichloropropane	93		94		70-130	1		20
Dibromochloromethane	80		84		63-130	5		20
1,1,2-Trichloroethane	86		90		70-130	5		20
Tetrachloroethene	85		87		70-130	2		20
Chlorobenzene	91		92		75-130	1		25
Trichlorofluoromethane	88		91		62-150	3		20
1,2-Dichloroethane	92		95		70-130	3		20
1,1,1-Trichloroethane	90		93		67-130	3		20
Bromodichloromethane	89		93		67-130	4		20
trans-1,3-Dichloropropene	83		84		70-130	1		20
cis-1,3-Dichloropropene	90		91		70-130	1		20
1,1-Dichloropropene	93		95		70-130	2		20
Bromoform	75		76		54-136	1		20
1,1,2,2-Tetrachloroethane	89		89		67-130	0		20
Benzene	94		95		70-130	1		25
Toluene	90		92		70-130	2		25
Ethylbenzene	92		93		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG736103-1 WG736103-2								
Chloromethane	95		96		64-130	1		20
Bromomethane	92		94		39-139	2		20
Vinyl chloride	88		92		55-140	4		20
Chloroethane	93		96		55-138	3		20
1,1-Dichloroethene	92		95		61-145	3		25
trans-1,2-Dichloroethene	93		95		70-130	2		20
Trichloroethene	92		96		70-130	4		25
1,2-Dichlorobenzene	90		92		70-130	2		20
1,3-Dichlorobenzene	91		92		70-130	1		20
1,4-Dichlorobenzene	90		92		70-130	2		20
Methyl tert butyl ether	86		87		63-130	1		20
p/m-Xylene	90		91		70-130	1		20
o-Xylene	89		91		70-130	2		20
cis-1,2-Dichloroethene	94		98		70-130	4		20
Dibromomethane	90		90		70-130	0		20
1,4-Dichlorobutane	79		80		70-130	1		20
1,2,3-Trichloropropane	87		86		64-130	1		20
Styrene	92		93		70-130	1		20
Dichlorodifluoromethane	87		87		36-147	0		20
Acetone	**151**	Q	**159**	Q	58-148	5		20
Carbon disulfide	86		89		51-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG736103-1 WG736103-2								
2-Butanone	122		120		63-138	2		20
Vinyl acetate	84		85		70-130	1		20
4-Methyl-2-pentanone	92		95		59-130	3		20
2-Hexanone	102		99		57-130	3		20
Ethyl methacrylate	81		82		70-130	1		20
Acrylonitrile	98		100		70-130	2		20
Bromochloromethane	96		97		70-130	1		20
Tetrahydrofuran	97		99		58-130	2		20
2,2-Dichloropropane	92		92		63-133	0		20
1,2-Dibromoethane	85		87		70-130	2		20
1,3-Dichloropropane	89		91		70-130	2		20
1,1,1,2-Tetrachloroethane	87		87		64-130	0		20
Bromobenzene	88		88		70-130	0		20
n-Butylbenzene	91		93		53-136	2		20
sec-Butylbenzene	89		92		70-130	3		20
tert-Butylbenzene	88		91		70-130	3		20
o-Chlorotoluene	88		87		70-130	1		20
p-Chlorotoluene	91		91		70-130	0		20
1,2-Dibromo-3-chloropropane	68		85		41-144	**22**	Q	20
Hexachlorobutadiene	93		93		63-130	0		20
Isopropylbenzene	98		98		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG736103-1 WG736103-2								
p-Isopropyltoluene	88		90		70-130	2		20
Naphthalene	91		90		70-130	1		20
n-Propylbenzene	90		91		69-130	1		20
1,2,3-Trichlorobenzene	80		80		70-130	0		20
1,2,4-Trichlorobenzene	79		84		70-130	6		20
1,3,5-Trimethylbenzene	90		91		64-130	1		20
1,2,4-Trimethylbenzene	89		91		70-130	2		20
trans-1,4-Dichloro-2-butene	76		82		70-130	8		20
Ethyl ether	92		95		59-134	3		20
Tert-Butyl Alcohol	118		118		70-130	0		20
Tertiary-Amyl Methyl Ether	84		86		66-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	105		105		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735893-3 QC Sample: L1425722-01 Client ID: HA13-02-RGP													
1,2-Dibromoethane	ND	0.249	0.229	92		-	-		70-130	-		20	A

SEMIVOLATILES

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1425722
Report Date: 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01
Client ID: HA13-02-RGP
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 11/01/14 03:16
Analyst: JC

Date Collected: 10/28/14 12:00
Date Received: 10/28/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/29/14 00:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1

Project Name: MEDFORD MEWS **Lab Number:** L1425722

Project Number: 39858-044 **Report Date:** 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01 Date Collected: 10/28/14 12:00

