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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

MAY 30 2014

Carl Gerhardstein
Assistant Vice President – Health, Environment and Sustainability
CSX Transportation, Inc.
500 Water Street
Jacksonville, Florida 32202

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Allston Landing North Discharge 'A' located at 100 Western Avenue, Allston, MA 02134, Suffolk County; Authorization # MAG910617

Dear Mr. Gerhardstein:

Based on the review of a Notice of Intent (NOI) submitted by Danielle Ahern from AMEC Environment & Infrastructure Inc., on behalf of CSX Transportation, Inc. (CSXT) for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, the named Owner and Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

Please note the enclosed checklist includes parameters that exceeded Appendix III limits. In addition, volatile organic parameters are included based on the history of the site and in the event these are detected in ground water discharges from new excavation work that will take place at the site in the near future.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations. For each parameter the dilution factor 51.9 for this site is within a dilution range greater than fifty to one hundred (>50-100), established in the RGP. (See

the RGP Appendix IV for Massachusetts facilities). Therefore, the limits for arsenic of 500 ug/L, copper of 260 ug/L, lead of 66 ug/L, nickel of 1,451 ug/L, zinc of 1,480 ug/L, and iron of 5,000 ug/L, are required to achieve permit compliance at your site.

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

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on December 31, 2016. You are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

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

Sincerely,

Thelma Murphy

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Paul Canavan, BWSC
Danielle Ahern, AMEC

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910617**
Authorization Issued:	May, 2014
Facility/Site Name:	CSX- Allston Landing North Discharge "A"
Facility/Site Address:	100 Western Avenue, Allston, MA 02134, Suffolk County
	Email address of owner: carl_gerhardstein@csx.com
Legal Name of Operator:	CSX Transportation, Inc.
Operator contact name, title, and Address:	500 Water Street, Jacksonville, FL 32202
	Email: Same as the owner's
Estimated date of The Project Completion:	December 31, 2016
Category and Sub-Category:	Category II- Non Petroleum Site Remediation. Subcategory B. VOC with Additional Contamination
RGP Termination Date:	September 15, 2015
Receiving Water:	Charles River

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

	Parameter	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing ** Me#160.2/ML5ug/L
	2. Total Residual Chlorine (TRC) [1]	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
√	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/L/ Me#8260C/ ML 2ug/L

	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)
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
√	14. Naphthalene [5]	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
√	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
√	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
√	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
√	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
√	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
√	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
√	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
√	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
√	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
√	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
√	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
√	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) [6]	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L

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

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12] Freshwater		Minimum level=ML	
	39. Antimony	141		ML/ 10	
√	40. Arsenic **	500		ML	20

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12] Freshwater		Minimum level=ML	
	41. Cadmium **	10		ML	10
	42. Chromium III (trivalent) **	1,710		ML	15
	43. Chromium VI (hexavalent) **	570		ML	10
√	44. Copper **	260		ML	15
√	45. Lead **	66		ML	20
	46. Mercury **	2.3		ML	2
√	47. Nickel **	1,451		ML	20
	48. Selenium **	250		ML	20
	49. Silver	57		ML	10
√	50. Zinc **	1,480		ML	15
√	51. Iron	5,000		ML 20	

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

Footnotes:

[1] Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).
[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.
[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).
[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.
[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.
[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
[8] In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[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

April 24, 2014

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912
ATTN: Remediation General Permit NOI Processing

Re: Notice of Intent, Remediation General Permit
Soil and Groundwater Remediation (RTN#29441)
100 Western Avenue Allston, Massachusetts

AMEC Environment & Infrastructure, Inc. (AMEC) is submitting this Notice of Intent (NOI) and applicable supporting documentation on behalf of CSX Transportation, Inc. (CSXT) for the property located at 100 Western Avenue in Allston, Massachusetts (the Site). This NOI (Attachment 1) is being submitted in order to obtain authorization under the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts (MAG910000) to allow the discharge of treated groundwater to the Massachusetts Department of Transportation (MassDOT) storm sewer system which ultimately discharges to the Charles River.

Site Setting and Remedial Background

The coordinates for the approximate center of the Site are 71.1224 degrees west, 42.3625 degrees north (UTM N 4692208 and E 325225). The Site consists of a 21.82 acre parcel known as the North Landing Area and the Lincoln Lead (ALN) as well as a portion of Western Avenue and the Harvard Business School (HBS) property to which chlorinated volatile organic compounds (CVOCs) have migrated (Attachment 2).

The Site is located west of the intersection of Western Ave and Soldiers Field Road. The Site is bound by Western Ave to the north, Hague Street to the west, the Genzyme property to the east and Cambridge Street to the south.

The remediation activities are being conducted in accordance with the Massachusetts Contingency Plan (MCP) Release Tracking Number 3-29441 (RTN 3-29441) to address groundwater impacts of chlorinated volatile organic compounds (CVOCs) [trichloroethene (TCE), cis-1,2-dichlorethene (cis-

AMEC Environment & Infrastructure, Inc.
271 Mill Road
Chelmsford MA 01824
Tel (978) 692-9090
Fax (978) 692-6633 www.amec.com

1,2-DCE), and vinyl chloride (VC)], and soil impacts. The soil impacts which require excavation dewatering for removal are associated with lead, antimony and CVOCs. The site is classified under NPDES RGP as Category II – Non-Petroleum Site Remediation and Subcategory B – VOC Sites with Additional Contamination.

Proposed Remediation

The Site will be remediated with three principle technologies to address groundwater and soil impacts. The three technologies will require two discharge points to be regulated under the EPA RGP. Excavation dewatering is proposed as Discharge A and is to be permitted under this application package. The remaining technologies, directed groundwater recirculation (DGR) and electrical resistance heating (ERH) will also require permit coverage under the RGP and this will be applied for under a Notice of Change (NOC) to the Discharge A permit once the design is finalized.

Discharge A

Excavation will remediate impacted soils within the ALN portion of the Site. During excavation activities it will be necessary to perform temporary dewatering to control groundwater seepage at the areas shown in Attachment 3. This excavation dewatering is the proposed Discharge A, to be permitted under this application package. The average daily flow of the proposed dewatering system is estimated to be 80 – 120 (gallons per minute) gpm with a peak flow of 200 gpm during heavy precipitation events. The dewatering system will be conducted using sumps and pumps located within the excavations. Prior to discharge, the water will be treated through a treatment system as outlined in Attachment 3. The treated water will then be routed to the MassDOT manhole and eventually discharged to the Charles River (Attachment 4). Excavation dewatering is anticipated to begin in June 2014 and last until October 2014.

Discharge B

Electrical Resistance Heating (ERH) will be implemented to remediate groundwater and soil within a 2.1 acre section of Allston Landing North (ALN) property due to CVOC higher concentrations. Through the implementation of ERH, soil vapor is extracted generating a condensate which can be used in the ERH process for electrode wetting; however, there may be excess water generated which would require discharge. This excess water (up to 70 gpm) would be treated through the

central treatment facility in conjunction with DGR. The ERH system is proposed to be online in December 2014.

Directed Groundwater Recirculation (DGR) is proposed to remediate the remainder of the impacted groundwater within the Site (approximately 10.1 acres). The DGR system is proposed to be a series of extraction and injection wells for the recirculation of groundwater within the Site. The extracted water will be treated and reinjected at a rate which may result in an excess volume of water which will require discharge under the RGP. If surplus water cannot be re-injected, the treated water (up to 65 gpm) will be discharged to the MassDOT manhole which ultimately discharges to the Charles River. The DGR system is expected to be online in September 2014.

The Site and all discharges will be in conformance with permit discharge requirements and the Best Management Practices Plan (BMPP) as described in Attachment 5. The permitting process is underway to discharge to the MassDOT structure (Attachment 6). As stated above, this application is being submitted for RGP coverage for the excavation dewatering portion of the site only. The additional remediation system discharge will be permitted through a NOT once final design is completed.

If you have any questions regarding this notice, please contact me at (978) 392-5302.

Sincerely,

Danielle Ahern, P.E.
Civil Engineer

Sam Farnsworth, LSP
Project Manager

Attachment 1: Notice of Intent
Attachment 2: Site Layout Figure
Attachment 3: Dewatering Design Figures and Process Flow Diagram
Attachment 4: Discharge Locations

Attachment 5: Best Management Practice Plan

Attachment 6: MassDOT Permit Application

Attachment 7: National Register of Historic Places and Massachusetts Historical Commission Documentation

Attachment 8: Endangered Species Act Eligibility Supporting Information

Attachment 9: 7Q10 Calculation and Supporting Information

Attachment 10: Water Quality and Laboratory Data

Attachment 1: Notice of Intent

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**: Allston Landing North Discharge 'A'		**Facility/site** mailing address:		
Location of **facility/site**: longitude: -71.1225 latitude: 42.3638	Facility SIC code(s):	Street: 100 Western Avenue Allston MA		
b) Name of **facility/site owner:**		Town: Allston		
Email address of facility/site owner: carl_gerhardstein@csx.com		State: MA	Zip: 02134	County: Suffolk
Telephone no. of facility/site **owner**: (904) 366-4303				
Fax no. of facility/site **owner**:		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):				
Street: 500 Water Street				
Town: Jacksonville	State: FL	Zip: 32202	County: Duval	
c) Legal name of **operator**:		**Operator** telephone no: (904) 366-4303		
CSX Transportation, Inc.	**Operator** fax no.:	**Operator** email: carl_gerhardstein@csx.com		
Operator contact name and title: Carl Gerhardstein				
Address of **operator** (if different from owner):	Street:			
Town:	State:	Zip:	County:	

d) Check Y for "yes" or N for "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Y ○ N ◉, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ○ N ◉, if Y, date and tracking #:
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ◉ N ○
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ◉ N ○

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

f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y ○ N ◉,
if Y, number:
2. Final Dewatering General Permit? Y ○ N ◉,
if Y, number:
3. EPA Construction General Permit? Y ◉ N ○,
if Y, number: MAR12AS35
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:

Discharge of treated groundwater generated by on-site remediation system (excavation dewatering)

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow: 0.446 Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units) 0.3345 Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42.361206 long. -71.120518 pt.2: lat. _____ long. _____;
pt.3: lat. _____ long. _____ pt.4: lat. _____ long. _____;
pt.5: lat. _____ long. _____ pt.6: lat. _____ long. _____;
pt.7: lat. _____ long. _____ pt.8: lat. _____ long. _____; etc.

