



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

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

APR 02 2014

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Peter Cormier
Turner Construction Company
2 Seaport Lane
Boston, MA 02210

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Harvard University Dunster House rehabilitation work site located at 945
Memorial Drive, Cambridge, MA 02138, Middlesex County; Authorization #
MAG910612

Dear Mr. Cormier:

Based on the review of a Notice of Intent (NOI) submitted by Sandhya N. Potana from
Haley&Aldrich on behalf of the President and Fellows of Harvard College, 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 check list attached regulates the presence of only few detected
metal parameters and total suspended solids marked "Believe Present". The rest of
pollutants including: volatile and semi volatile organics, polycyclic aromatic
hydrocarbons, total polychlorinated biphenyls, residual chlorine, total petroleum
hydrocarbon, total benzene, toluene, ethyl benzene and xylenes are reported "Believed
Absent". The influent data reported suggests to EPA that it is basically uncontaminated.

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 27.4 for this site is within

a dilution range greater than ten to fifty (>10 to 50), established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limits for antimony of 60 ug/L, arsenic of 100 ug/L, hexavalent chromium of 489 ug/L, copper of 52 ug/L, lead of 13 ug/L, nickel of 290 ug/L, zinc of 666 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 this project will terminate on February 1, 2016. You are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

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

Sincerely,



Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Lisa Peterson, Cambridge PWD
Sandhya N. Potana, Haley&Aldrich

**2010 Remediation General Permit
Summary of Monitoring Parameters^[1]**

NPDES Authorization Number:	MAG910612
Authorization Issued:	March, 2014
Facility/Site Name:	Harvard University Dunster House rehabilitation work
Facility/Site Address:	945 Memorial Drive, Cambridge, MA 02138 Middlesex
	Email address of owner:Bradford_semans@harvard.edu
Legal Name of Operator:	Turner Construction Company
Operator contact name, title, and Address:	Peter Cormier, 2 Seaport Lane, Boston, MA 02210, Suffolk County. Ph. 617-247-6400
	Email: pcormier@tcco.com
Estimated date of the site's Completion:	February 1, 2016
Category and Sub-Category:	Category III- Contaminated Construction Dewatering. Sub-category A. General Urban Fill Sites
RGP Termination Date:	September 10, 2015
Receiving Water:	Charles River

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

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

	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)
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/L/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	14. Naphthalene ⁵	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 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- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L & Me#625/ML 5ug/L

	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)
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) ^{8,9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

Metal parameter	Total Recoverable MA/Metal Limit $H^{10} = 50 \text{ mg/l}$ CaCO ₃ , Units = ug/l ^(11/12)		Minimum level=ML	
	Freshwater Limits			
39. Antimony	60		ML	10
40. Arsenic **	100		ML	20
41. Cadmium **	0.2		ML	10
42. Chromium III (trivalent) **	489		ML	15
43. Chromium VI (hexavalent) **	11.4		ML	10
44. Copper **	52		ML	15
45. Lead **	13		ML	20
46. Mercury **	0.9		ML	02
47. Nickel **	290		ML	20
48. Selenium **	5		ML	20
49. Silver	1.2		ML	10
50. Zinc **	666		ML	15
51. Iron	5,000		ML	20

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

Footnotes:

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

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

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

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

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

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

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

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

⁸ In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor 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.

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

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

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

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

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

¹⁴ Temperature sampling per Method 170.1



11 March 2014
File No. 39006-051

US Environmental Protection Agency
Industrial NPDES Permits (CIP)
5 Post Office Square
Mail Code OEP06-4
Boston, Massachusetts, 02109-3912

Attention: Ms. Shelly Puleo

Subject: Notice of Intent (NOI)
Temporary Construction Dewatering
Harvard University Dunster House
945 Memorial Drive
Cambridge, Massachusetts

Dear Ms. Puleo:

On behalf of our client, President and Fellows of Harvard College, 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 renovations to the Dunster House building ('site') located at 945 Memorial Drive in Cambridge, Massachusetts as shown on Figure 1 – Site Locus.

The site is located east of the intersection of De Wolfe Street and Cowperthwaite Street. The site is bounded by Mather House to the east, Memorial Drive to the west, Flagg Street to the south and Cowperthwaite Street to the north.

Proposed Construction

The proposed renovations to the Dunster House building include new utilities, new elevators, pits in the basement, renovations in the lower basement area, new piping below slabs and exterior site retaining walls. Some of the work requires underpinning existing foundations. The proposed improvements require excavations that extend below the groundwater level and temporary dewatering is necessary during construction to lower the groundwater level to enable construction in-the-dry.

Regulatory Background

The site is currently not an MCP Disposal Site. Collection of soil samples to characterize soil for off-site disposition will be conducted at a future date. If this sampling indicates a reporting condition for



regulated soil under the MCP, then a Release Notification Form (RNF) and either a Release Abatement Measure (RAM) Plan or a Response Action Outcome (RAO) will be submitted to MassDEP.

Groundwater Sampling

In support of the NOI, one groundwater sample (designated DH13-1_GW1) was obtained from observation well DH13-1 (OW), on 23 December 2013. The groundwater sample was submitted to Alpha Woods Hole Laboratory (Alpha Analytical) of Westborough, Massachusetts, a DEP certified laboratory, and analyzed for NPDES permit parameters including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), poly-aromatic hydrocarbons (PAHs), metals, total petroleum hydrocarbons (TPH), pesticides, polychlorinated biphenyls (PCBs), total suspended solids (TSS), chloride, total cyanide, amenable cyanide, physiologically available cyanide, total phenolics, and total residual chlorine.

The analytical results for the groundwater sample identified concentrations of total antimony and total lead above applicable NPDES RGP Effluent Limits but below applicable MCP RCGW-2 Reportable Concentrations. Note that the concentrations of total antimony and lead are below the acceptable levels of the receiving body of water considering the dilution factor. All other tested parameters were below MCP RCGW-2 Reportable Concentration and NPDES RGP Criteria. The results of groundwater quality testing conducted for this NOI are summarized in Table I. The location of the observation well is shown on Figure 2.

Dewatering System and Off-site Discharge

During construction, it will be necessary to perform temporary dewatering to control surface water runoff from precipitation, groundwater seepage and construction-generated water to enable construction in-the-dry. Construction and construction dewatering activities are currently anticipated to begin on 1 June 2014. On average, we estimate effluent discharge rates of about 20 to 100 gallons per minute (gpm) or less, with occasional peak flows of approximately 300 gpm during significant precipitation events. Temporary dewatering will be conducted from sumps located in excavations.

Prior to discharge under this NOI, collected water will be routed through a sedimentation tank with bag filters, to remove suspended solids and un-dissolved chemical constituents, as shown on Figure 4. Construction dewatering effluent under this RGP NOI will be routed to City of Cambridge outfall through manhole and drain lateral to Flagg Street. The storm drain discharges directly into Charles River. The proposed discharge route is shown on Figure 3 and the proposed treatment system schematic is shown on Figure 4.

Appendices

The completed "Suggested Notice of Intent" (NOI) form as provided in the RGP is enclosed in Appendix A. The Site is owned by Harvard University. The site operator is Turner Construction Company (Turner). Haley & Aldrich will monitor the Contractor's dewatering activities on behalf of Harvard University. In accordance with the requirements for this NOI submission, Harvard University

as the owner and Turner as the operator are listed as co-permittees for this NPDES RGP, and therefore both have signed the NOI form.

MassDEP Transmittal Form for Permit Application (BRP WM10A) is included in Appendix B. A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, is included in Appendix C. Appendices D and E include National Register of Historic Places and Endangered Species Act Documentation, respectively. Appendix F provides the City of Cambridge Dewatering Permit Application to be submitted separately to the City of Cambridge. A copy of the groundwater testing laboratory data report for sample obtained by Haley & Aldrich in December 2013 is provided in Appendix G.

Dilution Factor Application for Metals

A Dilution Factor (DF) was calculated for the detected levels of total metals greater than the applicable effluent limits. The DF is applicable to antimony and lead, and the calculated DF was used to find the appropriate Dilution Range concentrations for these metals. The DF was calculated using the following equation:

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

where Q_d is the maximum discharge flow rate, assumed to be 300 gallons per minute (GPM) or approximately 0.67 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, assumed to be 17.7 cfs based on data collected by the United States Geological Survey (USGS) and published in the "Clean Charles 2005 Water Quality Report, 2003 Core Monitoring Report" prepared by the US EPA Office of Environmental Measurement and Evaluation dated November 2004. Using these assumed values, the DF is equal to 27.41. According to Appendix IV of the Remediation General Permit, the ceiling limitations for the calculated dilution factor of 27.41 for antimony and lead are 60 µg/L and 13 µg/L, respectively. Testing of the groundwater at the site indicates that antimony and lead concentrations are below the applicable ceiling limitations.

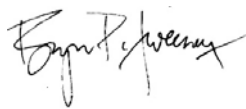
Closing

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.



Sandhya N. Potana
Project Manager



Bryan P. Sweeney, P.E.
Senior Vice President

Attachments:

Table I – Summary of Groundwater Quality Data

Figure 1 – Site Locus

Figure 2 – Subsurface Exploration Location Plan

Figure 3 – Proposed Dewatering Effluent Discharge Route

Figure 4 – Proposed Treatment System Schematic

Appendix A – Notice of Intent (NOI) for Remediation General Permit (RGP)

Appendix B – MassDEP Transmittal Form for Permit Application BRP WM10

Appendix C – Best Management Practices Plan (BMPP)

Appendix D – National Register of Historic Places and Massachusetts Historical
Commission Documentation

Appendix E – Endangered Species Act Documentation

Appendix F – City of Cambridge Dewatering Permit Application

Appendix G – Laboratory Data Reports

c: Harvard Planning & Project Management; Attn: Brad Seamans, Chris Candiello
Turner Construction Company; Attn: Chris Meyer, Peter Cormier, George Gaughan

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Table I

Summary of Groundwater Quality Data
 Harvard University Dunster House
 Cambridge, MA
 File No: 39006-051

LOCATION SAMPLING DATE LAB SAMPLE ID SAMPLE TYPE	RCGW-2 Reportable Concentration (ug/l)	NPDES RGP Effluent Discharge Criteria (at zero dilution) (ug/l)	NPDES RGP Effluent Discharge Criteria (based on dilution factor of 27.41) (ug/l)	DH13-1_GW1 12/23/2013 L1326102-01 GW
Volatile Organics by GC/MS (ug/l)				
Benzene	2000	BTEX		ND(0.25)
Toluene	40000	BTEX		ND(0.375)
Ethylbenzene	5000	BTEX		ND(0.25)
Xylenes, Total	5000	BTEX		ND(0.5)
Total BTEX	NA	100		ND
Total VOCs	NA	NA		ND
Volatile Organics by GC/MS-SIM (ug/l)				
1,4-Dioxane	6000	Monitor only		ND(1.5)
Semivolatile Organics by GC/MS (ug/l)				
Total SVOCs	NA	10		ND
SVOCs by GC/MS-SIM (ug/l)				
Total SVOCs	NA	10		ND
Total Metals (ug/l)				
Antimony, Total	8000	5.6	60	9.61
Arsenic, Total	900	10		1.46
Cadmium, Total	4	0.2		ND(0.1)
Chromium, Total	300	48.8		1.12
Copper, Total	100000	5.2		2.57
Iron, Total	NA	1000		290
Lead, Total	10	1.32	13	1.6
Mercury, Total	20	0.9		ND(0.1)
Nickel, Total	200	29		0.79
Selenium, Total	100	5		ND(2.5)
Silver, Total	7	1.2		ND(0.2)
Zinc, Total	900	66.6		14.92
PCBs by GC (ug/l)				
Total PCBs	NA	0.000064		ND
Anions by Ion Chromatography (ug/l)				
Chloride	NA	monitor only		292000
Microextractables by GC (ug/l)				
1,2-Dibromoethane	2	0.05		ND(0.005)
1,2-Dibromo-3-chloropropane	1000	0.05		ND(0.005)
Waste Characteristics				
Solids, Total Suspended (ug/l)	NA	30000		8200
Cyanide, Total (ug/l)	30	5.2		ND(2.5)
Cyanide, Amenable (ug/l)	NA	NA		ND(5)
Cyanide, Physiologically Available (ug/l)	30	NA		ND(2.5)
Chlorine, Total Residual (ug/l)	NA	11		ND(10)
TPH (ug/l)	5000	5000		ND(2200)
Phenolics, Total (ug/l)	NA	300		ND(15)
Chromium, Hexavalent (ug/l)	300	11.4		ND(5)

Notes and Abbreviations:

ND(15): Not detected; number in parentheses is one-half the laboratory detection limit.

NA: Not Applicable

1. Bold values indicate an exceedance of NPDES RGP Standards at zero dilution.

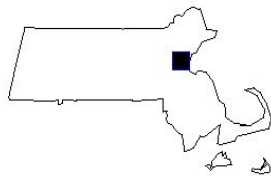
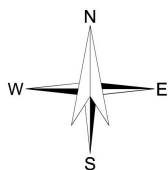
(Note that the concentrations of total antimony and lead are below the acceptable levels of the receiving body of water considering the dilution factor).

Haley & Aldrich, Inc.

