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

CERTIFIED MAIL

January 27, 2011

Chris Brown
Project Manager
John Moriarty & Associates (JMA)
3 Church Street
Winchester, MA 01890

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Massachusetts Mental Health Center (MMHC) site located at 74 Fenwood Road And 20 Vining Street, Boston, MA, 02115, Suffolk County; Authorization # MAG910458 - Reissuance

Dear Mr. Brown:

Based on the review of a Notice of Intent (NOI) submitted for the MMCH on behalf of The Brigham and Women's Hospital, by the firm Hadley & Aldrich, Inc. 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 for 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 check list 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.

Also, please note that the metals antimony, arsenic, cadmium, copper, lead, nickel, zinc and iron included on the list are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations for facilities located in Massachusetts. For each parameter the dilution factor 30.0 for this site is within a dilution range greater than 10 to 50 (>10-50), established in the RGP. (See the

RGP Appendix IV for Massachusetts facilities). Therefore, the limits for antimony of 60 ug/L, arsenic of 100ug/L, cadmium of 2ug/L, copper of 52ug/L, lead of 13ug/L, nickel of 290ug/L, zinc of 666ug/L and iron of 5,000ug/L, are required to achieve permit compliance at your site.

In addition, please note the list 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. Recertification's can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP requirements.

This general permit and authorization to discharge will expire on September 9, 2015. This project reportedly will terminate on December 31, 2011. If for any reason the discharge terminates sooner 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,

David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, MassDEP
Kenneth N. Alepidis, Haley & Aldrich

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Permit Number:	**MAG910458 – Reissuance**
Date Permit Issued:	January, 2011
Facility/Site Name:	Massachusetts Mental Health Center (MMHC)
Facility/Site Address:	74 Fenwood Road And 20 Vining Street, Boston, MA, 02115, Suffolk County
	Email address of owner:jofarrell@partners.org ; Phone n: 617- 730-3694
Legal Name of Operator:	John Moriarty & Associates (JMA)
Operator contact name, title, and Address:	Chris Brown, Project Manager, 3 Church Street, Winchester, MA 01890; Telephone n: 781-729-3900
	Email :cbrown@jm-a.com
Estimated Date of Completion:	December 31, 2011.
Category and Sub-Category:	Category III- Contaminated Construction Dewatering. Sub-categories A & B. General Urban Fill sites and Know Contaminated Sites, Respectively.
Receiving Water:	Muddy River

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

	Parameter	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing **, Me#60.2/ML 5ug/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 5ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes	100 ug/L/ 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)
	(BTEX) [4]	
	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/ ML5ug/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/ML5ug/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
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/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)
	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 0.1ug/L

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11]			
		Freshwater	Saltwater		
√	39. Antimony	60/10mL			

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11]			
		Freshwater	Saltwater		
√	40. Arsenic **	100/20mL	36/20mL		
√	41. Cadmium **	2/10ml	8.9/10mL		
	42. Chromium III (trivalent) **	48.8/15mL	100/15mL		
	43. Chromium VI (hexavalent) **	11.4/10mL	50.3/10mL		
√	44. Copper **	52/15mL	3.7/15mL		
√	45. Lead **	13/20mL	8.5/20mL		
	46. Mercury **	0.9/0.2mL	1.1/0.2mL		
√	47. Nickel **	290/20mL	8.2/20mL		
	48. Selenium **	5/20mL	71/20mL		
	49. Silver	1.2/10mL	2.2/10mL		
√	50. Zinc **	666/15mL	85.6/15mL		
√	51. Iron	5,000/20mL			

	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.

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

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

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

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

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

[14] Temperature sampling per Method 170.1

NOTICE OF INTENT (NOI)
TEMPORARY CONSTRUCTION DEWATERING AND ABATEMENT WATER DISCHARGE
MASSACHUSETTS MENTAL HEALTH CENTER REDEVELOPMENT
74 FENWOOD ROAD BUILDING AND 20 VINING STREET
BOSTON, MASSACHUSETTS

by

Haley & Aldrich, Inc.
Boston, Massachusetts

for

US Environmental Protection Agency
Boston, Massachusetts

File No. 35198-016
December 2010

HALEY & ALDRICH

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

Tel: 617.886.7400
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HaleyAldrich.com

HALEY & ALDRICH

9 December 2010
(Original Submission date 28 June 2010)
File No. 35198-040

US Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP 06-4
Boston, Massachusetts 02109-3912
ATTN: Remediation General Permit NOI Processing

Attention: Ms. Shelly Puleo

Subject: Notice of Intent (NOI) – Re-application
Temporary Construction Dewatering and Abatement Water Discharge
Massachusetts Mental Health Center Redevelopment
74 Fenwood Road Building and 20 Vining Street
Boston, Massachusetts

Ladies and Gentlemen:

In response to the Notice of Availability of the Final 2010 Remediation General Permit (RGP) and Re-Application for Coverage under the 2010 Remediation General Permit dated 13 September 2009, Haley & Aldrich, Inc. (Haley & Aldrich) is resubmitting this Notice of Intent (NOI) under the NPDES Permit Number MAG910458. The original RGP authorization for this project was provided in a letter dated 15 July 2010 and is included in Appendix H with the Notice of Availability. The site discharged dewatering effluent very briefly in August and in September 2010 and suspended discharge in late September 2010. Summaries of the dewatering activities and discharge sampling have been submitted as Discharge Monitoring Reports under separate cover.

Although no discharge is ongoing onsite at this time, this re-application is being submitted to address the potential for discharge to be required during the remaining construction-related activities. Information updating the original submittal is provided in bold italics text in this re-submittal.

In accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts, MAG910000, and per conversations with Mr. Victor Alvarez, this letter submits a Notice of Intent (NOI) and the applicable documentation as required by the US Environmental Protection Agency (EPA) for construction site dewatering under the RGP. Temporary construction dewatering and abatement water discharge is planned in support of construction activities proposed at the Massachusetts Mental Health Center (MMHC) site, located at 74 Fenwood Road and at 20 Vining Street in Boston, Massachusetts, as shown on Figure 1 – Project Locus. The MMHC property was recently

acquired by The Brigham and Women's Hospital (BWH), who is planning to redevelop the property in the future.

The phase of work associated with this NOI includes dewatering associated with the abatement and demolition of the existing buildings currently located on the Main MMHC Site and at the 20 Vining Street Building. The 20 Vining Street Building was part of the former MMHC campus and is located adjacent to the Main site, across Vining Street. Abatement and demolition is necessary in order to facilitate the usage of the Main MMHC Site and 20 Vining Street Building for construction staging to aid in the construction and development of two additional BWH projects adjacent to the MMHC site complex and to ensure public safety as the current vacant buildings located on the MMHC site have suffered serious deterioration, including structural damage, and present a potential public safety hazard.

Dewatering is being conducted during earthwork activities related to backfilling existing site building foundations and basements to approximate surrounding street grades. The areas of backfilling will need to be dewatered to facilitate placement of backfill material in-the-dry. In addition, as described further below, the water discharged under the RGP has included water used during pre-demolition asbestos abatement, water currently contained in sub-grade spaces beneath some of the existing buildings, and water used to suppress dust during demolition. Dewatering activities began in August 2010 and have been suspended since late September 2010.

Site Background

The subject site consists of an approximately 2.61 acre parcel of land at 74 Fenwood Road and at 20 Vining Street in Boston, Massachusetts. The subject site was developed with seven buildings up until recent demolition activities as part of this construction project. Four of the buildings were interconnected and comprised the MMHC, which had been vacant since 2003. The interconnected buildings located on the subject site included the Main and Powerhouse Buildings both built in approximately 1912, the Research Building built in approximately 1954, and the Therapeutic Building built in approximately 1962. The buildings have been recently demolished. The subject site also contained a building formerly occupied by a sandwich shop which was vacated prior to 2003, and a guard shack for a parking lot on the western portion of the property. This building has also been recently demolished as part of this construction project. The remainder of the subject site is comprised of paved walkways and parking areas, and overgrown courtyards and landscaped areas. Environmental assessments conducted at existing buildings at the site identified the presence of extensive asbestos containing materials (ACM) that are typical of buildings of this age and former use.

Temporary Construction Dewatering Notice of Intent

Dewatering Activities

This NOI addresses the following dewatering activities:

Power House Basement and Therapeutic Building Pool Room Water Discharge

The Power House building is flooded and holding an undefined amount of water. Due to the potential for ACM to be present in the basement building materials, the water in the basement

may contain ACM. The basement must be dewatered in order to complete abatement, demolition, and backfilling activities.

Dewatering activities related to the Power House basement have been completed and are discussed in the Discharge Monitoring Report.

In addition, groundwater has collected in a sub-grade room beneath the pool in the Therapeutic Building. The pool room must be dewatered in order to complete abatement, demolition and backfilling activities.

Dewatering activities related to the Therapeutic Building Pool Room have been completed and are discussed in the Discharge Monitoring Report.

ACM Abatement Process Water Discharge

The Main MMHC buildings (including the Power House) and the 20 Vining Street Building require abatement of ACM, with abatement process water to be generated at the site. The asbestos-containing abatement water will be contained during abatement and demolition activities, and pumped through the necessary treatment systems prior to discharge to the nearby catch basins. Treatment of asbestos in water will be handled by the filtration and sediment control methods described below, using sedimentation tanks and bag filter units.

Dust Suppression Water Discharge

It is anticipated that water used to suppress dust during demolition activities may require collection and discharge under the NPDES RGP.

Stormwater and Groundwater Infiltration Discharge

It is anticipated that stormwater and/or groundwater could collect in open basements and excavations at the site and require discharge under the NPDES RGP to allow completion of demolition and backfilling activities.

Dewatering Effluent Treatment

Prior to discharge, all construction dewatering effluent will be routed through a sedimentation tank and a 5 micron bag filter, at a minimum, to remove suspended solids and undissolved chemical constituents, as shown in the Proposed Treatment System Schematic included in Figure 2 herein. Construction dewatering under this RGP NOI will include piping and discharging to storm drains located within and near the site. The storm drains travel a short distance east within the site and discharge directly into the Muddy River. The proposed discharge route is shown on Figure 3, Proposed Dewatering Discharge Route.

Changes to the treatment system and analytical laboratory data have been discussed in the submitted Discharge Monitoring Reports.

Water Quality Sampling and Testing

In support of the NOI, the following water samples were collected:

- Power House Basement Water – 10 May and 28 May 2010
- Therapeutic Building Pool Room Water - 10 May 2010
- Groundwater Monitoring Well UST-2(OW) – 27 May 2010

The four samples collected from the site are being used for consideration of the NOI; results are summarized in Table I. The location of the Power House Building, Therapeutic Building, and observation well UST-2(OW) are shown on Figure 3.

Haley & Aldrich visited the site to collect a sample for chloride analysis as required by the new permit. However, the previously–existing monitoring wells were demolished during construction, and a source of other potential dewatering effluent was not available. As such, it was not possible to obtain a sample for chloride analysis.

NOI Form

The completed "Suggested Notice of Intent" (NOI) form as provided in the RGP is enclosed in Appendix A. The Brigham and Women's Hospital (BWH) currently controls the site. John Moriarty Associates (JMA) is the site operator and construction manager, and will hire a subcontractor to conduct the Site work, including the dewatering and abatement activities. Haley & Aldrich, Inc. (Haley & Aldrich) will monitor the Contractor's dewatering and abatement activities on behalf of BWH.

As the construction manager, JMA is the permittee and listed Operator for this NPDES RGP, and has signed the NOI form.

Closing

Thank you very much for your consideration of this NOI re-submittal. 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

Kenneth N. Alepidis
Staff Environmental Geologist

Lisa Turturro
Vice President

Attachments:
Table I - Summary of Groundwater Quality Data
Figure 1 - Site Locus
Figure 2 - Proposed Treatment System Schematic

Figure 3 - Proposed Dewatering Discharge Routes
Appendix A - Notice of Intent (NOI) for Remediation General Permit (RGP)
Appendix B - MSDS and Fact Sheets
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 – BWSC Permit Application and Memorandum to BWSC, dated 10 August 2010
Appendix G – Laboratory Data Reports
Appendix H – Notice of Availability, Notice of Intent, Notice of Change for MAG#910458

c: Partners HealthCare System, Inc.; Attn: Joseph O'Farrell, Jonathan Katz
Leggatt McCall Properties; Attn: Robert Foster
Haley & Aldrich, Inc.; Attn: Mark X. Haley, Lisa Turturro
Vanasse Hangen Brustlin, Inc.; Attn: Howard Moshier
Boston Water and Sewer Commission; Attn: Francis McLaughlin
Linea 5; Attn: Paul Girello
John Moriarty Associates; Attn: Chris Brown

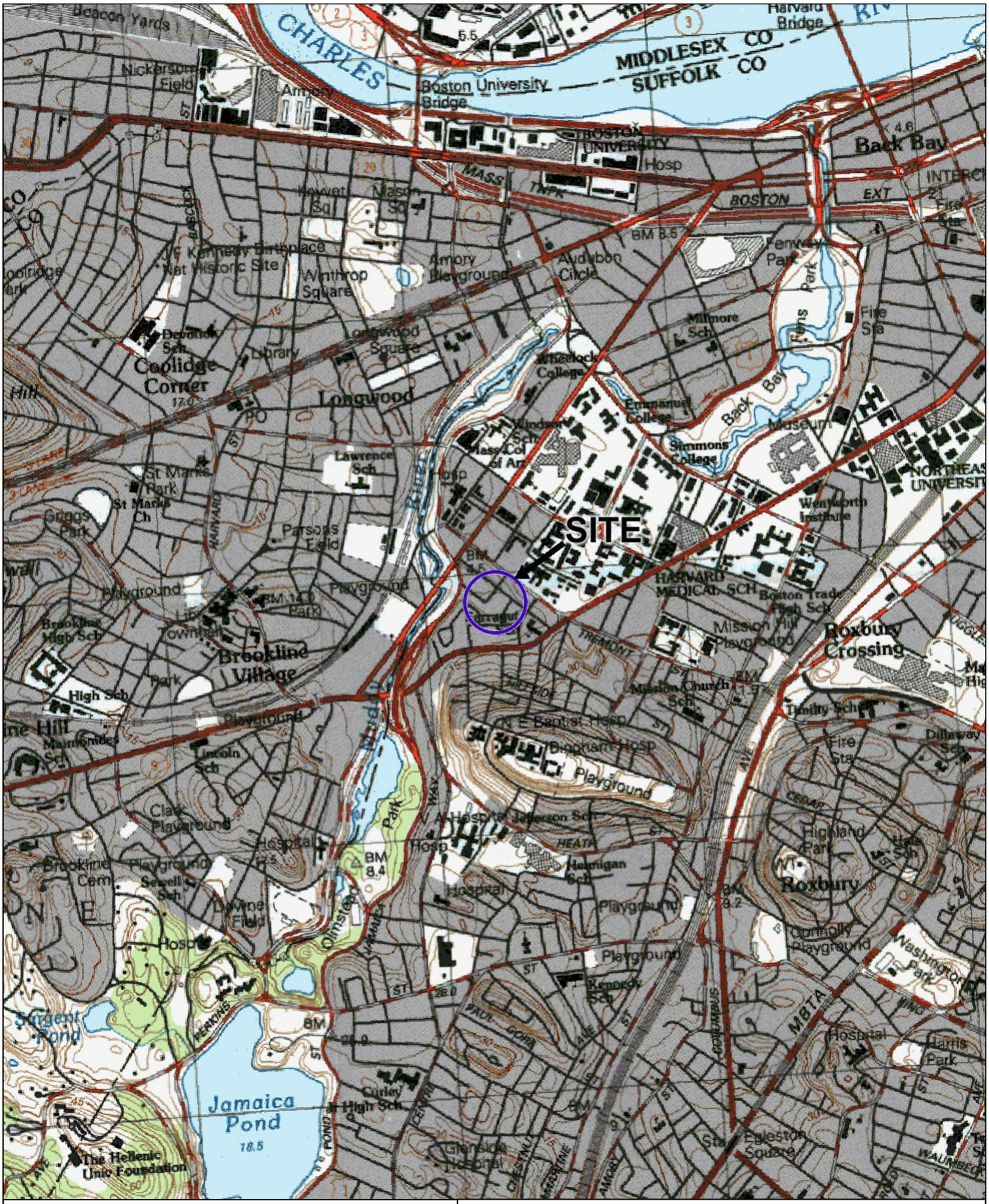
G:\35198\030 - Main Parcel\Dewatering\Re-application\2010-1209-HAI-74 Fenwood RGP NOI Reapplication-F.docx

TABLE I
SUMMARY OF GROUNDWATER QUALITY DATA
74 FENWOOD ROAD BUILDING
MASSACHUSETTS MENTAL HEALTH CENTER
BOSTON, MASSACHUSETTS
FILE NO. 35198-016