Client ID: HA13-02-RGP Date Received: 10/28/14

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	18		10-120
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	60		15-120
2,4,6-Tribromophenol	75		10-120
4-Terphenyl-d14	61		41-149

Project Name: MEDFORD MEWS
Lab Number: L1425722
Project Number: 39858-044
Report Date: 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01
Client ID: HA13-02-RGP
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 11/03/14 01:11
Analyst: KV

Date Collected: 10/28/14 12:00
Date Received: 10/28/14
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/29/14 00:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.23		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: MEDFORD MEWS **Lab Number:** L1425722

Project Number: 39858-044 **Report Date:** 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01 Date Collected: 10/28/14 12:00

Client ID: HA13-02-RGP Date Received: 10/28/14

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	77		15-120
2,4,6-Tribromophenol	80		10-120
4-Terphenyl-d14	72		41-149

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/14 19:23
Analyst: JC

Extraction Method: EPA 3510C
Extraction Date: 10/29/14 00:35

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG735382-1					
Acenaphthene	ND		ug/l	2.0	--
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Hexachlorobenzene	ND		ug/l	2.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
2-Chloronaphthalene	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
Fluoranthene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorobutadiene	ND		ug/l	2.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Hexachloroethane	ND		ug/l	2.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	2.0	--
Nitrobenzene	ND		ug/l	2.0	--
NDPA/DPA	ND		ug/l	2.0	--
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/14 19:23
Analyst: JC

Extraction Method: EPA 3510C
Extraction Date: 10/29/14 00:35

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG735382-1					
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Benzo(a)anthracene	ND		ug/l	2.0	--
Benzo(a)pyrene	ND		ug/l	2.0	--
Benzo(b)fluoranthene	ND		ug/l	2.0	--
Benzo(k)fluoranthene	ND		ug/l	2.0	--
Chrysene	ND		ug/l	2.0	--
Acenaphthylene	ND		ug/l	2.0	--
Anthracene	ND		ug/l	2.0	--
Benzo(ghi)perylene	ND		ug/l	2.0	--
Fluorene	ND		ug/l	2.0	--
Phenanthrene	ND		ug/l	2.0	--
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	--
Pyrene	ND		ug/l	2.0	--
Biphenyl	ND		ug/l	2.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
1-Methylnaphthalene	ND		ug/l	2.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
2-Methylnaphthalene	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
p-Chloro-m-cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/14 19:23
Analyst: JC

Extraction Method: EPA 3510C
Extraction Date: 10/29/14 00:35

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG735382-1					
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--
Pentachlorophenol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--
Pyridine	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	35		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	86		41-149

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 10/29/14 16:24
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 10/29/14 00:37

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG735383-1					
Acenaphthene	ND		ug/l	0.20	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 10/29/14 16:24
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 10/29/14 00:37