G:\39006 Harvard River Houses\050 Dunster\NPDES\RGP Application\Tables\2013-1231-HAI-Dunster House GW Quality Data.xlsx1/22/2014



SITE COORDINATES: 42°22'7"N 71°6'58"W



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

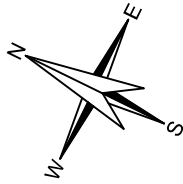
HALEY & ALDRICH

DUNSTER HOUSE
945 MEMORIAL DRIVE
CAMBRIDGE, MASSACHUSETTS

PROJECT LOCUS

SCALE: 1:24,000
JANUARY 2014

FIGURE 1



B-2(OW)

HA-D3

BSCE

637

HA-C2

HA-D1/
HA-D1(PZ)

BSCE

639

LEGEND:

- DH13-1
- DUNSTER-1
- NORTH TEST PIT
- HA-C2
- BSCE 631
- 1
- (OW)

NOTE:

1. BASE PLAN TAKEN FROM DRAWING C2.01 OF DESIGN DEVELOPMENT PLANS PREPARED BY VANASSE HANGEN BRUSTLIN, INC. AND DATED 30 APRIL 2013.

0 50 100
APPROXIMATE SCALE IN FEET

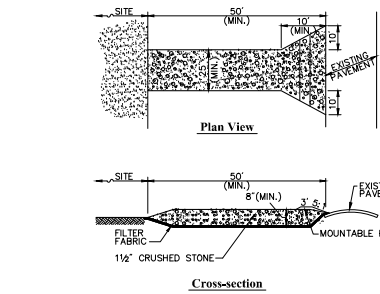
HALEY & ALDRICH

DUNSTER HOUSE
945 MEMORIAL DRIVE
CAMBRIDGE, MASSACHUSETTS

SUBSURFACE LOCATION PLAN

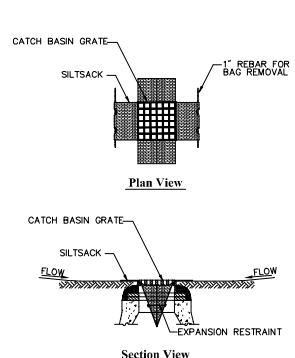
SCALE: AS SHOWN
MARCH 2014

FIGURE 2



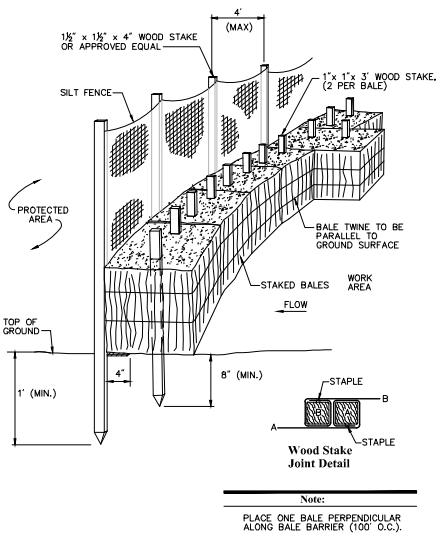
- Notes:
- ENTRANCE WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
 - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED, PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
 - STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

Stabilized Construction Exit 6/08
N.T.S. Source: VHB REV LD_682



- Notes:
- INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
 - GRATE TO BE PLACED OVER SILTSACK.
 - SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED.

Siltsack Sediment Trap 6/08
N.T.S. Source: VHB LD_674



Silt Fence / Straw Bale Barrier 2/11
N.T.S. Source: VHB LD_657

ARCHITECT
KIERANTIMBERLAKE
420 NORTH 20TH STREET
PHILADELPHIA, PA 19130
V 215-922-8800
F 215-922-4680
kieran@timberlake.com

STRUCTURAL ENGINEER AND ENVELOPE CONSULTANT
CVM
1002 WEST 9TH AVENUE
KING OF PRUSSIA, PA 19408
V 610-989-3800
F 610-989-3677

M/E/P/FP ENGINEER
VAN ZELM HEYWOOD & SHADFORD, INC.
10 TALCOTT NOTCH
FARMINGTON, CT 06032-1800
V 860-284-5064
F 860-284-5086

LANDSCAPE ARCHITECT
STEPHEN STIMSON ASSOCIATES
288 WOLFOLK STREET
CAMBRIDGE, MA 02139
V 617-879-8960
F 617-879-8966

CIVIL ENGINEER
VANASSE HANGEN BRUSTLIN, INC.
99 HIGH STREET, 10TH FLOOR
BOSTON, MA 02110-2354
V 617-728-7777
F 617-728-7762

INFORMATION TECHNOLOGY CONSULTANT
ACENTECH INC.
33 MILTON ST
CAMBRIDGE, MA 02138
V 617-499-8000
F 617-499-8014

HOUSE RENEWAL DUNSTER HOUSE

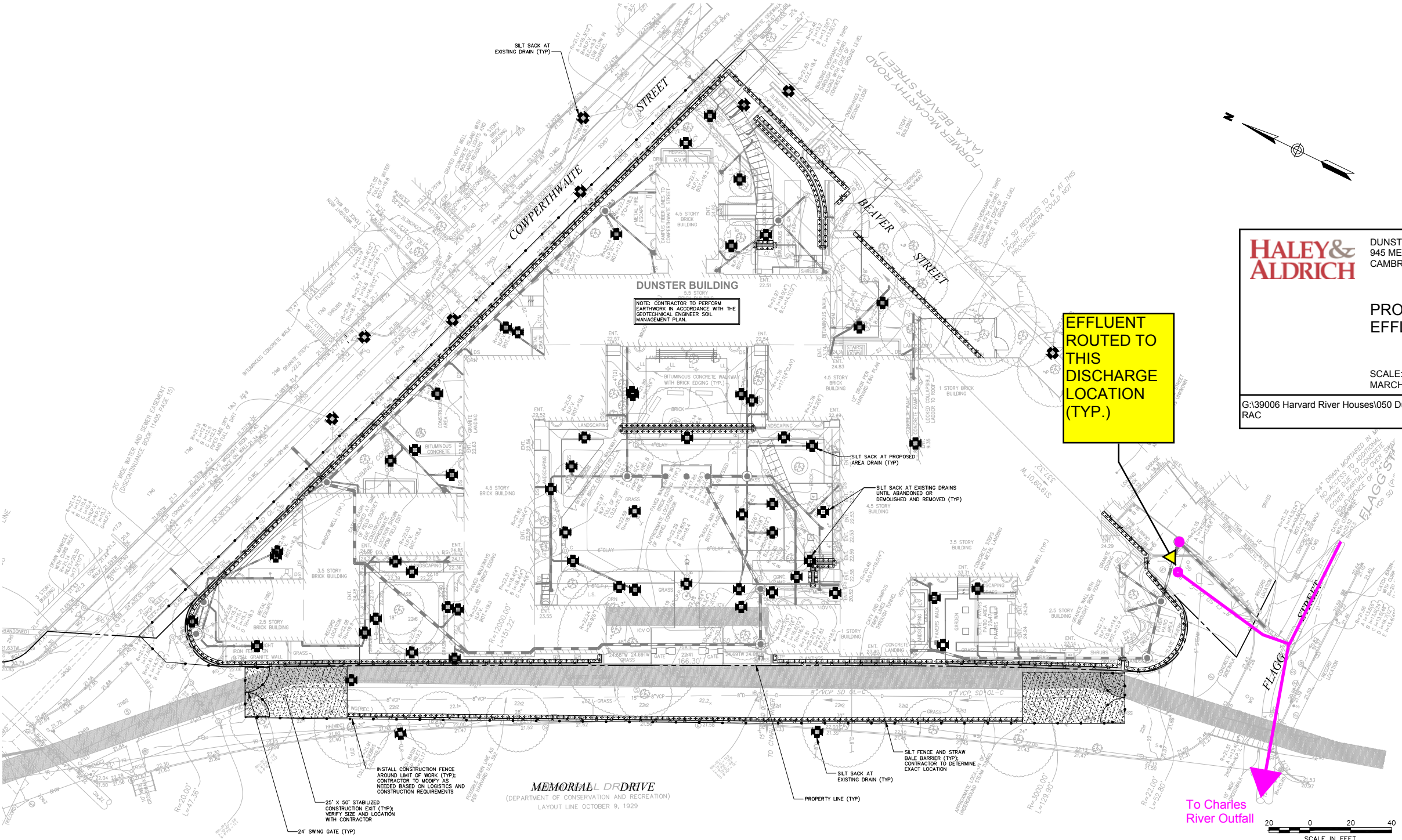
945 MEMORIAL DRIVE
CAMBRIDGE, MA 02138

KT PROJECT NO. 834

HARVARD UNIVERSITY



REVISIONS		
NO.	DATE	DESCRIPTION



HALEY & ALDRICH DUNSTER HOUSE
945 MEMORIAL DRIVE
CAMBRIDGE, MASSACHUSETTS

PROPOSED DEWATERING EFFLUENT DISCHARGE ROUTE

SCALE: AS SHOWN
MARCH 2014

FIGURE 3

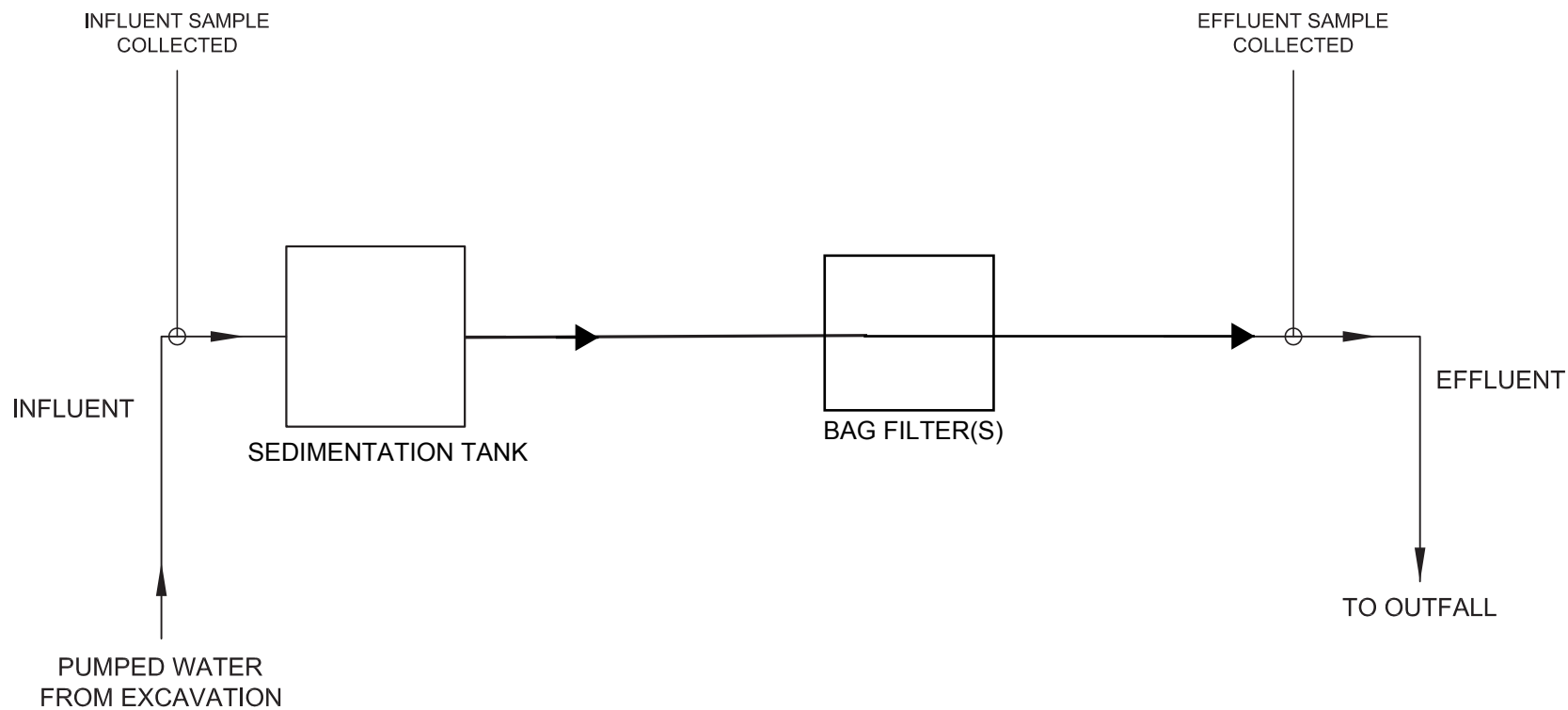
G:\39006 Harvard River Houses\050 Dunster\NPDES\IRGP Application\Figures\Figure 3 - Discharg RAC

PROJECT NORTH

EROSION AND
SEDIMENTATION
CONTROL PLAN

SCALE: 1" = 20'
DRAWN BY: WJN
CHECKED BY: JWP
CAD FILE
DATE: 27 NOVEMBER 2013

C2.02
BID SET



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**

HARVARD UNIVERSITY DUNSTER HOUSE BUILDING
945 MEMORIAL DRIVE
CAMBRIDGE, MASSACHUSETTS

**PROPOSED
TREATMENT SYSTEM
SCHEMATIC**

SCALE: NONE
JANUARY 2014

FIGURE 4

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 :		Facility/site mailing address:	
Location of facility/site : longitude: _____ latitude: _____	Facility SIC code(s):	Street:	
b) Name of facility/site owner :	President and Fellows of Harvard College	Town:	
Email address of facility/site owner:	State: Cambridge Park Apartments Limited Partnership	Zip:	County:
Telephone no. of facility/site owner :			
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:			
Town:	State:	Zip:	County:
c) Legal name of operator :	Operator telephone no:		
	Operator fax no.:		Operator email:
Operator contact name and title:			
Address of operator (if different from owner):	Street:		
Town:	State:	Zip:	County:

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.	
<u>Activity Category</u>	<u>Activity Sub-Category</u>
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:	
b) Provide the following information about each discharge:	
1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow _____ Is maximum flow a design value ? Y ____ N ____ Average flow (include units) _____ Is average flow a design value or estimate? _____
3) Latitude and longitude of each discharge within 100 feet: pt.1: lat. _____ long. _____; 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): _____	5) Is the discharge intermittent ____ or seasonal ____? Is discharge ongoing? Y ____ N ____
c) Expected dates of discharge (mm/dd/yy): start _____ end _____	
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).	