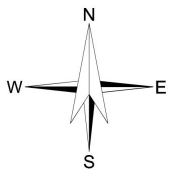
SAMPLE LOCATION			POOL		POWERHOUSE			UST-2 (OW)
SAMPLE DESIGNATION	MCP RCGW-2 (ug/L)	NPDES RGP Effluent Limits (ug/L) See Note 2	110736 110738 110740 110742 110753	110737 110739 110741 110743	110744 110746 110748 11750 110752	110745 110747 110749 110751	POWERHOUSE S1	UST-2 (OW)
LAB SAMPLE ID			133105-15 133105-04 133105-05 133105-06 133105-14	113105-16 133105-01 133105-02 133105-3	133105-17 133105-18 133105-7 133105-08 133105-13	133105-09 133105-10 133105-11 133105-12	L1008028-01	L1008026-01
SAMPLING DATE			5/10/2010		5/10/2010		5/28/2010	5/27/2010
VOCs (ug/L)								
Vinyl Chloride	2	2	ND(0.25)		ND(0.25)		ND(1)	ND(1)
1,1-Dichloroethylene	80	3.2	ND(0.25)		ND(0.25)		ND(0.5)	ND(0.5)
Acetone	50000	Monitor Only	ND		ND		ND(5)	ND(5)
Methylene Chloride	10000	4.6	ND(1.5)		ND(1.5)		ND(2.5)	ND(2.5)
Methyl tert-butyl Ether	5000	70	ND(0.25)		ND(0.25)		ND(10)	ND(10)
1,1-Dichloroethane	1000	70	ND(0.25)		ND(0.25)		ND(0.75)	ND(0.75)
cis-1,2-Dichloroethylene	100	70	ND(0.25)		ND(0.25)		ND(0.5)	ND(0.5)
1,1,1-Trichloroethane	4000	200	ND(0.25)		ND(0.25)		ND(1)	ND(1)
Carbon Tetrachloride	2	4.4	ND(0.25)		ND(0.25)		ND(0.5)	ND(0.5)
Benzene	2000	5	ND(0.25)		ND(0.25)		ND(0.5)	ND(0.5)
1,2-Dichloroethane	5	5	ND(0.25)		ND(0.25)		ND(0.75)	ND(0.75)
Trichloroethylene	30	5	ND(0.25)		ND(0.25)		ND(0.5)	ND(0.5)
Toluene	40000	100	ND(0.25)		ND(0.25)		ND(0.5)	ND(0.5)
1,1,2-Trichloroethane	900	5	ND(0.25)		ND(0.25)		ND(0.75)	ND(0.75)
Tetrachloroethylene	50	5	ND(0.25)		ND(0.25)		ND(0.75)	ND(0.75)
1,2-Dibromoethane (EDB)	NA	0.05	ND(0.01)		ND(0.01)		ND(0.005)	ND(0.0055)
Ethylbenzene	5000	100	ND(0.25)		ND(0.25)		ND(0.5)	ND(0.5)
meta-Xylene and para-Xylene	NA	100	ND(0.25)		ND(0.25)		ND(1)	ND(1)
ortho-Xylene	NA	100	ND(0.25)		ND(0.25)		ND(0.5)	ND(0.5)
1,3-Dichlorobenzene	2000	320	ND(0.25)		ND(0.25)		ND(2.5)	ND(2.5)
1,4-Dichlorobenzene	200	5	ND(0.25)		ND(0.25)		ND(2.5)	ND(2.5)
1,2-Dichlorobenzene	2000	600	ND(0.25)		ND(0.25)		ND(2.5)	ND(2.5)
Xylenes (Mixed Isomers) [3]	5000	100	ND(0.25)		ND(0.25)		ND(1)	ND(1)
Tert-Butyl Alcohol	NA	Monitor Only	-		-		ND(50)	ND(50)
1,4-Dioxane	6000	Monitor Only	-		-		ND(1000)	ND(1000)
Tertiary-Amyl Methyl Ether	NA	Monitor Only	-		-		ND(10)	ND(10)
Total VOCs	NA		ND		ND		ND	ND
SVOCs (ug/L)								
Phenol	2000	300	ND(2.5)		ND(2.5)		ND(3.4)	ND(3.4)
bis(2-Ethylhexyl)phthalate	50000	6	ND(2.5)		ND(2.5)		ND(2.45)	ND(2.45)
Total SVOCs	NA		ND		ND		ND	ND
PAHs (ug/L)								
Naphthalene	1000	20	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
2-Methylnaphthalene	2000	NA	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
Acenaphthylene	40	100	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
Acenaphthene	6000	100	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
Fluorene	40	100	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
Phenanthrene	10000	100	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
Anthracene	30	100	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
Fluoranthene	200	100	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
Pyrene	20	100	ND(0.25)		ND(0.25)		ND(0.1)	ND(0.1)
Benzo(a)anthracene	1000	0.0038*	ND(0.05)		ND(0.05)		ND(0.1)	ND(0.1)
Chrysene	70	0.0038*	ND(0.05)		ND(0.05)		ND(0.1)	ND(0.1)
Benzo(b)fluoranthene	400	0.0038*	ND(0.05)		ND(0.05)		ND(0.1)	ND(0.1)
Benzo(k)fluoranthene	100	0.0038*	ND(0.05)		ND(0.05)		ND(0.1)	ND(0.1)
Benzo(a)pyrene	500	0.0038*	ND(0.05)		ND(0.05)		ND(0.1)	ND(0.1)
Indeno(1,2,3-c,d)pyrene	#N/A	0.0038*	ND(0.05)		ND(0.05)		ND(0.1)	ND(0.1)
Dibenzo(a,h)anthracene	40	0.0038*	ND(0.05)		ND(0.05)		ND(0.1)	ND(0.1)
Benzo(g,h,i)perylene	20	0.0038*	ND(0.05)		ND(0.05)		ND(0.1)	ND(0.1)
Hexachlorobutadiene	1	NA	ND(0.25)		ND(0.25)		ND(0.245)	ND(0.25)
Hexachlorobenzene	1	NA	ND(0.25)		ND(0.25)		ND(0.39)	ND(0.4)
Pentachlorophenol	200	1	**2.2**		ND(0.05)		ND(0.39)	ND(0.4)
Total PAHs	NA		2.2		ND		ND	ND
Total Metals (ug/L)	See Note 3							
Antimony	8000	5.6	ND(3)		ND(3)		4.5	ND(0.5)
Arsenic	900	10	ND(5)		ND(5)		3	ND(0.5)
Cadmium	4	0.2	ND(2)		ND(2)		**0.6**	ND(0.2)
Chromium	300	48.8	ND(5)		ND(5)		ND(0.5)	ND(0.5)
Chromium, Hexavalent	300	11.4	ND(5)		ND(5)		ND(5)	ND(5)
Copper	100000	5.2	ND(12.5)		ND(12.5)		**10.9**	1.7
Iron	---	1000	400		900		**2000**	70
Lead	10	1.3	ND(2.5)		ND(2.5)		**2**	ND(0.5)
Mercury	20	0.9	ND(0.1)		ND(0.1)		ND(0.1)	ND(0.1)
Nickel	200	29	ND(20)		ND(20)		5.3	4.9
Selenium	100	5	ND(2.5)		ND(2.5)		ND(1)	7
Silver	7	1.2	ND(3.5)		ND(3.5)		ND(0.4)	ND(0.4)
Zinc	900	66.6	**410**		**80**		**113.1**	ND(5)
PCBs (ug/L)								
Total PCBs	NA	0.000064*	ND		ND		ND	ND
General Chemisty (ug/l)								
TPH	NA	5,000	400		ND(100)		ND(2000)	ND(2000)
Solids, Total Suspended	NA	30,000	ND(1000)		4000		6000	5300
Cyanide, Total	30	5.2	ND(5)		ND(5)		ND(2.5)	**16**
Phenolics, Total	NA	300	**1200**		**900**		ND(15)	ND(15)
Chlorine, Total Residual	NA	11.0	ND(10)		ND(10)		ND(10)	ND(10)

Abbreviations:
NA : Not applicable
ND(2.5): Not detected; number in parentheses is one-half the laboratory detection limit
* : Or minimum limits per acceptable test method used (ND)

Notes:
1. NPDES Effluent Limits taken from Appendix III of the EPA Remediation & Miscellaneous Contaminated Sites General Permit (RGP)
2. NPDES RGP effluent limits provided for freshwater receiving waters. Muddy River classified as a Class B Inland Water per 314 CMR 1.00-7.00.
3. Metals samples were not filtered, therefore are not applicable for comparison to MCP RCGW criteria.
4. Bold indicates exceedance or NPDES RGP Effluent criteria
5. VOC, SVOC, and PAH constituents with RGP effluent limits shown. Additional constituents are ND and not shown in this table.



SITE COORDINATES:42°20'6"N 71°6'30"W



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

HALEY & ALDRICH

MASSACHUSETTS MENTAL HEALTH CENTER
74 FENWOOD ROAD BUILDING
BOSTON, MASSACHUSETTS

PROJECT LOCUS

SCALE: 1:24,000
JUNE 2010

FIGURE 1

35198-016 A032.PDF

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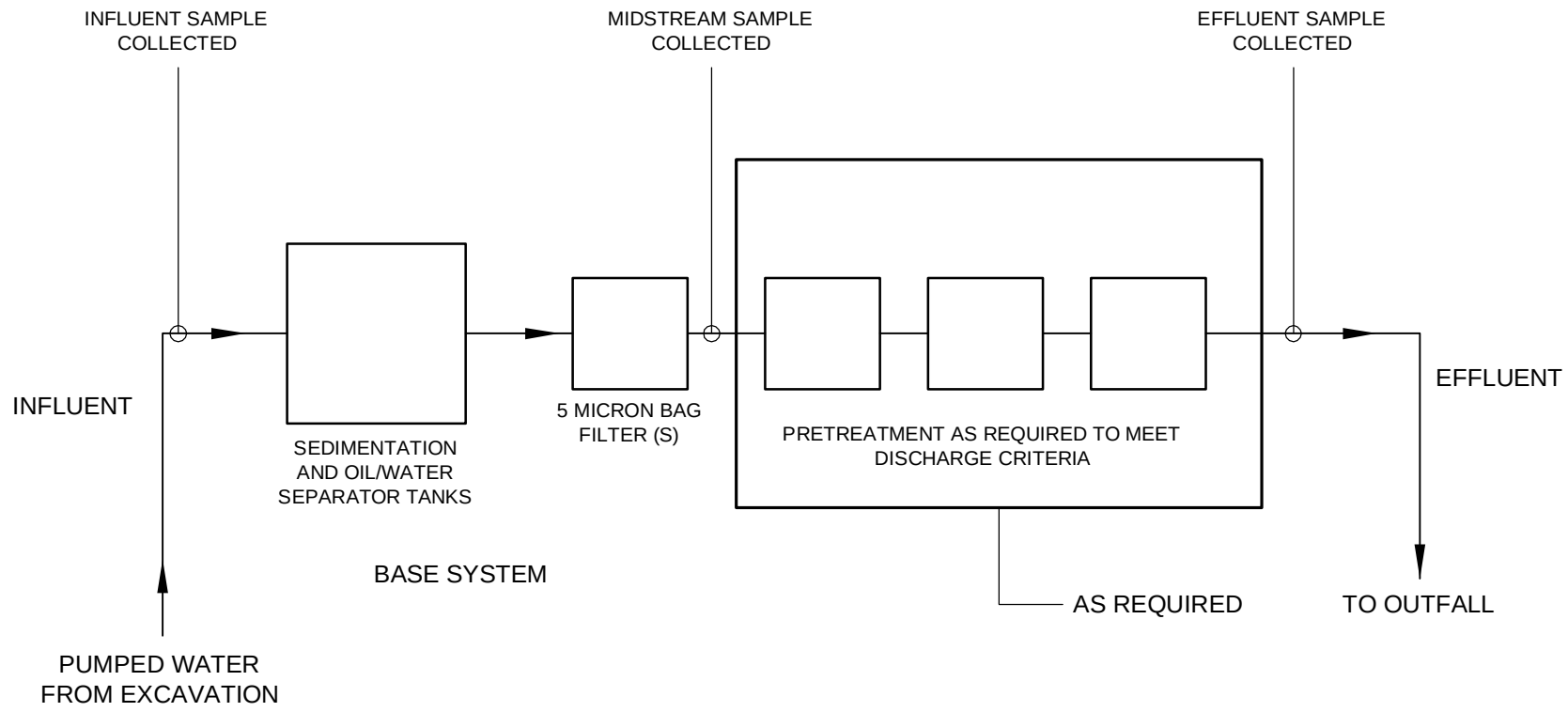


LEGEND:

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.

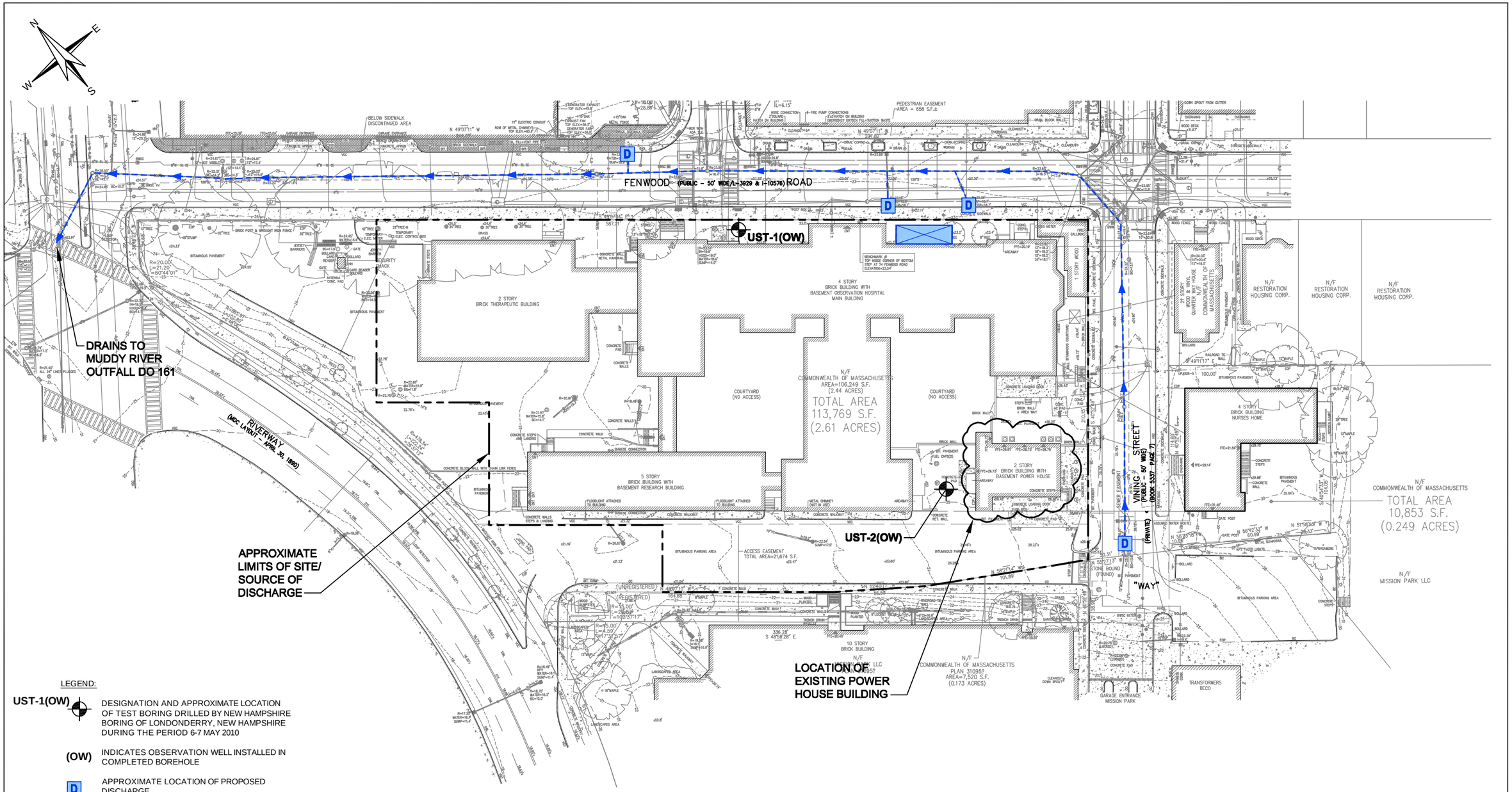
HALEY & ALDRICH

MASSACHUSETTS MENTAL HEALTH CENTER
74 FENWOOD ROAD BUILDING
BOSTON, MASSACHUSETTS

PROPOSED TREATMENT SYSTEM SCHEMATIC

SCALE: NONE
JUNE 2010

FIGURE 2



LEGEND:

UST-1(OW) — DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW HAMPSHIRE BORING OF LONDONDERRY, NEW HAMPSHIRE DURING THE PERIOD 6-7 MAY 2010

(OW) — INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE

D — APPROXIMATE LOCATION OF PROPOSED DISCHARGE

APPROXIMATE ROUTE OF DISCHARGE TO OUTFALL

APPROXIMATE LOCATION OF PROPOSED TREATMENT SYSTEM

NOTE:

1. BASE PLAN TAKEN FROM DRAWING TITLED "EXISTING CONDITIONS PLAN OF LAND, BRIGHAM & WOMEN'S MASSACHUSETTS MENTAL HOSPITAL, BOSTON, MASSACHUSETTS", PREPARED BY VANASSE HANGEN BRUSTLIN, INC., DATED 27 MAY 2009.
2. PROPOSED FLOW METER IS A COLD WATER RECORDALL TURBO 450 METER.