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG735383-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	32		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	58		15-120
2,4,6-Tribromophenol	82		10-120
4-Terphenyl-d14	73		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG735382-2 WG735382-3								
Acenaphthene	49		53		37-111	8		30
Benzidine	30		32		10-75	6		30
1,2,4-Trichlorobenzene	50		54		39-98	8		30
Hexachlorobenzene	61		66		40-140	8		30
Bis(2-chloroethyl)ether	62		65		40-140	5		30
2-Chloronaphthalene	51		55		40-140	8		30
1,2-Dichlorobenzene	53		54		40-140	2		30
1,3-Dichlorobenzene	50		53		40-140	6		30
1,4-Dichlorobenzene	50		54		36-97	8		30
3,3'-Dichlorobenzidine	58		62		40-140	7		30
2,4-Dinitrotoluene	70		75		24-96	7		30
2,6-Dinitrotoluene	72		79		40-140	9		30
Azobenzene	67		74		40-140	10		30
Fluoranthene	64		71		40-140	10		30
4-Chlorophenyl phenyl ether	52		55		40-140	6		30
4-Bromophenyl phenyl ether	56		62		40-140	10		30
Bis(2-chloroisopropyl)ether	41		44		40-140	7		30
Bis(2-chloroethoxy)methane	69		73		40-140	6		30
Hexachlorobutadiene	45		48		40-140	6		30
Hexachlorocyclopentadiene	**29**	Q	**30**	Q	40-140	3		30
Hexachloroethane	45		48		40-140	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG735382-2 WG735382-3								
Isophorone	70		75		40-140	7		30
Naphthalene	52		55		40-140	6		30
Nitrobenzene	66		70		40-140	6		30
NDPA/DPA	66		72		40-140	9		30
n-Nitrosodi-n-propylamine	74		79		29-132	7		30
Bis(2-ethylhexyl)phthalate	68		74		40-140	8		30
Butyl benzyl phthalate	65		72		40-140	10		30
Di-n-butylphthalate	64		70		40-140	9		30
Di-n-octylphthalate	70		76		40-140	8		30
Diethyl phthalate	67		73		40-140	9		30
Dimethyl phthalate	67		72		40-140	7		30
Benzo(a)anthracene	67		72		40-140	7		30
Benzo(a)pyrene	67		72		40-140	7		30
Benzo(b)fluoranthene	70		75		40-140	7		30
Benzo(k)fluoranthene	67		72		40-140	7		30
Chrysene	67		72		40-140	7		30
Acenaphthylene	55		60		45-123	9		30
Anthracene	61		66		40-140	8		30
Benzo(ghi)perylene	68		74		40-140	8		30
Fluorene	55		60		40-140	9		30
Phenanthrene	59		65		40-140	10		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG735382-2 WG735382-3								
Dibenzo(a,h)anthracene	69		75		40-140	8		30
Indeno(1,2,3-cd)pyrene	68		74		40-140	8		30
Pyrene	64		69		26-127	8		30
Biphenyl	54		57		40-140	5		30
Aniline	42		45		40-140	7		30
4-Chloroaniline	75		83		40-140	10		30
1-Methylnaphthalene	57		62		41-103	8		30
2-Nitroaniline	76		83		52-143	9		30
3-Nitroaniline	55		59		25-145	7		30
4-Nitroaniline	64		73		51-143	13		30
Dibenzofuran	55		60		40-140	9		30
2-Methylnaphthalene	54		58		40-140	7		30
n-Nitrosodimethylamine	31		33		22-74	6		30
2,4,6-Trichlorophenol	79		86		30-130	8		30
p-Chloro-m-cresol	77		83		23-97	8		30
2-Chlorophenol	63		67		27-123	6		30
2,4-Dichlorophenol	78		82		30-130	5		30
2,4-Dimethylphenol	77		83		30-130	8		30
2-Nitrophenol	77		81		30-130	5		30
4-Nitrophenol	33		40		10-80	19		30
2,4-Dinitrophenol	56		62		20-130	10		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MEDFORD MEWS

Project Number: 39858-044

Lab Number: L1425722

Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG735382-2 WG735382-3								
4,6-Dinitro-o-cresol	70		78		20-164	11		30
Pentachlorophenol	58		64		9-103	10		30
Phenol	27		29		12-110	7		30
2-Methylphenol	59		62		30-130	5		30
3-Methylphenol/4-Methylphenol	60		63		30-130	5		30
2,4,5-Trichlorophenol	78		85		30-130	9		30
Benzoic Acid	10		**9**	Q	10-164	13		30
Benzyl Alcohol	57		63		26-116	10		30
Carbazole	67		74		55-144	10		30
Pyridine	24		24		10-66	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	39		41		21-120
Phenol-d6	27		30		10-120
Nitrobenzene-d5	83		86		23-120
2-Fluorobiphenyl	72		77		15-120
2,4,6-Tribromophenol	63		71		10-120
4-Terphenyl-d14	67		74		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG735383-2 WG735383-3								
Acenaphthene	74		76		37-111	3		40
2-Chloronaphthalene	71		72		40-140	1		40
Fluoranthene	86		88		40-140	2		40
Hexachlorobutadiene	57		57		40-140	0		40
Naphthalene	66		68		40-140	3		40
Benzo(a)anthracene	88		90		40-140	2		40
Benzo(a)pyrene	87		88		40-140	1		40
Benzo(b)fluoranthene	92		93		40-140	1		40
Benzo(k)fluoranthene	87		89		40-140	2		40
Chrysene	84		86		40-140	2		40
Acenaphthylene	75		77		40-140	3		40
Anthracene	83		85		40-140	2		40
Benzo(ghi)perylene	85		86		40-140	1		40
Fluorene	79		81		40-140	3		40
Phenanthrene	80		82		40-140	2		40
Dibenzo(a,h)anthracene	86		87		40-140	1		40
Indeno(1,2,3-cd)Pyrene	86		87		40-140	1		40
Pyrene	85		86		26-127	1		40
1-Methylnaphthalene	71		72		40-140	1		40
2-Methylnaphthalene	74		76		40-140	3		40
Pentachlorophenol	72		75		9-103	4		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: MEDFORD MEWS

Project Number: 39858-044

Lab Number: L1425722

Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG735383-2 WG735383-3								
Hexachlorobenzene	75		77		40-140	3		40
Hexachloroethane	58		58		40-140	0		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	34		35		21-120
Phenol-d6	24		25		10-120
Nitrobenzene-d5	70		72		23-120
2-Fluorobiphenyl	67		68		15-120
2,4,6-Tribromophenol	91		93		10-120
4-Terphenyl-d14	78		78		41-149

