



December 15, 2009

US Environmental Protection Agency
Industrial NPDES Permits (CIP)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Attn: Mr. Victor Alvarez

Re: Notice of Intent for the Remediation General Permit
Temporary Construction Dewatering
Assembly on the Mystic – 72-Inch Storm Drain Outfall
Assembly Square, Somerville, Massachusetts

Dear Mr. Alvarez:

In accordance with the Commonwealth of Massachusetts's application requirements for the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) MAG910000, this letter provides a Notice of Intent (NOI) and all supporting documentation as required by the U.S. EPA for construction dewatering under the RGP program. Dewatering is planned in support of the installation of a new 72-inch storm drain outfall to support the Assembly Square Planned Unit Development (PUD) in Somerville, Massachusetts (Figure 1). This proposed outfall will convey stormwater downstream of the existing Amelia Earhart Dam on the Mystic River and reduce flows to the existing 84-inch storm drain outfall, referred to as the Somerville Marginal Conduit (SMC).

The proposed 72-inch outfall associated with the Assembly Square PUD will transverse portions of Assembly Square where concentrations of oil and/or hazardous material (OHM) have been identified and subject to the notification requirements of the Massachusetts Contingency Plan (310 CMR 40.0000). The Massachusetts Department of Environmental Protection (MassDEP) has assigned a series of Release Tracking Numbers (RTNs) for the following addresses where the proposed outfall will be installed: 35 Foley Street (3-28781 and 3-28785), 99 Foley Street (3-18995, 3-1963, 3-19164), Yard 21 (3-4082), and Draw Seven Park (3-3908). Collectively, concentrations of OHM at these properties were likely a result of a common source: the former oil storage terminal at 100 Sturtevant Street. Oil and hazardous material (OHM) impacts at the Disposal Site consist of a variety of extractable petroleum hydrocarbons (EPH) and petroleum-related poly-aromatic hydrocarbons (PAH), primarily from fuel oil. Metals are also present in soil at these properties, but at significantly less frequency and lower concentration than the petroleum hydrocarbons. These petroleum impacts to soil and groundwater at the Disposal Site are considered to be primarily the result of storage tank releases from operations associated with the oil terminal, and the metal impacts to be the result of historic urban fill material.

During installation of the 72-inch outfall, all soil excavations at the site will occur to a depth of approximately fifteen (15) feet below ground surface (bgs), or, approximately zero (0) to eight (8) feet below the water table. Groundwater that surfaces within trenches or excavations during construction activities will be treated such that all discharged effluent meets the effluent limitations established by Appendix III and Appendix IV of the RGP Application. A proposed treatment system schematic and the proposed construction dewatering discharge route are provided as supplemental figures to the RGP application.



The completed Notice of Intent for the Remediation General Permit is enclosed following this letter. In addition, please find a summary of the groundwater analytical data collected from two locations in September 2008 along the proposed trench dewatering route. All other supporting documentation to the RGP application may be found following the Notice of Intent form.

The project and site owner, FR Sturtevant Street LLC, a Delaware limited liability company, requests to be listed on the Permit as the Owner and Operator.

Thank you for your consideration of this NOI. Please feel free to contact us should you wish to discuss the information contained in this application or if any additional information is needed.

Sincerely,

WOODARD & CURRAN INC.

Thomas J. Wollen, P.G.
Project Manager

David R. MacDonald, P.G., LSP
Vice President

MAA
210708

Enclosures:

- Notice of Intent for the Remediation General Permit
- Table 1: Summary of Groundwater Analytical Data
- Figure 1: Site Locus Map
- Figure 2: Site Plan and Proposed Storm Drain Corridor
- Figure 3: Proposed Groundwater Treatment Schematic
- Appendix A: Dilution Calculations
- Appendix B: Endangered Species documentation
- Appendix C: Historic Places documentation
- Appendix D: Best Management Practices Plan

cc: Noreen Burke, City of Somerville Health Department
Robert Widley, Vanasse Hangen Brustlin, Inc.

NOTICE OF INTENT FOR THE REMEDIATION GENERAL PERMIT

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

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

a) Name of facility/site: Assembly Square		Facility SIC code(s): N/A		Facility/site address:	
Location of facility/site: longitude: 71.078 latitude: 42.390				Street: 100 Surtevant Street	
b) Name of facility/site owner: FR Sturtevant Street, LLC				Town: Somerville	
Email address of owner:		State: MA		Zip: 02145	County: Middlesex
Telephone no. of facility/site owner: (301)998-8100		Owner is (check one): 1. Federal _____ 2. State/Tribal _____ 3. Private ☒ 4. other, if so, describe: _____			
Fax no. of facility/site owner: (301)998-3722					
Address of owner (if different from site):					
Street: 1626 East Jefferson Street					
Town: Rockville		State: MD	Zip: 20852	County: Montgomery	
c) Legal name of operator:		Operator telephone no.:		Operator email:	
FR Sturtevant Street, LLC					
Operator contact name and title: Dawn Becker					
Address of operator (if different from owner):		Street:			
Town:		State:	Zip:	County:	
d) Check "yes" or "no" for the following: 1. Has a prior NPDES permit exclusion been granted for the discharge? Yes ☐ No ☒ if "yes," number: _____ 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes ☐ No ☒ if "yes," date and tracking #: _____ 3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Yes ☒ No ☐ 4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes ☒ No ☐					

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes ☐ No ☒ If "yes," 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 storm water general permit? Y ☐ N ☒, if Y, number: if Y, number: 2. phase I or II construction storm water general permit? Y ☐ N ☒ 3. individual NPDES permit? Y ☐ N ☒, if Y, number: 4. any other water quality related permit? Y ☐ N ☒, if Y, number:
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2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