J:\GRAPHICS\35198\35198-016-B034.DWG

HALEY & ALDRICH

MASSACHUSETTS MENTAL HEALTH CENTER
74 FENWOOD ROAD BUILDING
BOSTON, MASSACHUSETTS

PROPOSED DEWATERING DISCHARGE ROUTES

SCALE: AS SHOWN
JUNE 2010

FIGURE 3

APPENDIX A

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

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

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

a) Name of **facility/site**: MMHC 74 Fenwood Rd & 20 Vining St.		**Facility/site** mailing address:		
Location of **facility/site**: longitude: 71 6 31 latitude: 42 20 7	Facility SIC code(s): ---	Street: 74 Fenwood Road and 20 Vining Street		
b) Name of **facility/site owner:** Brigham and Women's Hospital		Town: Boston		
Email address of facility/site owner: Joe O'Farrell - jofarrell@partners.org		State: MA	Zip: 02115	County: Suffolk
Telephone no. of facility/site **owner**: 617-730-3694				
Fax no. of facility/site **owner**: 617-730-3697		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):				
Street: 800 Boylston Street, Suite 1150				
Town: Boston	State: MA	Zip: 02199	County: Suffolk	
c) Legal name of **operator**: John Moriarty & Associates (JMA)		**Operator** telephone no: 781-729-3900		
		Operator fax no.:	**Operator** email: cbrown@jm-a.com	
Operator contact name and title: Chris Brown, Project Manager				
Address of **operator** (if different from owner):		Street: 3 Church Street		
Town: Winchester	State: MA	Zip: 01890	County: Suffolk	

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 #: Prior NPDES RGP Permit #MAG910458
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ◉ N ○
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ○ N ◉

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ○ N ◉
If Y, please list:
1. site identification # assigned by the state of NH or MA:
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y ○ N ◉, if Y, number:
2. Final Dewatering General Permit? Y ○ N ◉, if Y, number:
3. EPA Construction General Permit? Y ○ N ◉, if Y, number:
4. Individual NPDES permit? Y ○ N ◉, if Y, number:
5. any other water quality related individual or general permit? Y ○ N ○, if Y, number:

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

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

Activity Category	**Activity Sub-Category**
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ☐ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ☐ C. Petroleum Sites with Additional Contamination ☐
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ☐ B. VOC Sites with Additional Contamination ☐ C. Primarily Heavy Metal Sites ☐
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ☒ B. Known Contaminated Sites ☒

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

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

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

Temporary dewatering and discharge of abatement process water in support of existing building demolition, and construction dewatering for proposed building construction.

b) Provide the following information about each discharge:

1) Number of discharge points: 5

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow 0.134 Is maximum flow a **design value**? Y ○ N ◉
Average flow (include units) 0.067 Is average flow a design value or estimate? NA

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat	42 20 08	long	71 6 30	pt.2: lat.	71 6 30.5	long.	42 20 7.5 ;
pt.3: lat	42 20 09	long	71 6 32	pt.4: lat.	42 20 05	long.	71 6 30 ;
pt.5: lat	4220 08	long	71 6 31	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 Dec 9, 2010 end Dec 31, 2011

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). See attached

3. Contaminant information.

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☐	☒	4	GRAB	2540D	5000	6000			
2. Total Residual Chlorine (TRC)		☒	☐	4	GRAB	4500CL-D	20	ND			
3. Total Petroleum Hydrocarbons (TPH)		☐	☒	4	GRAB	1664	4000	400			
4. Cyanide (CN)	57125	☐	☒	4	GRAB	4500CN-CE	5	16			
5. Benzene (B)	71432	☒	☐	4	GRAB	624	1	ND			
6. Toluene (T)	108883	☒	☐	4	GRAB	624	1	ND			
7. Ethylbenzene (E)	100414	☒	☐	4	GRAB	624	1	ND			
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	4	GRAB	624	2	ND			
9. Total BTEX [2]	n/a	☒	☐	4	GRAB	624	1	ND			
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	4	GRAB	504.1	0.01	ND			
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	4	GRAB	624	20	ND			
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	2	GRAB	624	200	ND			

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

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

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	2	GRAB	624	20	ND			
14. Naphthalene	91203	☒	☐	4	GRAB	624	0.2	ND			
15. Carbon Tetrachloride	56235	☒	☐	4	GRAB	624	1	ND			
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	4	GRAB	624	5	ND			
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	4	GRAB	624	5	ND			
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	4	GRAB	624	5	ND			
18a. Total dichlorobenzene		☒	☐	4	GRAB	624	5	ND			
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	4	GRAB	624	1.5	ND			
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	4	GRAB	624	1.5	ND			
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	4	GRAB	624	1	ND			
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	4	GRAB	624	1	ND			
23. Methylene Chloride	75092	☒	☐	4	GRAB	624	5	ND			
24. Tetrachloroethene (PCE)	127184	☒	☐	4	GRAB	624	1.5	ND			
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	4	GRAB	624	2	ND			
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	4	GRAB	624	1.5	ND			
27. Trichloroethene (TCE)	79016	☒	☐	4	GRAB	624	1	ND			

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	4	GRAB	624	2	ND			
29. Acetone	67641	☒	☐	4	GRAB	624	10	ND			
30. 1,4 Dioxane	123911	☒	☐	2	GRAB	624	2000	ND			
31. Total Phenols	108952	☐	☒	4	GRAB	420.1	30	1200			
32. Pentachlorophenol (PCP)	87865	☐	☒	4	GRAB	8270 C	0.8	2.2			
33. Total Phthalates (Phthalate esters) [4]		☒	☐	4	GRAB	8270 C	4.9	ND			
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	4	GRAB	8270 C	4.9	ND			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	4	GRAB						
a. Benzo(a) Anthracene	56553	☒	☐	4	GRAB	8270 C	0.2	ND			
b. Benzo(a) Pyrene	50328	☒	☐	4	GRAB	8270 C	0.2	ND			
c. Benzo(b)Fluoranthene	205992	☒	☐	4	GRAB	8270 C	0.2	ND			
d. Benzo(k)Fluoranthene	207089	☒	☐	4	GRAB	8270 C	0.2	ND			
e. Chrysene	21801	☒	☐	4	GRAB	8270 C	0.2	ND			
f. Dibenzo(a,h)anthracene	53703	☒	☐	4	GRAB	8270 C	0.2	ND			
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	4	GRAB	8270 C	0.2	ND			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐		GRAB	8270 C					

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	4	GRAB	8270 C	0.2	ND			
i. Acenaphthylene	208968	☒	☐	4	GRAB	8270 C	0.2	ND			
j. Anthracene	120127	☒	☐	4	GRAB	8270 C	0.2	ND			
k. Benzo(ghi) Perylene	191242	☒	☐	4	GRAB	8270 C	0.2	ND			
l. Fluoranthene	206440	☒	☐	4	GRAB	8270 C	0.2	ND			
m. Fluorene	86737	☒	☐	4	GRAB	8270 C	0.2	ND			
n. Naphthalene	91203	☒	☐	4	GRAB	8270 C	0.2	ND			
o. Phenanthrene	85018	☒	☐	4	GRAB	8270 C	0.2	ND			
p. Pyrene	129000	☒	☐	4	GRAB	8270 C	0.2	ND			
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	4	GRAB	608	0.255	ND			
38. Chloride	16887006	☐	☐								
39. Antimony	7440360	☐	☒	4	GRAB	6020	0.1	4.5			
40. Arsenic	7440382	☐	☒	4	GRAB	6020	0.1	3			
41. Cadmium	7440439	☐	☒	4	GRAB	6020	0.4	0.6			
42. Chromium III (trivalent)	16065831	☒	☐	4	GRAB	6020	1	ND			
43. Chromium VI (hexavalent)	18540299	☒	☐	4	GRAB	3500 CR-D	10	ND			
44. Copper	7440508	☐	☒	4	GRAB	6020	1	10.9			
45. Lead	7439921	☐	☒	4	GRAB	245.1	1	2			
46. Mercury	7439976	☒	☐	4	GRAB	6020		ND			
47. Nickel	7440020	☐	☒	4	GRAB	6020	1	5.3			
48. Selenium	7782492	☒	☐	4	GRAB	6020	2	7			
49. Silver	7440224	☒	☐	4	GRAB	6020	0.8	ND			
50. Zinc	7440666	☐	☒	4	GRAB	6020	10	113.1			
51. Iron	7439896	☐	☒	4	GRAB	200.7	50	2000			
Other (describe):		☐	☐								

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

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

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ◉ N ○	If yes, which metals? Cadmium, Copper, Lead, Selenium, Zinc, Iron
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: Cadmium, Copper, Lead DF: 3.89 Metal: Selenium, Zinc, Iron DF: 3.89 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: Cd, Cu, Pb, Se, Zn

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

See attached.

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):	GAC, Ion Exchange - As Required		

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 30 gpm Maximum flow rate of treatment system 60 gpm
Design flow rate of treatment system NA gpm

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

See attached.

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

a) Identify the discharge pathway:	Direct to receiving water ☐	Within facility (sewer) ☐	Storm drain ☒	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Effluent will be discharged to a storm drains located near the site, which discharges to the nearby Muddy River.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 3.89 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)?

Is there a final TMDL? Y ◉ N ○ If yes, for which pollutant(s)? E Coli - See below

The receiving water (the Muddy River) is categorized as **"Waters covered by TMDL's"** for Escherichia coli. It is also categorized as **"Massachusetts Category 5 Waters - Waters requiring a TMDL"** for the following: Escherichia coli, (Non-Native Aquatic Plants*), Oil and Grease, (Other flow regime alterations*), Oxygen, Dissolved, (Physical substrate habitat alterations*), Turbidity, Taste and Odor, Phosphorus (Total), (Bottom Deposits*), PCB in Fish Tissue.

6. ESA and NHPA Eligibility.

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

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

A ◉ B ○ C ○ D ○ E ○ F ○

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

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

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

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

1 ○ 2 ◉ 3 ○

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

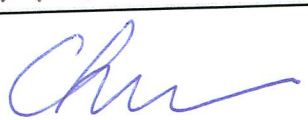
7. Supplemental information.

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

See attached

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*~~ BY PROJECT ENGINEER WITH MY PARTICIPATION *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:	74 FENWOOD ROAD / 20 VINING ST.
Operator signature:	
Printed Name &Title:	SR VICE PRESIDENT
Date:	12/7/2010

APPENDIX B

MSDS and Fact Sheets

USFILTER WESTATES CARBON

AQUACARB® 830 AND 1240

Coal based granular activated carbon

(Formerly KG-401 and KG-502)

FOR MUNICIPAL, INDUSTRIAL AND REMEDIAL WATER TREATMENT

Description & Applications

AquaCarb® 830 and AquaCarb® 1240 are high activity granular activated carbons manufactured from selected grades of bituminous coal. Manufactured by direct activation, they exhibit exceptional hardness and attrition resistance and have become a cost effective choice for use in municipal, industrial and remedial water treatment applications. These high surface area microporous carbons have been specifically developed for the removal of a broad range of organic contaminants from potable, waste and process waters.

- ANSI/NSF Standard 61 classified for use in potable water applications
- Fully conforms to physical, performance and leachability requirements established by the current ANSI/AWWA B604 (which includes the Food Chemical Codex requirements)
- A detailed quality assurance program guarantees consistent quality from lot to lot and shipment to shipment

Quality Control

All AquaCarb® activated carbons are extensively quality checked at our State of California certified environmental and carbon testing laboratory located in Los Angeles, CA. USFilter's laboratory is fully equipped to provide complete quality control analyses using ASTM standard test methods in order to assure the consistent quality of all AquaCarb® carbons.

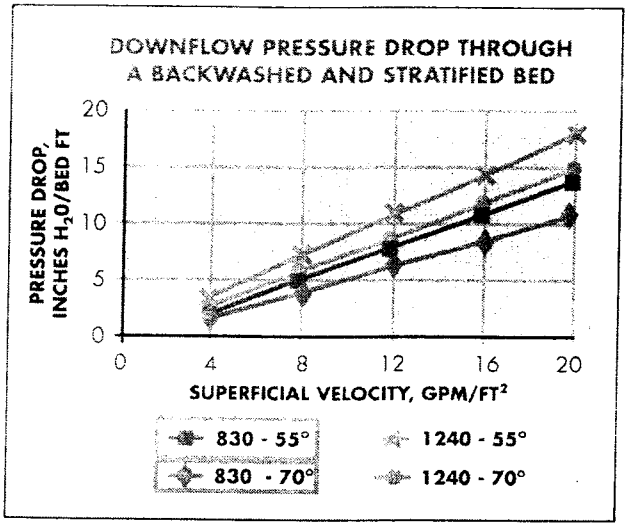
Our technical staff offers hands-on guidance in selecting the most appropriate system, operating conditions and carbon to meet your needs. For more information, contact your nearest USFilter representative.

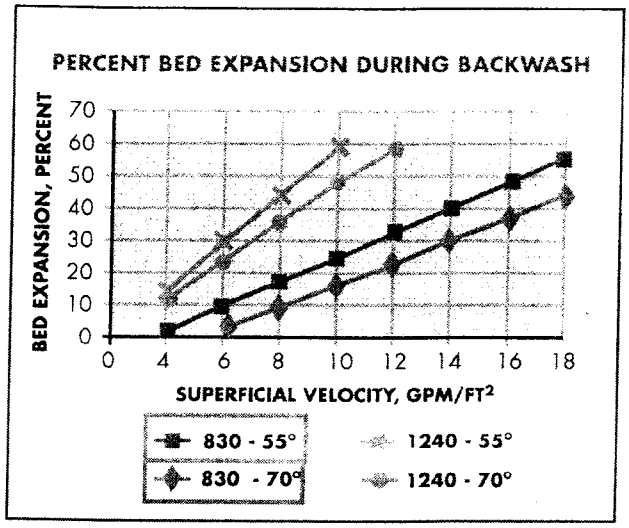
USFilter

AQUACARB® 830
AQUACARB® 1240

Coal based granular activated carbon

(Formerly KG-401 and KG-502)





Safety Note: Wet activated carbon depletes oxygen from the air and therefore dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. Read Material Safety Data Sheet (MSDS) before using this product.

All information presented herein is believed reliable and in accordance with accepted engineering practices. USFilter makes no warranties as to the completeness of this information. Users are responsible for evaluating individual product suitability for specific applications. USFilter assumes no liability whatsoever for any special, indirect or consequential damages arising from the sale, resale or misuse of its products.

SPECIFICATIONS/TYPICAL PROPERTIES

Specification	AquaCarb® 830	AquaCarb® 1240
Carbon Type	Bituminous Coal	Bituminous Coal
Mesh Size, U.S. Sieve	8 x 30	12 x 40
Effective Size, mm	0.8 - 1.1	0.55 - 0.75
Uniformity Coefficient (max)	2.1	1.9
Iodine No., mgI_2/g (min.)	900	1000
Abrasion No., Wt. % (min.)	80	80
Apparent Density, g/cc	0.46 - 0.54	0.46 - 0.54

USFilter reserves the right to change the specifications referred to in this literature at any time without prior notice. AquaCarb is a trademark of United States Filter Corporation or its affiliates.

USFilter

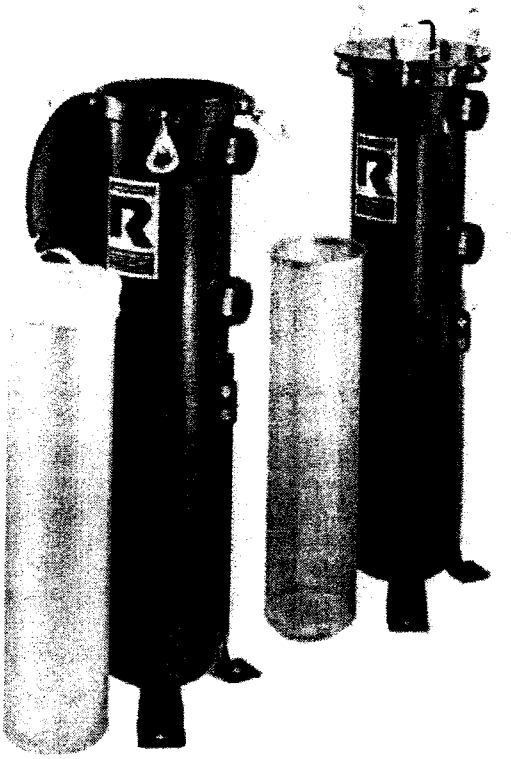
Westates
Customer and
Technical Service Network:

Gulf Coast Region 800.659.1723
(Louisiana) 225.744.3153
Western Region 800.659.1771
Mid-Atlantic Region 800.659.1717
Midwest Region 708.345.7290
Northwest Region 800.659.1718
Southeast Region 225.744.3153
New England Region 800.659.1717

www.usfilter.com

Model NCO Bag or Cartridge Filter Housings

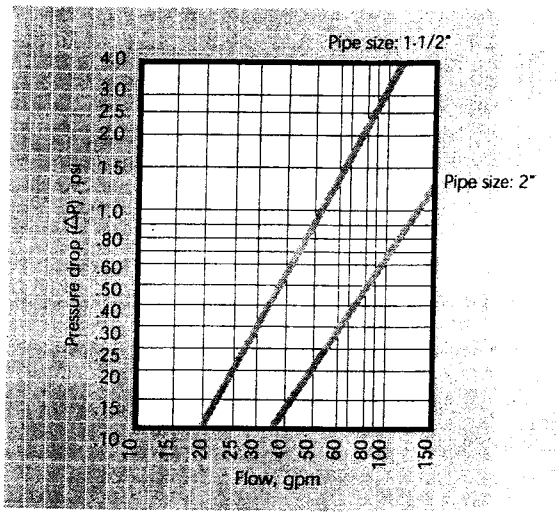
Low cost filter housings for flow rates to 100 gpm*



NCO high-capacity filters offer an exceptional value in basic filtration applications. Offered in a size 2 and size 12 bag housing, the NCO is also available with our Platinum 700 cartridge series.

NCO housings provide large dirt-holding capacity combined with a rugged design rated to 150 psi. The housings incorporate a newly designed hinged, eyenut cover that is easily removed, reducing time spent on bag or cartridge change-out. The NCO bag housing offers versatility for any piping arrangement, utilizing our unistyle design (side and bottom outlet). Two connection sizes are available for both bag and cartridge filters.

The NCO housings are electropolished creating a smooth, easy-to-clean surface. Customize them with several options including, gauges and switches. A variety of filter bags or cartridges (rated 0.5µ absolute to 100µ nominal) can be utilized in this housing. Keep your filtration process cost effective without sacrificing quality.



* Based on housing only. Fluid viscosity, filter bag used, and expected dirt loading should be considered when sizing a filter.