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.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)											
2. Total Residual Chlorine (TRC)											
3. Total Petroleum Hydrocarbons (TPH)											
4. Cyanide (CN)	57125										
5. Benzene (B)	71432										
6. Toluene (T)	108883										
7. Ethylbenzene (E)	100414										
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207										
9. Total BTEX ²	n/a										
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934										
11. Methyl-tert-Butyl Ether (MtBE)	1634044										
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650										

* 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.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
13. tert-Amyl Methyl Ether (TAME)	9940508										
14. Naphthalene	91203										
15. Carbon Tetrachloride	56235										
16. 1,2 Dichlorobenzene (o-DCB)	95501										
17. 1,3 Dichlorobenzene (m-DCB)	541731										
18. 1,4 Dichlorobenzene (p-DCB)	106467										
18a. Total dichlorobenzene											
19. 1,1 Dichloroethane (DCA)	75343										
20. 1,2 Dichloroethane (DCA)	107062										
21. 1,1 Dichloroethene (DCE)	75354										
22. cis-1,2 Dichloroethene (DCE)	156592										
23. Methylene Chloride	75092										
24. Tetrachloroethene (PCE)	127184										
25. 1,1,1 Trichloro-ethane (TCA)	71556										
26. 1,1,2 Trichloro-ethane (TCA)	79005										
27. Trichloroethene (TCE)	79016										

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

⁴The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329										
i. Acenaphthylene	208968										
j. Anthracene	120127										
k. Benzo(ghi) Perylene	191242										
l. Fluoranthene	206440										
m. Fluorene	86737										
n. Naphthalene	91203										
o. Phenanthrene	85018										
p. Pyrene	129000										
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.										
38. Chloride	16887006										
39. Antimony	7440360										
40. Arsenic	7440382										
41. Cadmium	7440439										
42. Chromium III (trivalent)	16065831										
43. Chromium VI (hexavalent)	18540299										
44. Copper	7440508										
45. Lead	7439921										
46. Mercury	7439976										
47. Nickel	7440020										
48. Selenium	7782492										
49. Silver	7440224										
50. Zinc	7440666										
51. Iron	7439896										
Other (describe):											

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>

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

<i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y____ N____	If yes, which metals?
<i>Step 2:</i> For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal:_____DF:_____ 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:

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:

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):			

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 _____ gpm Maximum flow rate of treatment system _____ gpm

Design flow rate of treatment system _____ gpm

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

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:					
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 _____					
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ 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)? DDT, Dissolved Oxygen, Oil and Grease, PCBs, pH					
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.

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:	President and Fellows of Harvard College
Owner Signature:	
Printed Name & Title:	Bradford Seamans, Senior Project Manager
Date:	3/11/14

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: Turner Construction Company

Operator signature: 

Printed Name & Title:

Date:

Appendix B
MassDEP Transmittal Form for Permit Application BRP WM10



Enter your transmittal number

X259216

Transmittal Number

Your unique Transmittal Number can be accessed online: <http://mass.gov/dep/service/online/trasmfrm.shtml>

Massachusetts Department of Environmental Protection

Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: DEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. **Copy 2** must accompany your fee payment. **Copy 3** should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

MassDEP
P.O. Box 4062
Boston, MA
02211

*** Note:**
For BWSC Permits,
enter the LSP.

A. Permit Information

BRP WM10

NPDES RGP

1. Permit Code: 7 or 8 character code from permit instructions

2. Name of Permit Category

Construction Dewatering

3. Type of Project or Activity

B. Applicant Information – Firm or Individual

President and Fellows of Harvard College

1. Name of Firm - Or, if party needing this approval is an individual enter name below:

2. Last Name of Individual

3. First Name of Individual

4. MI

1350 Massachusetts Avenue, 901

5. Street Address

Cambridge

MA

02138

617-495-4058

6. City/Town

7. State

8. Zip Code

9. Telephone #

10. Ext. #

Brad Seamans

bradford_seamans@harvard.edu

11. Contact Person

12. e-mail address (optional)

C. Facility, Site or Individual Requiring Approval

Harvard University Dunster House Renovations

1. Name of Facility, Site Or Individual

945 Memorial Drive

2. Street Address

Cambridge

MA

02138

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

8. DEP Facility Number (if Known)

9. Federal I.D. Number (if Known)

10. BWSC Tracking # (if Known)

D. Application Prepared by (if different from Section B)*

Haley & Aldrich, Inc.

1. Name of Firm Or Individual

465 Medford Street, Suite 2200

2. Address

Boston

MA

02129

617-886-7400

3. City/Town

4. State

5. Zip Code

6. Telephone #

7. Ext. #

Bryan P. Sweeney

8. Contact Person

9. LSP Number (BWSC Permits only)

E. Permit - Project Coordination

1. Is this project subject to MEPA review? ☐ yes ☒ no
If yes, enter the project's EOEA file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

EOEA File Number

F. Amount Due

Special Provisions:

1. ☐ Fee Exempt (city, town or municipal housing authority)(state agency if fee is \$100 or less).
There are no fee exemptions for BWSC permits, regardless of applicant status.
2. ☐ Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).
3. ☐ Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).
4. ☐ Homeowner (according to 310 CMR 4.02).

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

205668

\$385

1/29/2014

Check Number

Dollar Amount

Date

Appendix C
Best Management Practices Plan (BMPP)

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDATION GENERAL PERMIT
DUNSTER HOUSE RENOVATIONS
945 MEMORIAL DRIVE
CAMBRIDGE, MASSACHUSETTS**

Best Management Practices Plan

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction dewatering planned to occur during the proposed renovations of the Harvard University Dunster House building located at 945 Memorial Drive in Cambridge, 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 using a combination of drainage ditches and sumps located inside the excavation. Prior to discharge, collected water will likely be routed through a sedimentation tank and bag filter to remove suspended solids and un-dissolved chemical constituents. Construction dewatering effluent under this RGP NOI will be routed to City of Cambridge outfall through manhole and drain located lateral to Flagg Street. The drain discharges directly into Charles River.

Discharge Monitoring and Compliance

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

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

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

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

System Maintenance

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

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDATION GENERAL PERMIT
DUNSTER HOUSE RENOVATIONS
945 MEMORIAL DRIVE
CAMBRIDGE, MASSACHUSETTS**

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

Miscellaneous Items

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

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

No adverse affects of designated water uses of surrounding surface water bodies is anticipated. The Charles River is the nearest surface water body to the site located approximately 200 feet from the construction activities on site. Dewatering effluent will likely be pumped to a sedimentation tank and bag filter, prior to discharge to the storm drains.

Management of Treatment System Materials

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

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

Appendix D
National Register of Historic Places and Massachusetts Historical
Commission Documentation

NATIONAL REGISTER LINKS

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National Register of Historic Places Program: Research

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

Status of our collection:

We are currently digitizing our records. This has led us to splitting the collection into two parts: 1966-2012 and 2013-present.

Research Properties listed from 1966-2012 in 2 ways:

- **Our Database (Focus)** - which contains many digitized records.
[click here](#) to see what properties (by state) in Focus have been digitized
- **Download our complete spreadsheet of listed and removed properties 1966-2012.**
the spreadsheet is just a list of properties (both listed and removed)

Research Properties listed from 2013-present properties (fully digitized)

- [2013 Weekly List Search Engine](#)

Geographical (GIS) Data

- [Now available from our Data_Download page](#)

How to best find:

Multiple Property Covers:

Most MPS Covers have been scanned: use the [MPS spreadsheet](#) to find the reference number, then use the [advanced search feature](#) in Focus to search by reference number.

National Historic Landmark Files:

NHL properties are automatically listed in the National Register of Historic Places. Most NHL files have been scanned and are in [Focus](#). The NHL website has a [page that gives helpful tips](#) on finding the NHL file in Focus. This page on the NHL website

National Park Service Properties:

Most NPS Properties have been scanned and are in [Focus](#). You can search by Park name.

If an address is listed:

You can do an address search in the [spreadsheet \(for properties listed from 1966-2012\)](#) and in the [weekly list search engine](#) for new properties. Many properties are within historic districts. You can look for likely districts based on the address field in the spreadsheet. You can also try looking at the GIS data we have.

Determinations of Eligibility:

DOEs have not been scanned. You can download a spreadsheet of Federal DOEs from the [Download Center in Focus](#)

About National Register Documentation:

Since its inception in 1966, more than 88,000 properties have been listed in the National Register. Together these records hold information on more than 1.4 million individual resources--buildings, sites, districts, structures, and objects--and therefore provide a link to the country's heritage at the national, state, and local levels.

The Documentation consists of

- National Register registration form, which provides a physical description of the place, information about its history and significance, and a bibliography.
- Photographs - Use of photographs and forms is available under Fair Use, see our [Content and Copyright](#) page for more information
- Maps

Other ways to research our collection:

- Visit our archives. Open Monday through Friday 9:00am to noon. For security reasons, an appointment is necessary to access our building. To schedule an appointment please contact Jeff Joeckel: 202-354-2225 or [e-mail](#)
- **Many State Historic Preservation Offices (SHPOs) have digitized their files and put them online.** The depth of information available varies from state to state, but ranges from basic locational information to searchable databases with downloadable narrative descriptions and photos. You can check their websites to see if they have the information you need. [List of SHPOs extended information.](#)

Arkansas	New York
California	North Carolina
Colorado	Ohio
Illinois	Oklahoma
Louisiana	Pennsylvania
Michigan	Texas
Minnesota	Virginia
Mississippi	Washington
Missouri	Wyoming
Nebraska	

- Request copies of individual nominations either via [e-mail](#) please include your mailing address and the property name, county, and state. or postal mail:

National Register of Historic Places
National Park Service
1849 C St., NW (MS 2280)
Washington, DC 20240

Please note, due to irradiation of USPS mail in Washington, DC, we recommend sending official correspondence to us by direct or overnight mail at the following address:

1201 Eye St., NW
8th Floor (MS 2280)
Washington, DC 20005

Quicklinks

Search the National Register Database

Find out what we listed this past week

What's New / Features



Find Out About: [Abyssinian Meeting House](#)

More than just a church! See how this place of worship was the hub of Portland, Maine's African-American community, and touched lives as one of the northernmost "stops" of the Underground Railroad.



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Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

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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.](#)



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Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Cambridge; Street No: 945; Street Name: Memorial Dr; Resource Type(s): Area, Building, Structure;

Inv. No.	Property Name	Street	Town	Year
CAM.1201	Dunster House - Harvard University	945 Memorial Dr	Cambridge	1929

Massachusetts Cultural Resource Information

MACRIS

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For more information about this page and how to use it, [click here](#).

Inventory No:	CAM.1201
Historic Name:	Dunster House - Harvard University
Common Name:	
Address:	945 Memorial Dr
City/Town:	Cambridge
Village/Neighborhood:	Riverside; Cambridgeport, South
Local No:	AC; 131-65
Year Constructed:	1929
Architect(s):	Abbott; Coolidge, Shepley, Bulfinch
Architectural Style(s):	Colonial Revival
Use(s):	Dormitory
Significance:	Architecture; Education
	CAM.G: Cambridge Multiple Resource Area
Area(s):	 CAM.AC: Harvard Houses Historic District  CAM.AN: Harvard Riverfront
Designation(s):	Nat'l Register District (9/12/1986); Nat'l Register MRA (9/12/1986)

There is
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Massachusetts Cultural Resource Information System

MACRIS

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For more information about this page and how to use it, [click here](#).