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

Temporary Construction Dewatering in support of storm drain out fall installation.

b) Provide the following information about each discharge:	1) Number of discharge points: 1	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft³/s)? Max. flow <u>0.56</u> Average flow <u>0.22</u> Is maximum flow a design value? Y ☐ N ☐ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.
3) Latitude and longitude of each discharge within 100 feet: pt.1:long. <u>71.078</u> lat. <u>42.393</u> ; pt.2: long. <u> </u> lat. <u> </u> ; pt.3: long. <u> </u> lat. <u> </u> ; pt.4:long. <u> </u> lat. <u> </u> ; pt.5: long. <u> </u> lat. <u> </u> ; pt.6:long. <u> </u> lat. <u> </u> ; pt.7: long. <u> </u> lat. <u> </u> ; pt.8:long. <u> </u> lat. <u> </u> ; etc.		
4) If hydrostatic testing, total volume of the discharge (gals):		5) Is the discharge intermittent ☒ or seasonal <u> </u>? Is discharge ongoing Yes ☐ No ☒ ? <u> </u>
c) Expected dates of discharge (mm/dd/yy): start <u>06/01/10</u> end <u>06/01/11</u>		
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).		

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids										
2. Total Residual Chlorine										
3. Total Petroleum Hydrocarbons										
4. Cyanide										
5. Benzene										
6. Toluene										
7. Ethylbenzene										
8. (m,p,o) Xylenes										
9. Total BTEX ⁴										

⁴BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide ⁵ (1,2- Dibromo-methane)										
11. Methyl-tert-Butyl Ether (MtBE)										
12. tert-Butyl Alcohol (TBA)										
13. tert-Amyl Methyl Ether (TAME)										
14. Naphthalene										
15. Carbon Tetra-chloride										
16. 1,4 Dichlorobenzene										
17. 1,2 Dichlorobenzene										
18. 1,3 Dichlorobenzene										
19. 1,1 Dichloroethane										
20. 1,2 Dichloroethane										
21. 1,1 Dichloroethylene										
22. cis-1,2 Dichloro-ethylene										
23. Dichloromethane (Methylene Chloride)										
24. Tetrachloroethylene										

⁵EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min- imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane										
26. 1,1,2 Trichloroethane										
27. Trichloroethylene										
28. Vinyl Chloride										
29. Acetone										
30. 1,4 Dioxane										
31. Total Phenols										
32. Pentachlorophenol										
33. Total Phthalates ⁶ (Phthalate esthers)										
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)										
a. Benzo(a) Anthracene										
b. Benzo(a) Pyrene										
c. Benzo(b)Fluoranthene										
d. Benzo(k) Fluoranthene										
e. Chrysene										

⁶The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min- imum)	Type of Sample (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)
f. Dibenzo(a,h) anthracene										
g. Indeno(1,2,3-cd) Pyrene										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)										
h. Acenaphthene										
i. Acenaphthylene										
j. Anthracene										
k. Benzo(ghi) Perylene										
l. Fluoranthene										
m. Fluorene										
n. Naphthalene-										
o. Phenanthrene										
p. Pyrene										
37. Total Polychlorinated Biphenyls (PCBs)										
38. Antimony										
39. Arsenic										
40. Cadmium										
41. Chromium III										
42. Chromium VI										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min- imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper										
44. Lead										
45. Mercury										
46. Nickel										
47. Selenium										
48. Silver										
49. Zinc										
50. Iron										
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

<i>Step 1:</i> Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y____ N____	If yes, which metals?
<i>Step 2:</i> For any metals which have reasonable potential to 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? Metals: _____ DF: _____	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 “Yes,” list which metals:

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	Dechlorination	Other (please describe):			
c) Proposed average and maximum flow rates (gallons per minute) for the discharge and the design flow rate(s) (gallons per minute) of the treatment system: Average flow rate of discharge _____ Maximum flow rate of treatment system _____ Design flow rate of treatment system _____						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets):						

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

a) Identify the discharge pathway:	Direct _____	Within facility__	Storm drain_____	River/brook_____	Wetlands _____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:						
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas. There are no drinking water supply or wetland areas near the discharge						
d) Provide the state water quality classification of the receiving water _____,						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs Please attach any calculation sheets used to support stream flow and dilution calculations.						
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes _____ No _____ If yes, for which pollutant(s)? Is there a TMDL? Yes _____ No _____ If yes, for which pollutant(s)?						

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

- a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ___ No ☒
Has any consultation with the federal services been completed? Yes ☒ No ___ or is consultation underway? Yes ___ No ___
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one):
a "no jeopardy" opinion? ___ or written concurrence ☒ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?
- b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?
Yes ___ No ☒ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ___ No ☒

7. Supplemental information. :

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

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

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:

Assembly Square

Operator signature:

FR Sturtevant Street, LLC, a Delaware limited liability company, by its
sole member, FR Sturtevant Street, Inc., a Delaware corporation

Title:


DAWN M. BECKER, Vice President - General Counsel & Secretary

Date: 12/15/09

TABLES

Table 1
Summary of Groundwater Analytical Data
Assembly Square PUD
Somerville, Massachusetts