Permanently piped housings are opened without special tools

Carbon or stainless steel housings

Covers are O-ring sealed

O-ring seals: Buna N, EPR and Viton®

150 psi rated housing

Heavy-duty basket, over 50% open area

Uses standard number 1, 2 or 12 size bags and 500 or 700 series cartridges

Filter selection surface area is:
2.3 square feet (number 1 size bag),
4.4 square feet (number 2 size bag),
5.6 square feet (number 12 size bag)
85 square feet (500 series cartridge)
125 square feet (700 series cartridge)

1-1/2-inch or 2-inch NPT inlet and outlet

1/4-inch NPT vent connection

Adjustable leg assembly

How To Order

Build an ordering code as shown in the example.

NSF QUALITY SYSTEM REGISTERED TO ISO 9001: 1994

Example : Housing: **NCO8-30 - 2P - * - 150** Options: **- C - B - PB**

MODEL
NCO8 (#1, #2 bag & 500 cartridge)
NLCO8 (#12 bag)
NCO8135 (700 cartridge)
NCO8135 convertible

BASKET SIZE
15-inch (NCO only) = **15**
30-inch (NCO or NLCO) = **30**
NCO8135 = **No Symbol**

PIPE SIZE
1-1/2-inch female NPT = **1-1/2P**
2-inch female NPT = **2P**

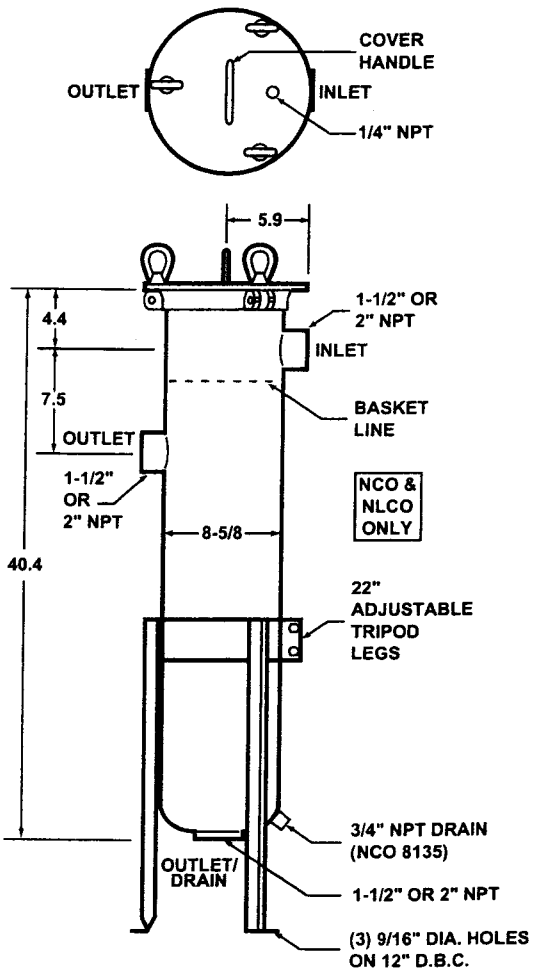
OUTLET STYLE
Side/Bottom Unistyle (NCO or NLCO) = *****
Bottom = **1**

PRESSURE RATING
150 psi = **150**

HOUSING MATERIAL
Carbon steel = **C**
304 Stainless steel = **S**

COVER SEAL
Buna N = **B**
Ethylene propylene = **E**
Viton® Fluoroelastomer = **V**

BASKET TYPE
Filter bag basket (NCO or NLCO) = **PB**
700 Cartridge (NCO8135) = **700**
Convertible (NCO8135) = **700PB**



1. Filter bags are specified separately. See Rosedale Master Catalog 3rd edition.
2. Basket material is compatible with housing.
3. Weight (approximately): 70 lbs.

Rosedale Products, Inc.
3730 W. Liberty Rd, Ann Arbor, MI 48103
Tel: 800-821-5373 or 734-665-8201
Fax: 734-665-2214
http://www.rosedaleproducts.com/
E-mail: filters@rosedaleproducts.com

Call us today for our complete catalog or visit our web site to see our entire product line.

Sheet NCO-100 5M605 Printed in USA

RESINTECH ASM-10-HP

ANION EXCHANGE RESIN
ARSENIC SELECTIVE

RESINTECH ASM-10-HP is a strongly basic hybrid anion exchange resin specially formulated to selectively remove arsenic. It is supplied in the salt form as clean, moist, tough, uniform, spherical beads.

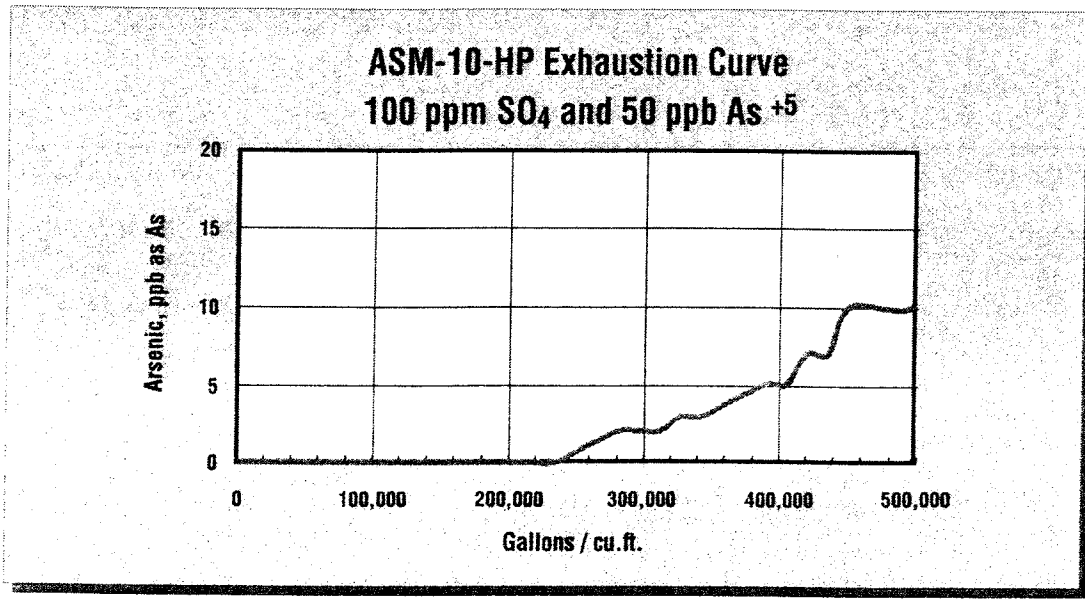
RESINTECH ASM-10-HP exhibits extraordinary throughput capacity in arsenic removal service on potable water supplies. Its performance is virtually unaffected by common anions, such as chlorides, bicarbonates or sulfates. It is effective over the entire pH range of potable water.

RESINTECH ASM-10-HP is also available in organic trap, perchlorate selective and nitrate selective configured resins. These resins are fully selective for arsenic, but still retain their original ion exchange selectivity.

FEATURES & BENEFITS

- **TREMENDOUS AFFINITY FOR ARSENIC OVER OTHER ANIONS**
  Highest arsenic removal capacity of organic based arsenic removal media
- **MADE FROM NSF/ANSI-61 VALIDATED ANION EXCHANGE RESIN**
- **NO ARSENIC DUMPING**
  Effluent arsenic levels will not exceed influent levels if resin is operated past exhaustion point
- **EFFECTIVE ACROSS THE ENTIRE POTABLE WATER pH RANGE**
- **SINGLE USE OR REGENERABLE APPLICATIONS**
- **SUPERIOR PHYSICAL STABILITY**
  Spherical and uniform particle size provide low pressure drop and greater resistance to bed compaction. Unlike granular, coated medias, ASM-10-HP will not shed particles.

Exhaustion Curve



1 Resintech Plaza • 160 Cooper Road • West Berlin,NJ 08091 • Phone:(856)768-9600 • Fax:(856)768-9601 • E-mail:ixresin@resintech.com • Web Site:www.resintech.com

RESINTECH® ASM-10-HP

PHYSICAL PROPERTIES (Cl form)

Polymer Structure	Styrene with DVB
Functional Group	R-N-R$^+$Cl$^-$
Ionic Form, as shipped	Chloride
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50 Nominal
- 50 mesh (U.S. Std)	Less than 1 Percent
pH Range	4 to 10
Water Retention	35 to 55 Percent
Solubility	Insoluble
Approximate Shipping Weight	44 lbs./ft^3
Total Capacity	>1.0 meq / mL
Sphericity	> 93 Percent

WATER QUALITY GUIDELINES

Feedwater quality (aside from arsenic) should generally be of potable quality. Please consult your ResinTech technical salesman for recommendations outside the following guidelines:

Conductivity	1000 micromhos/cm
Chloride	250 ppm
Sulfate	250 ppm
pH	5.5 to 9.5
Phosphate	5 ppm
Silica	10 ppm
Turbidity	5 NTU
Chlorine	0.3 ppm

SUGGESTED OPERATING CONDITIONS

Flow Rate	2 to 10 gpm/cu. ft.
	1 to 20 gpm/sq. ft.
Pressure Loss	25 psi max.
Temperature	170°F max.

OPERATING CAPACITY

Under ideal conditions, the 1st cycle throughput capacity for arsenic removal with approximately 50 ppb As^{+5} in the inlet is greater than 500,000 gallons per cu. ft., while producing less than 10 ppb of effluent arsenic. The throughput capacity varies inversely with changes in the influent arsenic levels.

RESINTECH ASM-10-HP has modest capacity for arsenite (As^{+3}). It is suggested that if the arsenite concentration exceeds 20% of the total arsenic present, the feedwater should be pre-chlorinated to ensure conversion to arsenate (As^{+5}).

ASM-10-HP is also selective for other oxy-anions, such as selenate. It will remove modest amounts of both phosphate and silica.

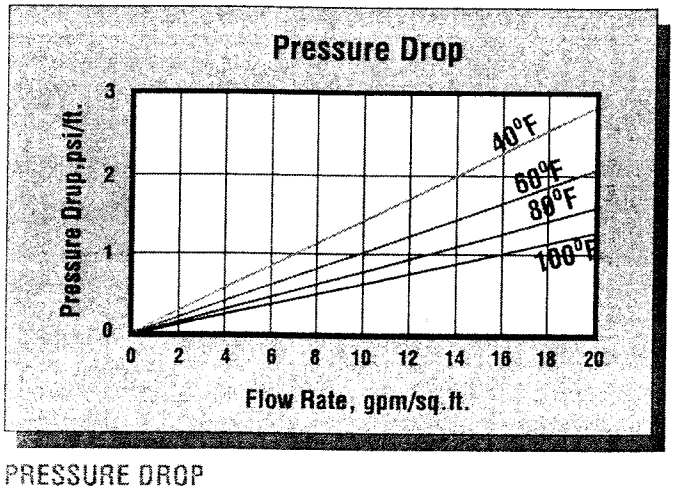
REGENERATION

ResinTech ASM-10-HP can be partially regenerated in the field with alkaline brine. For additional information contact your local ResinTech representative.

DISPOSAL

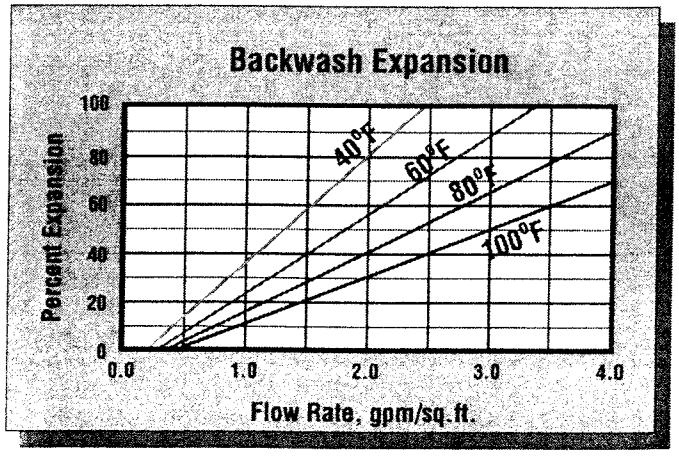
It is recommended that users review local regulations and consult with local authorities on the best method of disposal.

HYDRAULIC PROPERTIES



PRESSURE DROP

The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various water temperatures.



BACKWASH

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed.

RESINTECH

CGS

CATION EXCHANGE RESIN
SOFTENING GRADE
Na FORM

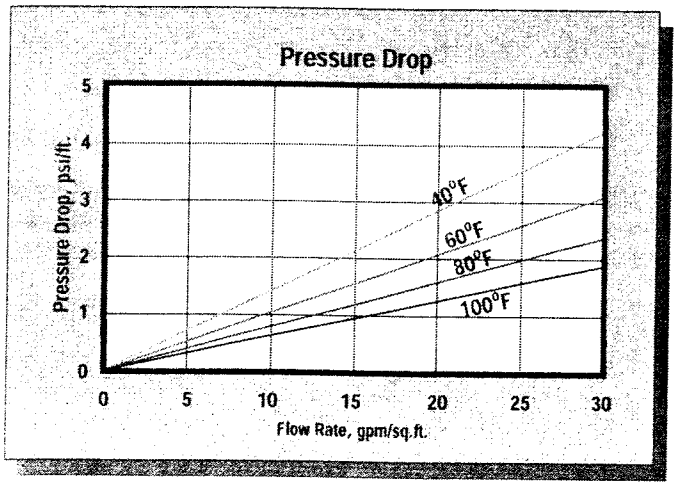
RESINTECH CGS is a high purity, light colored, high capacity, gel type sulfonated polystyrene cation resin supplied in the sodium form as moist, tough uniform spherical beads. *ResinTech CGS* specifically is intended for use in all water softening applications,including beverages, potable water and water used for food processing. It's high capacity and high DVB content provide long life and good chlorine resistance in all potable water applications. (It is also available as a dark colored product *RESINTECH CGS-BL* with identical properties.)

FEATURES & BENEFITS

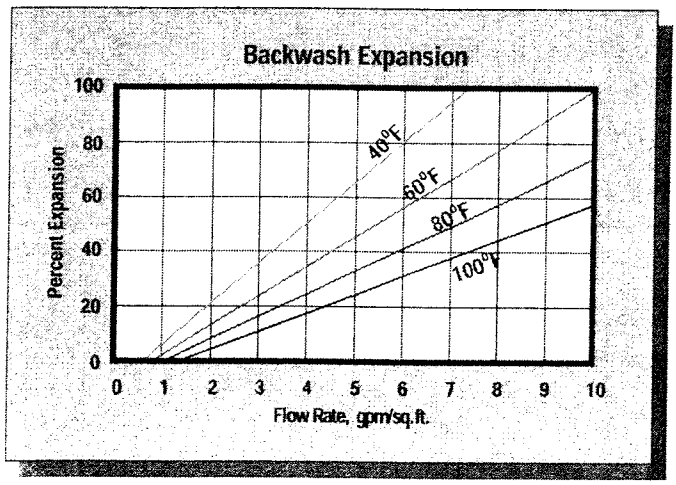
- **COMPLIES WITH FDA REGULATIONS FOR POTABLE WATER APPLICATIONS**
  Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the F.D.A.*
- **EXCELLENT REGENERATION EFFICIENCY**
  Virtually the same operating capacity as premium grade *ResinTech CG8-BL*
- **NSF/ANSI-61 VALIDATED**
- **UNIFORM PARTICLE SIZE**
  16 to plus 50 mesh range; gives a LOWER PRESSURE DROP while maintaining SUPERIOR KINETICS.
- **SUPERIOR PHYSICAL STABILITY**
  90% plus sphericity and high crush strengths together with a very uniform particle size provide greater resistance to bead breakage while maintaining low pressure drops.
- **LOW COLOR THROW**

*For potable water applications, the resin must be properly pre-treated, usually by multiple exhaustion and regeneration cycles, to insure compliance with extractable levels.

HYDRAULIC PROPERTIES



PRESSURE DROP - The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate, at various temperatures.



BACKWASH - After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of *RESINTECH CGS* in the sodium form.

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RESINTECH® CGS

PHYSICAL PROPERTIES

Polymer Structure	Styrene Crosslinked with DVB
Functional Group	$R\text{-}(SO_3)^-M^+$
Ionic Form, as shipped	Sodium
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh (U.S. Std)	< 5 percent
-50 mesh (U.S. Std)	< 1 percent
pH Range	0 to 14
Sphericity	90+ percent
Uniformity Coefficient	Approx. 1.6
Water Retention	
Sodium Form	48 to 54 percent
Solubility	Insoluble
Shipping Weight	
Sodium Form	48 lbs./cu.ft.
Total Capacity	
Sodium Form	1.8 meq/ml min

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	
Sodium Form	250^0 F
Minimum Bed Depth	24 inches
Backwash Rate	50 to 75% Bed Expansion
Regenerant (NaCl or KCl)	
Concentration	10 to 15 percent
Flow Rate	0.5 to 1.5 gpm/cu.ft.
Contact Time	> 20 minutes
Level	4 to 15 pounds/cu.ft.
Displacement Rate	Same as Regen Flow Rate
Volume	10 to 15 gallons/cu.ft.
Fast Rinse Rate	Same as Service Flow Rate
Volume	35 to 60 gallons/cu.ft.
Service Flow Rate	2 to 10 gpm/cu.ft.