PCBS

Project Name: MEDFORD MEWS
Lab Number: L1425722
Project Number: 39858-044
Report Date: 11/03/14

SAMPLE RESULTS

Lab ID:	L1425722-01	Date Collected:	10/28/14 12:00
Client ID:	HA13-02-RGP	Date Received:	10/28/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 608
Analytical Method:	5,608	Extraction Date:	10/30/14 16:15
Analytical Date:	10/31/14 14:05	Cleanup Method:	EPA 3665A
Analyst:	JT	Cleanup Date:	10/31/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	10/31/14

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	46		30-150	A
Decachlorobiphenyl	74		30-150	A

Project Name: MEDFORD MEWS

Project Number: 39858-044

Lab Number: L1425722

Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 10/31/14 14:43
Analyst: JT

Extraction Method: EPA 608
Extraction Date: 10/30/14 16:15
Cleanup Method: EPA 3665A
Cleanup Date: 10/31/14
Cleanup Method: EPA 3660B
Cleanup Date: 10/31/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG736113-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	47		30-150	A
Decachlorobiphenyl	71		30-150	A

Matrix Spike Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736113-3 QC Sample: L1425722-01 Client ID: HA13-02-RGP													
Aroclor 1016	ND	2	1.00	50		-	-		40-140	-		50	A
Aroclor 1260	ND	2	1.12	56		-	-		40-140	-		50	A

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53				30-150	A
Decachlorobiphenyl	72				30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MEDFORD MEWS

Project Number: 39858-044

Lab Number: L1425722

Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG736113-2									
Aroclor 1016	47		-		40-140	-		50	A
Aroclor 1260	51		-		40-140	-		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	45				30-150	A
Decachlorobiphenyl	68				30-150	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736113-4 QC Sample: L1425722-01 Client ID: HA13-02-RGP							
Aroclor 1016	ND	ND	ug/l	NC		50	A
Aroclor 1221	ND	ND	ug/l	NC		50	A
Aroclor 1232	ND	ND	ug/l	NC		50	A
Aroclor 1242	ND	ND	ug/l	NC		50	A
Aroclor 1248	ND	ND	ug/l	NC		50	A
Aroclor 1254	ND	ND	ug/l	NC		50	A
Aroclor 1260	ND	ND	ug/l	NC		50	A

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	46		58		30-150	A
Decachlorobiphenyl	74		77		30-150	A

METALS

Project Name: MEDFORD MEWS
Lab Number: L1425722
Project Number: 39858-044
Report Date: 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01
Client ID: HA13-02-RGP
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/28/14 12:00
Date Received: 10/28/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.00300	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Arsenic, Total	0.00184		mg/l	0.00050	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Cadmium, Total	ND		mg/l	0.00020	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Chromium, Total	0.00137		mg/l	0.00100	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Copper, Total	ND		mg/l	0.00100	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Iron, Total	12		mg/l	0.05	--	1	10/31/14 09:03	11/01/14 12:21	EPA 3005A	19,200.7	BC
Lead, Total	ND		mg/l	0.00050	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Mercury, Total	ND		mg/l	0.00020	--	1	10/29/14 10:16	10/29/14 14:52	EPA 245.1	3,245.1	AK
Nickel, Total	0.00121		mg/l	0.00050	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Selenium, Total	ND		mg/l	0.00500	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Silver, Total	ND		mg/l	0.00040	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL
Zinc, Total	ND		mg/l	0.01000	--	1	10/30/14 09:04	10/30/14 15:00	EPA 3005A	1,6020A	KL

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG735524-1										
Mercury, Total	ND		mg/l	0.0002	--	1	10/29/14 10:16	10/29/14 14:48	3,245.1	AK

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG735665-1										
Antimony, Total	ND		mg/l	0.00300	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Arsenic, Total	ND		mg/l	0.00050	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Cadmium, Total	ND		mg/l	0.00020	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Chromium, Total	ND		mg/l	0.00100	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Copper, Total	ND		mg/l	0.00100	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Lead, Total	ND		mg/l	0.00050	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Nickel, Total	ND		mg/l	0.00050	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Selenium, Total	ND		mg/l	0.00500	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Silver, Total	ND		mg/l	0.00040	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL
Zinc, Total	ND		mg/l	0.01000	--	1	10/30/14 09:04	10/30/14 14:57	1,6020A	KL

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG736099-1										
Iron, Total	ND		mg/l	0.05	--	1	10/31/14 09:03	11/01/14 12:13	19,200.7	BC