Inventory No: CAM.AC 
Historic Name: Harvard Houses Historic District
Common Name:
Address:

City/Town: Cambridge
Village/Neighborhood: Cambridgeport; Riverside; Old Cambridge
Local No: OC I-6
Year Constructed:
Architect(s):
Architectural Style(s):
Use(s): Dormitory; Residential District
Significance: Architecture; Education
Area(s):
Designation(s): Nat'l Register District (9/12/1986); Nat'l Register MRA (9/12/1986)

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79000354	Abbot, Edwin, House	1 Follen St.	Cambridge	LI	19790510
82001883	Aborn, John, House	41 Orchard St.	Cambridge	LI	19820413
04000249	Alewife Brook Parkway	Alewife Brook Parkway	Cambridge	LI	20040318
82001908	Almshouse	41 Orchard St.	Cambridge	LI	19820413
82001906	American Net and Twine Company Factory	155 2nd St.	Cambridge	LI	19820401
82001916	Ash Street Historic District	Ash St. and Ash St. Place between Brattle and Mount Auburn	Cambridge	LI	19820413
82001917	Athenaeum Press	215 1st St.	Cambridge	LI	19820413
83000781	Atwood, Ephraim, House	110 Hancock St.	Cambridge	LI	19830630
72000128	Austin Hall	Harvard University campus	Cambridge	LI	19720419
83000782	Avon Hill Historic District	Washington and Walnut Aves. and Agassiz, Humboldt, Arlington	Cambridge	LI	19830630
82001918	B and B Chemical Company	780 Memorial Dr.	Cambridge	LI	19820413
76000272	Baldwin, Maria, House	196 Prospect St.	Cambridge	LI	19760511
82001919	Barnes, James B., House	200 Monsignor O'Brien Hwy.	Cambridge	LI	19820413
96000520	Beck--Warren House	1 Prescott St.	Cambridge	LI	19960520
86001272	Bennink--Douglas Cottages	35--51 Walker St.	Cambridge	LI	19860519
82001920	Berkeley Street Historic District	Berkeley St.	Cambridge	LI	19820413
86001265	Berkeley Street Historic District (Boundary Increase)	1--8 Berkeley Pl.	Cambridge	LI	19860519
86001270	Bertram Hall at Radcliffe College	53 Shepard St.	Cambridge	LI	19860519
82001921	Beth Israel Synagogue	238 Columbia St.	Cambridge	LI	19820413
82001922	Bigelow Street Historic District	Bigelow St.	Cambridge	LI	19820413
82001923	Billings, Frederick, House	45 Orchard St.	Cambridge	LI	19820413
75000295	Birkhoff, George D., House	22 Craigie	Cambridge	LI	19750515
97000561	Blake and Knowles Steam Pump Company National Register District	Bounded by Third, Binney, Fifth, and Rogers Sts.	Cambridge	LI	19970613
82001924	Bottle House Block	204-214 3rd St.	Cambridge	LI	19820413
86001276	Brabrook, E. H., House	42--44 Avon St.	Cambridge	LI	19860519
83000784	Bradbury, William F., House	369 Harvard St.	Cambridge	LI	19830630
82001925	Brattle Hall	40 Brattle St.	Cambridge	LI	19820413
73000286	Brattle, William, House	42 Brattle St.	Cambridge	LI	19730508
75000298	Bridgman, Percy, House	10 Buckingham Pl.	Cambridge	LI	19750515
86002068	Brooks, Luther, House	34 Kirkland St.	Cambridge	LI	19860912
82001926	Building at 10 Follen Street	10 Follen St.	Cambridge	LI	19820413
83000790	Building at 102-104 Inman Street	102-104 Inman St.	Cambridge	LI	19830630
83000789	Building at 104-106 Hancock Street	104-106 Hancock St.	Cambridge	LI	19830630
82001927	Building at 106-108 Inman St	106-108 Inman St.	Cambridge	LI	19820413
83000787	Building at 1707-1709 Cambridge Street	1707-1709 Cambridge St.	Cambridge	LI	19830630
83000788	Building at 1715-1717 Cambridge Street	1715-1717 Cambridge St.	Cambridge	LI	19830630
83000786	Building at 259 Mount Auburn Street	259 Mt. Auburn St.	Cambridge	LI	19830630
82001928	Building at 42 Edward J. Lopez Avenue	42 Edward J. Lopez Ave.	Cambridge	LI	19820413
82001929	Buildings at 110-112 Inman St.	110-112 Inman St.	Cambridge	LI	19820413
82001930	Buildings at 15-17 Lee St.	15-17 Lee St.	Cambridge	LI	19820413
83004293	Cambridge Common Historic District Amendment	Massachusetts Ave. and Garden, Waterhouse, Cambridge, and Garden	Cambridge	LI	19830630
73000281	Cambridge Common Historic District	Garden, Waterhouse, Cambridge, and Peabody Sts., and Massachusetts Ave.	Cambridge	LI	19730413
87000499	Cambridge Common Historic District (Boundary Increase and District)	Roughly NW of Waterhouse St. on Concord Ave. between Garden and Waterhouse	Cambridge	LI	19870126
02001189	Cambridge Home for the Aged and Infirm	650 Concord Ave.	Cambridge	LI	20021022
82001931	Cambridge Public Library	449 Broadway St.	Cambridge	LI	19820413
78000435	Carpenter Center for the Visual Arts	19 Prescott St.	Cambridge	LI	19780420
90000128	Central Square Historic District	Roughly Massachusetts Ave. from Clinton St. to Main St.	Cambridge	LI	19900302
78000436	Charles River Basin Historic District	Both banks of Charles River from Eliot Bridge to Charles River	Cambridge	LI	19781222
83000791	Child, Francis J., House	67 Kirkland St.	Cambridge	LI	19830630
66000140	Christ Church	Garden St.	Cambridge	LI	19661015
83000792	Church of the New Jerusalem	50 Quincy St.	Cambridge	LI	19830630
82001932	City Hall Historic District	Massachusetts Ave., Bigelow and Temple Sts, Inman and River	Cambridge	LI	19820413
83000793	Cloverden	29 Fallen St.	Cambridge	LI	19830630
82004968	Colburn, Sarah Foster, House	7 Dana St.	Cambridge	LI	19820413
82001933	Conventual Church of St. Mary and St. John	980 Memorial Dr.	Cambridge	LI	19820413
82001934	Cook, William, House	71 Appleton St.	Cambridge	LI	19820413
83000795	Coolidge, Josiah, House	24 Coolidge Hill Rd.	Cambridge	LI	19830630
72000124	Cooper-Frost-Austin House	21 Linnaean St.	Cambridge	LI	19720922
79000363	Cornerstone Baptist Church	2114 Massachusetts Ave.	Cambridge	RN	19800121
86001575	Craigie Arms	2--6 University Rd., 122 Mt. Auburn, and 6 Bennett Sts.	Cambridge	LI	19860710
83000796	cummings, e.e., House	104 Irving St.	Cambridge	LI	19830630
76000305	Daly, Reginald A., House	23 Hawthorn St.	Cambridge	LI	19760107
86001682	Dana--Palmer House	12--16 Quincy St.	Cambridge	LI	19860519
76000306	Davis, William Morris, House	17 Francis St.	Cambridge	LI	19760107
82001935	Day, Anna, House	139 Cushing St.	Cambridge	LI	19820413
82001936	Deane-Williams House	21-23 Fayette St.	Cambridge	LI	19820413
90000142	DeRosay--McNamee House	50 Mt. Vernon St.	Cambridge	LI	19900302
86002071	Divinity Hall	12 Divinity Ave.	Cambridge	LI	19860912
82001937	Dodge, Edward, House	70 Sparks St.	Cambridge	LI	19820413
86001279	Dunvegan, The	1654 Massachusetts Ave.	Cambridge	LI	19860519
83000797	East Cambridge Historic District	Roughly bounded by Cambridge, Hurley and 5th Sts.	Cambridge	LI	19830630
82001938	East Cambridge Savings Bank	292 Cambridge St.	Cambridge	LI	19820413
86001280	Eliot Hall at Radcliffe College	51 Shepard St.	Cambridge	LI	19860519
83000798	Ellis, Asa, House	158 Auburn St.	Cambridge	LI	19830630
66000364	Elmwood	33 Elmwood Ave.	Cambridge	LI	19661015

82001939	Farwell, R.H., House	2222-2224 Massachusetts Ave.	Cambridge	LI	19820413
83000799	Fay, Issac, House	123 Antrim St.	Cambridge	LI	19830630
75000249	First Baptist Church	Magazine and River Sts.	Cambridge	LI	19750414
83000800	Flentje, Ernst, House	129 Magazine St.	Cambridge	LI	19830630
86001282	Fogg Art Museum	26--32 Quincy St.	Cambridge	LI	19860519
86001681	Follen Street Historic District	1--44 and 5--29 Follen St.	Cambridge	LI	19860519
73000284	Fort Washington	95 Waverly St.	Cambridge	LI	19730403
82001940	Fresh Pond Hotel	234 Lakeview Ave.	Cambridge	LI	19820413
04001429	Fresh Pond Parkway--Metropolitan Park System of Greater Bos	Fresh Pond Parkway	Cambridge	LI	20050105
83000801	Frost, David, House	26 Gray St.	Cambridge	LI	19830630
83000802	Frost, Elizabeth, Tenanhouse	35 Bowdoin St.	Cambridge	LI	19830630
82001941	Frost, Robert, House	29-35 Brewster St.	Cambridge	LI	19820413
82001942	Frost, Walter, House	10 Frost St.	Cambridge	LI	19820413
71000686	Fuller, Margaret, House	71 Cherry St.	Cambridge	LI	19710702
87002543	Gale, George, House	14--16 Clinton St.	Cambridge	LI	19880210
83000803	Garfield Street Historic District	Garfield St. between Massachusetts Ave. and Oxford St.	Cambridge	LI	19830630
86001283	Gray Gardens East and West Historic District	1--37 Gray Gardens E, 3--24 Gray Gardens W, 91 Garden and	Cambridge	LI	19860519
66000655	Gray, Asa, House	88 Garden St.	Cambridge	LI	19661015
82001943	Greek Revival Cottage	59 Rice St.	Cambridge	LI	19820413
83000806	Hall Tavern	20 Gray Gardens West St.	Cambridge	LI	19830630
86001284	Hapgood, Richard, House	382--392 Harvard St.	Cambridge	LI	19860519
86002073	Harvard Houses Historic District	Roughly bounded by Mt. Auburn & Grant & Cowperwaite St	Cambridge	LI	19860912
78000440	Harvard Lampoon Building	44 Bow St.	Cambridge	LI	19780330
82001944	Harvard Square Historic District	Massachusetts Ave., Boylston and Brattle Sts.	Cambridge	LI	19820413
86003654	Harvard Square Historic District (Boundary Increase)	Roughly bounded by Harvard & Massachusetts Aves., Mt. Al	Cambridge	LI	19880728
78000441	Harvard Square Subway Kiosk	Massachusetts Ave. and Boylston St.	Cambridge	LI	19780130
82001945	Harvard Street Historic District	Harvard St. Between Ellery and Hancock Sts.	Cambridge	LI	19820413
87000500	Harvard Union	Quincy and Harvard Sts.	Cambridge	LI	19870126
87002137	Harvard Yard Historic District	Roughly bounded by underpass, Broadway & Quincy Sts., M	Cambridge	LI	19871214
82001946	Hastings Square Historic District	Roughly bounded by Rockingham, Henry, Chestnut and Broc	Cambridge	LI	19820413
70000681	Hastings, Oliver, House	101 Brattle St.	Cambridge	LI	19701230
78000442	Hasty Pudding Club	12 Holyoke St.	Cambridge	LI	19780109
82001947	Henderson Carriage Repository	2067-2089 Massachusetts Ave.	Cambridge	LI	19820413
82001948	Higginson, Col. Thomas Wentworth, House	29 Buckingham St.	Cambridge	LI	19820413
83000807	Hill, Aaron, House	17 Brown St.	Cambridge	LI	19830630
83000808	Holmes, Joseph, House	144 Coolidge Hill St.	Cambridge	LI	19830630
83004030	Homer-Lovell House	11 Forest St.	Cambridge	LI	19831222
83000809	Hooper-Eliot House	25 Reservoir Rd.	Cambridge	LI	19830630
79000355	Hooper-Lee Nichols House	159 Brattle St.	Cambridge	LI	19790615
83000811	Howe House	6 Appleton St.	Cambridge	LI	19830630
82001949	Howells, William Dean, House	37 Concord Ave.	Cambridge	LI	19820413
82001953	Hoyt, Benjamin, House	134 Otis St.	Cambridge	LI	19820413
82001950	Hubbard Park Historic District	Hubbard Park, Mercer Circle and Sparks Sts.	Cambridge	LI	19820413
82001951	Inman Square Historic District	Hampshire, Cambridge, and Inman Sts.	Cambridge	LI	19820413
86001308	Jarvis, The	27 Everett St.	Cambridge	LI	19860519
83000813	Jones, William R., House	307 Harvard St.	Cambridge	LI	19830630
89002285	Kennedy, F. A., Steam Bakery	129 Franklin St.	Cambridge	LI	19900104
82001952	Kidder-Sargent-McCrehan House	146 Rindge Ave.	Cambridge	LI	19820413
82001954	Kingsley, Chester, House	10 Chester St.	Cambridge	LI	19820413
86001683	Kirkland Place Historic District	Kirkland Pl.	Cambridge	LI	19860519
82001955	Lamson, Rufus, House	72-74 Hampshire St.	Cambridge	LI	19820413
82001956	Larches, The	22 Larch Rd.	Cambridge	LI	19820413
82001957	Lechmere Point Corporation Houses	45-51 Gore St. and 25 3rd St.	Cambridge	LI	19820413
76001970	Little, Arthur D., Inc., Building	Memorial Dr.	Cambridge	LI	19761208
86002070	Littlefield--Roberts House	16 Prescott St.	Cambridge	LI	19860912
66000049	Longfellow National Historic Site	105 Brattle St.	Cambridge	LI	19661015
83000814	Lovell Block	1853 Massachusetts Ave.	Cambridge	LI	19830630
86002076	Lovering, Joseph, House	38 Kirkland St.	Cambridge	LI	19860912
82001958	Lowell School	25 Lowell St.	Cambridge	LI	19820413
83000815	Lowell, The	33 Lexington Ave.	Cambridge	LI	19830630
83000816	Maple Avenue Historic District	Maple Ave. between Marie Ave. and Broadway	Cambridge	LI	19830630
82001959	Mason, Josiah, Jr., House	11 Market St.	Cambridge	LI	19820413
83000817	Mason, W. A., House	87 Raymond St.	Cambridge	LI	19830630
66000769	Massachusetts Hall, Harvard University	Harvard University Yard	Cambridge	LI	19661015
82001960	McLean, Isaac, House	2218 Massachusetts Ave.	Cambridge	LI	19820413
82001961	Mead, Alpheus, House	2200 Massachusetts Ave.	Cambridge	LI	19820413
82001962	Melvin, Isaac, House	19 Centre St.	Cambridge	LI	19820413
86001310	Memorial Drive Apartments Historic District	983--984, 985--986, 987--989, and 992--993 Memorial Dr.	Cambridge	LI	19860519
70000685	Memorial Hall, Harvard University	Cambridge and Quincy Sts., Harvard University campus	Cambridge	LI	19701230
86001311	Montrose, The	1648 Massachusetts Ave.	Cambridge	LI	19860519
75000254	Mount Auburn Cemetery	580 Mount Auburn St.	Cambridge	LI	19750421
83000818	Mount Auburn Cemetery Reception House	583 Mt. Auburn St.	Cambridge	LI	19830630
05001209	New England Confectionery Company Factory	250 Massachusetts Ave.	Cambridge	LI	20051109
82001963	Newman, Andrew, House	23 Fairmont St.	Cambridge	LI	19820413
82001964	Norfolk Street Historic District	Norfolk St. between Suffolk and Austin Sts.	Cambridge	LI	19820413