OPERATING CAPACITY

Sodium Chloride (NaCl) Regeneration

The sodium cycle operating capacity of *RESINTECH CGS* for hardness removal at various regeneration levels with an influent calcium/magnesium ratio of 2/1 and a hardness level of 500 ppm, as $CaCO_3$, is shown in the following table:

Pounds NaOH/cu.ft.	Capacity Kilograins/cu.ft.
5	20.0
7.5	25.4
10	29.0
15	33.0

Potassium Chloride (KCl) Regeneration

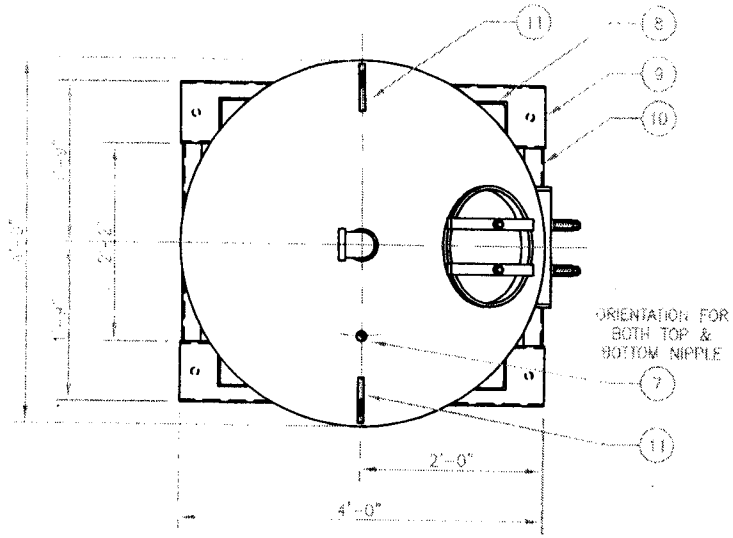
The potassium cycle operating capacity of *RESINTECH CGS* for hardness removal at various regeneration levels with an influent calcium/magnesium ratio of 2/1 and a hardness level of 500 ppm, as $CaCO_3$, is shown in the following table:

Pounds NaOH/cu.ft.	Capacity Kilograins/cu.ft.
5	16.6
7.5	21.8
10	26.6
15	31.2

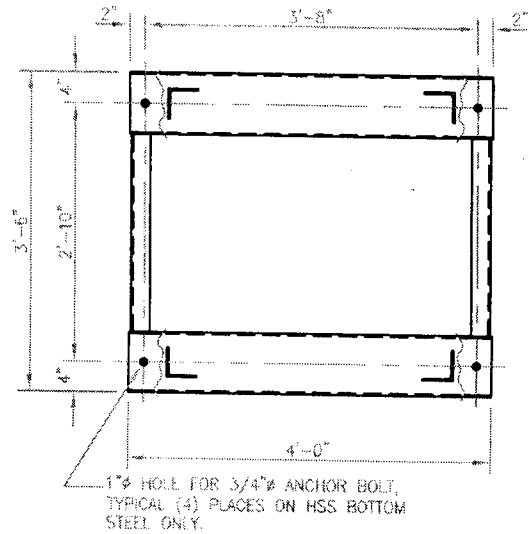
APPLICATIONS

Softening

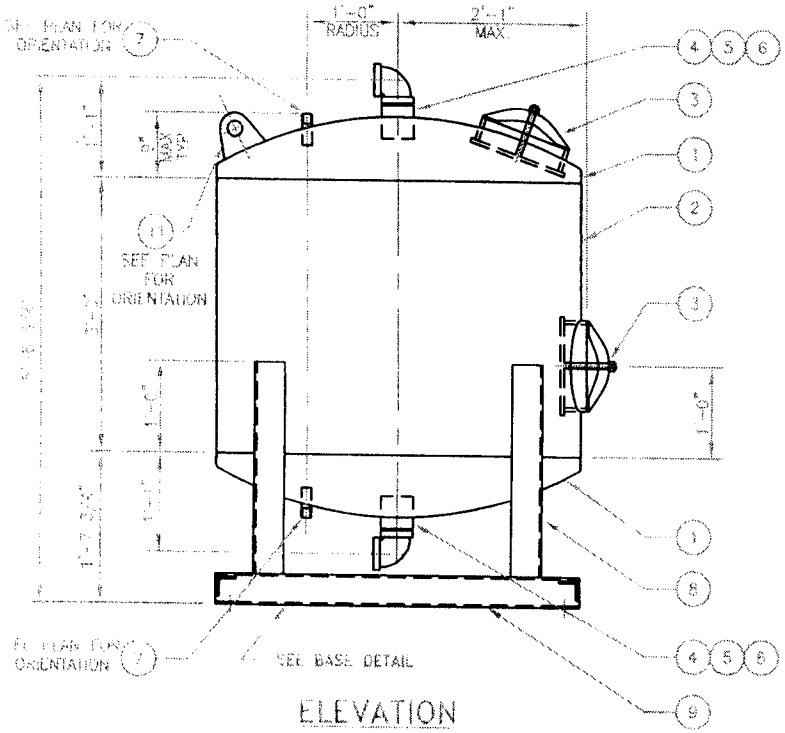
RESINTECH CGS is ideally suited for industrial, commercial, or residential softening applications where free chlorine is not present because of its high capacity, uniform particle size and good physical stability.



PLAN



BASE DETAIL



ELEVATION

#	QTY.	DESCRIPTION
1	2	C.S. STD. Flanged&Dished Non-Code tank head 3/16" THK.
2	1	C.S. 3/16" THK. x 48" OD x 36" Long
3	2	C.S. Elliptical Non-Code Manway Assembly 12"x16" w/ 2 yoke
4	2	3"ø, 150 LBS, C.S. Black Pipe Threaded Coupling
5	2	3"ø, SCH 40, C.S. Close Threaded Nipple
6	2	3"ø, 150 LBS, C.S. Black Pipe 90° Elbow
7	2	1"ø, SCH 40, C.S. 4" Long Threaded Nipple
8	4	Angle 4" x 4" x 1/4" Support Leg
9	2	HSS 8" x 4" x 1/4" Base
10	2	Angle 2 1/2" x 2 1/2" x 1/4" Cross Tie
11	2	Lifting Lug (Design by Fabricator, See Note 2)

GENERAL NOTES

1) MATERIAL SHALL BE CARBON STEEL GRADE A 36 UNLESS NOTED OTHERWISE.

2) FABRICATOR TO DESIGN LIFTING LUGS TO MEET 4000 LBS LIFTING REQUIREMENT.

3) TANK INTERIOR SHALL BE SANDBLASTED TO SSPC-SP-5 WHITE METAL FINISH, PAINTING BY OTHERS.

4) TANK EXTERIOR SANDBLASTING AND PAINTING BY OTHERS.

5) TANK SHALL BE LEVEL +/- ONE DEGREE.

6) FABRICATION TOLERANCE SHALL BE +/- (1/4) INCH.

7) UNLESS NOTED OTHERWISE, ALL WELDS SHALL BE SEAL WELD, ALL JOINTS SHALL BE WELDED BOTH SIDE WHERE APPLICABLE.

8) STEEL PLATES JOINING METHOD SHOWN ARE INTENDED FOR REFERENCES ONLY, FINAL STEEL JOINING METHOD SHALL BE DETERMINE BY FABRICATOR TO SUIT THEIR SHOP PREFERENCES.

9) THE TANK SHALL BE PRESSURE TESTED TO HOLD WATER AT FULL CAPACITY AT 75 PSI PRIOR SHIPMENT.

10) THIS DRAWINGS IS THE PROPERTY OF GROUND/WATER TREATMENT & TECHNOLOGY, INC

NO.	REVISIONS	DATE
A	FOR QUOTATION	06/28/05

1000 LBS LIQUID PHASE ADSORPTION TANK GENERAL ARRANGEMENT & DETAILS

SCALE:	NONE	APPROVED:	DRAWN BY: TLo
DATE:	06/27/05		

GROUNDWATER TREATMENT & TECHNOLOGY
P.O. BOX 1174
DENVILLE, NJ 07834

FILE: 11-1181 DRAWING NUMBER: M-01

SBG1

ANION EXCHANGE RESIN
TYPE ONE GEL
Cl OR OH FORM

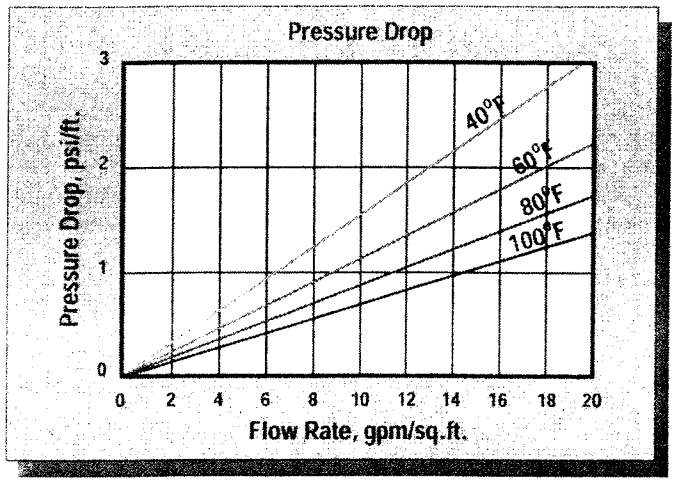
ResinTech SBG1 is a high capacity, shock resistant, gelular, Type 1, strongly basic anion exchange resin supplied in the chloride or hydroxide form as moist, tough, uniform, spherical beads. *ResinTech SBG1* is intended for use in all types of deionization systems and chemical processing applications. It is similar to *ResinTech SBG1P* but has a higher volumetric capacity and exhibits lower TOC leach rates. This makes it the better performer in single use applications such as in cartridge deionization and when high levels of regeneration are used such as in polishing mixed beds. On the other hand, *ResinTech SBG1P* is more resistant to organic fouling and gives higher operating capacities at low regeneration levels such as those used in make up demineralizers.

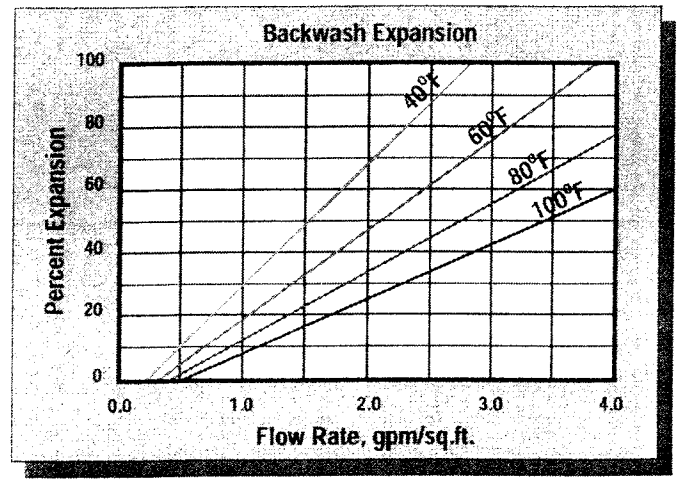
FEATURES & BENEFITS

- **COMPLIES WITH FDA REGULATIONS FOR POTABLE WATER APPLICATIONS.**
  Conforms to paragraph 21CFR173.125 of the Food Additives Regulations of the F.D.A.*
- **HIGH TOTAL CAPACITY**
  Provides longer run lengths in single use applications or where high levels of regeneration are used such as in mixed bed polishers, cartridge demineralizers.
- **UNIFORM PARTICLE SIZE**
  16 to plus 50 mesh range; gives a LOWER PRESSURE DROP while maintaining SUPERIOR KINETICS.
- **SUPERIOR PHYSICAL STABILITY**
- **LOWER TOC LEACH RATE**
  Makes it ideal for polishing mixed beds in wafer washing and other high purity water polishing applications.

*For potable water applications, the resin must be properly pre-treated, usually by multiple exhaustion and regeneration cycles, to ensure compliance with extractable levels.

HYDRAULIC PROPERTIES





PRESSURE DROP

The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate, at various temperatures.

BACKWASH

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of *ResinTech SBG1* in the sodium form.

1 Resintech Plaza · 160 Cooper Road · West Berlin NJ 08091 · Phone:(856)768-9600 · Fax:(856)768-9601 · E-mail:ixresin@resintech.com · Web Site:www.resintech.com

RESINTECH® SBG1

PHYSICAL PROPERTIES

Polymer Structure	Styrene Crosslinked with DVB
Functional Group	R-N-$(CH_3)_3{}^+Cl^-$
Ionic Form, as shipped	Chloride or Hydroxide
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh (U.S. Std)	< 5 percent
-50 mesh (U.S. Std)	< 1 percent
pH Range	0 to14
Sphericity	> 93 percent
Uniformity Coefficient	Approx. 1.6
Water Retention	
Chloride Form	43 to 50 percent
Hydroxide Form	Approx. 53 to 60 percent
Solubility	Insoluble
Approximate Shipping Weight	
Cl Form	44 lbs/cu.ft.
OH Form	41 lbs/cu.ft.
Swelling Cl- to OH-	18 to 25 percent
Total Capacity	
Cl Form	1.45 meq/ml min
OH Form	1.15 meq/ml min

SUGGESTED OPERATING CONDITIONS

Maximum Continuous Temperature	
Hydroxide Form	140°F
alt Form	170°F
Minimum Bed Depth	24 inches
Backwash Rate	50 to 75 percent Bed Expansion
Regenerant Concentration*	2 to 6 percent
Regenerant Flow Rate	0.25 to 1.0 gpm/cu.ft.
Regenerant Contact Time	At least 40 Minutes
Regenerant Level	4 to 10 pounds/cu.ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 15 gals/cu.ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gals/cu.ft.
Service Flow Rates	
Polishing Mixed Beds	3 to 15 gpm/cu.ft.
Non-Polishing Apps.	2 to 4 gpm/cu.ft.

OPERATING CAPACITY

The operating capacity of *RESINTECH SBG1* for a variety of acids at various regeneration levels when treating an influent with a concentration 500 ppm, expressed as $CaCO_3$ is shown in the following table:

Pounds NaOH/ft³	Capacity Kilograms per cubic foot			
	HCl	H_2SO_4	H_2SiO_3	H_2CO_3
4	11.3	14.0	14.7	18.6
6	12.8	16.3	17.3	19.8
8	14.3	13.3	19.5	21.6
10	15.5	20.0	22.2	22.2

APPLICATIONS

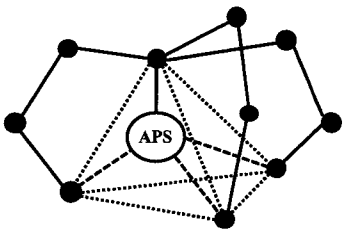
DEMINERALIZATION – *RESINTECH SBG1* is highly recommended for use in mixed bed demineralizers, wherever complete ion removal; superior physical and osmotic stability and low TOC leachables are required such as in wafer fabrication and other ultrapure applications.

RESINTECH SBG1 has high total capacity and low swelling on regeneration and provides maximum operating capacity in cartridge deionization applications. It is ideal for single use applications such as precious metal recovery, radwaste disposal and purification of toxic waste streams.

Highly crosslinked Type 1, styrenic anion exchangers have greater thermal and oxidation resistance than other types of strong base resins. They can be operated and regenerated at higher temperatures. The combination of lower porosity, high total capacity and Type 1 functionality make *RESINTECH SBG1* the resin of choice when water temperatures exceed 85°F and where the combination of carbon dioxide, borate and silica exceed 40% of the total anions.

RESINTECH SBG1P and *RESINTECH SBG1* are quite similar; the difference between them is the degree of porosity. *RESINTECH SBG1P* has greater porosity that gives it faster kinetics, and greater ability to reversibly sorb slow moving ions such as Naturally occurring Organic Matter (NOM). At lower regeneration levels and where chlorides make up a substantial portion of the anion load, or where the removal and elution of naturally occurring organics is of concern *RESINTECH SBG1P*, SBACR or SBG2 should be considered. At the higher regeneration levels used in mixed bed polishers *RESINTECH SBG1* provides higher capacity, and the lowest possible TOC leach rates.

Applied Polymer Systems, Inc.



Material Safety Data Sheet

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: APS 702aa Floc Log

Supplied:
Applied Polymer Systems, Inc.
519 Industrial Drive
Woodstock, GA 30189
www.siltstop.com
Tel. 678-494-5998
Fax. 678-494-5298

2. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation: Anionic water-soluble Co-polymer gel

3. HAZARD IDENTIFICATION

Placement of these materials on wet walking surface will create extreme slipping hazard.

4. FIRST AID MEASURES

Inhalation: None

Skin contact: Contact with wet skin could cause dryness and chapping. Wash with soap and water. Use of rubber gloves required.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.

Ingestion: Consult a physician

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.

Special fire-fighting precautions: Floc Logs that become wet render surfaces extremely slippery.

Protective equipment for firefighters: No special equipment required.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Methods for cleaning up: Dry wipe as well as possible. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wash hands after handling.

Storage: Keep in a cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Use dry handling areas only.

Personal protection equipment

Respiratory Protection:	None
Hand protection:	Dry cloth, leather or rubber gloves.
Eye Protection:	Safety glasses with side shields. Do not wear contact lenses.
Skin protection:	No special protective clothing required.
Hygiene measures:	Wash hands before breaks and at end of work day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Granular semi-solid gel
Color:	White to Brown
Odor:	None
pH:	7.89
Melting point:	N/A
Flash point:	N/A
Vapor density:	N/A

10. STABILITY AND REACTIVITY

Stability: Product is stable, no hazardous polymerization will occur.

Materials to avoid: Oxidizing agents may cause exothermic reactions.

Hazardous decomposition products: Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral:

LC 50/*Daphnia Magna*/48h/>420mg/L

Inhalation: None

12. ECOLOGICAL INFORMATION

Water Flea: LC 50/*Daphnia Magna*/48h/>420mg/l

Algae: EC 50/*Selenastrum capricornutum*/96h>500mg/l

Bioaccumulation: The product is not expected to bioaccumulate.

Persistence / degradability: Not readily biodegradable: (~85% after 180 days).