Analysis	MCP GW-2 Criteria	MCP GW-3 Criteria	WC-210 9/12/2008	WC-209 9/15/2008
<i>Hexavalent Chromium by MCP 7196A</i>				
Chromium, Hexavalent		300	< 10	< 10
<i>Miscellaneous</i>				
Solids, Total Suspended			37,000	< 5000
Chlorine, Total Residual			< 50	< 50
<i>Petroleum Hydrocarbon Quantitation by GC-FID</i>				
TPH	5000	5000	< 532	< 515
<i>Polychlorinated Biphenyls by MCP 8082</i>				
Aroclor 1016	5	10	< 0.264	< 0.266
Aroclor 1221	5	10	< 0.264	< 0.266
Aroclor 1232	5	10	< 0.264	< 0.266
Aroclor 1242	5	10	< 0.264	< 0.266
Aroclor 1248	5	10	< 0.264	< 0.266
Aroclor 1254	5	10	< 0.264	< 0.266
Aroclor 1260	5	10	< 0.264	< 0.266
Aroclor 1262	5	10	< 0.264	< 0.266
Aroclor 1268	5	10	< 0.264	< 0.266
<i>Semivolatile Organics by MCP 8270C</i>				
1,2,4-Trichlorobenzene	2,000	50,000	< 4.9	< 4.8
1,2-Dichlorobenzene	2,000	2,000	< 4.9	< 4.8
1,3-Dichlorobenzene	2,000	50,000	< 4.9	< 4.8
1,4-Dichlorobenzene	200	8,000	< 4.9	< 4.8
2,4,5-Trichlorophenol	50,000	3,000	< 4.9	< 4.8
2,4,6-Trichlorophenol	5,000	500	< 4.9	< 4.8
2,4-Dichlorophenol	30,000	2,000	< 9.8	< 9.6
2,4-Dimethylphenol	40,000	50,000	< 4.9	< 4.8
2,4-Dinitrophenol	50,000	20,000	< 29	< 29
2,4-Dinitrotoluene	20,000	50,000	< 4.9	< 4.8
2,6-Dinitrotoluene			< 4.9	< 4.8
2-Chloronaphthalene			< 4.9	< 4.8
2-Chlorophenol	20,000	7,000	< 5.9	< 5.7
2-Methylnaphthalene	2,000	20,000	< 4.9	< 4.8
2-Methylphenol			< 5.9	< 5.7
2-Nitrophenol			< 20	< 19
3,3'-Dichlorobenzidine		2,000	< 9.8	< 9.6
3-Methylphenol/4-Methylphenol			< 5.9	< 5.7
4-Bromophenyl phenyl ether			< 4.9	< 4.8
4-Chloroaniline	50,000	300	< 4.9	< 4.8
4-Nitrophenol			< 9.8	< 9.6
Acenaphthene		6,000	< 4.9	< 4.8
Acenaphthylene	10,000	40	< 4.9	< 4.8
Acetophenone			< 20	< 19
Aniline			< 20	< 19
Anthracene		30	< 4.9	< 4.8
Azobenzene			< 4.9	< 4.8
Benzo(a)anthracene		1,000	< 4.9	< 4.8
Benzo(a)pyrene		500	< 4.9	< 4.8
Benzo(b)fluoranthene		400	< 4.9	< 4.8
Benzo(ghi)perylene		20	< 4.9	< 4.8
Benzo(k)fluoranthene		100	< 4.9	< 4.8

Table 1
Summary of Groundwater Analytical Data
Assembly Square PUD
Somerville, Massachusetts

Analysis	MCP GW-2 Criteria	MCP GW-3 Criteria	WC-210 9/12/2008	WC-209 9/15/2008
Bis(2-chloroethoxy)methane			< 4.9	< 4.8
Bis(2-chloroethyl)ether	30	50,000	< 4.9	< 4.8
Bis(2-chloroisopropyl)ether	100	50,000	< 4.9	< 4.8
Bis(2-Ethylhexyl)phthalate		50,000	< 4.9	< 4.8
Butyl benzyl phthalate			< 4.9	< 4.8
Chrysene		70	< 4.9	< 4.8
Dibenzo(a,h)anthracene		40	< 4.9	< 4.8
Dibenzofuran			< 4.9	< 4.8
Diethyl phthalate	50,000	9,000	< 4.9	< 4.8
Dimethyl phthalate	50,000	50,000	< 4.9	< 4.8
Di-n-butylphthalate			< 4.9	< 4.8
Di-n-octylphthalate			< 4.9	< 4.8
Fluoranthene		200	< 4.9	< 4.8
Fluorene		40	< 4.9	< 4.8
Hexachlorobenzene	1	6,000	< 4.9	< 4.8
Hexachlorobutadiene	1	3,000	< 9.8	< 9.6
Hexachloroethane	100	50,000	< 4.9	< 4.8
Indeno(1,2,3-cd)Pyrene		100	< 4.9	< 4.8
Isophorone			< 4.9	< 4.8
Naphthalene	1,000	20,000	< 4.9	< 4.8
Nitrobenzene			< 4.9	< 4.8
Pentachlorophenol		200	< 9.8	< 9.6
Phenanthrene		10,000	< 4.9	< 4.8
Phenol	50,000	2,000	< 6.8	< 6.7
Pyrene		20	< 4.9	< 4.8
<i>Semivolatile Organics by MCP 8270C-SIM</i>				
2-Chloronaphthalene			< 0.2	< 0.19
2-Methylnaphthalene	2,000	20,000	< 0.2	< 0.19
Acenaphthene		6,000	< 0.2	< 0.19
Acenaphthylene	10,000	40	< 0.2	< 0.19
Anthracene		30	< 0.2	< 0.19
Benzo(a)anthracene		1,000	< 0.2	< 0.19
Benzo(a)pyrene		500	< 0.2	< 0.19
Benzo(b)fluoranthene		400	< 0.2	< 0.19
Benzo(ghi)perylene		20	< 0.2	< 0.19
Benzo(k)fluoranthene		100	< 0.2	< 0.19
Chrysene		70	< 0.2	< 0.19
Dibenzo(a,h)anthracene		40	< 0.2	< 0.19
Fluoranthene		200	< 0.2	< 0.19
Fluorene		40	< 0.2	< 0.19
Hexachlorobenzene	1	6,000	< 0.78	< 0.76
Hexachlorobutadiene	1	3,000	< 0.49	< 0.48
Hexachloroethane	100	50,000	< 0.78	< 0.76
Indeno(1,2,3-cd)Pyrene		100	< 0.2	< 0.19
Naphthalene	1,000	20,000	< 0.2	< 0.19
Pentachlorophenol		200	< 0.78	< 0.76
Phenanthrene		10,000	< 0.2	< 0.19
Pyrene		20	< 0.2	< 0.19