4) If hydrostatic testing, total volume of the discharge (gals): _____

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

c) Expected dates of discharge (mm/dd/yy): start 06/01/2014 end 12/31/2016

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 Attachment 2

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)		☒	☐								
2. Total Residual Chlorine (TRC)		☒	☐								
3. Total Petroleum Hydrocarbons (TPH)		☒	☐								
4. Cyanide (CN)	57125	☐	☒	10	Grab	SW9014	5	26	0.023	4	0.002
5. Benzene (B)	71432	☒	☐								
6. Toluene (T)	108883	☒	☐								
7. Ethylbenzene (E)	100414	☐	☐								
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐								
9. Total BTEX [2]	n/a	☒	☐								
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐								
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐								
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐								

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

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

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

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	☒	☐								
14. Naphthalene	91203	☐	☒	21	Grab	SW8260B	5	7.7	0.004	2.03	0.001
15. Carbon Tetrachloride	56235	☒	☐								
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐								
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐								
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐								
18a. Total dichlorobenzene		☒	☐								
19. 1,1 Dichloroethane (DCA)	75343	☒	☐								
20. 1,2 Dichloroethane (DCA)	107062	☒	☐								
21. 1,1 Dichloroethene (DCE)	75354	☒	☐								
22. cis-1,2 Dichloroethene (DCE)	156592	☐	☒	21	Grab	SW8260B	1	8.5	0.008	1.93	0.001
23. Methylene Chloride	75092	☒	☐								
24. Tetrachloroethene (PCE)	127184	☒	☐								
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐								
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐								
27. Trichloroethene (TCE)	79016	☐	☒	21	Grab	SW8260B	1	6.4	0.004	0.85	0.0004

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	☐	☒	21	Grab	SW8260B	1	15	0.016	3.05	0.001
29. Acetone	67641	☐	☒	1	Grab	8260C	5	16	0.013	16	0.007
30. 1,4 Dioxane	123911	☒	☐								
31. Total Phenols	108952	☒	☐								
32. Pentachlorophenol (PCP)	87865	☒	☐								
33. Total Phthalates (Phthalate esters) [4]		☒	☐								
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐								
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐								
a. Benzo(a) Anthracene	56553	☒	☐								
b. Benzo(a) Pyrene	50328	☒	☐								
c. Benzo(b)Fluoranthene	205992	☒	☐								
d. Benzo(k)Fluoranthene	207089	☒	☐								
e. Chrysene	21801	☒	☐								
f. Dibenzo(a,h)anthracene	53703	☒	☐								
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐								
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐								

[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	☒	☐								
i. Acenaphthylene	208968	☒	☐								
j. Anthracene	120127	☒	☐								
k. Benzo(ghi) Perylene	191242	☒	☐								
l. Fluoranthene	206440	☒	☐								
m. Fluorene	86737	☒	☐								
n. Naphthalene	91203	☐	☒	20	Grab	SW8260B	5	7.7	0.004	2.03	0.001
o. Phenanthrene	85018	☒	☐								
p. Pyrene	129000	☒	☐								
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐								
38. Chloride	16887006	☐	☒	1	Grab	SW9251	10000	300000	191.98	260000	110.67
39. Antimony	7440360	☒	☐								
40. Arsenic	7440382	☐	☒	17	Grab	SW6010B	5	19	0.017	6.85	0.003
41. Cadmium	7440439	☒	☐								
42. Chromium III (trivalent)	16065831	☒	☐								
43. Chromium VI (hexavalent)	18540299	☒	☐								
44. Copper	7440508	☒	☐								
45. Lead	7439921	☐	☒	17	Grab	SW6010B	10	15	0.013	6	0.003
46. Mercury	7439976	☒	☐								
47. Nickel	7440020	☒	☐								
48. Selenium	7782492	☒	☐								
49. Silver	7440224	☒	☐								
50. Zinc	7440666	☐	☒	17	Grab	SW6010B	50	99	0.089	30	0.013
51. Iron	7439896	☐	☒	6	Grab	6010C	50	25000	16	18830	8.015
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)
2- Butanone	78-93-3	☐	☒	2	Grab	8260C	5	21	0.016	20.5	0.009
Tetrahydrofuran	109-99-9	☐	☒	2	Grab	8260C	5	20	0.016	19.5	0.008

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? Antimony, Arsenic, Cadmium, Iron, Lead, Selenium, Zinc
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: Antimony DF: 51.9 Metal: Arsenic DF: 51.9 Metal: Cadmium DF: 51.9 Metal: Iron DF: 51.9 Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y◉ N○ If Y, list which metals: Iron

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

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

Water removed from the excavated areas through dewatering will be pumped through a temporary above grade hose to a series of frac tanks, from there the water will be pumped at a maximum flow rate of 200 gallons per minute, through a 5 micron course bag filter, through a 1 micron polishing cartridge filter, through liquid phase granular activated carbon, to an effluent equalization tank before metered discharge to the storm sewer.

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):	Cartridge Filter		

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 150 gpm Maximum flow rate of treatment system 200 gpm
Design flow rate of treatment system 200 gpm

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

NA

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

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

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

discharge to MassDOT structure within Ramp D of Mass Pike, through DOT infrastructure, through CSX chamber for discharge to Charles 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 22.70 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)? Pathogens and Nutrients

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.

Section 3.a) Contaminant information is summarized for excavation cells requiring dewatering in Table 1.
Section 4.b Step 2) Metals Dilution Calculation is summarized in Table 2.

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:	Allston Landing North Discharge 'A'
Operator signature:	
Printed Name &Title:	Carl Gerhardstein, Assistant Vice President - Health, Environment and Sustainability
Date	4/22/2014

Attachment 2: Site Layout Figure

Site Location Map

100 Western Avenue
Allston, MA 01089

Location of Site

Notes and Sources

FIGURE 1

Notes: National Geographic TOPO! Series, 2008.

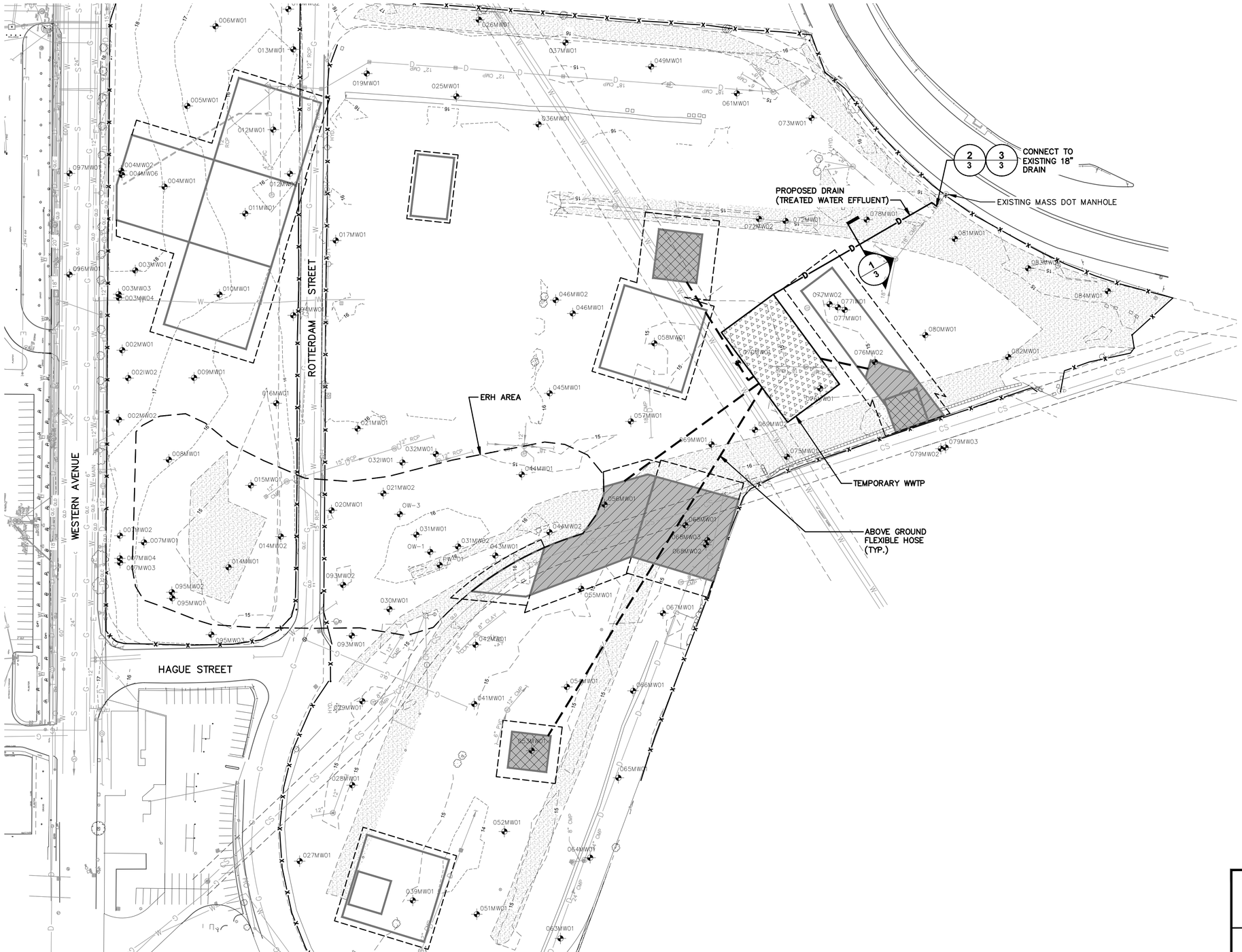
0 2,000 Feet

N

amec

AMEC Environment & Infrastructure, Inc.
271 Mill Road
Chelmsford, MA 01824
(978) 692-9090

Attachment 3: Dewatering Design and Process Flow Diagram



NOTES:

1. ABOVE GROUND FLEXIBLE HOSE TO BE RUN FROM DEWATERING SUMPS WITHIN THE EXCAVATION FOOTPRINT TO FRAC TANKS STAGED ON THE TEMPORARY WWTP PAD.
2. SEE FIGURE 2 FOR THE PROCESS FLOW DIAGRAM OF THE TEMPORARY WWTP.
3. SEE FIGURE 3 FOR TRENCH DETAIL AND CONNECTION DETAILS.
4. PROPOSED DRAIN (TREATED WATER EFFLUENT) PIPE TO BE 4 INCH HDPE.
5. PROPOSED DRAIN (TREATED WATER EFFLUENT) PIPE TO BE CONNECTED TO THE EXISTING 18" STORM DRAIN CONNECTED TO THE MASS DOT CONVEYANCE SYSTEM. THE CONNECTION IS TO OCCUR APPROXIMATELY 10 FT FROM THE PROPERTY BOUNDARY.
6. CONTRACTOR TO CONFIRM THE DIMENSIONS OF THE EXISTING 18" STORM DRAIN CONNECTED TO THE MASS DOT CONVEYANCE SYSTEM IN THE FIELD.