13. TRANSPORT AND REGULATORY INFORMATION

Not regulated by DOT, **RCRA status-Not a hazardous waste**

NFPA and HMIS ratings:

NFPA	**Health:**	**3**	**Flammability:**	**0**	**Reactivity:**	**1**
HMIS	**Health**	**2**	**Flammability**	**0**	**Reactivity**	**1**

Back

Floc Log Specifications:

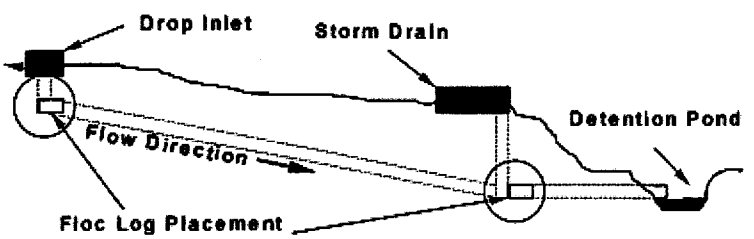
Floc Log Specifications:
ANSI/NSF Standard Drinking Water Treatment Chemical Additives
EPA/600/R-98/182 168 Hr. Chronic Toxicity Test (Pimephales promelas)
EPA/600/4-90/027F 48Hr. Acute Static Screen Toxicity Test (Daphnia Magna)

APS, Inc. currently has over (40) types of Floc Log ®. Each are designed for specific soils or lithologies. Each Floc Log ® is tailored for the specific requirement of water chemistry and soil within your geographical area. Most soils within EPA Region 4 have been classified and will not require a soil and water sample. Areas outside EPA Region 4 will require a soil and water sample. There is no charge for this analysis.

Floc Log ® is available in two forms, clarifier and particle. Clarifier Floc Log ® is used for colloidal water and very fine suspended particles. Particle Floc Log ® is used for heavily particle laden water in areas before sediment traps and sediment ponds.

Enhancement tools and Engineering designs are available on request:
APS Particle Curtain, APS Soft Armor,
APS Floc Log Mix Tank, APS Byron Box

Consult your local distributor or Applied Polymer Systems, Inc. for proper Floc Log © type, correct application and other Silt Stop products.



Applied Polymer Systems, Inc.
519 Industrial Drive • Woodstock, GA 30189
678.494.5998
info@siltstop.com

APPENDIX C

Best Management Practices Plan (BMPP)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
REMEDIATION GENERAL PERMIT
MASSACHUSETTS MENTAL HEALTH CENTER REDEVELOPMENT
74 FENWOOD ROAD BUILDING AND 20 VINING STREET BUILDING
BOSTON, 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 and abatement process water discharge planned to occur at the Massachusetts Mental Health Center (MMHC) 74 Fenwood Road Building and 20 Vining Street Building project site located in Boston, 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 and abatement process water discharge is occurring at the site.

Water Treatment and Management

Construction dewatering effluent will be generated from numerous activities across the site, as described in the NPDES RGP permit application. Dewatering effluent is anticipated to be generated and pumped from the following locations:

- Power House Basement and Therapeutic Building Pool Room accumulated water
- ACM Abatement Process Water generated during abatement activities at the various site buildings
- Dust Suppression Water generated during demolition activities at the various site buildings
- Stormwater and Groundwater Infiltration accumulated onsite

Construction dewatering effluent will be pumped from well points installed in sump pits within the planned building excavations, sump pits at site demolition areas, and from the existing building basement and pool areas. Dewatering effluent will be pumped through hoses directly into a tank for sedimentation control. The effluent will then flow through any necessary treatment systems and discharge through hoses to catch basins on site that discharge to the Muddy River. Dewatering effluent treatment may consist of bag filters, granular activated carbon (GAC), ion exchange, or precipitation, as required.

As indicated above, abatement process water is anticipated to be generated during abatement of asbestos containing materials (ACM) in the existing MMHC site buildings. The asbestos-containing abatement water will be contained in the building basements and pumped through the necessary treatment systems prior to discharge to the nearby catch basins. Treatment of asbestos in water is handled by sediment control and filtration using fractionization tanks and bag filter units.

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

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

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 equipment or materials storage that may be possible sources of pollution away from any dewatering activities, to the extent practicable.

Sediment from the fractionization tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. If used, granular activated carbon and/or ion exchange resin may be recycled and/or removed from the site to an appropriate receiving facility. Bag filters, if used, will be disposed of as necessary. ACM accumulated by the filtration system will be removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations.

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 on designated uses of surrounding surface water bodies is anticipated. The nearest surface water body is the Muddy River located northwest of the site. Dewatering effluent will be pumped to a sedimentation tank and bag filter, at a minimum, prior to discharge to the storm drains.

Appendix D

National Register of Historic Places and
Massachusetts Historical Commission Documentation

NPS.GOV search Search National Register Search nps.gov go National Park Service U.S. Department of the Interior

NATIONAL REGISTER OF HISTORIC PLACES

the official list of the Nation's historic places worthy of preservation

From Private Individuals

NATIONAL REGISTER LINKS
ABOUT US
NR FUNDAMENTALS
HOW TO LIST A PROPERTY
WEEKLY LIST
DATABASE/ RESEARCH
PUBLICATIONS
FREQUENTLY ASKED QUESTIONS
SAMPLE NOMINATIONS
PRESERVATION LINKS
CONTACT US

Find Out What's New: Featured Properties, upcoming events, & Register updates

Weekly List -- Highlighted Property of the Week: Central Diner, Providence County, RI

Inside, this diner has remained largely intact since the day it rolled out of the Worcester Lunch Car Company factory in 1947, and is in good condition. **Read More...**

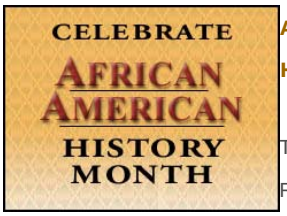
National Register / National Historic Landmarks workshop: in conjunction with NCSHPO March 1, 2010 in Washington, DC. (pdf)

Photo Policy Released:

The National Register of Historic Places has updated our photograph policy. **Read the Photo Policy Factsheet**

Contact Us

Contact information for our mailing addresses, e-mail addresses, and researcher information. **More.**



African American History Month

The National Register of Historic Places lists many properties associated with aspects of African American History. Read about the history of African Americans in Los Angeles, or former slaves who became leading citizens, or how the Great Depression spurred community activism. **More...**

The National Register is on Flickr

See great photographs from our collection, browse through thousands of fantastic images of historic places taken by a nation of people who love historic properties, or post your own work. Post your photo, and it could be pictured here!

Nantucket Sound Decision

The National Park Service announced the decision by the Keeper of the National Register of Historic Places that Nantucket Sound, in Massachusetts, is eligible for listing. **Read the decision.**

nps.gov

National Park Service
U.S. Department of the Interior

Search

Go

NPS Focus
Search nps.gov

National Register of Historic Places

HOME
BROWSE
ADVANCED SEARCH
DOWNLOAD CENTER
ABOUT
HELP

Contact Us

Find A Park
History & Culture
Nature & Science
Education & Interpretation

FULL RECORD DISPLAY

Current Record: 3 of 3 in NPS Digital Library

Go back to: Title List | Revise Search

Previous Record

For advanced viewing install **DjVu browser plugin**.

1. Choose the option for Autoinstallation
2. takes about 20 seconds
3. About DjVu and plugin help

Choose format:
JPG | DjVu

Begin DjVu install

For advanced viewing install **DjVu browser plugin**.

1. Choose the option for Autoinstallation
2. takes about 20 seconds
3. About DjVu and plugin help

Choose format:
JPG | DjVu

Begin DjVu install

Massachusetts Mental Health Center [Image]

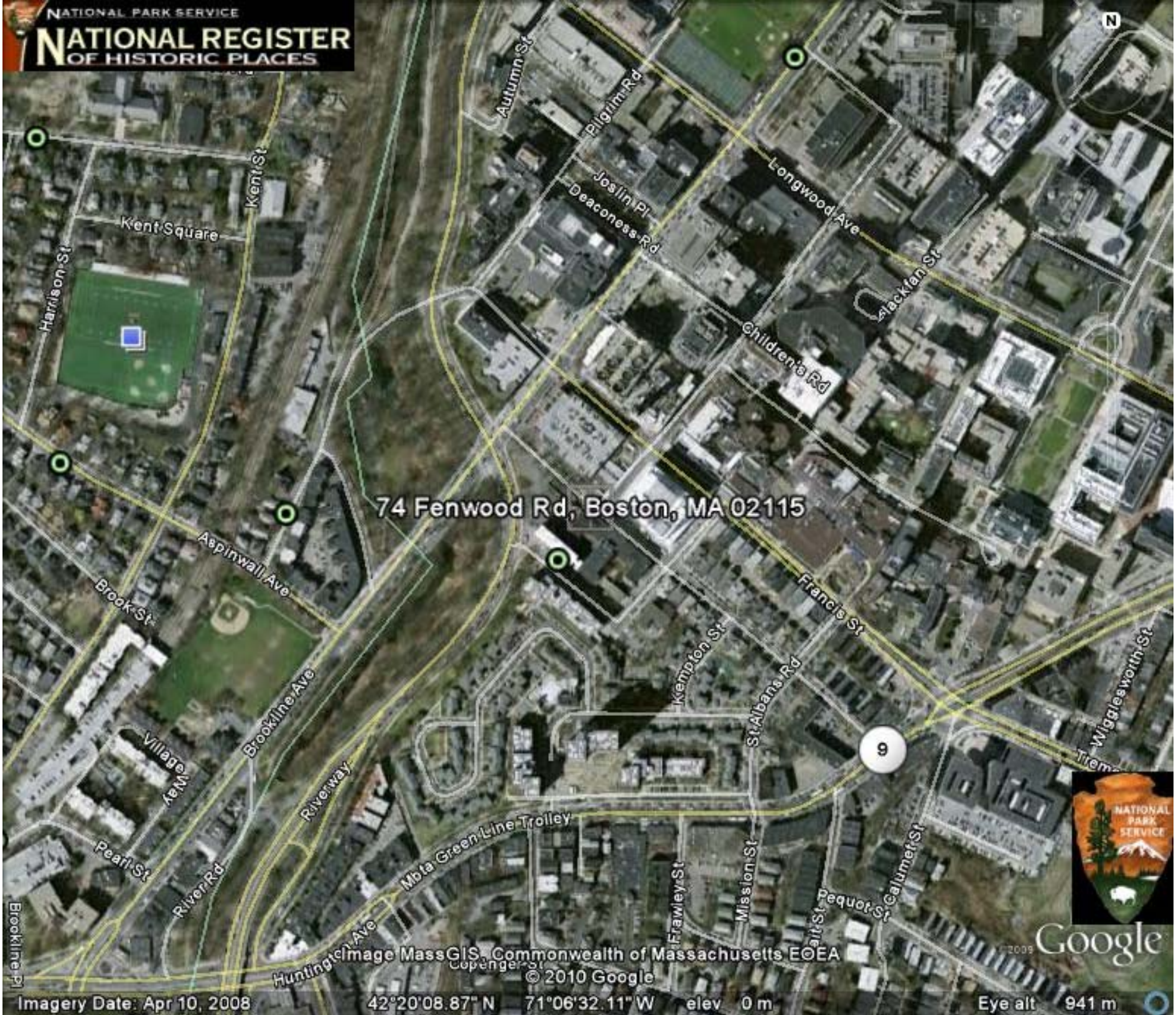
URL: http://pdfhost.focus.nps.gov/docs/NRHP/Text/93001489.pdf
Link will open in a new browser window

URL: http://pdfhost.focus.nps.gov/docs/NRHP/Photos/93001489.pdf
Link will open in a new browser window

Publisher: National Park Service
Published: 01/21/1994
Access: Public access
Is Part Of: Massachusetts State Hospitals And State Schools MPS
Format/Size: Physical document with text, photos and map
Language: eng: English
Note: 74 Fenwood Rd.
Item No.: 93001489 *NRIS (National Register Information System)*
Subject: EVENT
Subject: ARCHITECTURE/ENGINEERING
Subject: ARCHITECTURE
Subject: HEALTH/MEDICINE
Subject: SOCIAL HISTORY
Subject: LATE GOTHIC REVIVAL
Subject: DISTRICT
Subject: 1925-1949
Subject: 1900-1924
Keywords: Kendall,Taylor & Co.;1912;1920
Place: MASSACHUSETTS -- Suffolk County -- Boston

Record Number: 265926

Record Owner: National Register of Historic Places


NATIONAL PARK SERVICE
NATIONAL REGISTER OF HISTORIC PLACES
74 Fenwood Rd, Boston, MA 02115
Autumn St
Pilgrim Rd
Joslin Pl
Deaconess Rd
Longwood Ave
Blackfan St
Children's Rd
Kent St
Kent Square
Harrison St
Aspinwall Ave
Brook St
Brookline Ave
Village Way
Riverway
Francis St
Kempton St
St Albans Rd
Wigglesworth St
9
Pearl St
River Rd
Mbta Green Line Trolley
Huntington Ave
Brookline Pl
Frawley St
Mission St
Pequot St
Calumet St
Image MassGIS, Commonwealth of Massachusetts EOEA
© 2010 Google
Google
Imagery Date: Apr 10, 2008
42°20'08.87" N
71°06'32.11" W
elev 0 m
Eye alt 941 m

Massachusetts Cultural Resource Information System
MACRIS

MHC Home | MACRIS Home

Results

Get Results in Report Format
(•) Spreadsheet ( ) PDF

Below are the results of your search, using the following search criteria:
Town(s): Boston
Street Name: Fenwood
Resource Type(s): Area, Building, Burial Ground, Object, Structure

For a more detailed description of a property, click on the Inventory number.

Inv. No.	Property Name	Street	Town	Year
BOS.7414	Lyons, John B. Three-Family House	7 Fenwood Rd	Boston	1910
BOS.7410	Farragut Primary School	10 Fenwood Rd	Boston	1903
BOS.7415	Spillane, Jeremiah C. Two-Family House	11 Fenwood Rd	Boston	1903
BOS.7416	Spillane, Jeremiah C. Two-Family House	15 Fenwood Rd	Boston	1903
BOS.7411	Spillane, Jeremiah C. Two-Family House	36 Fenwood Rd	Boston	1900
BOS.7412	Spillane, Jeremiah C. Two-Family House	40 Fenwood Rd	Boston	1900
BOS.7417	Spillane, Jeremiah C. Two-Family House	43 Fenwood Rd	Boston	1905
BOS.7418	Spillane, Jeremiah C. Two-Family House	49 Fenwood Rd	Boston	1903
BOS.7711	Massachusetts Mental Health Center Main Building	74 Fenwood Rd	Boston	1912
BOS.7712	Massachusetts Mental Health Center Power House	74 Fenwood Rd	Boston	1912
BOS.7713	Massachusetts Mental Health Center Research Bldg.	74 Fenwood Rd	Boston	1954
BOS.7714	Massachusetts Mental Health Center Therapeutic Blg	74 Fenwood Rd	Boston	1957
BOS.9295	Massachusetts Mental Health Center Fence	74 Fenwood Rd	Boston	1912

13 Properties Found -- Page: 1 of 1

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

MHC Home | MACRIS Home

Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Cultural Resource Information System

MACRIS

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.

APPENDIX E

Endangered Species Act Documentation

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

January 4, 2010

To Whom It May Concern:

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

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

Based on the information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

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

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

New England Field Office

Conserving the Nature of New England

Wednesday, November 17, 2010

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Endangered Species Reviews/Consultations

Endangered Species Consultation

Project Review for Projects with Federal Involvement (authorizing, funding or carrying out the project)

The following information is designed to assist applicants or project sponsors in determining whether a federally-listed, proposed and/or candidate species may occur within the proposed project area and whether it is appropriate to contact our office for additional coordination or consultation. We encourage you to print out all materials used in the analyses of effects on listed, proposed or candidate species for your records or submission to the appropriate federal agency or our office.

Step 1. - Determine whether any listed, proposed, or candidate species (T/E species) are likely to occur within the proposed project **action area** based on location of the proposed project:

A. Choose your state list below and review for Towns in which federally-listed species occur:

Connecticut - 12 species (29 KB)
Massachusetts - 14 species (41 KB)
New Hampshire - 13 species (31 KB)
Rhode Island - 8 species (22 KB)
Vermont - 10 species (25 KB)

B. You should contact your state Natural Heritage Program or Endangered Species Program (see list below) for additional information on federally and state-listed species:

Rhode Island Natural Heritage Program
Connecticut Endangered Species Program
Massachusetts **Natural Heritage and Endangered Species Program**
Vermont **Non-Game and Natural Heritage**
New Hampshire **Fish and Game's Non-game and Endangered Wildlife Program**
New Hampshire Natural Heritage Bureau's **Home Page**

Please note that these agencies provide information on known occurrences; this information does not replace field surveys, especially for plants, as most project sites have not been previously surveyed specifically for listed species.

C. If the project falls within a Town where the endangered dwarf wedgemussel is known to occur, check the appropriate map to determine whether your project is in the vicinity of its known range.

Massachusetts - **Connecticut River Watershed** (912 KB)
New Hampshire/Vermont - Connecticut River Watershed
Upper Connecticut River (872 KB)
Middle Connecticut River (1.07 MB)
Lower Connecticut River (1.56 MB)
New Hampshire - **Ashuelot River Watershed** (886 KB)
Connecticut - **Connecticut River Watershed** (2.04 MB)

D. If the project falls within a Town where the endangered northern red-bellied cooter is known to occur, or if the project occurs in Plymouth County, Massachusetts, check the map to determine whether your project is in the vicinity of its known range or critical habitat. **NRBC_MAP** (59 KB)

E. If a proposed project occurs in a Town with no known listed, proposed or candidate species present, no further coordination with the Service is needed. You may download a **"no species present" letter** (158 KB) stating "no species are known to occur in the project area".