Table 1
Summary of Groundwater Analytical Data
Assembly Square PUD
Somerville, Massachusetts

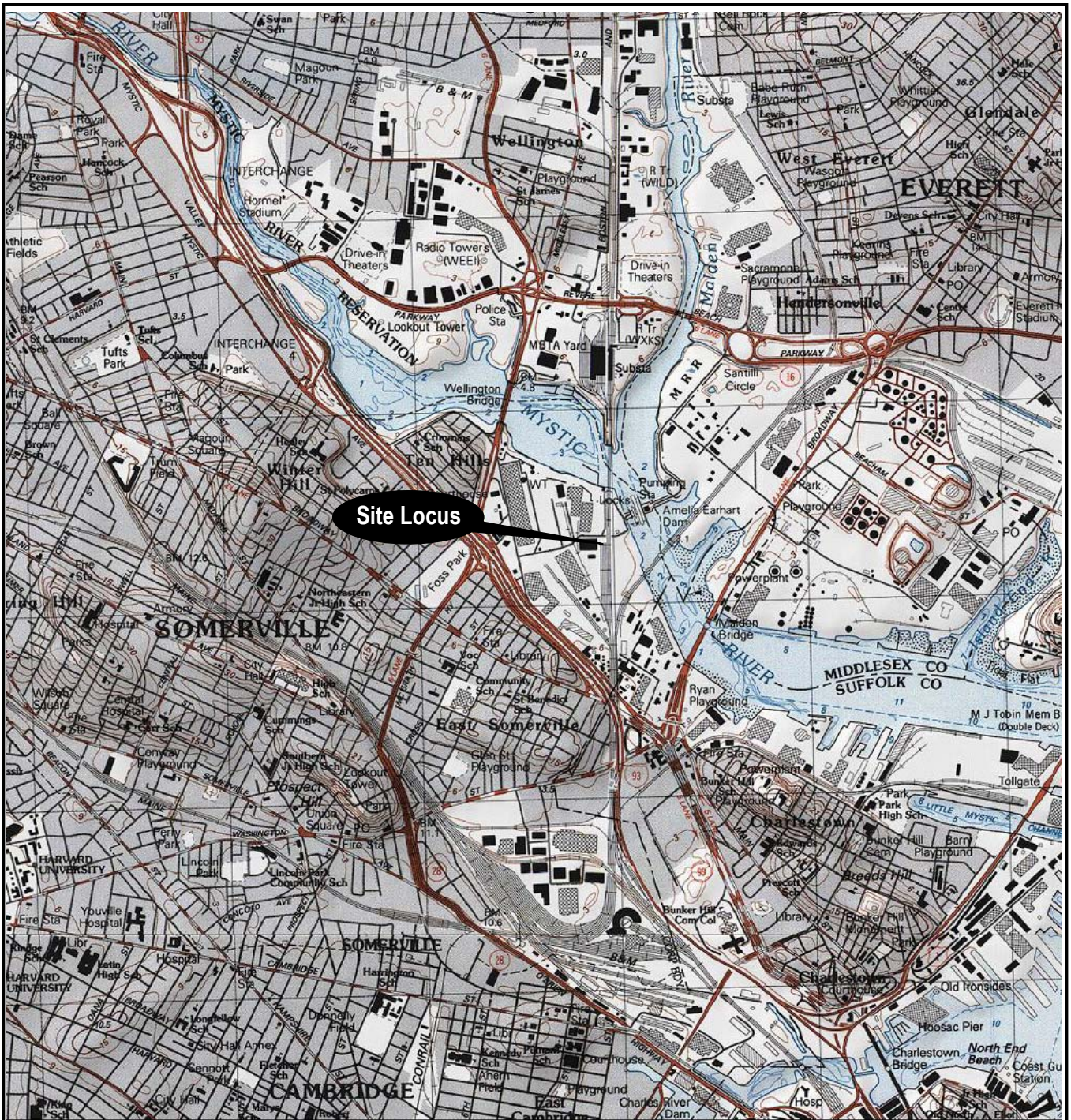
Analysis	MCP GW-2 Criteria	MCP GW-3 Criteria	WC-210 9/12/2008	WC-209 9/15/2008
<i>Total Cyanide by MCP 9014</i>				
Cyanide, Total		30	< 5	< 5
<i>Total Metals by MCP 6000/7000 series</i>				
Antimony, Total		8,000	< 50	< 50
Arsenic, Total		900	< 5	< 5
Cadmium, Total		4	< 4	< 4
Chromium, Total		300	< 10	< 10
Copper, Total			< 10	< 10
Iron, Total			500	< 50
Lead, Total		10	< 10	< 10
Mercury, Total		20	< 0.2	< 0.2
Nickel, Total		200	< 25	< 25
Selenium, Total		100	< 10	< 10
Silver, Total		7	< 7	< 7
Zinc, Total		900	< 50	< 50
<i>Volatile Organics by MCP 8260B</i>				
1,1,1,2-Tetrachloroethane	10	50,000	< 0.5	< 0.5
1,1,1-Trichloroethane	4,000	20,000	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane	9	50,000	< 0.5	< 0.5
1,1,2-Trichloroethane	900	50,000	< 0.75	< 0.75
1,1-Dichloroethane	1,000	20,000	< 0.75	< 0.75
1,1-Dichloroethene	80	30,000	< 0.5	< 0.5
1,1-Dichloropropene			< 2.5	< 2.5
1,2,3-Trichlorobenzene			< 2.5	< 2.5
1,2,3-Trichloropropane			< 5	< 5
1,2,4-Trichlorobenzene	2,000	50,000	< 2.5	< 2.5
1,2,4-Trimethylbenzene			< 2.5	< 2.5
1,2-Dibromo-3-chloropropane			< 2.5	< 2.5
1,2-Dibromoethane	2	50,000	< 2	< 2
1,2-Dichlorobenzene	2,000	2,000	< 2.5	< 2.5
1,2-Dichloroethane	5	20,000	< 0.5	< 0.5
1,2-Dichloropropane	3	50,000	< 1.8	< 1.8
1,3,5-Trimethylbenzene			< 2.5	< 2.5
1,3-Dichlorobenzene	2,000	50,000	< 2.5	< 2.5
1,3-Dichloropropane			< 2.5	< 2.5
1,4-Dichlorobenzene	200	8,000	< 2.5	< 2.5
1,4-Dioxane	6,000	50,000	< 250	< 250
2,2-Dichloropropane			< 2.5	< 2.5
2-Butanone	50,000	50,000	< 5	< 5
2-Hexanone			< 5	< 5
4-Methyl-2-pentanone	50,000	50,000	< 5	< 5
Acetone	50,000	50,000	< 5	< 5
Benzene	2,000	10,000	< 0.5	< 0.5
Bromobenzene			< 2.5	< 2.5
Bromochloromethane			< 2.5	< 2.5
Bromodichloromethane	6	50,000	< 0.5	< 0.5
Bromoform	700	50,000	< 2	< 2
Bromomethane	7	800	< 1	< 1
Carbon disulfide			< 5	< 5
Carbon tetrachloride	2	5,000	< 0.5	< 0.5