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MEDFORD MEWS

Project Number: 39858-044

Lab Number: L1425722

Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG735524-2								
Mercury, Total	99		-		85-115	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG735665-2								
Antimony, Total	85		-		80-120	-		
Arsenic, Total	98		-		80-120	-		
Cadmium, Total	96		-		80-120	-		
Chromium, Total	93		-		80-120	-		
Copper, Total	95		-		80-120	-		
Lead, Total	96		-		80-120	-		
Nickel, Total	96		-		80-120	-		
Selenium, Total	100		-		80-120	-		
Silver, Total	94		-		80-120	-		
Zinc, Total	102		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG736099-2								
Iron, Total	94		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735524-4 QC Sample: L1425722-01 Client ID: HA13-02-RGP												
Mercury, Total	ND	0.005	0.0035	70		-	-		70-130	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735665-4 QC Sample: L1425722-01 Client ID: HA13-02-RGP												
Antimony, Total	ND	0.5	0.5619	112		-	-		75-125	-		20
Arsenic, Total	0.00184	0.12	0.1246	102		-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.05173	101		-	-		75-125	-		20
Chromium, Total	0.00137	0.2	0.1936	96		-	-		75-125	-		20
Copper, Total	ND	0.25	0.2493	100		-	-		75-125	-		20
Lead, Total	ND	0.51	0.5001	98		-	-		75-125	-		20
Nickel, Total	0.00121	0.5	0.4791	96		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.127	106		-	-		75-125	-		20
Silver, Total	ND	0.05	0.04762	95		-	-		75-125	-		20
Zinc, Total	ND	0.5	0.5183	104		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736099-4 QC Sample: L1425722-01 Client ID: HA13-02-RGP												
Iron, Total	12	1	14	**200**	Q	-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735524-3 QC Sample: L1425722-01 Client ID: HA13-02-RGP						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735665-3 QC Sample: L1425722-01 Client ID: HA13-02-RGP						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.00184	0.00176	mg/l	4		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00137	0.00105	mg/l	**27**	Q	20
Copper, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00121	0.00124	mg/l	3		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736099-3 QC Sample: L1425722-01 Client ID: HA13-02-RGP						
Iron, Total	12	12	mg/l	0		20

INORGANICS
&
MISCELLANEOUS

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

SAMPLE RESULTS

Lab ID: L1425722-01
Client ID: HA13-02-RGP
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/28/14 12:00
Date Received: 10/28/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	34.		mg/l	5.0	NA	1	-	11/02/14 21:45	30,2540D	JT
Cyanide, Total	0.078		mg/l	0.005	--	1	10/30/14 10:08	10/30/14 16:41	30,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	10/28/14 22:38	30,4500CL-D	MR
TPH	ND		mg/l	4.00	--	1	10/29/14 11:00	10/29/14 15:50	74,1664A	JO
Phenolics, Total	ND		mg/l	0.030	--	1	10/30/14 11:30	10/30/14 14:50	4,420.1	MP
Chromium, Hexavalent	ND		mg/l	0.010	--	1	10/28/14 23:10	10/28/14 23:43	30,3500CR-D	MR
Anions by Ion Chromatography - Westborough Lab										
Chloride	448.		mg/l	12.5	--	25	-	10/29/14 19:24	44,300.0	AU

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1425722
Report Date: 11/03/14

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG735364-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	10/28/14 22:38	30,4500CL-D	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG735365-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	10/28/14 23:10	10/28/14 23:43	30,3500CR-D	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG735609-1										
TPH	ND		mg/l	4.00	--	1	10/29/14 11:00	10/29/14 15:50	74,1664A	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG735905-1										
Cyanide, Total	ND		mg/l	0.005	--	1	10/30/14 10:08	10/30/14 16:23	30,4500CN-CE	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG735961-1										
Phenolics, Total	ND		mg/l	0.030	--	1	10/30/14 11:30	10/30/14 14:46	4,420.1	MP
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG736204-1										
Chloride	ND		mg/l	0.500	--	1	-	10/29/14 16:24	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG736827-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	11/02/14 21:45	30,2540D	JT

Lab Control Sample Analysis

Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG735364-2								
Chlorine, Total Residual	101		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG735365-2								
Chromium, Hexavalent	100		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG735609-2								
TPH	85		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG735905-2								
Cyanide, Total	95		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG735961-2								
Phenolics, Total	100		-		70-130	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG736204-2								
Chloride	99		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735365-4 QC Sample: L1425722-01 Client ID: HA13-02-RGP												
Chromium, Hexavalent	ND	0.1	0.100	100		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735609-4 QC Sample: L1425722-01 Client ID: HA13-02-RGP												
TPH	ND	20.2	14.8	73		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735905-3 QC Sample: L1425587-01 Client ID: MS Sample												
Cyanide, Total	0.909	0.2	1.21	**150**	Q	-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735961-4 QC Sample: L1425722-01 Client ID: HA13-02-RGP												
Phenolics, Total	ND	0.4	0.38	95		-	-		70-130	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736204-3 QC Sample: L1425095-01 Client ID: MS Sample												
Chloride	6.08	4	10.1	100		-	-		40-151	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735364-3 QC Sample: L1425722-01 Client ID: HA13-02-RGP						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735365-3 QC Sample: L1425722-01 Client ID: HA13-02-RGP						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735609-3 QC Sample: L1425684-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735905-4 QC Sample: L1425264-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG735961-3 QC Sample: L1425722-01 Client ID: HA13-02-RGP						
Phenolics, Total	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736204-4 QC Sample: L1425095-01 Client ID: DUP Sample						
Chloride	6.08	6.19	mg/l	2		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG736827-2 QC Sample: L1425580-01 Client ID: DUP Sample						
Solids, Total Suspended	43	44	mg/l	2		29