83000819	North Avenue Congregational Church	183 Massachusetts Ave.	Cambridge	LI	19830630
82001965	Noyes, J.A., House	1 Highland St.	Cambridge	LI	19820413
82001967	Odd Fellows Hall	536 Massachusetts Ave.	Cambridge	LI	19820413
82001968	Old Cambridge Baptist Church	398 Harvard St.	Cambridge	LI	19820413
83000821	Old Cambridge Historic District	Irregular pattern along Brattle St.	Cambridge	LI	19830630
83000820	Old Cambridgeport Historic District	Cherry, Harvard and Washington Sts.	Cambridge	LI	19830630
73000287	Old Harvard Yard	Massachusetts Ave. and Cambridge St.	Cambridge	LI	19730206
82001969	Opposition House	2-4 Hancock Pl.	Cambridge	LI	19820413
83000822	Orne, Sarah, House	10 Coolidge Hill Rd.	Cambridge	LI	19830630
86001312	Peabody Court Apartments	41--43 Linnaean St.	Cambridge	LI	19860519
83000824	Porcellian Club	1320-24 Massachusetts Ave.	Cambridge	LI	19830630
73000288	Pratt, Dexter, House	54 Brattle St.	Cambridge	LI	19730508
82001970	Prospect Congregational Church	99 Prospect St.	Cambridge	LI	19820413
82001971	Read, Cheney, House	135 Western Ave.	Cambridge	LI	19820413
82001972	Reardon, Edmund, House	195 Erie St.	Cambridge	LI	19820413
85002663	Reversible Collar Company Building	25--27 Mt. Auburn & 10--12 Arrow Sts.	Cambridge	LI	19850927
76001999	Richards, Theodore W., House	17 Follen St.	Cambridge	LI	19760107
82001973	River Street Firehouse	176 River St.	Cambridge	LI	19820413
82001974	Sacred Heart Church, Rectory, School and Convent	6th and Thorndike Sts.	Cambridge	LI	19820413
82001975	Salem-Auburn Streets Historic District	Salem and Auburn Sts.	Cambridge	LI	19820413
76000238	Sands, Hiram, House	22 Putnam Ave.	Cambridge	LI	19760430
82001976	Sands, Ivory, House	145 Elm St.	Cambridge	LI	19820413
83000825	Saunders, William, House	6 Prentiss St.	Cambridge	LI	19830630
86002075	Sears Tower--Harvard Observatory	60 Garden St.	Cambridge	LI	19870226
83000826	Second Cambridge Savings Bank Building	11-21 Dunster St.	Cambridge	LI	19830630
83000827	Second Waterhouse House	9 Follen St.	Cambridge	LI	19830630
70000732	Sever Hall, Harvard University	Harvard Yard	Cambridge	LI	19701230
86001680	Shady Hill Historic District	Roughly bounded by Museum, Beacon and Holden, and Kirk	Cambridge	LI	19860519
94000546	Shell Oil Company "Spectacular" Sign	187 Magazine St.	Cambridge	LI	19940603
82001977	Slowey, Patrick, House	73 Bolton St.	Cambridge	LI	19820413
82001978	Soule, Lawrence, House	11 Russell St.	Cambridge	LI	19820413
83000828	St. James Episcopal Church	1991 Massachusetts Ave.	Cambridge	LI	19830630
83000829	St. John's Roman Catholic Church	2270 Massachusetts Ave.	Cambridge	LI	19830630
86001313	Stanstead, The	19 Ware St.	Cambridge	LI	19860519
86001315	Stickney--Shepard House	11--13 Remington St.	Cambridge	LI	19860519
89001246	Stoughton, Mary Fisk, House	90 Brattle St.	Cambridge	LI	19890629
82001979	Taylor Square Firehouse	113 Garden St.	Cambridge	LI	19820413
86002078	Treadwell--Sparks House	21 Kirkland St.	Cambridge	LI	19860912
82001980	Union Railway Car Barn	613-621 Cambridge St.	Cambridge	LI	19820413
70000736	University Hall, Harvard University	Harvard Yard	Cambridge	LI	19701230
86002081	University Museum	11--25 Divinity Ave.	Cambridge	LI	19860912
82001981	Upper Magazine Street Historic District	Cottage, Magazine, William and Perry Sts.	Cambridge	LI	19820413
83000831	Urban Rowhouse	26-32 River St.	Cambridge	LI	19830630
82001982	Urban Rowhouse	40-48 Pearl St.	Cambridge	LI	19820413
82001983	Urban Rowhouse	30-38 Pearl St.	Cambridge	LI	19820413
86001343	US Post Office--Central Square	770 Massachusetts Ave.	Cambridge	LI	19860618
83000832	Valentine Soap Workers Cottage	5-7 Cottage St.	Cambridge	LI	19830630
83000833	Valentine Soap Workers Cottage	101 Pearl St.	Cambridge	LI	19830630
83000834	Vinal, Albert, House	325 Harvard St.	Cambridge	LI	19830630
94000554	Walden Street Cattle Pass	Adjacent to MBTA right-of-way at Walden St.	Cambridge	LI	19940603
83000835	Ware Hall	383 Harvard St.	Cambridge	LI	19830630
86001317	Warren, Langford H., House	6 Garden Terr.	Cambridge	LI	19860519
82001984	Watson, Abraham, House	181-183 Sherman St.	Cambridge	LI	19820413
82001985	Willis, Stillman, House	1 Potter Park	Cambridge	LI	19820413
82001986	Winter Street Historic District	Winter St.	Cambridge	LI	19820413
86001318	Withey, S. B., House	10 Applan Way	Cambridge	LI	19860519
86001319	Wood, J. A., House	3 Sacramento St.	Cambridge	LI	19860519
82001987	Wyeth Brickyard Superintendent's House	336 Rindge Ave.	Cambridge	LI	19820413
82001988	Wyeth, John, House	56 Aberdeen Ave.	Cambridge	LI	19820413
82001989	Wyeth-Smith House	152 Vassal Lane	Cambridge	LI	19820413

Appendix E
Endangered Species Act Documentation

MassDEP - Bureau of Waste Site Cleanup

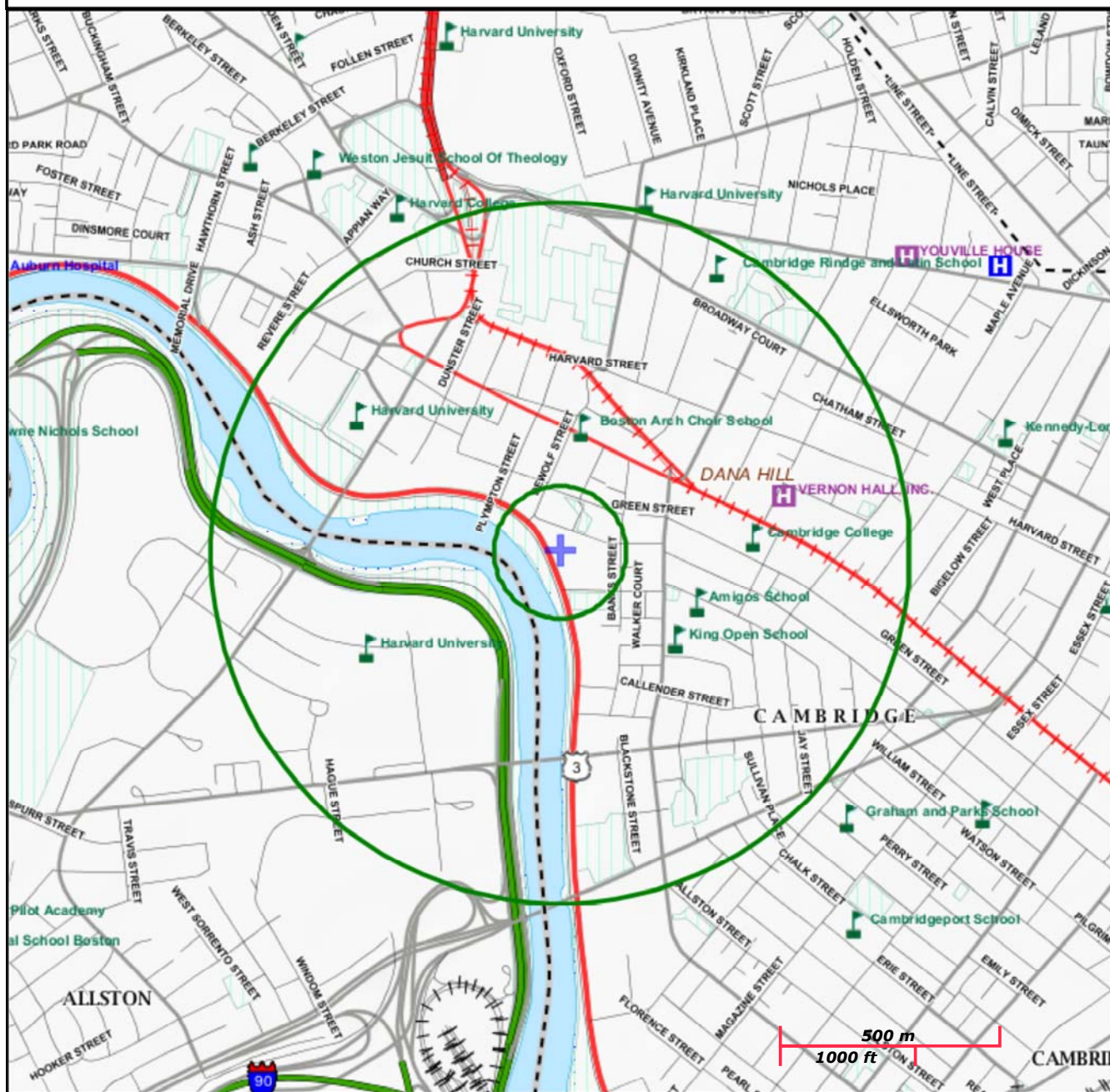
Site Information: MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

DUNSTER HOUSE
945 MEMORIAL DRIVE CAMBRIDGE, MA
NAD83 UTM Meters:
4692868mN, 325739mE (Zone: 19)
January 21, 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.

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

Towns with ACECs within their Boundaries

November 2010

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

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.

The Official Website of the Department of Fish and Game (DFG)

Department of Fish and Game

Commissioner Mary B. Griffin

DFG Home Mass.Gov Home State Agencies State Online Services



MassWildlife

Massachusetts Division of Fisheries & Wildlife

Wayne F. MacCallum, Director



Natural Heritage & Endangered Species

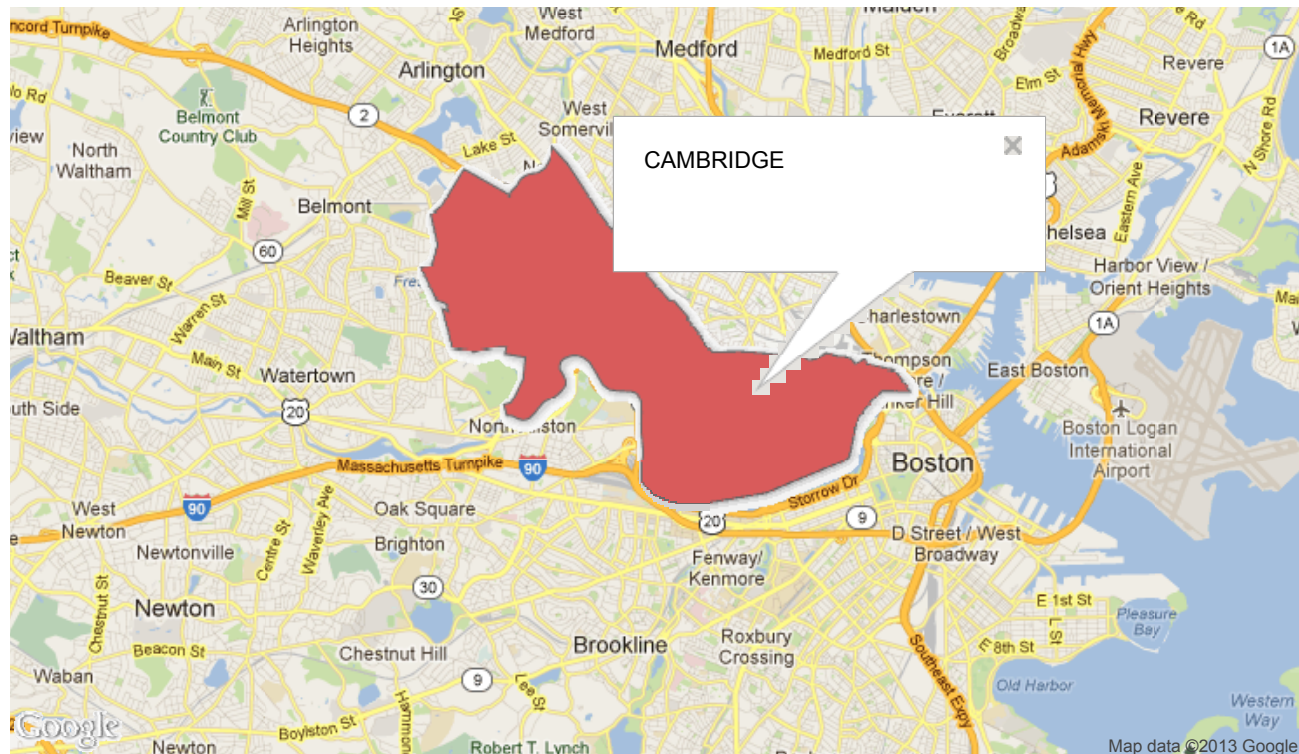
[Home](#)
[Recreation](#)
[Wildlife](#)
[Fisheries](#)
[Natural Heritage](#)
[Habitat](#)
[Education](#)

Rare Species by Town

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



Download data as [xls](#) or [csv](#) file.