Table 1
Summary of Groundwater Analytical Data
Assembly Square PUD
Somerville, Massachusetts

Analysis	MCP GW-2 Criteria	MCP GW-3 Criteria	WC-210 9/12/2008	WC-209 9/15/2008
Chlorobenzene	200	1,000	< 0.5	< 0.5
Chloroethane			< 1	< 1
Chloroform	50	20,000	< 0.75	< 0.75
Chloromethane			< 2.5	< 2.5
cis-1,2-Dichloroethene	100	50,000	< 0.5	< 0.5
cis-1,3-Dichloropropene	10	200	< 0.5	< 0.5
Dibromochloromethane	20	50,000	< 0.5	< 0.5
Dibromomethane			< 5	< 5
Dichlorodifluoromethane			< 5	< 5
Ethyl ether			< 2.5	< 2.5
Ethylbenzene	20,000	5,000	< 0.5	< 0.5
Ethyl-Tert-Butyl-Ether			< 2	< 2
Hexachlorobutadiene	1	3,000	< 0.6	< 0.6
Isopropyl Ether			< 2	< 2
Isopropylbenzene			< 0.5	< 0.5
Methyl tert butyl ether	50,000	50,000	< 1	< 1
Methylene chloride	10,000	50,000	< 5	< 5
Naphthalene	1,000	20,000	< 2.5	< 2.5
n-Butylbenzene			< 0.5	< 0.5
n-Propylbenzene			< 0.5	< 0.5
o-Chlorotoluene			< 2.5	< 2.5
o-Xylene	9,000	5,000	< 1	< 1
p/m-Xylene	9,000	5,000	< 1	< 1
p-Chlorotoluene			< 2.5	< 2.5
p-Isopropyltoluene			< 0.5	< 0.5
sec-Butylbenzene			< 0.5	< 0.5
Styrene	100	6,000	< 1	< 1
tert-Butylbenzene			< 2.5	< 2.5
Tertiary-Amyl Methyl Ether			< 2	< 2
Tetrachloroethene	50	30,000	< 0.5	< 0.5
Tetrahydrofuran			< 10	< 10
Toluene	50,000	40,000	< 0.75	< 0.75
trans-1,2-Dichloroethene	90	50,000	< 0.75	< 0.75
trans-1,3-Dichloropropene	10	200	< 0.5	< 0.5
Trichloroethene	30	5,000	< 0.5	< 0.5
Trichlorofluoromethane			< 2.5	< 2.5
Vinyl chloride	2	50,000	< 1	< 1