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1425722-01A	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260(14)
L1425722-01B	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260(14)
L1425722-01C	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260(14)
L1425722-01D	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260-SIM(14)
L1425722-01E	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260-SIM(14)
L1425722-01F	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260-SIM(14)
L1425722-01G	Vial Na2S2O3 preserved	A	N/A	3.4	Y	Absent	504(14)
L1425722-01H	Vial Na2S2O3 preserved	A	N/A	3.4	Y	Absent	504(14)
L1425722-01I	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1425722-01J	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	HOLD-METAL(180)
L1425722-01K	Amber 1000ml Na2S2O3	A	7	3.4	Y	Absent	PCB-608(7)
L1425722-01L	Amber 1000ml Na2S2O3	A	7	3.4	Y	Absent	PCB-608(7)
L1425722-01M	Amber 1000ml HCl preserved	A	N/A	3.4	Y	Absent	TPH-1664(28)
L1425722-01N	Amber 1000ml HCl preserved	A	N/A	3.4	Y	Absent	TPH-1664(28)
L1425722-01O	Amber 500ml H2SO4 preserved	A	<2	3.4	Y	Absent	TPHENOL-420(28)
L1425722-01Q	Plastic 500ml unpreserved	A	7	3.4	Y	Absent	HEXCR-3500(1)
L1425722-01R	Plastic 250ml NaOH preserved	A	>12	3.4	Y	Absent	TCN-4500(14)
L1425722-01S	Plastic 500ml unpreserved	A	7	3.4	Y	Absent	CL-300(28),TRC-4500(1)
L1425722-01T	Plastic 950ml unpreserved	A	7	3.4	Y	Absent	TSS-2540(7)
L1425722-01U	Amber 1000ml unpreserved	A	7	3.4	Y	Absent	8270TCL(7)
L1425722-01V	Amber 1000ml unpreserved	A	7	3.4	Y	Absent	8270TCL(7)
L1425722-01W	Amber 1000ml unpreserved	A	7	3.4	Y	Absent	8270TCL-SIM(7)
L1425722-01X	Amber 1000ml unpreserved	A	7	3.4	Y	Absent	8270TCL-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1425722
Report Date: 11/03/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1425722-02A	Vial HCl preserved	A	N/A	3.4	Y	Absent	HOLD(14),HOLD-8260(14)
L1425722-02B	Vial HCl preserved	A	N/A	3.4	Y	Absent	HOLD(14),HOLD-8260(14)
L1425722-02C	Vial Na2S2O3 preserved	A	N/A	3.4	Y	Absent	HOLD(14),HOLD-8260(14)
L1425722-02D	Vial Na2S2O3 preserved	A	N/A	3.4	Y	Absent	HOLD(14),HOLD-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	MEDFORD MEWS	**Lab Number:**	L1425722
Project Number:	39858-044	**Report Date:**	11/03/14

GLOSSARY

Acronyms

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NI - Not Ignitable.

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

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

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

Footnotes

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

Terms

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

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

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

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

Report Format: Data Usability Report

Project Name:	MEDFORD MEWS	**Lab Number:**	L1425722
Project Number:	39858-044	**Report Date:**	11/03/14

Data Qualifiers

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name:	MEDFORD MEWS	**Lab Number:**	L1425722
Project Number:	39858-044	**Report Date:**	11/03/14

REFERENCES

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

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

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

5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

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

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

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

Last revised April 15, 2014

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

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

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

HALEY & ALDRICH
Haley & Aldrich, Inc.
465 Medford St.,
Suite 2200,
Boston, MA 02129-1402
Phone (617) 886-7400
Fax (617) 886-7600

CHAIN OF CUSTODY RECORD L142572

H&A FILE NO.	39858-044	LABORATC	ALPHA ANALYTICAL
PROJECT NAME	MEDFORD MEWS	ADDRESS	WESTBOROUGH, MA
H&A CONTACT	BRETT GRUNERT	CONTACT	GINA HALL