Showing 1 to 25 of 25 entries

Search:

First Previous 1 Next Last

Town	Scientific Name	Common Name	MESA Status	Most Recent Obs
CAMBRIDGE	Ambystoma laterale	Blue-spotted Salamander	SC	1917
CAMBRIDGE	Scaphiopus holbrookii	Eastern Spadefoot	T	1892
CAMBRIDGE	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	SC	1932
CAMBRIDGE	Ammodramus henslowii	Henslow's Sparrow	E	1871
CAMBRIDGE	Botaurus lentiginosus	American Bittern	E	1906
CAMBRIDGE	Cistothorus platensis	Sedge Wren	E	1840
CAMBRIDGE	Falco peregrinus	Peregrine Falcon	E	2010
CAMBRIDGE	Gallinula chloropus	Common Moorhen	SC	1890
CAMBRIDGE	Ixobrychus exilis	Least Bittern	E	1890
CAMBRIDGE	Tyto alba	Barn Owl	SC	Historic
CAMBRIDGE	Eacles imperialis	Imperial Moth	T	Historic
CAMBRIDGE	Notropis bifrenatus	Bridle Shiner	SC	1928
CAMBRIDGE	Ligumia nasuta	Eastern Pondmussel	SC	1940
CAMBRIDGE	Glyptemys insculpta	Wood Turtle	SC	Historic
CAMBRIDGE	Terrapene carolina	Eastern Box Turtle	SC	1892
CAMBRIDGE	Macrobdeella sestertia	New England Medicinal Leech	SC	1800s
CAMBRIDGE	Carex gracilescens	Slender Woodland Sedge	E	1891
CAMBRIDGE	Cyperus engelmannii	Engelmann's Umbrella-sedge	T	2008
CAMBRIDGE	Gentiana andrewsii	Andrews' Bottle Gentian	E	2010
CAMBRIDGE	Isoetes lacustris	Lake Quillwort	E	Historic
CAMBRIDGE	Platanthera flava var. herbiola	Pale Green Orchis	T	Historic
CAMBRIDGE	Potamogeton friesii	Fries' Pondweed	E	1880
CAMBRIDGE	Scirpus longii	Long's Bulrush	T	1913
CAMBRIDGE	Suaeda calceoliformis	American Sea-blite	SC	1912
CAMBRIDGE	Viola brittoniana	Britton's Violet	T	1843

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.

For more information about a particular species, view the list of [Natural Heritage Fact Sheets](#).

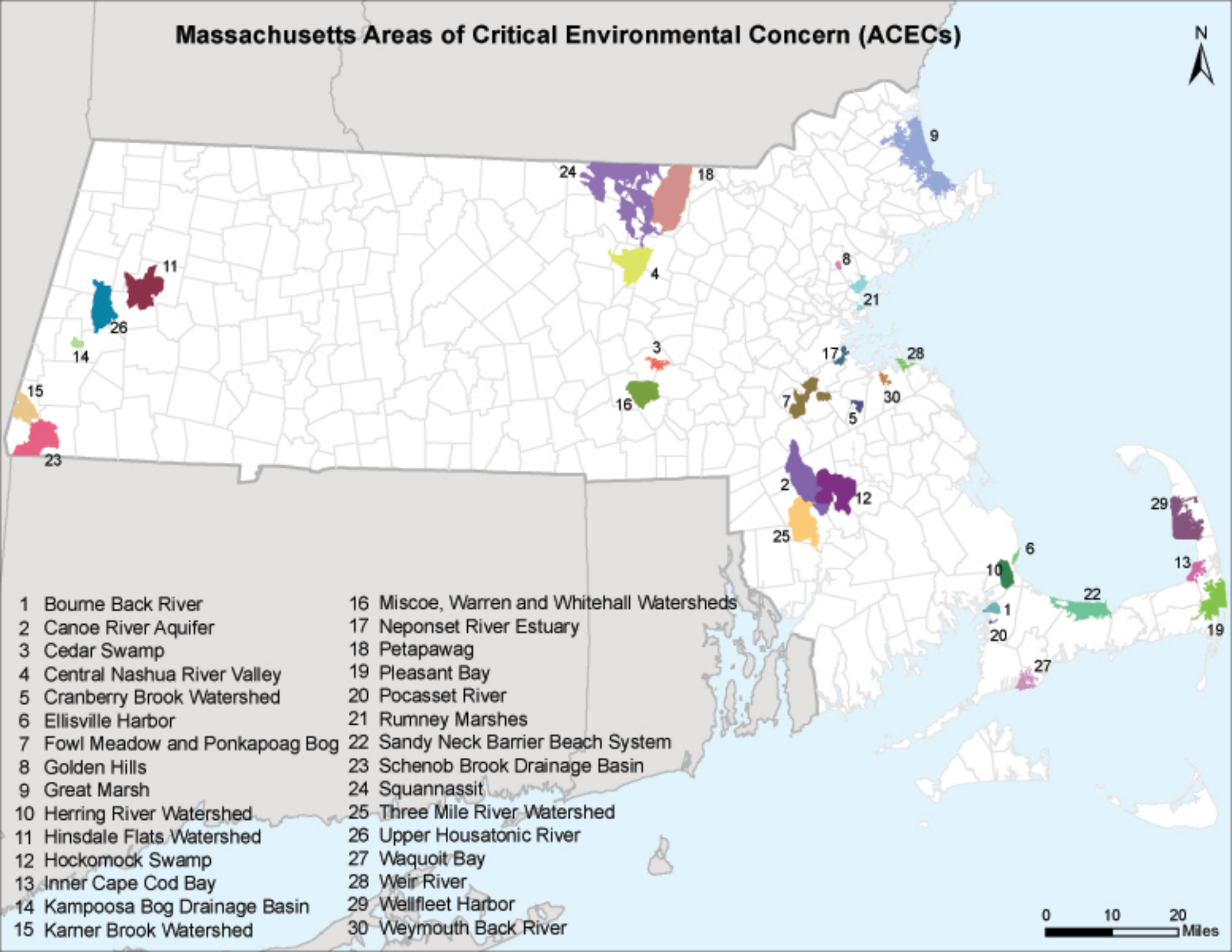
[MassWildlife](#) | [Dept. Fish & Game](#) | [Energy & Env. Affairs](#) | [MassGov](#) | [Site Map](#) | [Privacy Policy](#) | [Accessibility](#) | [Webmaster](#)

Massachusetts Division of Fisheries and Wildlife, 1 Rabbit Hill Rd, Westborough, MA 01581

Tel: (508) 389-6300; Fax: (508) 389-7890

Natural Heritage & Endangered Species Program Tel: (508) 389-6360; Fax: (508) 389-7891

Massachusetts Areas of Critical Environmental Concern (ACECs)



0 10 20 Miles

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

Appendix F
City of Cambridge – Permit to Dewater



PERMIT TO DEWATER

Location: 945 Memorial Drive, Cambridge MA 02138
Owner: President and Fellows of Harvard College
Contractor: Turner Construction Company

Temporary ☒
Permanent ☐

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

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

National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP)
Application for Temporary Construction Dewatering at Harvard University Dunster House, 945
Memorial Drive, Cambridge, Massachusetts. +

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

N/A (per City of Cambridge DPW)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

City Manager



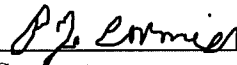
Property Manager: Corporate Entity
President, General Partner or Trustee
Trustee with Instrument of Authority

3-11-14

Date

Date

City Solicitor



Contractor

3 - 7 - 14

Date

Date

Commissioner of Public

Contractor

Date

Date

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

APPENDIX G
Laboratory Data Reports



ANALYTICAL REPORT

Lab Number:	L1326102
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Andrew Chan
Phone:	(617) 886-7490
Project Name:	DUNSTER HOUSE
Project Number:	39006-051
Report Date:	12/31/13

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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: DUNSTER HOUSE
Project Number: 39006-051

Lab Number: L1326102
Report Date: 12/31/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1326102-01	DH13-1_GW1	Not Specified	12/23/13 10:30
L1326102-02	DH13-1_GW1 (FILTERED)	Not Specified	12/23/13 10:30

Project Name: DUNSTER HOUSE
Project Number: 39006-051

Lab Number: L1326102
Report Date: 12/31/13

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for 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: DUNSTER HOUSE
Project Number: 39006-051

Lab Number: L1326102
Report Date: 12/31/13

Case Narrative (continued)

Sample Receipt

L1326102-01 (DH13-1_GW1) was received without containers for the Total Cyanide, Amenable Cyanide and Physiologically Available Cyanide analyses. Aliquots were taken from unpreserved containers and preserved appropriately.

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:



Cynthia McQueen

Title: Technical Director/Representative

Date: 12/31/13

ORGANICS

VOLATILES

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01
Client ID: DH13-1_GW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/30/13 11:24
Analyst: TR

Date Collected: 12/23/13 10:30
Date Received: 12/23/13
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
1,1-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
Trichloroethene	ND		ug/l	0.50	--	1
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

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01

Date Collected: 12/23/13 10:30

Client ID: DH13-1_GW1

Date Received: 12/23/13

Sample Location: Not Specified

Field Prep: Not Specified

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

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01

Date Collected: 12/23/13 10:30

Client ID: DH13-1_GW1

Date Received: 12/23/13

Sample Location: Not Specified

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-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	94		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	102		70-130

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01
Client ID: DH13-1_GW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 12/30/13 11:24
Analyst: TR

Date Collected: 12/23/13 10:30
Date Received: 12/23/13
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS-SIM - Westborough Lab						
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1,4-Dioxane	ND		ug/l	3.0	--	1
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Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01
Client ID: DH13-1_GW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 12/30/13 18:23
Analyst: GP

Date Collected: 12/23/13 10:30
Date Received: 12/23/13
Field Prep: Not Specified
Extraction Date: 12/30/13 09:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--	1	A

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 14,504.1**Analytical Date:** 12/30/13 17:35**Analyst:** GP**Extraction Date:** 12/30/13 09:45

Parameter	Result	Qualifier	Units	RL	MDL
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG662182-1					
1,2-Dibromoethane	ND		ug/l	0.010	-- A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	-- A

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/30/13 06:29
 Analyst: TR

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG662250-3					
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	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
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	--
1,1-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	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/30/13 06:29
 Analyst: TR

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG662250-3					
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	--
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	--

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/30/13 06:29
 Analyst: TR

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG662250-3					
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	--
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--
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	--
Methyl Acetate	ND		ug/l	10	--
Ethyl Acetate	ND		ug/l	10	--
Isopropyl Ether	ND		ug/l	2.0	--
Cyclohexane	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	--
Methyl cyclohexane	ND		ug/l	10	--
p-Diethylbenzene	ND		ug/l	2.0	--
4-Ethyltoluene	ND		ug/l	2.0	--
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	--

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**Method Blank Analysis**
Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/30/13 06:29

Analyst: TR

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG662250-3					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	97		70-130

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**Method Blank Analysis**
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)

Analytical Date: 12/30/13 10:51

Analyst: TR

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG662252-3					
1,4-Dioxane	ND		ug/l	3.0	--

Lab Control Sample Analysis Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01 Batch: WG662182-2									
1,2-Dibromoethane	108		-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	106		-		70-130	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG662250-1 WG662250-2								
Methylene chloride	80		84		70-130	5		20
1,1-Dichloroethane	84		81		70-130	4		20
Chloroform	107		111		70-130	4		20
Carbon tetrachloride	103		110		63-132	7		20
1,2-Dichloropropane	113		119		70-130	5		20
Dibromochloromethane	96		114		63-130	17		20
1,1,2-Trichloroethane	103		113		70-130	9		20
2-Chloroethylvinyl ether	82		77		70-130	6		20
Tetrachloroethene	110		119		70-130	8		20
Chlorobenzene	104		104		75-130	0		25
Trichlorofluoromethane	72		77		62-150	7		20
1,2-Dichloroethane	98		109		70-130	11		20
1,1,1-Trichloroethane	106		114		67-130	7		20
Bromodichloromethane	101		114		67-130	12		20
trans-1,3-Dichloropropene	107		124		70-130	15		20
cis-1,3-Dichloropropene	111		117		70-130	5		20
1,1-Dichloropropene	106		112		70-130	6		20
Bromoform	92		98		54-136	6		20
1,1,2,2-Tetrachloroethane	102		104		67-130	2		20
Benzene	113		116		70-130	3		25
Toluene	108		122		70-130	12		25