0 60' 120'
GRAPHIC SCALE

DRAFT - NOT FOR CONSTRUCTION

CSX TRANSPORTATION
ALLSTON, MASSACHUSETTS
REMEDIATION GENERAL PERMIT

CONCEPTUAL UTILITY CONNECTIONS - EXCAVATION

ARCADIS

FIGURE
1

CITY:SYRACUSE-NY DIV/GROUP:ENVCAD DB:G.STEINBERGER LD:G.STEINBERGER PIC:J.MADDALENA PM:J.BONSTEEL TM:R.ROBBENNOLT LYR:(Opt)ON=*;OFF=*REF*
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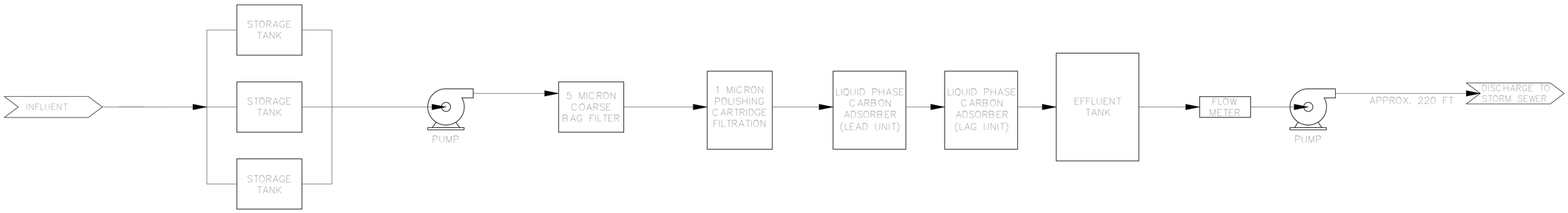
DE634X00
DE634X01
DE634X02
DE634X03
IMAGES:
PROJECTNAME: ----



NOTES:

1. ALL CONSTRUCTION DEWATERING AND DISCHARGE SHOULD BE IN COMPLIANCE WITH THE RESPECTIVE NPDES PERMIT FOR THE SITE AND BEST MANAGEMENT PRACTICES PLAN (BMPP).
2. ALL STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL BE MANAGED IN ACCORDANCE WITH THE DESIGN DRAWINGS, TECHNICAL SPECIFICATIONS, AND SITE WORK STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
3. DEWATERING METHODOLOGY TO BE DEVELOPED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATION. THE CONTRACTOR SHALL PROVIDE PROVISIONAL IRON REMOVAL EQUIPMENT (NOT SHOWN ON THE DRAWING) TO BE IMPLEMENTED AT THE DIRECTION OF THE ENGINEER.
4. THE TEMPORARY WASTE WATER TREATMENT SHOULD BE CAPABLE OF HANDLING A MAXIMUM FLOWRATE OF 200 GPM.
5. VALVES, INSTRUMENTATION, AND PIPING, ETC. ARE NOT SHOWN FOR CLARITY.
6. POWER TO BE PROVIDED BY CONTRACTOR BASED ON THE POWER SUPPLY NEEDED TO OPERATE PUMPS.
7. BAG FILTER AND POLISHING CARTRIDGE FILTRATION WILL BE DUPLEX AND SKID MOUNTED.
8. AVERAGE VOLATILE ORGANIC COMPOUND INFLUENT CONCENTRATIONS ARE TO BE TREATED THROUGH LIQUID PHASE CARBON PRIOR TO DISCHARGE. INFLUENT IRON CONCENTRATIONS WILL BE VERIFIED THROUGH FIELD SCREENING BY THE ENGINEER. THE ENGINEER SHALL COORDINATE PROVISIONAL IRON TREATMENT WITH THE CONTRACTOR IF DETECTED CONCENTRATIONS ARE ABOVE 5 MILLIGRAMS PER LITER (mg/L). TREATED EFFLUENT DETECTED CONCENTRATIONS WILL NOT EXCEED THE DAILY NPDES REPORTING LIMIT.

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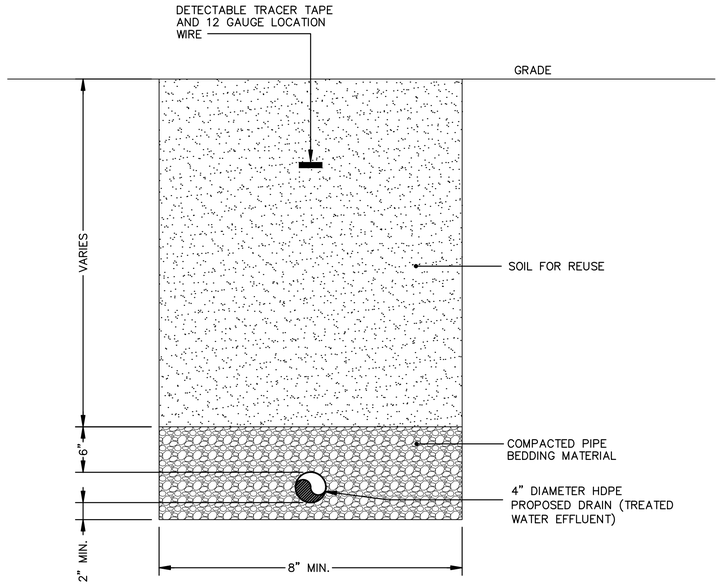
CSX TRANSPORTATION
ALLSTON, MASSACHUSETTS
REMEDIATION GENERAL PERMIT

EXCAVATION DEWATERING PROCESS FLOW DIAGRAM

ARCADIS

FIGURE
2

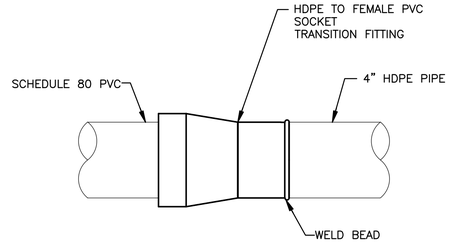


NOTES:

1. A MINIMUM OF 1% SLOPE SHALL BE MAINTAINED TO MANHOLE.
2. SOIL FOR REUSE TO BE REUSED WITH ENGINEER'S APPROVAL OR REPLACE WITH IMPORTED BACKFILL WHEN REQUIRED.
3. MATERIAL WILL BE PLACED IN 12 INCH LIFTS AND COMPACTED WITH 4 PASSES OF A VIBRATORY PLATE COMPACTOR OR EQUIVALENT. THE SURFACE WILL BE RESTORED WITH 6 INCHES OF CLEAN AGGREGATE.

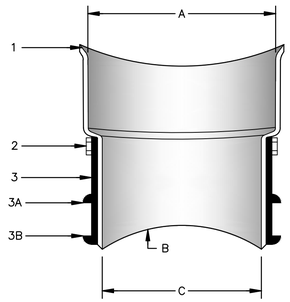
TRENCH DETAIL 1

NOT TO SCALE



SOCKET PIPE MATERIAL TRANSITION 2

NOT TO SCALE



MATERIALS:
PVC SDR 26 ASTM D3034
BAND SS #301
SCREW SS #305
HOUSING SS #301
ASTM F477

PART	PART NAME
1	HUB ADAPTOR
2	SECURING CLAMP
3	RUBBER SLEEVE (AVAILABLE IN NITRILE AND EPDM BY SPECIAL ORDER)
3A	UPPER SEGMENT
3B	LOWER SEGMENT
4	(NOT SHOWN) PIPE MANUFACTURER TO SUPPLY VALLEY GASKET

A. BELL END ACCEPTS CORRUGATED POLYETHYLENE; AND PVC, CORRUGATED PIPE OR EQUIVALENT O.D. SPECIFICATION IN 4".

B. CURVATURE VARIES WITH MAINLINE DIAMETERS.

C. SPIGOT END PVC SDR 35, ASTM D3034 DIAMETER: 4".

NOTES:

1. RECOMMENDED METHOD OF CUTTING HOLE IS WITH HOLE SAW FOR PVC AND OTHER PLASTICS, AND DIAMOND BIT FOR CONCRETES, CLAY, FRP AND D.I.
2. CONTRACTOR TO CONFIRM THE DIMENSIONS OF THE EXISTING 18" STORM DRAIN CONNECTED TO THE MASS DOT CONVEYANCE SYSTEM IN THE FIELD.

CORRUGATED BELL FOR FORCE MAIN APPLICATIONS 3

NOT TO SCALE

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CSX TRANSPORTATION
ALLSTON, MASSACHUSETTS
REMEDIATION GENERAL PERMIT

DETAILS AND NOTES

ARCADIS

FIGURE
3

CITY:SYRACUSE-NY DIV/GROUP:ENVCAD DB:G.STEINBERGER LD:G.STEINBERGER PIC:J.MADDALENA PM:J.BONSTEEL TM:R.ROBBENNOLT LYR:(Opt)ON=*;OFF=*REF*
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XREFS: IMAGES: PROJECTNAME: ---
DE634X00

Attachment 4: Discharge Locations

Site Discharge Locations

Allston Landing North | 100 Western Avenue | Allston MA, 02134

Site Location

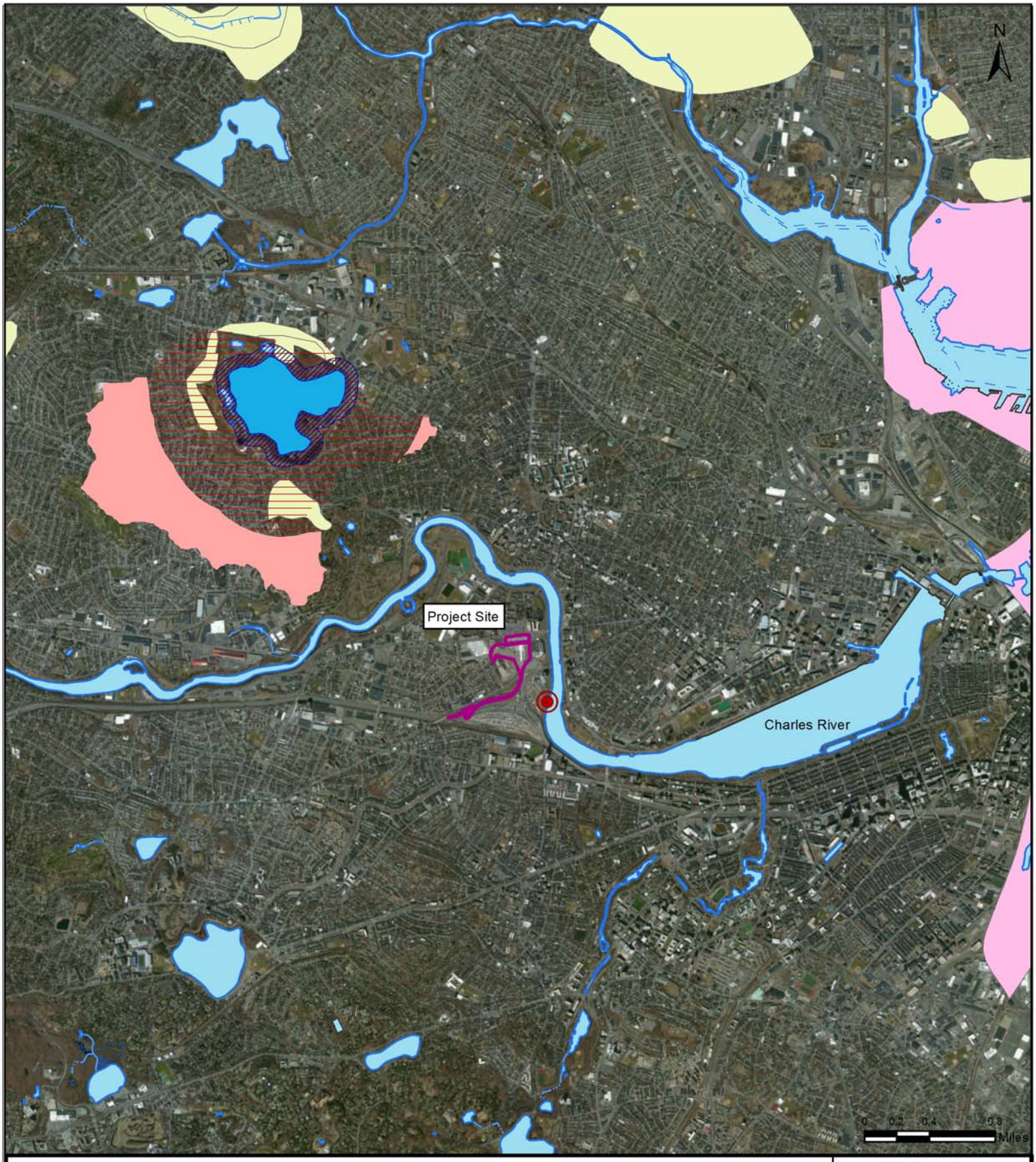
Legend

- Site Boundary
- Stormdrain
- Network Discharge Location
- Discharge to Surface Water
- Sewer Manhole