DELIVERY DATE 10/28/14
TURNAROUND TIME 5-DAY
PROJECT MANAGER ABBY COHAN

Sample No.	Date	Time	Depth	Type	1. SVOCs 8270/8270-SIM	2. PCBs 608	3. TSS 160.2	4. EDB 504.1	5. TPH 1664	6. Total Phenol 420.1	7. Total Metals	8. Dissolved Metals	9. TRC 330.1, Cl	10. TCN 335.2	11. Hex Cr SM 3500	12. VOCs 8260/8260-SIM	Number of Containers
HA13-02-RGP	10/28/2014	1200	-	AQ	*	~~*~~	*	*	*	*	*	*	*	*	*	*	23

Analysis Requested

Comments (special instructions, precautions, additional method numbers, etc.)

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

7. NPDES RGP list of metals: Cd, Cr, Cu, Pb, Ni, Ag, Zn, As, Se, Sb, Hg and Fe

8. Dissolved NPDES RGP list of metals (Field Filtered)

**HOLD FIELD FILTERED SAMPLE

Do not analyze trip blanks

Sampled and Relinquished by	Received by
Sign S. Prunel	Sign
Print S. Prunel	Print
Firm H+A	Firm
Date 10/28/14 Time	Date Time

Relinquished by	Received by
Sign	Sign
Print M Pusk	Print Wayne Prunel
Firm H+A	Firm Alpha
Date 10/28/14 Time 1613	Date 10/28/14 Time 1645

Relinquished by	Received by
Sign	Sign
Print Wayne Prunel	Print Richard Scott
Firm Alpha	Firm Alpha
Date 10/28/14 Time 1808	Date 10/28/14 Time 1808

	1. SVOCs 8270/8270-SIM	2. PCBs 608	3. TSS 160.2	4. EDB 504.1	5. TPH 1664	6. Total Phenol 420.1	7. Total Metals	8. Dissolved Metals	9. TRC 330.1, Cl	10. TCN 335.2	11. Hex Cr SM 3500	12. VOCs 8260/8260-SIM	
LIQUID													
				X								X	VOA Vial
	X	X			X	X							Amber Glass
			X				X	X	X	X	X		Plastic Bottle
	A	AH	A	AH	AF	AE	AD	AD	A	AC	A	A	Preservative
	1000	1000	1000	~~1000~~ 40	1000	500	250	250	500	250	500	40	Volume (mL)
SOLID													
													VOA Vial
													Amber Glass
													Clear Glass
													Preservative
													Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water $Na_2S_2O_3$ (circle)

Sampling Comments

Sample submitted for NPDES RGP permit application.

Please follow appropriate testng methods and minimum detection levels as required by the EPA for the RGP.

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

- ___ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
- ___ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
- ___ This Chain of Custody Record (specify) _____ includes ___X___ does not include samples defined as Drinking Water Samples.
- ___ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable)_____ analyze

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory GOLDENROD - Haley & Aldrich Contact APRIL 2011

ANALYTICAL REPORT

Lab Number:	L1428900
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Abby Cohan
Phone:	(617) 886-7473
Project Name:	MEDFORD MEWS
Project Number:	39858-044
Report Date:	12/09/14

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1428900
Report Date: 12/09/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1428900-01	HA13-02-RGP-A	WATER	Not Specified	12/02/14 12:30	12/02/14

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1428900
Report Date: 12/09/14

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	MEDFORD MEWS	**Lab Number:**	L1428900
Project Number:	39858-044	**Report Date:**	12/09/14

Case Narrative (continued)

Cyanide, Amenable

A Laboratory Duplicate were prepared with the sample batch, however, the native sample required re-analysis; therefore, the laboratory duplicate result could not be reported.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 12/09/14

INORGANICS
&
MISCELLANEOUS

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1428900
Report Date: 12/09/14

SAMPLE RESULTS

Lab ID: L1428900-01
Client ID: HA13-02-RGP-A
Sample Location: Not Specified
Matrix: Water

Date Collected: 12/02/14 12:30
Date Received: 12/02/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.109		mg/l	0.005	--	1	12/03/14 18:44	12/04/14 10:17	30,4500CN-CE	ML
Cyanide, Free	ND		ug/l	2.00	--	1	12/08/14 17:15	12/09/14 00:33	109,9016	AT
Cyanide, Amenable	ND		mg/l	0.010	--	2	12/08/14 10:20	12/08/14 17:46	30,4500CN-G	SP

Project Name: MEDFORD MEWS
Project Number: 39858-044
Lab Number: L1428900
Report Date: 12/09/14