F. If the proposed project occurs in a Town with known occurrences of T/E species, proceed to Step 2.

Step 2. - Determine whether any listed or proposed New England Species are likely to occur within the proposed project area by comparing the habitat present within the proposed project action area with habitat that is suitable for the species.

A. Review the information we have provided on the species list information from the appropriate state agency, and any other sources of information available to you to determine types of habitat the species use. A description of suitable habitat for New England's federally-listed species may be found in **New England Species**' profiles and fact sheets.
B. Determine whether your proposed project action area has any potential for listed species habitat (e.g., are suitable roost trees present? - Indiana bats; are wetlands present? - bog turtles or Northeastern bulrush; will project affect a waterway? – dwarf wedgemussel). After this initial coarse review, determine whether any more detailed surveys may be appropriate (e.g., survey for dwarf wedgemussels).
C. If your state Natural Heritage Program or Endangered Species Program does not identify any listed species for the proposed project AND there is no potential habitat for any listed species within the action area, no further coordination with the Service is required. You may download a **"no species present" letter** (158 KB) stating "no species are known to occur in the project area".
D. If you have identified that potential listed species habitat is present although the species has not been documented from that specific location, further coordination with our office is recommended. Please send the results of your

assessment including any habitat surveys to:

Supervisor
U.S. Fish and Wildlife Service
70 Commercial St., Suite 300
Concord, NH 03301

Include in your letter:
A detailed description of the proposed project, including approximate proposed project construction schedule and project activities (e.g., land clearing, utilities, stormwater management). Site plans are often helpful in our evaluation process.

- A description of the natural characteristics of the property and surrounding area (e.g., forested areas, freshwater wetlands, open waters, and soils). Photographs are often helpful in assessing the habitat. Additionally, please include a description of surrounding land use (residential, agricultural, or commercial).
- The location of the above referenced property and extent of any project related activities or discharges clearly indicated on a copy of a USGS 7.5 Minute Topographic Quadrangle (Quad) with the name of the Quad(s) and latitude/longitude clearly labeled.
- A description of conservation measures to avoid or minimize impacts to listed species.

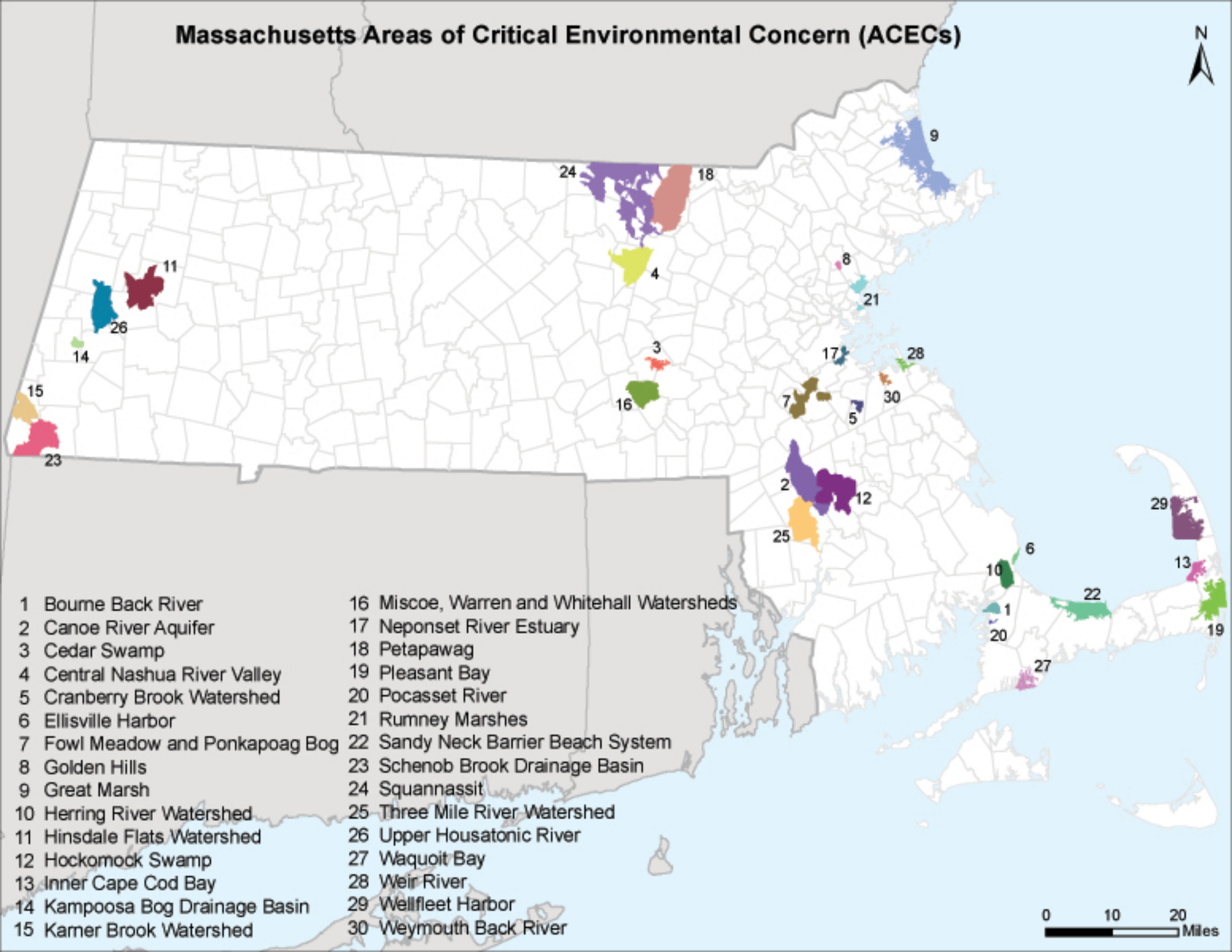
Why does this matter?- In a case where no habitat is present, a quick and easy determination can be made that further coordination is not necessary. In a case where habitat is present, but you believe that the project activities will not impact listed species, it is important to coordinate with us to ensure that all project activities and all potential effects (direct and indirect) have been considered.

(Please allow 30 days following our receipt of your request for processing.)

Step 3. - Based on the results of the habitat survey and a description of the proposed project (including information as to whether any potential habitat may be directly or indirectly affected), the involved Federal agency may determine:

- The proposed project will result in no effect to any T/E species and no further coordination or consultation with the Service is required;
- Additional information (e.g., surveys) is required to determine whether any T/E species are likely to occur within the proposed project area; or
- The proposed project "may affect" a T/E species and consultation with the Service is required.

Massachusetts Areas of Critical Environmental Concern (ACECs)



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

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
June 2009

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

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

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

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

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

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

Ellisville Harbor
(600 acres, 1980) Plymouth

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

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

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

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

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

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

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

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

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

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

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

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

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

Pocasset River
(160 acres, 1980) Bourne

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

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

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

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

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

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

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

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

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

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

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

Towns with ACECs within their Boundaries June 2009

TOWN	ACEC
Ashby	Squannassit
Ayer	Petapawag
	Squannassit
Barnstable	Sandy Neck Barrier Beach System
Bolton	Central Nashua River Valley
Boston	Rumney Marshes
	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Bourne	Pocasset River
	Bourne Back River
	Herring River Watershed
Braintree	Cranberry Brook Watershed
Brewster	Pleasant Bay
	Inner Cape Cod Bay
Bridgewater	Hockomock Swamp
Canton	Fowl Meadow and Ponkapoag Bog
Chatham	Pleasant Bay
Cohasset	Weir River
Dalton	Hinsdale Flats Watershed
Dedham	Fowl Meadow and Ponkapoag Bog
Dighton	Three Mile River Watershed
Dunstable	Petapawag
Eastham	Inner Cape Cod Bay
	Wellfleet Harbor
Easton	Canoe River Aquifer
	Hockomock Swamp
Egremont	Karner Brook Watershed
Essex	Great Marsh
Falmouth	Waquoit Bay
Foxborough	Canoe River Aquifer
Gloucester	Great Marsh
Grafton	Miscoe-Warren-Whitehall Watersheds
Groton	Petapawag
	Squannassit
Harvard	Central Nashua River Valley
	Squannassit
Harwich	Pleasant Bay
Hingham	Weir River
	Weymouth Back River
Hinsdale	Hinsdale Flats Watershed
Holbrook	Cranberry Brook Watershed
Hopkinton	Miscoe-Warren-Whitehall Watersheds
	Cedar Swamp
Hull	Weir River
Ipswich	Great Marsh
Lancaster	Central Nashua River Valley
	Squannassit
Lee	Kampoosa Bog Drainage Basin
	Upper Housatonic River
Lenox	Upper Housatonic River
Leominster	Central Nashua River Valley
Lunenburg	Squannassit
Lynn	Rumney Marshes
Mansfield	Canoe River Aquifer
Mashpee	Waquoit Bay
Melrose	Golden Hills
Milton	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary

TOWN	ACEC
Mt. Washington	Karner Brook Watershed
	Schenob Brook
Newbury	Great Marsh
Norton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Norwood	Fowl Meadow and Ponkapoag Bog
Orleans	Inner Cape Cod Bay
	Pleasant Bay
Pepperell	Petapawag
	Squannassit
Peru	Hinsdale Flats Watershed
Pittsfield	Upper Housatonic River
Plymouth	Herring River Watershed
	Ellisville Harbor
Quincy	Neponset River Estuary
Randolph	Fowl Meadow and Ponkapoag Bog
Raynham	Hockomock Swamp
Revere	Rumney Marshes
Rowley	Great Marsh
Sandwich	Sandy Neck Barrier Beach System
Saugus	Rumney Marshes
	Golden Hills
Sharon	Canoe River Aquifer
	Fowl Meadow and Ponkapoag Bog
Sheffield	Schenob Brook
Shirley	Squannassit
Stockbridge	Kampoosa Bog Drainage Basin
Taunton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Truro	Wellfleet Harbor
Townsend	Squannassit
Tyngsborough	Petapawag
Upton	Miscoe-Warren-Whitehall Watersheds
Wakefield	Golden Hills
Washington	Hinsdale Flats Watershed
	Upper Housatonic River
Wellfleet	Wellfleet Harbor
W Bridgewater	Hockomock Swamp
Westborough	Cedar Swamp
Westwood	Fowl Meadow and Ponkapoag Bog
Weymouth	Weymouth Back River
Winthrop	Rumney Marshes

.

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
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

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

Revised 06/22/2009

New England Field Office

Conserving the Nature of New England

Wednesday, November 17, 2010

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Atlantic Coast piping plover website ***Piping Plover***
Roseate Tern – **Sterna dougallii dougallii**
Birds of North America Species Account ***Roseate Tern***

Reptiles
Bog Turtle - **Clemmys muhlenbergii**
Northern Redbelly Cooter (Plymouth redbelly turtle) **Pseudemys rubriventris bangsii**
Northern Redbelly Cooter 5-year Review*;(pdf size 1.6MB*) May 2007*

Fish
Atlantic Salmon - **Salmo salar** (Maine only)
Maine Atlantic Salmon Atlas

Invertebrates

Insects
American Burying Beetle - **Nicrophorus americanus**
Karner Blue Butterfly - **Lycaeides melissa samuelis**
Karner Blue Butterfly ***Fact sheet***
Northeastern Beach Tiger Beetle - **Cicindela dorsalis dorsalis**
Puritan Tiger Beetle - **Cicindela puritana**
Draft Puritan Tiger Beetle; *(pdf size 2.4MB*) 5-year Review*

Mussels
Dwarf Wedgemussel - ***Alasmidonta heterodon***
Dwarf Wedgemussel 5-Year Status Review 2007 *(pdf size 1.14MB*)*

Plants
Jesup 's Milkvetch - **Astragalus robbinsii var. jesupi**
Northeastern Bulrush - **Scirpus ancistrochaetus**
Sandplain Gerardia - **Agalinis acuta**
Small Whorled Pogonia - **Isotria medeoloides**
Seabeach Amaranth - **Amaranthus pumilus** (historic)
American Chaffseed - **Schwalbea americana** (historic)
Eastern Prairie Fringed Orchid - **Platanthera leucophaea** (Maine only)
Furbish's Lousewort - **Pedicularis furbishiae** (Maine only)

Candidate species and species recently delisted are identified below, including links for additional information regarding their status.

Candidate Species

The Service has recently completed a status assessment for the following species and determined that federally listing is "warranted, but precluded", i.e. the status of the species indicates that it should be listed but the listing is superceded by higher listing actions.

While there is currently no obligation for Federal Agencies to consult with us regarding these species, coordination is encouraged to avoid project delays that may occur as a result of the species becoming federally-listed during the planning

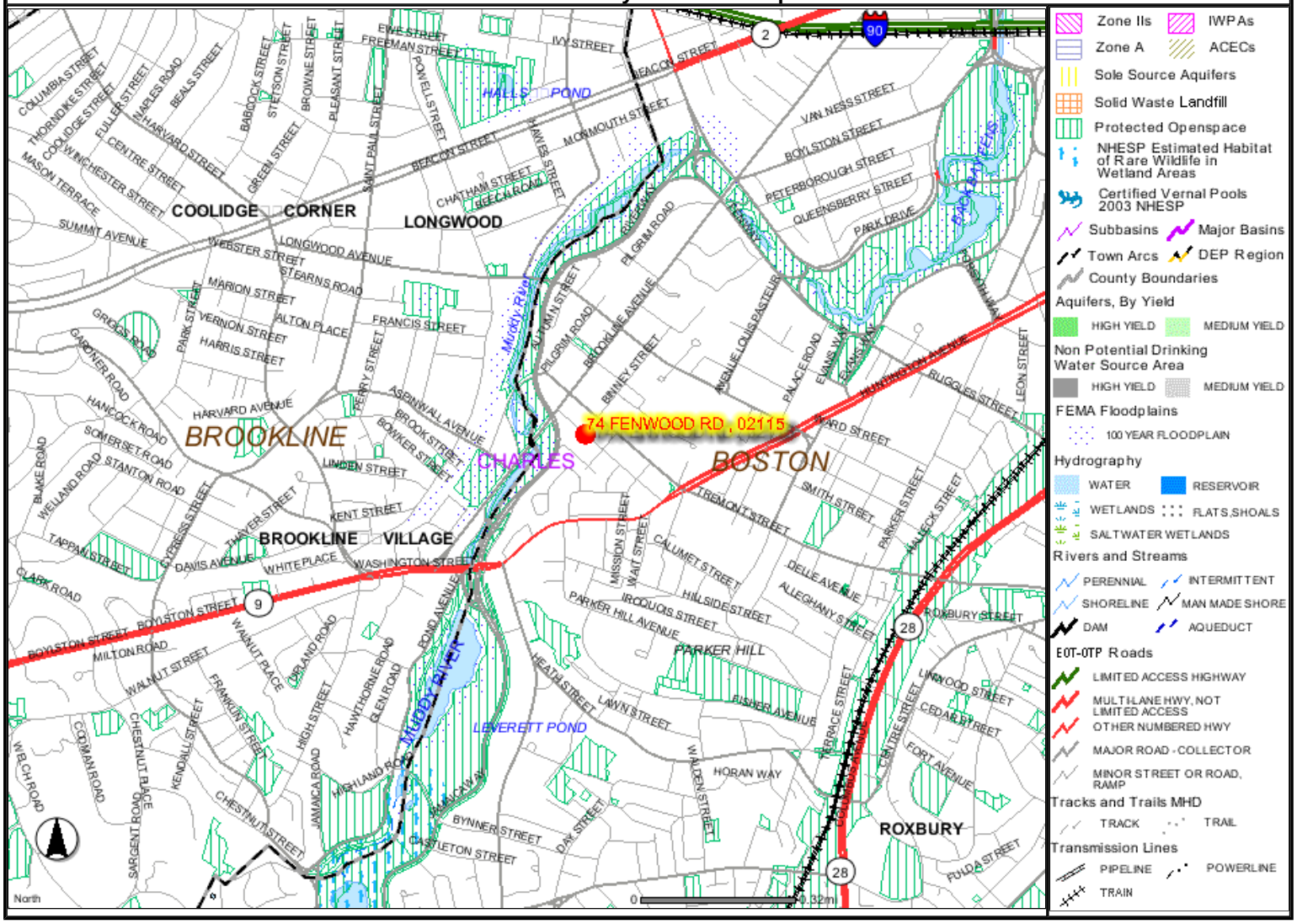
Bald Eagle Guidance

NCTC Eagle Cam

This Bald Eagle image is a link to a Service website that chronicles the activities of the eagle nest located on the grounds of the USFWS National Conservation Training Center near the Potomac River in Shepherdstown, West Virginia. The nest has been active for four seasons, fledging several juvenile bald eagles.

Files in PDF format will require Acrobat Reader to access the content. If you do not have a copy, please select the link [or click the image] to take you to the Adobe website where you can download a free copy. Get Adobe Acrobat Reader

DEP Priority Resource Map



APPENDIX F

BWSC Permit Application and Memorandum to BWSC, dated 10 August 2010

Facility/Business Name: **Massachusetts Mental Health Center Redevelopment – 74 Fenwood Road Building and 20 Vining Street Building**

Mailing Address: **74 Fenwood Road and 20 Vining Street – Boston, MA**

Authorized Representative concerning information provided herein:

Name: **Joe O'Farrell** Title: **Senior Project Manager**

Phone #: **(617) 730-3694** Beeper #: _____ Fax #: **(617) 730-3697**

Owner of property being dewatered: **Brigham and Women's Hospital**

Location of Discharge:

Street **74 Fenwood Road, 20 Vining Street** Neighborhood **Fenway**

Discharge is to a: Sanitary Sewer Combined Sewer (Storm Drain) (Circle One)

BWSC Outfall #: **DO-161°** Receiving Waters: **Muddy River**

Note: Discharge (after sedimentation and treatment) will be to storm drains located within or adjacent to the site; refer to NPDES text for complete description of discharge.