N

0 75 150 300 Feet

H:\CSX\Allston_MA\Romar_NOI\Discharge Site Map.mxd March 24, 2014 DWN: KE CHKD: DA



Surface Waters

Allston Landing North | 100 Western Avenue | Allston MA, 02134

Legend

- Discharge to Surface Water
- Site Boundary
- Stream / River
- Pond/Lake/River/Ocean
- Reservoir
- Tidal Flat / Submerged Wetland

Surface Water Protection Areas

- Zone A
- Zone B
- Zone C

- Coastal Zone
- Drinking Water Source Areas

Site Location

H:\CSX\Allston_MA\Romar_NOI\Romar_Surface Waters.mxd March 24, 2014 DWN: KE CHKD: DA

Attachment 5: Best Management Practice Plan

Best Management Practices Plan

This Best Management Practices Plan (BMPP) has been prepared as an Attachment to the NPDES RGP for environmental remediation work to be conducted at 100 Western Ave in Allston MA. This BMPP will be posted at the site for the duration of discharge activities covered under the RGP.

Water Treatment and Management

Excavation dewatering will be conducted using a combination of drainage ditches and sumps located inside the excavations. The untreated water will be piped to a frac tank which will flow to the treatment system for treatment. The treated effluent will then be routed to the Massachusetts Department of Transportation (MassDOT) manhole within Ramp D of the Massachusetts Turnpike. This structure is then routed through a network which eventually discharges into Charles River.

Discharge Monitoring and Compliance

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

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

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 dewatering as needed.

Monthly monitoring reports will be compiled and maintained on site.

System Maintenance

A number of methods will be used to minimize the potential for discharge limit exceedances for the term of this permit. Scheduled regular maintenance of the treatment system will be

conducted to verify proper operation. Regular maintenance will include checking the condition of the treatment system equipment such as the sedimentation tank, bag filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues or unscheduled maintenance requirements.

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

Miscellaneous Items

It is anticipated that the excavation support system, erosion control measures, and the nature of the site and surrounding infrastructure will minimize potential runoff 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 of the site. No adverse affects of designated water uses of surrounding surface water bodies is anticipated.

Management of Treatment System Materials

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

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

Attachment 6: MassDOT Permit Applications

massDOT
Massachusetts Department of Transportation
Highway Division

Application for Permit to Access State Highway

This Access Permit Application, including the attached Access Permit Submittal Checklist, must be completed in full by the Applicant. Instructions for this page are located on page 2. Descriptions of the two types of access permits and related categories are located on page 6. MassDOT will make the final determination regarding Access Permit Application type and category.

1. **Town/City:** Allston
2. **State Highway route number and/or name:** Massachusetts Turnpike, Interchange 18, Ramp D
3. **Locus/Property Address:** 100 Western Avenue Allston MA (see attached Figure)
4. **Description of property and/or facility for which access is sought** (attach additional sheets if necessary):
   23 acre industrial/commercial property adjacent to the access ramp of the Mass Pike in Allston MA.
5. **Description of work to be performed within State Highway Layout** (attach additional sheets if necessary):
   Environmental remediation under the Massachusetts Contingency Plan (MCP) and the Environmental Protection Agency (RGP) proposed for groundwater and soil impacts within the site. Treated groundwater proposed to be discharged to MassDOT drain manhole within Ramp D of the Mass Pike.
   ☐ **Telecommunications** (wireless or wireline) or **Renewable Energy** (Solar, Wind, etc) – Agreement Process and OREAD* coordination required. (*see pg 2 Instruction)
6. **Dig Safe number:** will be performed prior to work
7. **Applicant Information** [1] (See footnote below.)

   Name: CSX Transportation, Inc.
   Mailing Address: One Bell Crossings
   Selkirk, NY 12158
   Telephone: (518) 767-6049
   Fax:
   E-Mail: william_parry@csx.com
   Signature:
   Print Name: William Parry
   Date: March 28, 2014

8. **Property Owner**

   Name:
   Mailing address:
   Telephone:
   Fax:
   E-Mail:
   Signature:
   Print Name:
   Date:

Return completed application, including Submittal Checklist, to the District Highway Director for your town/city. Refer to reverse side for appropriate address.

For office use only. Do not write below this line.

1. Application number:
2. Date received:
3. Fee amount (non-refundable) :
4. Completeness Pre-Review date:
5. MEPA required (yes or no):
   ENF-EOEEA Cert. #
   EIR-EOEEA Cert. #
   Other-EOEEA Cert. #
6. Section 61 Finding date:
7. Mass. Historic Action (yes or no):
8. Plans returned to DHD:
9. Permit Type/Category:
10. Application complete date:
11. Permit written date:
12. Permit issued date:
13. Permit denied:
14. Permit Recording date at Registry of Deeds

[1] If an agent is representing an Applicant, the application must include a notarized letter from the Applicant outlining the specified duties and responsibilities of the agent. Where work is proposed on a utility, the utility department must sign the application as the Applicant(s).

Instructions for Completing
Application for Permit to Access State Highway

General Instructions

MassDOT's Highway Division is granted authority to issue **State Highway Access** Permits by M.G.L. Chapter 81, Sec. 21. MassDOT adopted 720 CMR 13.00 under the authority of M.G.L. c. 81, § 21 and M.G.L. c.85 §2. 720 CMR 13.00 supersedes the Standard Operating Procedures for Review of State Highway Access Permits dated November 30, 1971, and board vote of September 17, 1991.

ACCESS is generally defined, but not limited to:
Any physical work performed within the State Highway Layout.

This Application governs issuance of the two types of access permit Applications, Non-Vehicular and Vehicular, which are issued under three categories:

Category I	Minor Vehicle Access Permits
Category II	Major Vehicular Access Permits
Category III	Complex Vehicular Access Permits

Please refer to the **MassDOT Highway Access Permit Submittal Checklist** for details regarding permit types and submittals required.

FEES:
A Check payable to **MassDOT** for the appropriate permit application fee must accompany the permit application. Fees are non-refundable.

Fee schedule for access and Utility Payments:

Residential Access Permits

5 Units or less	$25.00
From 6 to 49 Units	$100.00
Greater than 49 Units	$2000.00

Non-Residential Access Permits

Less than 25,000 square feet	$500.00
From 25,000 to 300,000 square feet	$1000.00
From 300,000 to 750,000 square feet	$2000.00
Greater than 750,000 square feet	$3000.00

Non-Municipal Utility Permits not in conjunction With Access Permits:

Annual blanket utility permit	$500.00
Capital improvements to a utility	$500.00

Specific Instructions (print or type)

Line 1:
List name of municipality in which access is sought.

Line 2:
List name or number of State Highway Route(s) to which access is sought.

Line 3:
List Locus/Property address.

Line 4:
Describe property and/or facility. If access is sought under Category II above, briefly describe facility for which access is sought,

> ***Example 1:*** Private single family residence at 100 State Road. Approximate size of proposed building 2,500 s.f. Approximate lot size 0.75 acres.
>
> ***Example 2:*** 500,000 s.f. enclosed shopping mall adjacent to State Route I-290 and Route 20. Approx. lot size 67 acres.

Line 5:
Briefly describe the proposed work to be performed within the State Highway Layout.
*Office of Real Estate and Development (**OREAD**)

> ***Example 1:*** Remove 50 feet of existing granite curb on south side of highway in order to construct driveway access and modify the roadway geometry to accommodate left-hand turn.
>
> ***Example 2:*** Excavate 10 foot x 10 foot section of roadway at Station 100+00 in westbound lane in order to install water service to residence at 100 State Street.

Line 6:
A Dig Safe number must be provided if the work will commence within 30 days of the filing of the permit. **NOTE:** A Dig Safe number must be obtained by calling **1-888-DIG-SAFE** (1-888-344-7233). If construction within the State Highway Layout does not commence within the period allowed by Dig Safe, a new number must be obtained prior to beginning construction. (www.digsafe.com)

Line 7:
Individual or business making application must complete the required information, including application date and signature.

Line 8:
Complete this section only if the individual or business making application is other than the property owner of the land for which the permit applies.

Return completed application, submittal checklist and fee to appropriate District Office listed below. Please contact the Permit Engineer at this address if additional information is required.

District One
270 Pittsfield Road
Lenox, MA 01240
Tel. (413) 637-5700
Fax. (413) 637-0309

District Two
811 North King Street
Northampton, MA 01060
Tel. (413) 582-0599
Fax. (413) 582-0596

District Three
403 Belmont Street
Worcester, MA 01604
Tel. (508) 929-3800
Fax. (508) 799-9763

District Four
519 Appleton Street
Arlington, MA 02174
Tel. (781) 641-8300
Fax. (781) 646-5115

District Five
1000 County Street
Taunton, MA 02780
Tel. (508) 824-6633
Fax. (508) 880-6102

District Six
185 Kneeland Street
Boston, MA 02111
Tel. (857) 368-6100
Fax. (857) 368-0106

Highway Division Website:

www.massdot.state.ma.us/highway

Access Permit Submittal Checklist

GREY: DOT USE ONLY

This checklist provides the Applicant with a list of required submittals to obtain an Access Permit. However, additional submittals may be required to issue an Access Permit. All Applicants must fill out Part A and one additional part that correlates to the selected application type. To help identify the application type, please see the descriptions on page 6. Check each box that pertains to your application. MassDOT will make the final determination regarding Access Permit Application type and category.