Lab Control Sample Analysis Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG662250-1 WG662250-2								
Ethylbenzene	105		105		70-130	0		20
Chloromethane	109		116		64-130	6		20
Bromomethane	83		88		39-139	6		20
Vinyl chloride	95		100		55-140	5		20
Chloroethane	70		77		55-138	10		20
1,1-Dichloroethene	83		87		61-145	5		25
trans-1,2-Dichloroethene	85		84		70-130	1		20
Trichloroethene	111		115		70-130	4		25
1,2-Dichlorobenzene	103		102		70-130	1		20
1,3-Dichlorobenzene	102		100		70-130	2		20
1,4-Dichlorobenzene	104		100		70-130	4		20
Methyl tert butyl ether	83		80		63-130	4		20
p/m-Xylene	102		103		70-130	1		20
o-Xylene	103		102		70-130	1		20
cis-1,2-Dichloroethene	112		104		70-130	7		20
Dibromomethane	98		110		70-130	12		20
1,4-Dichlorobutane	108		109		70-130	1		20
1,2,3-Trichloropropane	104		105		64-130	1		20
Styrene	102		102		70-130	0		20
Dichlorodifluoromethane	97		101		36-147	4		20
Acetone	76		62		58-148	20		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG662250-1 WG662250-2								
Carbon disulfide	77		91		51-130	17		20
2-Butanone	98		102		63-138	4		20
Vinyl acetate	80		72		70-130	11		20
4-Methyl-2-pentanone	115		118		59-130	3		20
2-Hexanone	110		103		57-130	7		20
Ethyl methacrylate	115		131	Q	70-130	13		20
Acrylonitrile	83		81		70-130	2		20
Bromochloromethane	99		94		70-130	5		20
Tetrahydrofuran	107		120		58-130	11		20
2,2-Dichloropropane	109		110		63-133	1		20
1,2-Dibromoethane	102		104		70-130	2		20
1,3-Dichloropropane	105		106		70-130	1		20
1,1,1,2-Tetrachloroethane	103		106		64-130	3		20
Bromobenzene	109		106		70-130	3		20
n-Butylbenzene	101		100		53-136	1		20
sec-Butylbenzene	101		98		70-130	3		20
tert-Butylbenzene	105		101		70-130	4		20
o-Chlorotoluene	105		103		70-130	2		20
p-Chlorotoluene	104		101		70-130	3		20
1,2-Dibromo-3-chloropropane	93		112		41-144	19		20
Hexachlorobutadiene	129		136	Q	63-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG662250-1 WG662250-2								
Isopropylbenzene	104		100		70-130	4		20
p-Isopropyltoluene	102		99		70-130	3		20
Naphthalene	96		105		70-130	9		20
n-Propylbenzene	106		104		69-130	2		20
1,2,3-Trichlorobenzene	107		114		70-130	6		20
1,2,4-Trichlorobenzene	108		116		70-130	7		20
1,3,5-Trimethylbenzene	106		102		64-130	4		20
1,3,5-Trichlorobenzene	111		108		70-130	3		20
1,2,4-Trimethylbenzene	107		106		70-130	1		20
trans-1,4-Dichloro-2-butene	87		89		70-130	2		20
Ethyl ether	82		89		59-134	8		20
Methyl Acetate	85		84		70-130	1		20
Ethyl Acetate	108		117		70-130	8		20
Isopropyl Ether	83		81		70-130	2		20
Cyclohexane	113		113		70-130	0		20
Tert-Butyl Alcohol	90		94		70-130	4		20
Ethyl-Tert-Butyl-Ether	91		82		70-130	10		20
Tertiary-Amyl Methyl Ether	111		115		66-130	4		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	81		83		70-130	2		20
Methyl cyclohexane	117		121		70-130	3		20
p-Diethylbenzene	105		107		70-130	2		20

Lab Control Sample Analysis Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG662250-1 WG662250-2								
4-Ethyltoluene	107		104		70-130	3		20
1,2,4,5-Tetramethylbenzene	110		115		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	87		94		70-130
Toluene-d8	97		109		70-130
4-Bromofluorobenzene	110		107		70-130
Dibromofluoromethane	95		101		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG662252-1 WG662252-2								
1,4-Dioxane	86		100		70-130	15		25

Matrix Spike Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>	<i>Column</i>
Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG662182-3 QC Sample: L1326102-01 Client ID: DH13-1_GW1													
1,2-Dibromoethane	ND	0.25	0.274	109		-	-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.25	0.274	109		-	-		70-130	-		20	A

SEMIVOLATILES

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01
Client ID: DH13-1_GW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/28/13 15:32
Analyst: PS

Date Collected: 12/23/13 10:30
Date Received: 12/23/13
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/26/13 08:38

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
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01

Date Collected: 12/23/13 10:30

Client ID: DH13-1_GW1

Date Received: 12/23/13

Sample Location: Not Specified

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
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	47		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	52		23-120
2-Fluorobiphenyl	66		15-120
2,4,6-Tribromophenol	93		10-120
4-Terphenyl-d14	115		41-149

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01
Client ID: DH13-1_GW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/27/13 16:29
Analyst: AS

Date Collected: 12/23/13 10:30
Date Received: 12/23/13
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/26/13 08:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	64		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	113		41-149

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 12/27/13 14:58
 Analyst: AS

Extraction Method: EPA 3510C
 Extraction Date: 12/26/13 08:37

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG661507-1					
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: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 12/27/13 14:58
 Analyst: AS

Extraction Method: EPA 3510C
 Extraction Date: 12/26/13 08:37

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG661507-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	56		21-120
Phenol-d6	37		10-120
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	81		15-120
2,4,6-Tribromophenol	92		10-120
4-Terphenyl-d14	107		41-149

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/28/13 10:45
 Analyst: PS

Extraction Method: EPA 3510C
 Extraction Date: 12/26/13 08:38

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG661509-1					
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	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	--
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	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Isophorone	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	2.0	--
NDPA/DPA	ND		ug/l	2.0	--
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	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
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	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/28/13 10:45
 Analyst: PS

Extraction Method: EPA 3510C
 Extraction Date: 12/26/13 08:38

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG661509-1					
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	--
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	--
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	58		21-120
Phenol-d6	38		10-120
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	90		15-120
2,4,6-Tribromophenol	110		10-120
4-Terphenyl-d14	124		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG661507-2 WG661507-3								
Acenaphthene	75		101		37-111	30		40
2-Chloronaphthalene	71		97		40-140	31		40
Fluoranthene	87		116		40-140	29		40
Hexachlorobutadiene	57		82		40-140	36		40
Naphthalene	67		95		40-140	35		40
Benzo(a)anthracene	96		127		40-140	28		40
Benzo(a)pyrene	77		105		40-140	31		40
Benzo(b)fluoranthene	81		113		40-140	33		40
Benzo(k)fluoranthene	88		115		40-140	27		40
Chrysene	85		113		40-140	28		40
Acenaphthylene	76		102		40-140	29		40
Anthracene	81		108		40-140	29		40
Benzo(ghi)perylene	67		103		40-140	42	Q	40
Fluorene	81		110		40-140	30		40
Phenanthrene	79		113		40-140	35		40
Dibenzo(a,h)anthracene	73		107		40-140	38		40
Indeno(1,2,3-cd)Pyrene	71		107		40-140	40		40
Pyrene	83		110		26-127	28		40
1-Methylnaphthalene	69		97		40-140	34		40
2-Methylnaphthalene	69		97		40-140	34		40
Pentachlorophenol	76		102		9-103	29		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

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: WG661507-2 WG661507-3								
Hexachlorobenzene	79		105		40-140	28		40
Hexachloroethane	57		84		40-140	38		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	49		64		21-120
Phenol-d6	34		43		10-120
Nitrobenzene-d5	65		91		23-120
2-Fluorobiphenyl	62		82		15-120
2,4,6-Tribromophenol	87		100		10-120
4-Terphenyl-d14	87		110		41-149

Lab Control Sample Analysis **Batch Quality Control**

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG661509-2 WG661509-3								
Benzidine	26		35		10-75	30		30
1,2,4-Trichlorobenzene	82		62		39-98	28		30
Bis(2-chloroethyl)ether	71		70		40-140	1		30
1,2-Dichlorobenzene	76		61		40-140	22		30
1,3-Dichlorobenzene	68		58		40-140	16		30
1,4-Dichlorobenzene	74		58		36-97	24		30
3,3'-Dichlorobenzidine	63		77		40-140	20		30
2,4-Dinitrotoluene	117	Q	118	Q	24-96	1		30
2,6-Dinitrotoluene	113		119		40-140	5		30
Azobenzene	114		100		40-140	13		30
4-Chlorophenyl phenyl ether	106		96		40-140	10		30
4-Bromophenyl phenyl ether	114		105		40-140	8		30
Bis(2-chloroisopropyl)ether	77		62		40-140	22		30
Bis(2-chloroethoxy)methane	74		76		40-140	3		30
Hexachlorocyclopentadiene	50		44		40-140	13		30
Isophorone	79		75		40-140	5		30
Nitrobenzene	97		79		40-140	20		30
NDPA/DPA	110		107		40-140	3		30
Bis(2-ethylhexyl)phthalate	116		127		40-140	9		30
Butyl benzyl phthalate	118		132		40-140	11		30
Di-n-butylphthalate	114		119		40-140	4		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG661509-2 WG661509-3								
Di-n-octylphthalate	126		131		40-140	4		30
Diethyl phthalate	119		119		40-140	0		30
Dimethyl phthalate	112		113		40-140	1		30
Aniline	27	Q	32	Q	40-140	17		30
4-Chloroaniline	55		65		40-140	17		30
2-Nitroaniline	118		120		52-143	2		30
3-Nitroaniline	66		78		25-145	17		30
4-Nitroaniline	108		110		51-143	2		30
Dibenzofuran	101		90		40-140	12		30
n-Nitrosodimethylamine	48		45		22-74	6		30
2,4,6-Trichlorophenol	112		121		30-130	8		30
p-Chloro-m-cresol	123	Q	127	Q	23-97	3		30
2-Chlorophenol	80		79		27-123	1		30
2,4-Dichlorophenol	107		101		30-130	6		30
2,4-Dimethylphenol	98		96		30-130	2		30
2-Nitrophenol	83		78		30-130	6		30
4-Nitrophenol	80		79		10-80	1		30
2,4-Dinitrophenol	101		103		20-130	2		30
4,6-Dinitro-o-cresol	126		126		20-164	0		30
Phenol	42		42		12-110	0		30
2-Methylphenol	82		76		30-130	8		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG661509-2 WG661509-3								
3-Methylphenol/4-Methylphenol	77		71		30-130	8		30
2,4,5-Trichlorophenol	120		125		30-130	4		30
Benzoic Acid	52		47		10-164	10		30
Benzyl Alcohol	82		77		26-116	6		30
Carbazole	105		113		55-144	7		30
Pyridine	22		20		10-66	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	61		51		21-120
Phenol-d6	38		39		10-120
Nitrobenzene-d5	84		73		23-120
2-Fluorobiphenyl	96		93		15-120
2,4,6-Tribromophenol	105		115		10-120
4-Terphenyl-d14	110		118		41-149

PCBS

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**SAMPLE RESULTS**

Lab ID: L1326102-01
Client ID: DH13-1_GW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 5,608
Analytical Date: 12/27/13 15:35
Analyst: KB

Date Collected: 12/23/13 10:30
Date Received: 12/23/13
Field Prep: Not Specified
Extraction Method: EPA 608
Extraction Date: 12/26/13 12:54
Cleanup Method1: EPA 3665A
Cleanup Date1: 12/26/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 12/26/13

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	55		30-150	A
Decachlorobiphenyl	74		30-150	A

Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
 Analytical Date: 12/27/13 16:12
 Analyst: KB

Extraction Method: EPA 608
 Extraction Date: 12/26/13 12:54
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 12/26/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 12/26/13

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG661620-1						
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	51		30-150	A
Decachlorobiphenyl	61		30-150	A

Matrix Spike Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE
Project Number: 39006-051

Lab Number: L1326102
Report Date: 12/31/13

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>	<i>Column</i>
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661620-3 QC Sample: L1326102-01 Client ID: DH13-1_GW1													
Aroclor 1016	ND	2.5	1.53	61		-	-		40-140	-		50	A
Aroclor 1260	ND	2.5	1.61	64		-	-		40-140	-		50	A

<i>Surrogate</i>	<i>MS % Recovery</i>	<i>Qualifier</i>	<i>MSD % Recovery</i>	<i>Qualifier</i>	<i>Acceptance Criteria</i>	<i>Column</i>
2,4,5,6-Tetrachloro-m-xylene	57				30-150	A
Decachlorobiphenyl	73				30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG661620-2									
Aroclor 1016	51		-		40-140	-		50	A
Aroclor 1260	53		-		40-140	-		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	46				30-150	A
Decachlorobiphenyl	54				30-150	A

Lab Duplicate Analysis Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661620-4 QC Sample: L1326102-01 Client ID: DH13-1_GW1						
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	55		57		30-150	A
Decachlorobiphenyl	74		70		30-150	A