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG745193-1										
Cyanide, Total	ND		mg/l	0.005	--	1	12/03/14 18:44	12/04/14 09:35	30,4500CN-CE	ML
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG745987-1										
Cyanide, Amenable	ND		mg/l	0.010	--	2	12/08/14 10:20	12/08/14 17:46	30,4500CN-G	SP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG746647-1										
Cyanide, Free	ND		ug/l	2.00	--	1	12/08/14 17:15	12/09/14 00:31	109,9016	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: MEDFORD MEWS

Project Number: 39858-044

Lab Number: L1428900

Report Date: 12/09/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG745193-2								
Cyanide, Total	96		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG745987-2								
Cyanide, Amenable	100		-			-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG746647-2								
Cyanide, Free	85		-		75-125	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1428900
Report Date: 12/09/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG745193-4 QC Sample: L1428736-05 Client ID: MS Sample												
Cyanide, Total	0.015	0.4	0.353	**88**	Q	-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG746647-3 QC Sample: L1428900-01 Client ID: HA13-02-RGP-A												
Cyanide, Free	ND	50	35.5	71		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1428900
Report Date: 12/09/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG745193-3 QC Sample: L1428736-05 Client ID: DUP Sample						
Cyanide, Total	0.015	0.016	mg/l	10		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG746647-4 QC Sample: L1428900-01 Client ID: HA13-02-RGP-A						
Cyanide, Free	ND	ND	ug/l	NC		20

Project Name: MEDFORD MEWS
Project Number: 39858-044

Lab Number: L1428900
Report Date: 12/09/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1428900-01A	Plastic 250ml NaOH preserved	A	>12	2.5	Y	Absent	TCN-4500(14),ACN-4500(14)
L1428900-01B	Brown Plastic 120ml NaOH preserv	A	>12	2.5	Y	Absent	FCN-9016(14)

*Values in parentheses indicate holding time in days

Project Name:	MEDFORD MEWS	**Lab Number:**	L1428900
Project Number:	39858-044	**Report Date:**	12/09/14

GLOSSARY

Acronyms

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NI - Not Ignitable.

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

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

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

Footnotes

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

Terms

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

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

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

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

Report Format: Data Usability Report

Project Name:	MEDFORD MEWS	**Lab Number:**	L1428900
Project Number:	39858-044	**Report Date:**	12/09/14

Data Qualifiers

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name:	MEDFORD MEWS	**Lab Number:**	L1428900
Project Number:	39858-044	**Report Date:**	12/09/14

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

109 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Revision 0, June 2010.

LIMITATION OF LIABILITIES

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

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

Certification Information

Last revised April 15, 2014

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

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

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

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465 Medford St.,
Suite 2200,
Boston, MA 02129-1402
Phone (617) 886-7400
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CHAIN OF CUSTODY RECORD

LM 28900

H&A FILE NO.	39858-044	LABORATORY	ALPHA ANALYTICAL
PROJECT NAME	MEDFORD MEWS	ADDRESS	WESTBOROUGH, MA
H&A CONTACT	BRETT GRUNERT	CONTACT	GINA HALL
DELIVERY DATE	12/2/14		
TURNAROUND TIME	5-DAY		
PROJECT MANAGER	ABBY COHAN		

Sample No.	Date	Time	Depth	Type	Analysis Requested: 1. Total Cyanide 335.2	2. Amenable Cyanide 335.1	3. Free Cyanide 9016	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
HA13-02-RGP-A	12/2/14	1230	-	AQ	X	X	X		Laboratory to use applicable DEP CAM methods, unless otherwise directed.

Sampled and Relinquished by	Received by
Sign A. Provencal	Sign M Walsh
Print S. Provencal	Print M Walsh
Firm H+A	Firm H&A
Date 12/2/14 Time	Date 12/2/14 Time 16:30
Relinquished by	**Received by**
Sign M Walsh	Sign
Print M Walsh	Print Wayne Plummer
Firm H&A	Firm Alpha
Date 12/2/14 Time 16:30	Date 12/2/14 Time 1630
Relinquished by	**Received by**
Sign	Sign
Print Wayne Plummer	Print Mohamad Osho
Firm Alpha	Firm Alpha
Date 12/2/14 Time 1754	Date 12/2/14 Time 1754

LIQUID	1. Total Cyanide 335.2	2. Amenable Cyanide 335.1	3. Free Cyanide 9016
VOA Vial			
Amber Glass			
Plastic Bottle	X	X	X
Preservative	A/C	A/C	A/C
Volume (mL)	250	250	100

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/Na2S2O3 (circle)

Sampling Comments

Sample submitted for NPDES RGP permit application.

Please follow appropriate testng methods and minimum detection levels as required by the EPA for the RGP.

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

MA The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

This Chain of Custody Record (specify) _____ includes X does not include samples defined as Drinking Water Samples.

If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyze

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory GOLDENROD - Haley & Aldrich Contact APRIL 2011