PART A: ALL APPLICANTS MUST FILL OUT

1. APPLICATION TYPE – CHECK ONE

☐ **NON-VEHICULAR:**

- ■ Non-Vehicular – Fill out Part B

☐ **VEHICULAR**

- ☐ **Category I** – Minor Vehicle Access Permits: Fill out Part C-1
- ☐ **Category II** – Major Vehicle Access Permits: Fill out Part C-1 and Part C-II
- ☐ **Category III** – Complex Vehicle Access Permits: Fill out Part C-1 and Part C-III

2. APPLICATION TYPE (Check all applicable boxes)

- ☐ Application Complete
- ☐ Permit corresponds to appropriate MassDOT District
- ☐ Non-refundable check or money order on correct amount payable to: **MassDOT**
- ☐ Evidence certifying property owner(s) consent
- ☐ Notarized Applicant Letter outlining agent's duties and responsibilities (if applicable)
- ☐ Utility department sign-off as the Applicant(s) (if applicable)

PART B: NON-VEHICULAR PERMITS

☐ **IF NO PHYSICAL MODIFICATION** *to state highway layout – i.e. parade, road race, traffic counts, etc.*

Required submittals:

- ☐ Map of route
- ☐ Traffic Management Plan (designed in accordance with the Road Flagger & Police Regulations: 701 CMR 7.00)
- ☐ Detour Plan(s) with municipal approval (if applicable)

☐ **IF DRAINAGE:**

- ■ If requesting connection or discharge to any MassDOT drainage system, contact District Personnel for additional information regarding required submittals.

☐ **IF CONSTRUCTION, RELOCATION OR REPAIR OF UTILITIES:**

Required submittals:

- ☐ **EXISTING PROJECT:** reference(s) to the documents and plans already filed with MassDOT for the affected project
- ☐ **NEW PROJECT/UTILITY WORK:**

Required submittals:

- ☐ Engineered Plan(s) including method of crossing Highway
- ☐ Traffic Management Plan (if applicable)
  (Designed in accordance with the Road Flagger & Police Regulations: 701 CMR 7.00)
- ☐ Detour Plan(s) with municipal approval (if applicable)
- ☐ Tree Cutting or Landscaping Plan (if applicable)
- ☐ Vegetative Plan including plant species and maturity size (if applicable)
- ☐ Blasting Plan (contact District Personnel for additional information)

GREY: DOT USE ONLY

PART C-I: VEHICULAR PERMITS

CATEGORY I – Minor Vehicular Access Permits

Required submittals:

- ☐ ☐ Engineering Plans
- ☐ ☐ ENF - (Environmental Notification Form) Certificate (if applicable)

IF RESIDENTIAL DRIVEWAY:

- ☐ ☐ Detailed plan/sketch showing the drive location in relation to the property lines, MassDOT baselines, distance from nearest mile marker, and an easily identifiable fixed object (distance from telephone poles, mail boxes, other drives, etc.).
- ☐ ☐ If severe topographic conditions exist, an engineered plan showing the driveway layout, profile and storm water management may be necessary to show that the edge of the proposed drive is protected during and after construction to prevent sediment and debris from entering upon the State Highway Layout (SHLO).

IF COMMERCIAL DRIVEWAY: (where no MEPA review is required)

Required submittals:

- ☐ ☐ Two (2) 40 scale plans that include:
  - ☐ A. Route Number, Road Name, Property Address
  - ☐ B. Property Corners and Bounds
  - ☐ C. Lot Line Dimensions, Bearings and Distances
  - ☐ D. State Highway Layout Lines (both sides) and Nearest Massachusetts Highway Bounds (if found).
  - ☐ E. State Highway Baseline and both edges of roadway including any sidewalks and type of edging, if any, and shoulder information (grass, gravel etc.).
  - ☐ F. Any existing drive to be altered or closed shall be indicated. Existing and proposed dimensions should be included for altered drives.
  - ☐ G. Information on all proposed drives including radii, widths, handicap ramps, etc. must be shown.
  - ☐ H. All existing and proposed buildings, utilities, trees, stonewalls, fences etc., should be labeled and shown in their correct location.
  - ☐ I. It is required that all stands, buildings, gasoline pumps and structures of any kind be placed at least 12 feet back from the State Highway Layout Line, since conducting of business within a State Highway Layout is forbidden.
  - ☐ J. Complete detail on drainage; all drives should be constructed on a downgrade from the edge of the highway surface or shoulder to the State Highway Layout Line.
  - ☐ K. Engineered plans will be required to show that storm flows are not directed into the SHLO, using contour lines, where applicant/owner property elevations are raised from the edge of the highway.
  - ☐ L. The plans should identify measures to protect the edge of the proposed drive during and after construction to prevent sediment and debris from entering upon the SHLO.

IF NEW STREET / SUBDIVISION ROAD:

Minor Intersection and Roadway Reconstruction (where no MEPA review is required)

Required submittals:

- ☐ ☐ All Commercial Driveway requirements (above) apply in addition to the following: Evidence of acceptance, including its line, grade and proposed drainage, by a local planning board, or other City of Town official with such authority.
- ☐ ☐ A street/road profile from its nearest high point and plan of drainage.

Please be advised:

- It will be required that all such future street approaches be constructed on a downgrade, where possible, from the edge of highway surface or shoulder to the State Highway Layout Line.
- Common driveway criteria may apply and must be shown on plans as mentioned above.

GREY: DOT USE ONLY

PART C-II: VEHICULAR PERMITS

CATEGORY II – Major Vehicular Access Permits

Required submittals:

☐ ☐ Engineering Plans based on the standards in the Manual On Uniform Traffic Control Devices (MUTCD), MassDOT's Project Development & Design Guide or its successor, MassDOT's Standard Specifications for Highway and Bridges, and any current technical policies or engineering directives Issued by MassDOT. All PS&E design submissions must be both in hard copy (one set) and electronic format. Electronic format includes PDF files transmitted to DHD or designee via USB Flash Drive, CD or posted to a FTP site.

☐ ☐ In cases where a proposed access is to be shared by multiple development sites, the Applicant(s) will provide evidence of the rights of access between the parties involved prior to the issuance of the Access Permit.

☐ ☐ MEPA Certificate

☐ ☐ Section 61 Finding

PART C-III: VEHICULAR PERMITS

CATEGORY III – Complex Vehicular Permits

Required submittals:

☐ ☐ Engineering Plans based on the standards in the Manual On Uniform Traffic Control Devices (MUTCD), MassDOT's Project Development & Design Guide or its successor, MassDOT's Standard Specifications for Highway and Bridges, and any current technical policies or engineering directives Issued by MassDOT. All PS&E design submissions must be both in hard copy (one set) and electronic format. Electronic format includes PDF files transmitted to DHD or designee via USB Flash Drive, CD or posted to a FTP site.

☐ ☐ In cases where a proposed access is to be shared by multiple development sites, the Applicant(s) will provide evidence of the rights of access between the parties involved prior to the issuance of the Access Permit.

☐ ☐ MEPA Certificate

☐ ☐ Section 61 Finding

Recording of Access Permits

Applicants must record any Vehicular Access Permit and plans or any Non-Vehicular Access Permit and plans involving drainage at the appropriate Registry of Deeds. Any Permit issued by MassDOT that requires recording will not be effective until recorded at the appropriate Registry of Deeds and a notice of recording is submitted to the District Highway Director (DHD). Changes may require the re-recording of permits and related documents. In those cases, permits will not be effective until re-recorded at the Registry of Deeds and a notice of recording is submitted to the DHD.

THERE ARE TWO TYPES OF ACCESS PERMIT APPLICATIONS: VEHICULAR, ISSUED UNDER THREE CATEGORIES & NON-VEHICULAR:

1. VEHICULAR ACCESS PERMITS:

Category I – Minor Vehicular Access Permits:
Access Permits for Projects that require entry to the State Highway Layout (SHLO), require little to no non-signalized modifications, and do not significantly alter the operating characteristics of traffic. These Projects ordinarily do not exceed the Massachusetts Environmental Policy Act (MEPA) transportation thresholds beyond the filing of an Environmental Notification Form (ENF).

Category II - Major Vehicular Access Permits:
Access Permits for Projects that require significant non-signalized modifications that may alter the operating characteristics of traffic at residential or commercial driveway intersecting with the SHLO; that require significant non-signalized modifications that may alter the operating characteristics of traffic at or upon any other intersection or roadway under the jurisdiction of MassDOT; that require the installation of a new traffic signal at a residential or commercial driveway intersecting with the SHLO or at any other intersection or roadway under the jurisdiction of MassDOT; or that require modification of structures, equipment, or hardware at an existing traffic signal at a residential or commercial driveway and its intersection with the SHLO or at any other intersection or roadway under the jurisdiction of MassDOT.

Category III – Complex Vehicular Permits
Access Permits for Complex Projects requiring actions similar to major Projects, but which require a new or altered SHLO; that require significant non-signalized and/or signalized modification within the SHLO over an extended distance or at a number of intersections that significantly alters the operating characteristics of traffic along a corridor; or that require the construction of a new, or modifications to an existing, bridge. These Projects generally require MEPA review and may require Federal review.

2. NON-VEHICULAR ACCESS PERMITS:

Access Permits for Projects that require access to the SHLO that do not involve physical modifications such as a parade or road race; construction, relocation or repair of utilities within the SHLO; tree cutting or landscaping within the SHLO; the use of explosives to remove material from within 250 feet of the SHLO; or connection to or discharge to any MassDOT drainage system (in cases where it can be shown that no practical alternative exists).

CONDITIONS REQUIRING AN ACCESS PERMIT

Vehicular Access Permits are required for:
- New residential or commercial driveways or streets intersecting the SHLO; or,
- Physical modifications to existing residential or commercial driveways or streets at their intersection with the SHLO; or,
- Change in use of an existing residential or commercial driveway onto SHLO that results in a **Substantial Increase in or Impact on Traffic** (as defined below) over the current use; or
- Construction of new or change in use of existing, residential or commercial driveway from properties that abut the SHLO to serve a building or facility, or expansion of a building or facility, that generates a Substantial Increase in or Impact on Traffic.

Substantial Increase in, or Impact on, Traffic as referenced above is defined as:
A Project that meets or exceeds any of the following thresholds:
(i) Generation of 2,000 or more new ADT on roadways providing access to a single location; or,
(ii) Generation of 1,000 or more new ADT on roadways providing access to a single location and construction of 150 or more new parking spaces at a single location; or,
(iii) Construction of 300 or more new parking spaces at a single location; or
(iv) Creation of a change in the type, pattern, or timing of traffic that is determined by MassDOT to generate a significant impact on traffic flow and safety.

Non-vehicular Access Permits are required for:
- Access to the SHLO for Projects that do not involve physical modifications; or
- Connection to or discharge to any MassDOT drainage system (in cases where it can be shown that no practical alternative exists); or
- Construction, relocation or repair of utilities within the SHLO; or
- Tree cutting or landscaping within the SHLO; or
- The use of explosives to remove material from within 250 feet of the SHLO.

In cases where a particular Project or activity may seek both vehicular and non-vehicular access, separate and distinct Permit Applications must be filed.

Attachment 7: National Register of Historic Places and Massachusetts Historical Commission Documentation

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

April 18, 2014

Danielle Ahern
AMEC
271 Mill Rd.
Chelmsford, MA 01824

RE: Allston Landing North Environmental Remediation, Boston (Allston) MA; MHC# 55733

Dear Ms. Ahern:

Staff of the Massachusetts Historical Commission (MHC) have reviewed the information you submitted, received at this office on March 20, 2014, concerning the proposed project referenced above

The proposed project work involves the excavation of soils at the CSX property located at 100 Western Avenue in Allston for environmental remediation.