METALS

Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

SAMPLE RESULTS

Lab ID: L1326102-01

Date Collected: 12/23/13 10:30

Client ID: DH13-1_GW1

Date Received: 12/23/13

Sample Location: Not Specified

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	0.00961		mg/l	0.00100	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Arsenic, Total	0.00146		mg/l	0.00050	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Cadmium, Total	ND		mg/l	0.00020	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Chromium, Total	0.00112		mg/l	0.00100	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Copper, Total	0.00257		mg/l	0.00100	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Iron, Total	0.29		mg/l	0.05	--	1	12/28/13 09:59	12/28/13 16:01	EPA 3005A	19,200.7	MG
Lead, Total	0.00160		mg/l	0.00050	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Mercury, Total	ND		mg/l	0.0002	--	1	12/30/13 08:25	12/30/13 11:11	EPA 245.1	3,245.1	JH
Nickel, Total	0.00079		mg/l	0.00050	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Selenium, Total	ND		mg/l	0.00500	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Silver, Total	ND		mg/l	0.00040	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL
Zinc, Total	0.01492		mg/l	0.01000	--	1	12/28/13 07:20	12/28/13 19:26	EPA 3005A	1,6020A	KL



Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

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: WG661998-1										
Antimony, Total	ND		mg/l	0.00100	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Arsenic, Total	ND		mg/l	0.00050	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Cadmium, Total	ND		mg/l	0.00020	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Chromium, Total	ND		mg/l	0.00100	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Copper, Total	ND		mg/l	0.00100	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Lead, Total	ND		mg/l	0.00050	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Nickel, Total	ND		mg/l	0.00050	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Selenium, Total	ND		mg/l	0.00500	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Silver, Total	ND		mg/l	0.00040	--	1	12/28/13 07:20	12/28/13 17:06	1,6020A	KL
Zinc, Total	ND		mg/l	0.01000	--	1	12/28/13 07:20	12/28/13 17:06	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: WG662017-1										
Iron, Total	ND		mg/l	0.05	--	1	12/28/13 09:59	12/28/13 14:52	19,200.7	MG

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: WG662148-1										
Mercury, Total	ND		mg/l	0.0002	--	1	12/30/13 08:25	12/30/13 10:58	3,245.1	JH

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG661998-2								
Antimony, Total	80		-		80-120	-		
Arsenic, Total	100		-		80-120	-		
Cadmium, Total	99		-		80-120	-		
Chromium, Total	96		-		80-120	-		
Copper, Total	102		-		80-120	-		
Lead, Total	100		-		80-120	-		
Nickel, Total	100		-		80-120	-		
Selenium, Total	103		-		80-120	-		
Silver, Total	96		-		80-120	-		
Zinc, Total	103		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG662017-2								
Iron, Total	98		-		85-115	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG662148-2								
Mercury, Total	91		-		85-115	-		

Matrix Spike Analysis **Batch Quality Control**

Project Name: DUNSTER HOUSE
Project Number: 39006-051

Lab Number: L1326102
Report Date: 12/31/13

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: WG661998-4 QC Sample: L1325723-01 Client ID: MS Sample												
Antimony, Total	0.00721	0.5	0.4297	84		-	-		80-120	-		20
Arsenic, Total	ND	0.12	0.1233	103		-	-		80-120	-		20
Cadmium, Total	ND	0.051	0.05040	99		-	-		80-120	-		20
Chromium, Total	0.00125	0.2	0.1913	95		-	-		80-120	-		20
Copper, Total	ND	0.25	0.2498	100		-	-		80-120	-		20
Lead, Total	ND	0.51	0.5052	99		-	-		80-120	-		20
Nickel, Total	0.00078	0.5	0.4926	98		-	-		80-120	-		20
Selenium, Total	ND	0.12	0.122	102		-	-		80-120	-		20
Silver, Total	ND	0.05	0.04760	95		-	-		80-120	-		20
Zinc, Total	ND	0.5	0.5013	100		-	-		80-120	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG662017-4 QC Sample: L1325976-01 Client ID: MS Sample												
Iron, Total	0.31	1	1.3	99		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG662148-4 QC Sample: L1326146-01 Client ID: MS Sample												
Mercury, Total	0.0021	0.005	0.0073	104		-	-		70-130	-		20

Project Name: DUNSTER HOUSE
Project Number: 39006-051

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1326102
Report Date: 12/31/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661998-3 QC Sample: L1325723-01 Client ID: DUP Sample						
Antimony, Total	0.00721	0.00404	mg/l	56	Q	20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00125	0.00111	mg/l	12		20
Copper, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00078	0.00069	mg/l	12		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: WG662148-3 QC Sample: L1326146-01 Client ID: DUP Sample						
Mercury, Total	0.0021	0.0025	mg/l	15		20

INORGANICS & MISCELLANEOUS

Project Name: DUNSTER HOUSE
Project Number: 39006-051

Lab Number: L1326102
Report Date: 12/31/13

SAMPLE RESULTS

Lab ID: L1326102-01
Client ID: DH13-1_GW1
Sample Location: Not Specified
Matrix: Water

Date Collected: 12/23/13 10:30
Date Received: 12/23/13
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	8.2		mg/l	5.0	NA	1	-	12/24/13 09:30	30,2540D	DW
Cyanide, Total	ND		mg/l	0.005	--	1	12/27/13 10:45	12/27/13 15:02	30,4500CN-CE	JO
Cyanide, Amenable	ND		mg/l	0.010	--	2	12/27/13 10:45	12/27/13 14:53	30,4500CN-G	SP
Cyanide, Physiologically Available	ND		mg/l	0.005	--	1	12/27/13 10:36	12/27/13 13:42	64,9014(M)	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/24/13 00:57	30,4500CL-D	EL
TPH	ND		mg/l	4.40	--	1.1	12/24/13 10:00	12/24/13 15:00	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	12/26/13 10:45	12/26/13 15:58	4,420.1	MP
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/24/13 01:35	12/24/13 01:49	30,3500CR-D	EL
Anions by Ion Chromatography - Westborough Lab										
Chloride	292.		mg/l	12.5	--	25	-	12/26/13 19:11	44,300.0	AU



Project Name: DUNSTER HOUSE

Lab Number: L1326102

Project Number: 39006-051

Report Date: 12/31/13

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: WG661180-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/24/13 00:57	30,4500CL-D	EL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG661184-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/24/13 01:35	12/24/13 01:48	30,3500CR-D	EL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG661224-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	12/24/13 09:30	30,2540D	DW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG661286-1										
TPH	ND		mg/l	4.00	--	1	12/24/13 10:00	12/24/13 15:00	74,1664A	ML
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG661562-1										
Phenolics, Total	ND		mg/l	0.030	--	1	12/26/13 10:45	12/26/13 12:58	4,420.1	MP
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG661719-1										
Chloride	ND		mg/l	0.500	--	1	-	12/26/13 16:47	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG661857-1										
Cyanide, Amenable	ND		mg/l	0.010	--	2	12/27/13 10:45	12/27/13 14:53	30,4500CN-G	SP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG661859-1										
Cyanide, Physiologically Available	ND		mg/l	0.005	--	1	12/27/13 10:36	12/27/13 13:39	64,9014(M)	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG661861-1										
Cyanide, Total	ND		mg/l	0.005	--	1	12/27/13 10:45	12/27/13 14:52	30,4500CN-CE	JO

Lab Control Sample Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG661180-2								
Chlorine, Total Residual	93		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG661184-2								
Chromium, Hexavalent	100		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG661286-2								
TPH	80		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG661562-2								
Phenolics, Total	106		-		82-111	-		12
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG661719-2								
Chloride	106		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG661857-2								
Cyanide, Amenable	100		-			-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG661859-2								
Cyanide, Physiologically Available	99		-		80-120	-		

Lab Control Sample Analysis**Batch Quality Control****Project Name:** DUNSTER HOUSE**Project Number:** 39006-051**Lab Number:** L1326102**Report Date:** 12/31/13

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab NEGATIVE LCS Associated sample(s): 01 Batch: WG661859-5					
Cyanide, Physiologically Available	3	-	0-10	-	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG661861-2					
Cyanide, Total	105	-	90-110	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

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: WG661184-4 QC Sample: L1326102-01 Client ID: DH13-1_GW1												
Chromium, Hexavalent	ND	0.1	0.100	100		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661286-4 QC Sample: L1325866-01 Client ID: MS Sample												
TPH	ND	20.8	15.6	75		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661562-4 QC Sample: L1326102-01 Client ID: DH13-1_GW1												
Phenolics, Total	ND	0.8	0.79	99		-	-		77-124	-		12
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661719-3 QC Sample: L1325509-01 Client ID: MS Sample												
Chloride	99.5	100	205	105		-	-		40-151	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661859-4 QC Sample: L1326102-01 Client ID: DH13-1_GW1												
Cyanide, Physiologically Available	ND	0.2	0.219	110		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661861-4 QC Sample: L1326193-01 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.215	108		-	-		90-110	-		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: DUNSTER HOUSE

Project Number: 39006-051

Lab Number: L1326102

Report Date: 12/31/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661180-3 QC Sample: L1326102-01 Client ID: DH13-1_GW1						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661184-3 QC Sample: L1326102-01 Client ID: DH13-1_GW1						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661224-2 QC Sample: L1325667-03 Client ID: DUP Sample						
Solids, Total Suspended	37	34	mg/l	8		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661286-3 QC Sample: L1325866-03 Client ID: DUP Sample						
TPH	6.02	6.15	mg/l	2		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661562-3 QC Sample: L1325723-12 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		12
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661719-4 QC Sample: L1325509-01 Client ID: DUP Sample						
Chloride	99.5	99.2	mg/l	0		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661857-3 QC Sample: L1326102-01 Client ID: DH13-1_GW1						
Cyanide, Amenable	ND	ND	mg/l	NC		
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661859-3 QC Sample: L1326102-01 Client ID: DH13-1_GW1						
Cyanide, Physiologically Available	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG661861-3 QC Sample: L1326193-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30

Project Name: DUNSTER HOUSE

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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(*)
L1326102-01A	Vial HCl preserved	A	N/A	3.5	Y	Absent	8260(14)
L1326102-01B	Vial HCl preserved	A	N/A	3.5	Y	Absent	8260(14)
L1326102-01C	Vial HCl preserved	A	N/A	3.5	Y	Absent	8260(14)
L1326102-01D	Vial HCl preserved	A	N/A	3.5	Y	Absent	8260-SIM(14)
L1326102-01E	Vial HCl preserved	A	N/A	3.5	Y	Absent	8260-SIM(14)
L1326102-01F	Vial HCl preserved	A	N/A	3.5	Y	Absent	8260-SIM(14)
L1326102-01G	Vial Na2S2O3 preserved	A	N/A	3.5	Y	Absent	504(14)
L1326102-01H	Vial Na2S2O3 preserved	A	N/A	3.5	Y	Absent	504(14)
L1326102-01I	Plastic 250ml NaOH preserved spl	A	>12	3.5	Y	Absent	TCN-4500(14),ACN-4500(14),PACN(14)
L1326102-01J	Plastic 250ml HNO3 preserved	A	<2	3.5	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)
L1326102-01K	Amber 1000ml Na2S2O3	A	7	3.5	Y	Absent	PCB-608(7)
L1326102-01L	Amber 1000ml Na2S2O3	A	7	3.5	Y	Absent	PCB-608(7)
L1326102-01M	Amber 1000ml unpreserved	A	7	3.5	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1326102-01N	Amber 1000ml unpreserved	A	7	3.5	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1326102-01O	Plastic 500ml unpreserved	A	7	3.5	Y	Absent	HEXCR-3500(1)
L1326102-01P	Amber 1000ml HCl preserved	A	N/A	3.5	Y	Absent	TPH-1664(28)
L1326102-01Q	Amber 1000ml HCl preserved	A	N/A	3.5	Y	Absent	TPH-1664(28)
L1326102-01R	Amber 1000ml H2SO4 preserved	A	<2	3.5	Y	Absent	TPHENOL-420(28)
L1326102-01S	Plastic 250ml unpreserved	A	7	3.5	Y	Absent	CL-300(28),TRC-4500(1)
L1326102-01T	Plastic 1000ml unpreserved	A	7	3.5	Y	Absent	TSS-2540(7)
L1326102-01W	Plastic 250ml HNO3 preserved	A	<2	3.5	Y	Absent	-
L1326102-01X	Plastic 250ml NaOH preserved	A	>12	3.5	Y	Absent	-
L1326102-01Y	Amber 1000ml unpreserved	A	7	3.5	Y	Absent	8270TCL(7)

*Values in parentheses indicate holding time in days



Project Name: DUNSTER HOUSE**Project Number:** 39006-051**Lab Number:** L1326102**Report Date:** 12/31/13**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1326102-01Z	Amber 1000ml unpreserved	A	7	3.5	Y	Absent	8270TCL(7)
L1326102-02I	Plastic 500ml HNO3 preserved	A	<2	3.5	Y	Absent	HOLD(14)
L1326102-02W	Plastic 250ml NaOH preserved	A	>12	3.5	Y	Absent	HOLD(14)
L1326102-02X	Plastic 250ml NaOH preserved	A	>12	3.5	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: DUNSTER HOUSE
Project Number: 39006-051

Lab Number: L1326102
Report Date: 12/31/13

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

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.
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report



Project Name: DUNSTER HOUSE**Lab Number:** L1326102**Project Number:** 39006-051**Report Date:** 12/31/13**Data Qualifiers**

- 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.

Project Name: DUNSTER HOUSE
Project Number: 39006-051

Lab Number: L1326102
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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.
- 64 Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-III A (Revision 5). August 2004.
- 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 December 11, 2013

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 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, SM4500CI-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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