All units are presented as ug/l

FIGURES



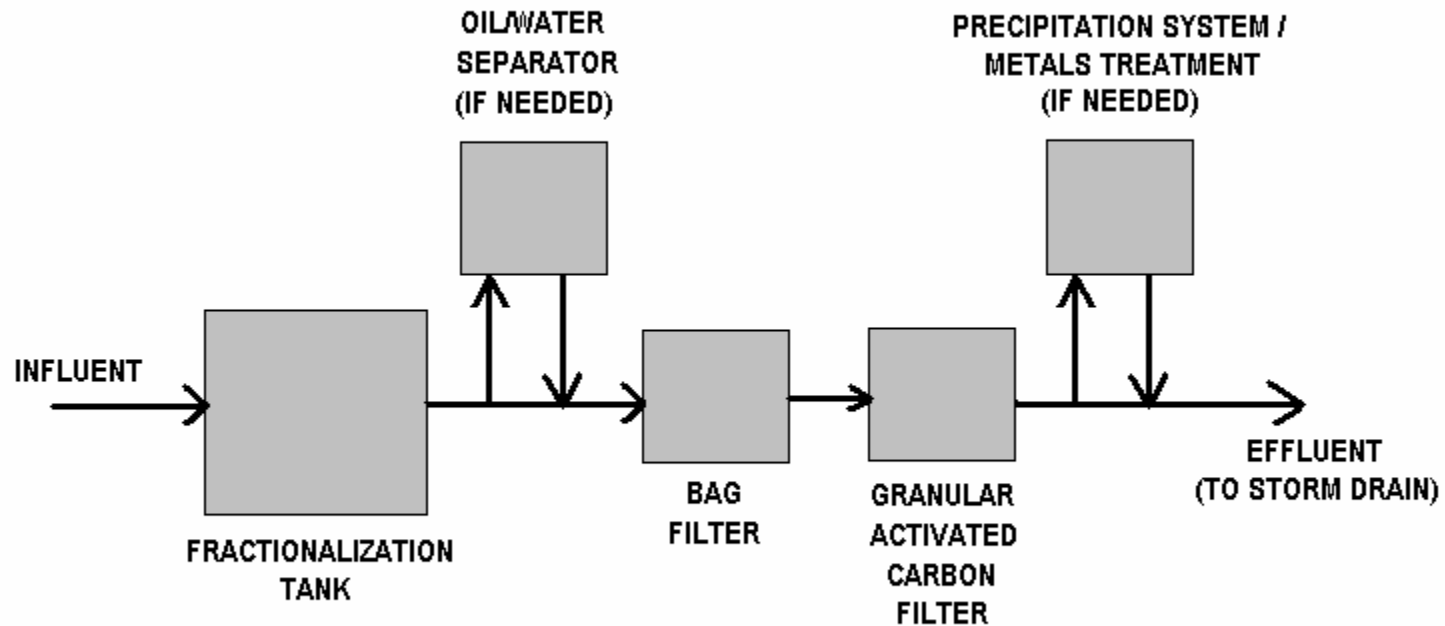
0 1000 FEET 0 500 1000 METERS
 Printed from TOPO! ©2000 Wildflower Productions (www.topo.com)

Base Map Source:
 TOPO!™ © 2000
 Wildflower Productions

LAT: 19T 328618mE
 LONG: 4695474mN

DES.BY:	DR.BY: PAW	CK.BY: PZ
Yard 21 Somerville, MA 02145		
FIGURE 1 SITE LOCUS		
SCALE: AS SHOWN	JOB NO.: 210708	
DATE: April 2009	FILE NAME:	

**72-INCH STORM DRAIN CORRIDOR CONSTRUCTION DEWATERING
PROPOSED GROUNDWATER TREATMENT SCHEMATIC**



Details of treatment system may vary from the system indicated above. Specific means and methods of treatment are to be selected by the subcontractor. All water discharged at the effluent point shall meet required effluent standards as specified in Appendix III and IV of the RGP/NOI Application.

APPENDIX A: DILUTION CALCULATIONS

APPENDIX A: DILUTION CALCULATIONS



Notice of Intent for the NPDES Remediation General Permit Construction Dewatering at Assembly Square, Somerville, Massachusetts

The effluent discharge point from the Site will be from the Somerville Marginal Conduit, an 84"-diameter outfall just downstream of the Amelia Earhart Dam on the Mystic River in Somerville.

Calculation of Dilution Factor:

$$DF = [(Qd + Qs)/Qd] \times 0.9$$

Where: DF = Dilution Factor

Qd = Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = 0.00223 cfs)

Qs = Receiving water 7Q10 flow, in cfs

7Q10 = The annual minimum flow for 7 consecutive days with a recurrence interval of 10 years

0.9 = Allowance for reserving 10% of the assets in the receiving stream as per Chapter ENV-Ws 1700, Surface Water Quality Regulations

For this Site:

The 7Q10 value is the average value of nine continuous-record gauging stations in the Aberjona and Mystic River sub-basins, as documented by "Hydrology and Water Resources of the Coastal Drainage Basin of Northeastern Massachusetts, From Castle Neck, Ipswich, to Mystic River, Boston," by Delaney and Gay, Hydrologic Investigations Atlas HA-589. The 7Q10 value here is 0.293 cfs per square mile. The documented drainage area of the Aberjona/Mystic River sub-basin is 62.9 square miles at the Amelia Earhart Dam (USGS gauging station number 01103050). Thus,

$$7Q10 = 0.293 \text{ cfs/mi}^2 \times 62.9 \text{ mi}^2 = \mathbf{18.43 \text{ cfs}}$$

$$Qd = 0.56 \text{ cfs}$$

$$DF = [(0.56 + 18.43) / 0.10] \times 0.9 = \mathbf{171}$$

Therefore, with a dilution factor of 171, effluent discharge from the Site will be subject to the Total Recoverable Metals Limitations in the ">100" dilution factor column of Appendix IV in the NPDES RGP guidelines.

APPENDIX B: ENDANGERED SPECIES DOCUMENTATION



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
One Blackburn Drive
Gloucester, MA 01930-2298

MAY 16 2008

Amy Wallace
Woodard and Curran
35 New England Business Center, Suite 180
Andover, Massachusetts 01810

Dear Ms. Wallace,

This is in response to your letter dated April 2, 2008 regarding an application for coverage under the NPDES Remediation General Permit administered by the US Environmental Protection Agency. Effluent will be discharged to the Mystic River in Somerville, Massachusetts as part of utility trench dewatering activities.

Several species of listed whales and sea turtles occur seasonally in waters off the Massachusetts coast and populations of the endangered shortnose sturgeon occur in the Merrimack and Connecticut Rivers. However, no listed species are known to occur in the Mystic River. As such, no further coordination with NMFS on the effects of discharges associated with the utility trench dewatering in Somerville is necessary. Should you have any questions regarding these comments, please contact Julie Crocker at (978)281-9300 ext. 6530.