After review of MHC files and the materials submitted, MHC staff have determined that the proposed project is unlikely to affect significant historic or archeological resources at the project site. In addition, the proposed project will not affect the Charles River Basin Historic District, which is located nearby.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act (36 CFR 800) and Massachusetts General Laws, Chapter 9, ss. 26-27C (950 CMR 71.00). If you have any additional questions, please feel free to contact me.

Sincerely,

Brona Simon
State Historic Preservation Officer
Executive Director
Massachusetts Historical Commission

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128
www.sec.state.ma.us/mhc

APPENDIX A
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Allston Landing North

Location / Address: 100 Western Ave

City / Town: Allston MA

Project Proponent

Name: CSX Transportation Inc.

Address: One Bell Crossing

City/Town/Zip/Telephone: Selkirk NY 12158 (518) 767-6049

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name	Type of License or funding (specify)
U.S. Environmental Protection Agency	NPDES Construction General Permit
U.S. Environmental Protection Agency	NPDES Remediation General Permit
City of Boston	Various Local Permits

No State or federal agency funding will be involved

Project Description (narrative):

The proposed work consists of environmental remediation conducted through conformance with the Massachusetts Contingency Plan (MCP) for the remediation of groundwater and soil impacts.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

No.

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

No, the project does not include the rehabilitation of any existing buildings.

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

No, the project does not include new construction.

APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

No, there are no historic or archaeological properties known to exist within the project area of potential impact

What is the total acreage of the project area?

Woodland	0 acres	Productive Resources:	
Wetland	0 acres	Agriculture	0 acres
Floodplain	0 acres	Forestry	0 acres
Open space	0 acres	Mining/Extraction	0 acres
Developed	22 acres	Total Project Acreage	22 acres

What is the acreage of the proposed new construction? NA acres

What is the present land use of the project area?

The present land use of the site is Industrial/Commercial

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

A USGS Site Location map clearly showing the project location is included in Attachment B as Figure 1

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form: danielle.ahern@amec.com Digitally signed by danielle.ahern@amec.com DN: cn=danielle.ahern@amec.com Date: 2014.03.18 16:04:16 -04'00' Date: 3/18/2014

Name: Danielle Ahern

Address: 271 Mill Road

City/Town/Zip: Chelmsford MA 01824

Telephone: (978) 392-5302

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

Attachment A

Project Description and MACRIS Summary

CSX Transportation, Inc.
Allston Landing North Environmental Remediation Project
Allston, Massachusetts

Allston Landing North Environmental Remediation Project
Allston, Massachusetts

Project Description

CSXT intends to perform environmental remediation for impacted soil and groundwater at the site. The coordinates for the approximate center of the site are 71.1224 degrees west, 42.3625 degrees north (UTM N 4692208 and E 325225). The site refers to the 21.82 acre parcel as shown in the attached aerial photo and USGS map (Figures 1 and 2, respectively). The proposed work consists of groundwater remediation through a directed groundwater recirculation in conjunction with an electrical resistance heating system. Soil impacts are proposed to be remediated through excavation.

The entire site has been previously developed and almost entirely paved as shown in Figure 2. Historic use of the site has been a mix of commercial and industrial. Based on historical figures, rail operations started between 1950 and 1964. The site is currently vacant and surrounded by chain link fence that varies in height from 8-feet to 10-feet. At the time of the initial investigation, the site contained four occupied structures: a main warehouse building on the eastern side, a smaller warehouse building (Hillery Building) on the western side, a small building in the southwest corner (O. B. Hill), and a guard shack in the north central area.

Figures 1 and 2 are contained in Attachment B. Site photographs are included in Attachment C.

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Allston; Street Name: Western Ave; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
BOS.9331	Western Avenue Bridge	Western Ave	Boston	1924
BOS.8342	Ted's Diner	270 Western Ave	Boston	1953
BOS.8343	Sewall and Day Cordage Company	342 Western Ave	Boston	1885
BOS.8344	Engine House #34	444 Western Ave	Boston	1887
BOS.8345	Stanley Service Station	500 Western Ave	Boston	1938

Attachment 8: Endangered Species Act Eligibility and Supporting Information

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

January 7, 2014

To Whom It May Concern:

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

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

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

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

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

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

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

Revised 10/7/2011

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
November 2010

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

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

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

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

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

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

Ellisville Harbor
(600 acres, 1980) Plymouth

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

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

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

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

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

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

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

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

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

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

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

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

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

Pocasset River
(160 acres, 1980) Bourne

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

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

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

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

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

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

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

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

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

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

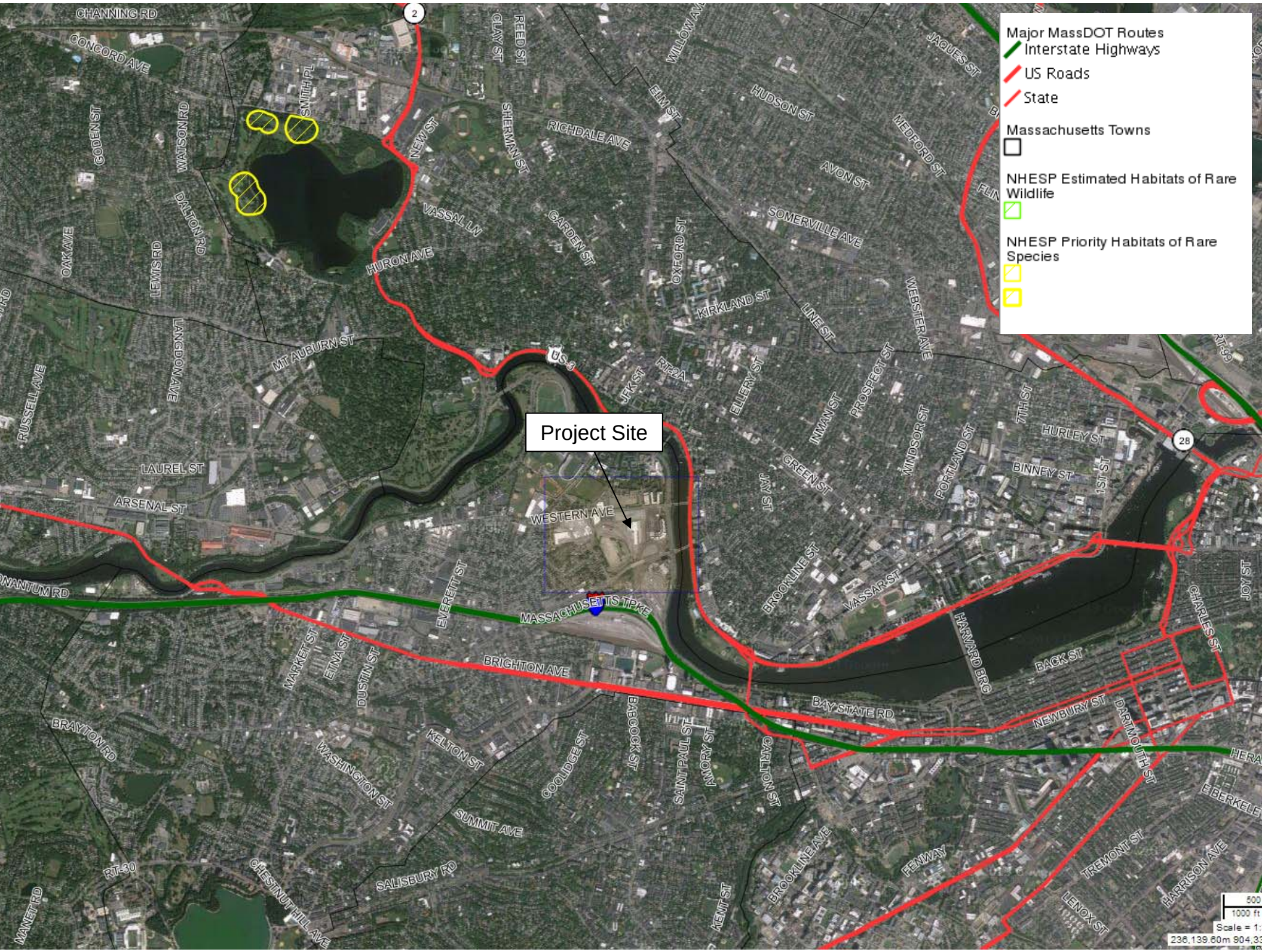
ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether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

Towns with ACECs within their Boundaries — November 2010

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

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

.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Interstate Highways
US Roads
State
Massachusetts Towns
NHESP Estimated Habitats of Rare Wildlife
NHESP Priority Habitats of Rare Species
Project Site
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CONCORD AVE
GODDARD ST
WALDSTEIN RD
SMITH PL
REED ST
CLAY ST
WILLOW AVE
NEW ST
SHERMAN ST
RICHDALE AVE
ELM ST
HUDSON ST
JAQUES ST
MEDFORD ST
AVON ST
SOMERVILLE AVE
VASSAL LN
GARDEN ST
OXFORD ST
HURON AVE
OAK AVE
LEWIS RD
DALTON RD
LANGDON AVE
RUSSELL AVE
MT AUBURN ST
US-3
RT-2A
JFK ST
KIRKLAND ST
LINE ST
WEBSTER AVE
ELLERY ST
INMAN ST
PROSPECT ST
WINDSOR ST
7TH ST
HURLEY ST
BINNEY ST
1ST ST
PORTLAND ST
GREEN ST
JFK ST
LAUREL ST
ARSENAL ST
WESTERN AVE
BROOKLINE ST
VASSAR ST
HARVARD BRG
CHARLES ST
JOY ST
BACK ST
NEWBURY ST
DARTMOUTH ST
BAY STATE RD
MASSACHUSETTS TPKE
EVERETT ST
MARKET ST
ETNA ST
DUSTIN ST
BRIGHTON AVE
BABCOCK ST
SAINT PAUL ST
AMORY ST
CARLTON ST
BRAYTON RD
WASHINGTON ST
KELTON ST
COOLIDGE ST
SUMMIT AVE
RT-30
CHESTNUT HILL AVE
SALISBURY RD
MANET RD
KENT ST
BROOKLINE AVE
FENWAY
TREMONT ST
LENOX ST
HARRISON AVE
E BERKELEY
28
2
500
1000 ft
Scale = 1:
236,139.60m 904.33

Attachment 9: 7Q10 Calculation and Supporting Information

Memo

To: Rich Niles

From: Michael Stevens **CC:** **Danielle Ahern**

Date: March 31, 2014

Subject: 7Q10 discharge for the Charles River @ Cambridge, Massachusetts

This memo details the calculation for the 7Q10 discharge for the Charles River at Cambridge, Massachusetts.

Available Data

- The nearest USGS stream flow gage to the Cambridge site is USGS 01104615 (Charles River above Watertown Dam at Watertown, Massachusetts). The gage recorded daily average discharge from August 19, 1999 to September 30, 2000. Since the period of record is barely over a year, there is insufficient data to calculate the 7Q10 discharge. However, the limited data can be used to interpolate the discharges from upstream gages.
- The next closest USGS stream flow gage is USGS 01104500 (Charles River at Waltham, Massachusetts). This gage has recorded daily average discharge from August 4, 1931 to the present day. The upstream basin has been significantly affected by flow regulation by various flood control structures, with the last major upstream change occurring in 1960.