Temporary Discharges: **December 2010** To **December 2011** (Provide anticipated dates of discharge)

_____	Groundwater Remediation	_____	Tank Removal/Installation	__X__	Foundation Excavation
_____	Utility/Manhole Pumping	_____	Test Pit	____	Trench Excavation
__X__	Accum. Surface Water	_____	Hydrogeologic Testing	__X__	Other: Power Plant building for accumulated basement and abatement process water

---

Permanent Discharges:

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

---

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

Submit to: Mr. Francis M. McLaughlin Phone: 617-989-7000
Manager, Engineering Customer Services Fax: 617-989-7732
Boston Water and Sewer Commission
980 Harrison Avenue
Roxbury, MA 02119

BWSC Use Only

Date Received: _____ Comments:

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

Tel: 617.886.7400
Fax: 617.886.7600
HaleyAldrich.com

HALEY & ALDRICH

MEMORANDUM

10 August 2010
File No. 35198-030

TO: Boston Water and Sewer Commission
Phillip D. Denton, Site Plan Engineer

FROM: Haley & Aldrich, Inc.
Kenneth N. Alepidis, Lisa Turturro

SUBJECT: Responses to BWSC Comments dated 3 August 2010
Temporary Construction Dewatering and Abatement Water Discharge Notice of Intent
Massachusetts Mental Health Center Redevelopment
74 Fenwood Road Building and 20 Vining Street
Boston, Massachusetts

On behalf of our client, Brigham and Women's Hospital, a member Partners HealthCare System, Inc. (BWH), Haley & Aldrich, Inc. (Haley & Aldrich) has prepared responses to the comments you provided on the BWSC permit application for discharge of dewatering effluent generated from the proposed Massachusetts Mental Health Center Redevelopment, 74 Fenwood Road Building and 20 Vining Street project, located in Boston, Massachusetts.

The Notice of Intent package for the Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) for the Massachusetts Mental Health Center Redevelopment project was provided to the US Environmental Protection Agency (EPA) on 29 June 2010, and included a copy of the BWSC Application form. The Notice of Intent package, along with the BWSC Application form, was also provided to the BWSC on 29 June 2010. Discharge under the NPDES RGP NOI has been authorized by the US EPA in a letter dated 15 July 2010, under authorization #MAG910458.

This document provides supplemental information requested in your e-mail to Mr. Joseph O'Farrell of Brigham and Women's Hospital, dated 3August 2010, regarding the Temporary Construction Dewatering Notice of Intent (NOI) Application submitted for the Massachusetts Mental Health Center Redevelopment

Please see below for the responses to the BWSC comments:

a. ***Revised Site Plan*** *– expand the site plan to show the location of outfall No. DO 161. Also, show the points of discharge to the existing storm drain, whether via a catch Basin or drain manhole. Also, please correct the outfall number listed on the BWSC dewatering application.*

Please find attached a copy of the BWSC Sewer System Map, Jamaica Plain Fenway/Kenmore, Sheet No. 20G plan. The project location, drain lines, and the location of outfall No. DO-161 have been highlighted on the plan to identify the outfall to the Muddy River located just west of the project site.

Figure 3 (Proposed Dewatering Discharge Routes) provides and calls out the approximate locations of the proposed discharges (manhole and catch basin locations).

The BWSC dewatering application form has been revised to provide the correct outfall number (No. DO-161) listed. The revised BWSC dewatering application form is attached.

---

b. ***Metering*** *– unless discharging to a sanitary or combined sewer, flow metering of the dewatering discharge to the Commission's storm drain in Fenwood Road or Vining Street is not required. Please note that the Commission is in receipt of a copy of the project's N.O.I application submitted to the EPA for preliminary review.*

Per the NPDES RGP permit, the discharge instantaneous flow and total flow is required to be monitored during dewatering discharge operations.

---

c. ***Time-frame (Dates of Discharge)*** *- revise the dates of discharge for dewatering activities listed on the BWSC dewatering application.*

The BWSC dewatering application form has been revised to update the dates of discharge. The revised BWSC dewatering application form is attached.

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d. ***Pre-treatment*** *– describe in detail the type of pretreatment system(s) to be employed to meet the discharge criteria related to asbestos removal and/or abatement. Please revise and update the pretreatment schematic accordingly.*

The treatment system employed to meet the discharge criteria related to asbestos removal and/or abatement has been described in the NOI application as the following under the "*ACM Abatement Process Water Discharge*" discussion:

"The asbestos-containing abatement water will be contained during abatement and demolition activities, and pumped through the necessary treatment systems prior to discharge to the nearby catch basins. Treatment of asbestos in water will be handled by the filtration and sediment control methods described below, using sedimentation tanks and bag filter units."

The treatment was further discussed in the NOI application under the "*Dewatering Effluent Treatment*" paragraph:

"Prior to discharge, all construction dewatering effluent will be routed through a sedimentation tank and a 5 micron bag filter, at a minimum, to remove suspended solids and undissolved chemical constituents, as shown in the Proposed Treatment System Schematic included in Figure 2 herein."

The requirement for treatment in addition to that described above has not been identified to date.

We trust that this information is sufficient to address your questions and comments.

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

G:\35198\016\Fenwood\2010-0810-HAI-MMHC Response to BWSC memo-F.docx

Facility/Business Name: **Massachusetts Mental Health Center Redevelopment – 74 Fenwood Road Building and 20 Vining Street Building**

Mailing Address: **74 Fenwood Road and 20 Vining Street – Boston, MA**

Authorized Representative concerning information provided herein:

Name: **Joe O'Farrell** Title: **Senior Project Manager**

Phone #: **(617) 730-3694** Beeper #: _____ Fax #: **(617) 730-3697**

Owner of property being dewatered: **Brigham and Women's Hospital**

Location of Discharge:

Street **74 Fenwood Road, 20 Vining Street** Neighborhood **Fenway**

Discharge is to a: Sanitary Sewer Combined Sewer (Storm Drain) (Circle One)

BWSC Outfall #: **DO-161°** Receiving Waters: **Muddy River**

Note: Discharge (after sedimentation and treatment) will be to storm drains located within or adjacent to the site; refer to NPDES text for complete description of discharge.

Temporary Discharges: **August 2010** To **January 2011** (Provide anticipated dates of discharge)

_____	Groundwater Remediation	_____	Tank Removal/Installation	__X__	Foundation Excavation
_____	Utility/Manhole Pumping	_____	Test Pit	____	Trench Excavation
__X__	Accum. Surface Water	_____	Hydrogeologic Testing	__X__	Other: Power Plant building for accumulated basement and abatement process water

---

Permanent Discharges:

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

---

1. Attach a Site Plan showing the source of the discharge and the location of the point of discharge (i.e. the sewer pipe or catch basin). **(Refer to NPDES Application previously provided, and the BWSC plan attached)**
2. If discharging to a sanitary or combined sewer, attach a copy of MWRA's Sewer Use Discharge permit or application. Include meter number, size, make and start reading. All discharges to sanitary or combined sewer are assessed current sewer charges.
3. If discharging to a separate storm drain, attach a copy of EPA's NPDES Permit or NOI application, or NPDES Permit exclusion letter for the discharge, as well as other relevant information. **(Previously provided. Approved by EPA on 15 July 2010)**
4. Dewatering Drainage Permit will be denied or revoked if applicant fails to obtain the necessary permits from MWRA or EPA.

Submit to: Mr. Francis M. McLaughlin Phone: 617-989-7000
Manager, Engineering Customer Services Fax: 617-989-7732
Boston Water and Sewer Commission
980 Harrison Avenue
Roxbury, MA 02119

BWSC Use Only

Date Received: _____ Comments:

21G

19G

20F

20H

E 759,300.04 E 759,500 E 760,000 E 760,500 E 761,000 E 761,500 E 762,000 E 762,500 E 762,800.04

N 2,948,668.50 N 2,948,500 N 2,948,000 N 2,947,500 N 2,947,000 N 2,946,668.50

Outfall No DO-161 location

Approximate rate of discharge

Approximate limits of site/ area of discharge

NOTE: Spot Elevations shown are plotted in Boston City Base

500 FOOT GRID BASED ON MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 83

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

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

Date Produced
December 27, 1999

BOSTON WATER AND SEWER COMMISSION

SEWER SYSTEM MAP

JAMAICA PLAIN
FENWAY/KENMORE

SHEET NO.
20G

APPENDIX G

Laboratory Data Reports

APPENDIX H

Notice of Availability, Notice of Intent, Notice of Change for MAG#910458

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 POST OFFICE SQUARE
BOSTON, MA 02109-3912

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 15, 2010

Chris Brown
Project Manager
John Moriarty and Associates
3 Church Street
Winchester, MA 01890

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. The Building Redevelopment located at 74 Fenwood Road and 20 Vining St in Boston MA 02115; Authorization # MAG910458.

Dear Mr. Brown:

Based on the review of your Notice of Intent (NOI) submitted for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you the named Operator to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

The enclosed checklist designates the monitoring parameters applicable to your discharge. 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 . This general permit and authorization to discharge expire on September 9, 2010. Permittee's who need to continue discharging after the expiration date must reapply for a new RGP authorization under the new permit ninety (90) days after the effective date of the newly reissued permit.This project reportedly will terminate on 01/01/2011. EPA requests that a Notice of Termination (NOT) is submitted 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,

David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, Mass DEP

SUMMARY OF MONITORING PARAMETERS[1] UNDER THE REMEDIATION GENERAL PERMIT (RGP)

Facility/Site Name: MASSACHUSETTS MENTAL HEALTH CENTER
OPERATOR: Chris Brown, PM/John Moriarty & Associates; Ph. 781-729-3900; email: cbrown@jm-a.com.
Facility/Site Address: 74 FENWOOD ROAD AND 20 VINING ST.
Sub-category - Urban Fill & Mixed Contaminants (site redevelopment) - Estimated date of completion 01/01/2011.
Permit # MAG910458 **Permit Issued: July, 2010.**

Monitor checked parameters	Parameter to be monitored (see Parts I.C. and I.D. and Appendix III of the RGP for specific limits and requirements)	Monitor checked parameters	Parameter to be monitored (see Parts I.C. and I.D. and Appendix III of the RGP for specific limits and requirements)
✔	1. Total Suspended Solids (TSS)		27. Trichloroethylene (TCE)
	2. Total Residual Chlorine (TRC)		28. Vinyl Chloride (Chloroethene)
✔	3. Total Petroleum Hydrocarbons (TPH)		29. Acetone
✔	4. Cyanide (CN)[2]	✔	30. 1,4 Dioxane
	5. Benzene (B)	✔	31. Total Phenols
	6. Toluene (T)	✔	32. Pentachlorophenol (PCP)
	7. Ethylbenzene (E)		33. Total Phthalates
	8. (m,p,o) Xylenes (X)		34. Bis (2-Ethylhexyl) Phthalate
	9. Total BTEX[3]		35. Total Group I Poly. Aromatic Hyd.
	10. Ethylene Dibromide (EDB)		a. Benzo(a) Anthracene
	11. Methyl-tert-Butyl Ether (MtBE)		b. Benzo(a) Pyrene
✔	12. tert-Butyl Alcohol (TBA)		c. Benzo(b)Fluoranthene
✔	13. tert-Amyl Methyl Ether (TAME)		d. Benzo(k)Fluoranthene
	14. Naphthalene		e. Chrysene
	15. Carbon Tetrachloride		f. Dibenzo(a,h)anthracene
	16. 1,4 Dichlorobenzene (p-DCB)		g. Indeno(1,2,3-cd) Pyrene
	17. 1,2 Dichlorobenzene (o-DCB)		36. Total Group II Polycyclic Aromatic Hydrocarbons
	18. 1,3 Dichlorobenzene (m-DCB)		h. Acenaphthene
	18.a. Total dichlorobenzene		i. Acenaphthylene
	19. 1,1 Dichloroethane (DCA)		j. Anthracene
	20. 1,2 Dichloroethane (DCA)		k. Benzo(ghi) Perylene
	21. 1,1 Dichloroethylene (DCE)		l. Fluoranthene
	22. cis-1,2 Dichloro-ethylene (DCE)		m. Fluorene
	23. Dichloromethane (Methylene Chloride)		n. Naphthalene
	24. Tetrachloroethylene (PCE)		o. Phenanthrene
	25. 1,1,1 Trichloro-ethane (TCA)		p. Pyrene
	26. 1,1,2 Trichloro-ethane (TCA)		37. Total Polychlorinated Biphenyls (PCBs)

Monitor checked parameters	Parameter to be monitored (see Parts I.C. and I.D. and Appendix III of the RGP for specific limits and requirements)	Monitor checked parameters	Parameter to be monitored (see Parts I.C. and I.D. and Appendix III of the RGP for specific limits and requirements)
✔	38. Antimony	✔	52. Total Flow
✔	39. Arsenic	✔	53. pH Range for Class A & Class B Waters in MA
✔	40. Cadmium		54. pH Range for Class SA & Class SB Waters in MA
	41. Chromium III (trivalent)		55. pH Range for Class B Waters in NH
	42. Chromium VI (hexavalent)		56. Daily maximum temperature - Warm water fisheries
✔	43. Copper		57. Daily maximum temperature - Cold water fisheries
✔	44. Lead		58. Maximum Change in Temperature in MA - Any Class A water body
	45. Mercury		59. Maximum Change in Temperature in MA - Warm Water
✔	46. Nickel		60. Maximum Change in Temperature in MA - Cold Water and Lakes/Ponds
	47. Selenium		61. Maximum Change in Temperature in MA -Coastal
	48. Silver		62. Maximum Change in Temperature in MA - July to September
✔	49. Zinc		63. Maximum Change in Temperature in MA - October to June
✔	50. Iron		
✔	51. Instantaneous Flow		

Footnotes:

1. This checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of the remediation general permit (RGP), including influent monitoring, narrative water quality standards, etc. Operators must follow the RGP, including Parts I, II, and Appendices I - VIII in order to comply with the specific applicable requirements.

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

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

B. Suggested Form for the Consolidated General Permit Notice of Change (NOC)

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

<table>
<tr><td colspan="3">a) Name of facility/site:
MMHC - 74 Fenwood Road Building and 20 Vining St.</td><td colspan="4">Facility/site address:</td></tr>
<tr><td rowspan="2">Location of facility/site:
longitude: 71 6 31
latitude: 42 20 7</td><td rowspan="2">Facility SIC code(s):

--</td><td colspan="4">Street: 74 Fenwood Road and 20 Vining Street</td></tr>
<tr><td>Town: Boston</td><td>State: MA</td><td>County: Suffolk</td><td>Zip: 02115</td></tr>
<tr><td colspan="7">b) Name of facility/site owner: Brigham and Women's Hospital</td></tr>
<tr><td colspan="3" rowspan="2">Owner is (check one): 1. Federal____ 2. State/Tribal_____
3. Private_✓_ 4. other _____, if so, describe:
Joe O'Farrell - jofarrell@partners.org</td><td colspan="4">Telephone no. of facility/site owner: 617-730-3694</td></tr>
<tr><td colspan="4">Fax no. of facility/site owner: 617-730-3697</td></tr>
<tr><td colspan="3">Address of owner:</td><td colspan="4">City/Town: Boston</td></tr>
<tr><td colspan="3">Street: 800 Boylston Street, Suite 1150</td><td>State: MA</td><td>Zip: 02199</td><td colspan="2">County: Suffolk</td></tr>
<tr><td colspan="3">c) Legal name of operator:
John Moriarty & Associates (JMA)</td><td colspan="4">Operator telephone no: 781-729-3900
Operator fax no.: cbrown@jm-a.com</td></tr>
<tr><td colspan="7">Operator contact name and title: Chris Brown, Project Manager</td></tr>
<tr><td colspan="3">Address of operator (if different from owner):</td><td colspan="4">Street: 3 Church Street</td></tr>
<tr><td colspan="3">Town: Winchester</td><td>State: MA</td><td>Zip: 01890</td><td colspan="2">County: Suffolk</td></tr>
</table>

2. Type of changes:

Please check all that apply:	Eligible changes for use of NOC:
	1. Request for a reduction in monitoring requirements based on sampling and analytical data. Written approval by EPA is required.
	a) For a reduction in **influent** monitoring frequency, the permittee must provide 6 consecutive months of influent monitoring data.
	b) For a reduction in **effluent** monitoring frequency of an applicable parameter, the permittee must provide 12 consecutive months of data demonstrating compliance with the parameter limits, the minimum level (ML) (see Part I.D.1.d), or demonstrating no toxicity (where whole effluent toxicity testing (WET) is required).
	2. A change in flow conditions which may increase or decrease the daily average or maximum flow rate by more than twenty-five (25) percent, provided the design flow capacity of the treatment system is not exceeded and the dilution factor will not change to a value greater than five (5), where the discharge contains metals.
	3. A change in treatment which:
	a) affects the design flow of the system but does not change the dilution factor to a value greater than five (5), where the discharge contains metals.
	b) adds or removes any major operable unit of the system
	4. The use of chemical treatment additives that will not add any pollutants which may cause a violation of receiving water standards or cause the overall effluent to violate effluent limitations. Attach the material safety data sheets (MSDS) and prior approval from the Director.
✓	5. Change of discharge location within the same receiving water as submitted in the NOI.
	6. Temporary cessation of discharge greater than 120 days. Describe (using additional sheets as needed):
	a) reasons for the interruption or cessation of discharge:
	b) estimated time frame when the discharge will cease and be re-started:
	c) how "start-up" monitoring will resume when the discharge is re-started:
	7. Change in pH range in MA:
	8. Change to administrative information:

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

BY PROJECT ENGINEER WITH MY PARTICIPATION

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: 74 FENWOOD ROAD/20 VINING ST.

Signature of permittee(s):

Title: SR. VICE PRESIDENT

Date: 8/2/10