Sincerely,

Mary A. Colligan
Assistant Regional Administrator
for Protected Resources

Cc: Boelke, F/NER4

File Code: Sec 7 Mass. NSP





United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087
<http://www.fws.gov/northeast/newenglandfieldoffice>

May 27, 2008

Reference:	<u>Project</u>	<u>Location</u>
	Groundwater discharge	Somerville, MA

Amy Wallace
Woodard & Curran Inc.
35 New England Business Center, Suite 180
Andover, MA 01810

Dear Ms. Wallace:

This responds to your recent correspondence requesting information on the presence of federally-listed and/or proposed endangered or threatened species in relation to the proposed activity(ies) referenced above.

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

This concludes our 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.

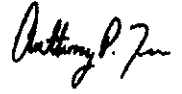
In order to curtail the need to contact this office in the future for updated lists of federally-listed or proposed threatened or endangered species and critical habitats, please visit the Endangered Species Consultation page on the New England Field Office's website:

www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation.htm

In addition, there is a link to procedures that may allow you to conclude if habitat for a listed species is present in the project area. If no habitat exists, then no federally-listed species are present in the project area and there is no need to contact us for further consultation. If the above conclusion cannot be reached, further consultation with this office is advised. Information describing the nature and location of the proposed activity that should be provided to us for further informal consultation can be found at the above-referenced site.

Thank you for your coordination. Please contact us at 603-223-2541 if we can be of further assistance.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Anthony P. Tur". The signature is written in a cursive, flowing style.

Anthony P. Tur
Endangered Species Specialist
New England Field Office

APPENDIX C: HISTORIC PLACES DOCUMENTATION

APPENDIX C

National Register of Historic Places Research Documentation



A search of the Nationals Register of Historic Places database for sites listed within Somerville, Massachusetts yielded 81 results. These sites are listed in the table below. None of the sites listed are within the boundaries of the subject property, nor do any of the sites about the subject property or the construction dewatering discharge point.

Number	SITE NAME	ADDRESS	LISTED
1	Adams, Charles--Woodbury Locke House	178 Central St.	9/18/1989
2	Adams--Magoun House	438 Broadway	9/18/1989
3	Bacon, Clifton, House	27 Chester St.	9/18/1989
4	Barnes, Walter S. and Melissa E., House	140 Highland Ave.	3/8/1990
5	Bow Street Historic District	Bow St.	3/26/1976
6	Brackett, S. E., House	63 Columbus Ave.	9/18/1989
7	Broadway Winter Hill Congregational Church	404 Broadway	9/18/1989
8	Brooks, James H., House	61 Columbus Ave.	9/18/1989
9	Carr, Martin W., School	25 Atherton St.	7/5/1984
10	Central Library	79 Highland Ave.	9/18/1989
11	Cliff, Z. E., House	29 Powderhouse Terr.	9/18/1989
12	Cook, Thomas, House	21 College Hill Rd.	9/18/1989
13	Cooper--Davenport Tavern Wing	81 Eustis St.	9/18/1989
14	Crowell, C. C., House	85 Benton Rd.	9/18/1989
15	Downer Rowhouses (Adams Street)	55 Adams St.	9/18/1989
16	Downer Rowhouses (Central Street)	192--200 Central St.	9/18/1989
17	First Unitarian Church	130 Highland Ave.	9/18/1989
18	First Universalist Church	125 Highland St.	9/18/1989
19	Foster, Alexander, House	45 Laurel St.	9/18/1989
20	Gaut, Samuel, House	137 Highland Ave.	9/18/1989
21	Grandview, The	82 Munroe St.	9/18/1989
22	Highland, The	66 Highland St.	9/18/1989
23	Hollander Blocks	Walnut St. and Pleasant Ave.	9/18/1989
24	Hopkins, Elisha, House	237 School St.	9/18/1989
25	House at 10 Arlington Street	10 Arlington St.	9/18/1989
26	House at 14 Chestnut Street	14 Chestnut St.	9/18/1989
27	House at 16--18 Preston Road	16--18 Preston Rd.	9/18/1989
28	House at 197 Morrison Avenue	197 Morrison Ave.	9/18/1989
29	House at 21 Dartmouth Street	21 Dartmouth St.	9/18/1989
30	House at 25 Clyde Street	25 Clyde St.	9/18/1989
31	House at 29 Mt. Vernon Street	29 Mt. Vernon St.	9/18/1989
32	House at 343 Highland Avenue	343 Highland Ave.	9/18/1989
33	House at 35 Temple Street	35 Temple St.	9/18/1989
34	House at 42 Vinal Avenue	42 Vinal Ave.	9/18/1989
35	House at 49 Vinal Avenue	49 Vinal Ave.	9/18/1989
36	House at 5 Prospect Hill	5 Prospect Hill	9/18/1989
37	House at 6 Kent Court	6 Kent Ct.	9/18/1989
38	House at 72R Dane Street	72R Dane St.	9/18/1989
39	House at 81 Pearl Street	81 Pearl St.	9/18/1989
40	Houses at 28--36 Beacon Street	28--36 Beacon St.	9/18/1989