Methods

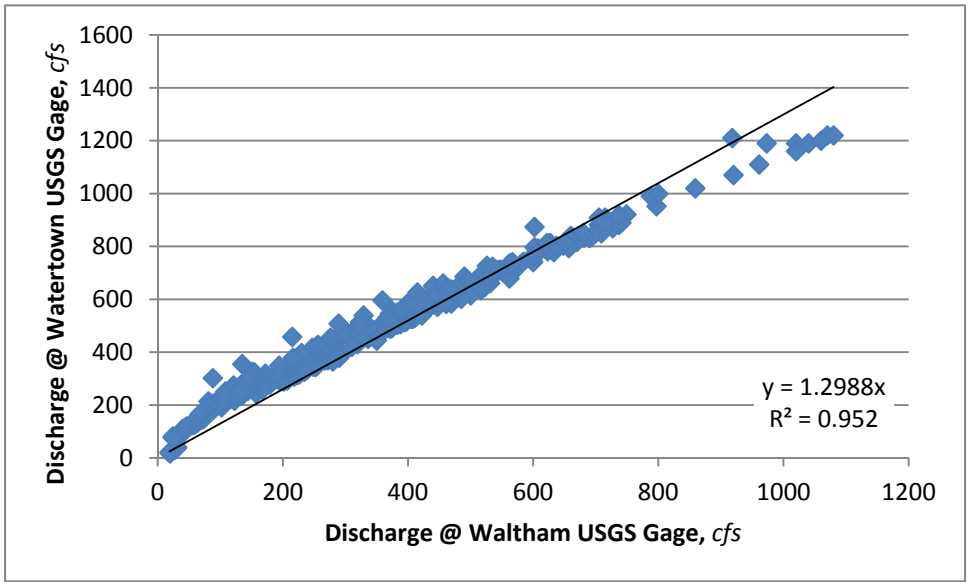
Methods for developing the 7Q10 were taken from the USGS Scientific Investigations Report 2008-5126 (http://pubs.usgs.gov/sir/2008/5126/section3.html), and are summarized below:

- Using daily average streamflow data, calculate the 7-day average flow for the entire period of record.
- Determine the minimum 7-day average flow for the climatic year (April 1 – March 31).
- Perform a log-Pearson Type III statistical analysis on the yearly 7-day average minimums. The PeakFQ program developed by the USGS was used to perform this analysis.

The daily average streamflow data was obtained from the USGS web site for the Waltham and Watertown gages. Since the last major upstream change in the Charles River basin occurred in 1960, all data prior to 1960 was omitted from this analysis. For the remaining data, 7-day averages were calculated and the annual minimums were extracted for each climatic year from 1960 to 2012. These minimums were then used with the PeakFQ program to obtain the 7Q10 discharge.

The gage transposition analysis was performed by taking the available discharges for the Watertown gage and comparing them to the discharges at the Waltham gage. Both gages were graphed with the Waltham gage discharges on the x-axis and the Watertown gage discharges on the y-axis. A linear regression equation was used to determine the relationship, as shown in Chart 1.

Chart 1: Relationship between discharge at the Waltham USGS gage and the Watertown USGS gage



After developing the relationship between the two gages, the 7Q10 discharge was adjusted for the Watertown gage.

Results

After performing the PeakFQ analysis, the 7Q10 discharge for the USGS at Waltham, Massachusetts was estimated to be 17.5 cfs. This value is slightly higher than the 7Q10 value of 14.3 cfs at the Waltham gage, as published in the USGS Water Resources Investigations Report 88-4173, revised 1991. The apparent increase in the 7Q10 value is likely attributed to changes in the drainage basin and additional gage data since 1981 (over 33 years).

Using the available USGS gage data at the Waltham and Watertown gages, it was estimated that 1 cfs at the Waltham gage corresponded to approximately 1.2988 cfs at the Watertown gage. Thus, a 7Q10 value of 17.5 cfs at the Waltham gage would correspond to a 22.7 cfs value at the Watertown gage.