APPENDIX C
National Register of Historic Places Research Documentation



Number	SITE NAME	ADDRESS	LISTED
41	Ireland, Samuel, House	117 Washington	9/18/1989
42	James, Joseph K., House	83 Belmont St.	2/11/1998
43	Keyes, Amos, House	12 Adams St.	9/18/1989
44	Knight, R. A.--Eugene Lacount House	34 Day St.	9/18/1989
45	Langmaid Building	48--52 Highland Ave.	9/18/1989
46	Langmaid Terrace	359--365 Broadway	9/18/1989
47	Lockhardt, Charles H., House	88 College Ave.	9/18/1989
48	Loring, George, House	76 Highland Ave.	9/18/1989
49	Lovejoy, A. L., House	30 Warren Ave.	9/18/1989
50	Mt. Vernon Street Historic District	8--24 Mt. Vernon St.	9/18/1989
51	Munroe, Robert, House	37 Walnut St.	9/18/1989
52	Mystic Pumping Station	Alewife Brook Pkwy.	1/18/1990
53	Mystic Valley Parkway, Metropolitan Park System of Greater Boston MPS	Mystic Valley Parkway	1/18/2006
54	Mystic Water Works	Alewife Brook Pkwy & Capen St.	9/18/1989
55	Nichols, John F., House	17 Summit St.	9/18/1989
56	Niles, Louville V., House	97 Munroe St.	9/18/1989
57	Niles, Louville, House	45 Walnut St.	9/18/1989
58	Old Cemetery	Somerville Ave. and School St.	9/18/1989
59	Otis--Wyman House	67 Thurston St.	9/18/1989
60	Parker--Burnett House	48 Vinal Ave.	9/18/1989
61	Powder House Park	Powder House Circle	4/21/1975
62	Prescott, Gustavus G., House	65--67 Perkins St.	9/18/1989
63	Rosebuds, The	381 Summer St.	9/22/1999
64	Russell, Philemon, House	25 Russell St.	9/18/1989
65	Russell, Susan, House	58 Sycamore St.	9/18/1989
66	Schuebeler, Charles, House	384 Washington St.	9/18/1989
67	Snow, Lemuel, Jr., House	81 Benton Rd.	9/18/1989
68	Somerville High School	93 Highland St.	9/18/1989
69	Somerville Journal Building	8--10 Walnut St.	9/18/1989
70	Somerville Theatre	55 Davis Sq.	1/26/1990
71	Spring Hill Historic District	Roughly bounded by Summer, Central, Atherton, and Spring St	9/18/1989
72	Tufts, Peter and Oliver, House	78 Sycamore St.	9/18/1989
73	US Post Office--Somerville Main	237 Washington St.	5/30/1986
74	Warren, H., House	205 School St.	9/18/1989
75	West Somerville Branch Library	40 College Ave.	9/18/1989
76	Williams, Charles, House	108 Cross St.	9/18/1989
77	Williams, Charles, Jr., House	1 Arlington St.	9/18/1989
78	Williams, F. G., House	37 Albion St.	9/18/1989
79	Worthen, Daniel, House	8 Mt. Pleasant St.	9/18/1989
80	Wright House	54 Vinal Ave.	9/18/1989
81	Wyatt, George, House	33 Beacon St.	9/18/1989

APPENDIX D: BEST MANAGEMENT PRACTICES PLAN



APPENDIX D

Best Management Practices Plan

Notice of Intent for the NPDES Remediation General Permit Construction Dewatering at Assembly Square, Somerville, Massachusetts

In accordance with the Commonwealth of Massachusetts's application requirements for the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) MAG910000, this Best Management Practices Plan (BMPP) has been prepared in support of the RGP Application for construction site dewatering. Dewatering is planned in support of the installation of a new 72-inch storm drain outfall to support the Assembly Square Planned Unit Development (PUD) in Somerville, Massachusetts. This proposed outfall will convey stormwater downstream of the existing Amelia Earhart Dam on the Mystic River and reduce flows to the existing 84-inch storm drain outfall, referred to as the Somerville Marginal Conduit (SMC).

The practices outlined in this Plan will be adhered to during construction dewatering at the Site.

Water Treatment and Management

Construction dewatering effluent will be pumped from the trench by a water pump via hose and directly to a fractionalization tank. The fractionalization tank will allow for the settling of excess sediment and suspended solids in the groundwater before the effluent flows to subsequent treatment systems as depicted in the groundwater treatment schematic. Treatment may consist of an oil/water separator (if needed), bag filters, granular activated carbon filters, a metals precipitation system (if needed), and then discharged to an existing storm drain. Discharge to the storm drains will take the effluent to the 84" Somerville Marginal Conduit with an outfall just downstream of the Amelia Earhart Dam in the Mystic River. Several existing storm drains are present along the proposed corridor. Due to the length of the proposed corridor (approximately 1,000 feet in length) the groundwater treatment system will also require moving to multiple staging areas along the length of the work area.

Discharge Monitoring and Compliance

Regular sampling and testing of the influent and effluent will be conducted as required by the RGP. This includes chemical testing as required in the first month of discharge, and monthly sampling thereafter through the end of construction dewatering activities. Daily monitoring will include inspecting the treatment system and recording flow rates, storm drains utilized, and discharge volumes. Monthly monitoring reports will be compiled to report the analytical results, flow rates and volumes, and other pertinent system information.

System Maintenance

In an effort to maintain compliance with the terms of the RGP, regular maintenance of the groundwater treatment system will be conducted to verify proper operation. Regular maintenance includes checking the condition of the treatment system equipment such as the frac tanks, filters, hoses, pumps, and flow meters. Equipment will be monitored daily for any potential issues or unscheduled maintenance needs, and the daily monitoring checks shall be documented in the field log book.

Management of Treatment System Materials

No potential sources of pollutants are anticipated to enter the system. Erosion controls around the corridor construction work will be used by the contractor to prevent runoff from entering the work area. Dewatering effluent will be pumped directly to the treatment system by pumps and hoses to minimize handling. Any equipment or materials kept on-site that may be potential sources of pollution will be kept in a staging area separate from the groundwater treatment train area.

Sediment from the fractionalization tank will be characterized and disposed of at an appropriate receiving facility pending the analytical results. If used, the granular activated carbon filters and bag filters will be disposed of at an appropriate facility.