Detailed calculations for this analysis follow this memo.

```
# ---------------------------------- WARNING ----------------------------------------
# The data you have obtained from this automated U.S. Geological Survey database
# have not received Director's approval and as such are provisional and subject to
# revision.  The data are released on the condition that neither the USGS nor the
# United States Government may be held liable for any damages resulting from its use.
# Additional info: http://waterdata.usgs.gov/nwis/?provisional
#
# File-format description:  http://waterdata.usgs.gov/nwis/?tab_delimited_format_info
# Automated-retrieval info: http://waterdata.usgs.gov/nwis/?automated_retrieval_info
#
# Contact:   gs-w_support_nwisweb@usgs.gov
# retrieved: 2014-03-23 22:41:41 EDT       (vaww01)
#
# Data for the following 1 site(s) are contained in this file
#    USGS 01104615 CHARLES RIVER ABOVE WATERTOWN DAM AT WATERTOWN, MA
# -----------------------------------------------------------------------------------
#
# Data provided for site 01104615
#    DD parameter statistic   Description
#    02   00060     00003     Discharge, cubic feet per second (Mean)
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# Data-value qualification codes included in this output:
#     A  Approved for publication -- Processing and review completed.
#     e  Value has been estimated.
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USGS	1104615	3/8/2000	668	A	525
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USGS	1104615	3/10/2000	602	A	468
USGS	1104615	3/11/2000	634	A	475
USGS	1104615	3/12/2000	797	A	602
USGS	1104615	3/13/2000	770	A	601
USGS	1104615	3/14/2000	758	A	599
USGS	1104615	3/15/2000	753	A	599
USGS	1104615	3/16/2000	750	A	597
USGS	1104615	3/17/2000	909	A	715
USGS	1104615	3/18/2000	887	A	721
USGS	1104615	3/19/2000	863	A	706
USGS	1104615	3/20/2000	850	A	698
USGS	1104615	3/21/2000	833	A	681
USGS	1104615	3/22/2000	818	A	666
USGS	1104615	3/23/2000	818	A	670
USGS	1104615	3/24/2000	804	A	655
USGS	1104615	3/25/2000	779	A	633
USGS	1104615	3/26/2000	741	A	600

USGS	1104615	3/27/2000	704	A	568
USGS	1104615	3/28/2000	909	A	705
USGS	1104615	3/29/2000	921	A	749
USGS	1104615	3/30/2000	883	A	726
USGS	1104615	3/31/2000	880	A	731
USGS	1104615	4/1/2000	882	A	737
USGS	1104615	4/2/2000	869	A	727
USGS	1104615	4/3/2000	850	A	709
USGS	1104615	4/4/2000	864	A	713
USGS	1104615	4/5/2000	832	A	690
USGS	1104615	4/6/2000	794	A	657
USGS	1104615	4/7/2000	679	A	562
USGS	1104615	4/8/2000	572	A	447
USGS	1104615	4/9/2000	707	A	544
USGS	1104615	4/10/2000	661	A	531
USGS	1104615	4/11/2000	653	A	524
USGS	1104615	4/12/2000	648	A	523
USGS	1104615	4/13/2000	640	A	518
USGS	1104615	4/14/2000	635	A	516
USGS	1104615	4/15/2000	615	A	500
USGS	1104615	4/16/2000	602	A	485
USGS	1104615	4/17/2000	584	A	469
USGS	1104615	4/18/2000	539	A	422
USGS	1104615	4/19/2000	579	A	433
USGS	1104615	4/20/2000	583	A	461
USGS	1104615	4/21/2000	686	A	490
USGS	1104615	4/22/2000	1210	A	918
USGS	1104615	4/23/2000	1190	A	973
USGS	1104615	4/24/2000	1190	A	1020
USGS	1104615	4/25/2000	1190	A	1040
USGS	1104615	4/26/2000	1220	A	1070
USGS	1104615	4/27/2000	1220	A	1080
USGS	1104615	4/28/2000	1200	A	1060
USGS	1104615	4/29/2000	1160	A	1020
USGS	1104615	4/30/2000	1110	A	961
USGS	1104615	5/1/2000	1070	A	920
USGS	1104615	5/2/2000	1020	A	859
USGS	1104615	5/3/2000	952	A	797
USGS	1104615	5/4/2000	890	A	741
USGS	1104615	5/5/2000	842	A	696
USGS	1104615	5/6/2000	803	A	648
USGS	1104615	5/7/2000	761	A	599
USGS	1104615	5/8/2000	724	A	560
USGS	1104615	5/9/2000	703	A	540
USGS	1104615	5/10/2000	727	A	526
USGS	1104615	5/11/2000	791	A	606
USGS	1104615	5/12/2000	738	A	565
USGS	1104615	5/13/2000	711	A	541
USGS	1104615	5/14/2000	735	A	562
USGS	1104615	5/15/2000	712	A	546
USGS	1104615	5/16/2000	696	A	534
USGS	1104615	5/17/2000	665	A	505
USGS	1104615	5/18/2000	643	A	481
USGS	1104615	5/19/2000	606	A	424
USGS	1104615	5/20/2000	546	A	371
USGS	1104615	5/21/2000	543	A	374
USGS	1104615	5/22/2000	538	A	371
USGS	1104615	5/23/2000	564	A	391
USGS	1104615	5/24/2000	660	A	456
USGS	1104615	5/25/2000	650	A	480
USGS	1104615	5/26/2000	625	A	461
USGS	1104615	5/27/2000	605	A	440

USGS	1104615	5/28/2000	591	A	428
USGS	1104615	5/29/2000	577	A	413
USGS	1104615	5/30/2000	554	A	390
USGS	1104615	5/31/2000	528	A	366
USGS	1104615	6/1/2000	494	A	339
USGS	1104615	6/2/2000	444	A	350
USGS	1104615	6/3/2000	378	A	280
USGS	1104615	6/4/2000	379	A	290
USGS	1104615	6/5/2000	365	A	280
USGS	1104615	6/6/2000	576	A	400
USGS	1104615	6/7/2000	999	A	800
USGS	1104615	6/8/2000	919	A	737
USGS	1104615	6/9/2000	840	A	660
USGS	1104615	6/10/2000	802	A	637
USGS	1104615	6/11/2000	813	A	622
USGS	1104615	6/12/2000	890	A	714
USGS	1104615	6/13/2000	851	A	680
USGS	1104615	6/14/2000	816	A	652
USGS	1104615	6/15/2000	773	A	605
USGS	1104615	6/16/2000	740	A	567
USGS	1104615	6/17/2000	723	A	535
USGS	1104615	6/18/2000	673	A	495
USGS	1104615	6/19/2000	641	A	465
USGS	1104615	6/20/2000	563	A	390
USGS	1104615	6/21/2000	508	A	328
USGS	1104615	6/22/2000	501	A	322
USGS	1104615	6/23/2000	472	A	297
USGS	1104615	6/24/2000	439	A	273
USGS	1104615	6/25/2000	415	A	252
USGS	1104615	6/26/2000	384	A	228
USGS	1104615	6/27/2000	378	A	224
USGS	1104615	6/28/2000	426	A	266
USGS	1104615	6/29/2000	406	A	248
USGS	1104615	6/30/2000	404	A	248
USGS	1104615	7/1/2000	396	A	244
USGS	1104615	7/2/2000	381	A	234
USGS	1104615	7/3/2000	321	A	191
USGS	1104615	7/4/2000	261	A	142
USGS	1104615	7/5/2000	267	A	152
USGS	1104615	7/6/2000	254	A	144
USGS	1104615	7/7/2000	235	A	134
USGS	1104615	7/8/2000	217	A	123
USGS	1104615	7/9/2000	226	A	120
USGS	1104615	7/10/2000	242	A	130
USGS	1104615	7/11/2000	192	A	102
USGS	1104615	7/12/2000	144	A	70
USGS	1104615	7/13/2000	150	A	74
USGS	1104615	7/14/2000	127	A	59
USGS	1104615	7/15/2000	133	A	63
USGS	1104615	7/16/2000	183	A	84
USGS	1104615	7/17/2000	156	A	75
USGS	1104615	7/18/2000	214	A	81
USGS	1104615	7/19/2000	241	A	128
USGS	1104615	7/20/2000	224	A	117
USGS	1104615	7/21/2000	209	A	107
USGS	1104615	7/22/2000	326	A	150
USGS	1104615	7/23/2000	212	A	106
USGS	1104615	7/24/2000	190	A	92
USGS	1104615	7/25/2000	176	A	85
USGS	1104615	7/26/2000	187	A	84
USGS	1104615	7/27/2000	458	A	215
USGS	1104615	7/28/2000	416	A	247

USGS	1104615	7/29/2000	379	A	222
USGS	1104615	7/30/2000	372	A	217
USGS	1104615	7/31/2000	508	A	289
USGS	1104615	8/1/2000	455	A	276
USGS	1104615	8/2/2000	428	A	256
USGS	1104615	8/3/2000	397	A	230
USGS	1104615	8/4/2000	379	A	216
USGS	1104615	8/5/2000	349	A	194
USGS	1104615	8/6/2000	319	A	172
USGS	1104615	8/7/2000	302	A	159
USGS	1104615	8/8/2000	270	A	140
USGS	1104615	8/9/2000	244	A	127
USGS	1104615	8/10/2000	262	A	140
USGS	1104615	8/11/2000	239	A	122
USGS	1104615	8/12/2000	159	A	70
USGS	1104615	8/13/2000	165	A	74
USGS	1104615	8/14/2000	205	A	88
USGS	1104615	8/15/2000	159	A	69
USGS	1104615	8/16/2000	233	A	102
USGS	1104615	8/17/2000	216	A	101
USGS	1104615	8/18/2000	200	A:e	99
USGS	1104615	8/19/2000	185	A:e	89
USGS	1104615	8/20/2000	175	A:e	83
USGS	1104615	8/21/2000	155	A:e	72
USGS	1104615	8/22/2000	150	A:e	72
USGS	1104615	8/23/2000	170	A:e	83
USGS	1104615	8/24/2000	160	A:e	77
USGS	1104615	8/25/2000	150	A:e	64
USGS	1104615	8/26/2000	130	A:e	58
USGS	1104615	8/27/2000	125	A:e	56
USGS	1104615	8/28/2000	120	A:e	51
USGS	1104615	8/29/2000	110	A:e	43
USGS	1104615	8/30/2000	100	A:e	42
USGS	1104615	8/31/2000	95	A:e	40
USGS	1104615	9/1/2000	110	A:e	40
USGS	1104615	9/2/2000	119	A	46
USGS	1104615	9/3/2000	137	A	57
USGS	1104615	9/4/2000	127	A	53
USGS	1104615	9/5/2000	117	A	48
USGS	1104615	9/6/2000	109	A	46
USGS	1104615	9/7/2000	106	A	43
USGS	1104615	9/8/2000	85	A	32
USGS	1104615	9/9/2000	75	A	27
USGS	1104615	9/10/2000	77	A	26
USGS	1104615	9/11/2000	78	A	27
USGS	1104615	9/12/2000	77	A	25
USGS	1104615	9/13/2000	81	A	24
USGS	1104615	9/14/2000	77	A	24
USGS	1104615	9/15/2000	302	A	88
USGS	1104615	9/16/2000	251	A	108
USGS	1104615	9/17/2000	195	A	82
USGS	1104615	9/18/2000	180	A	75
USGS	1104615	9/19/2000	166	A	67
USGS	1104615	9/20/2000	324	A	154
USGS	1104615	9/21/2000	293	A	150
USGS	1104615	9/22/2000	293	A	148
USGS	1104615	9/23/2000	301	A	153
USGS	1104615	9/24/2000	302	A	152
USGS	1104615	9/25/2000	279	A	134
USGS	1104615	9/26/2000	274	A	121
USGS	1104615	9/27/2000	291	A	143
USGS	1104615	9/28/2000	268	A	134

USGS	1104615	9/29/2000	259 A	132
USGS	1104615	9/30/2000	245 A	129

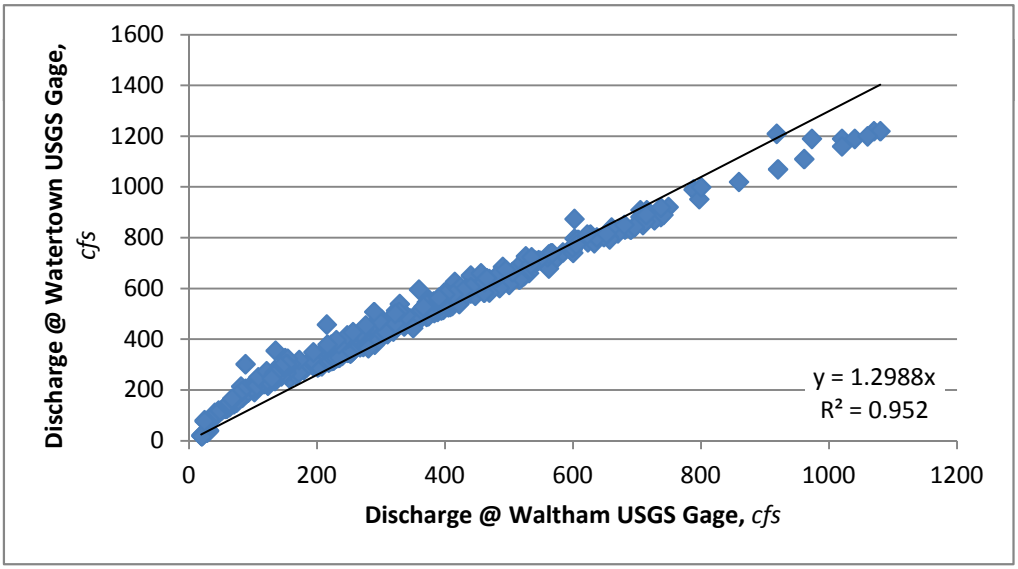
Discharge @ Watertown USGS Gage, cfs
1600
1400
1200
1000
800
600
400
200
0
0
200
400
600
800
1000
1200
Discharge @ Waltham USGS Gage, cfs
y = 1.2988x
R² = 0.952

Table 2. Metals Dilution Calculation, CSX ALN Excavation Notice of Intent, Allston, MA.

DF = [(Qd + Qs)/Qd]

DF = Dilution Factor
Qd = Maximum flow rate of the discharge in cfs (1.0 gpm = 0.00223 cfs)
Qs = Receiving water 7Q10 flow in cfs

Discharge
Max System Flow (gpm) = 200
Qd (cfs) = 0.446
Qs (cfs) = 22.70
DF = **51.9**

Analyte	Highest Detected Concentration (ug/l)	DF	Zero Dilution Concentration Limit (ug/l)	Dillution Factor Concentration Limit (ug/l)
Antimony	50	51.9	6	141
Arsenic	19	51.9	10	500
Cadmium	4	51.9	0.2	10
Iron	25,000	51.9	1,000	5,000**
Lead	15	51.9	1.3	66
Selenium	10	51.9	1.2	57
Zinc	99	51.9	66.6	1,480

**Limits are for Chromium III (trivalent)*

***Limit is at ceiling*

The 7Q10 for the Charles River in Waltham, MA was obtained from the USGS Gage # 01104500 corrected to Watertown, MA Gage #01104615

Parameter	Chloride & Total Recoverable Metal Limitations (ug/l) by Dilution Factor Range					
	1 – 5 [6]	>5 - 10	>10 - 50	>50 - 100	>100	Ceiling Value [2]
38. Chloride	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
39. Antimony	5.6	30	60	141	141	141 [3]
40. Arsenic	10	50	100	500	540	540 [4]
41. Cadmium	0.2	1	2	10	20	260
42. ChromiumIII (Trivalent)	48.8	244	489	1,710	1,710	1,710
43. ChromiumVI (Hexavalent)	11.4	57	114	570	1,140	1,710 [5]
44. Copper	5.2	26	52	260	520	2,070
45. Lead	1.3	6.5	13	66	132	430
46. Mercury	0.9	2.3	2.3	2.3	2.3	2.3 [3]
47. Nickel	29	145	290	1,451	2,380	2,380
48. Selenium	5	25	50	250	408	408 [3]
49. Silver	1.2	6	12	57	115	240
50. Zinc	66.6	333	666	1,480	1,480	1,480
51. Iron	1,000	5,000	5,000	5,000	5,000	5,000

Attachment 10: Water Quality and Laboratory Data

Table 1. Contaminant Informaiton, CSX ALN Excavation Notice of Intent, Allston, MA.

chemical_name	cas_rn	Believed Absent	Believed Present	SampType	Number Of Samples	Analytical Method Used	Max RL of Test Method	Max Result ug/l	Max Result Location	Max Result Location Area sf	depth of water ft	Max Mass kg	Avg Result ug/l	Avg Location Area sf	Avg Depth to Water ft	Avg Mass kg
1,1,1-Trichloroethane	71-55-6	X		Grab	1	8260C	1									
1,1,1-Trichloroethane	71-55-6	X		Grab	20	SW8260B	1									
1,1,2-TRICHLOROETHANE	79-00-5	X		Grab	1	8260C	1									
1,1,2-TRICHLOROETHANE	79-00-5	X		Grab	20	SW8260B	1									
1,1-DICHLOROETHANE	75-34-3	X		Grab	1	8260C	1									
1,1-DICHLOROETHANE	75-34-3	X		Grab	20	SW8260B	1									
1,1-DICHLOROETHENE	75-35-4	X		Grab	20	SW8260B	1									
1,1-DICHLOROETHENE	75-35-4	X		Grab	1	8260C	1									
1,2-Dibromoethane	106-93-4	X		Grab	1	8260C	2									
1,2-Dibromoethane	106-93-4	X		Grab	20	SW8260B	2									
1,2-DICHLOROBENZENE	95-50-1	X		Grab	1	8260C	1									
1,2-DICHLOROBENZENE	95-50-1	X		Grab	10	SW8270C	5.3									
1,2-DICHLOROBENZENE	95-50-1	X		Grab	20	SW8260B	1									
1,2-DICHLOROETHANE	107-06-2	X		Grab	1	8260C	1									
1,2-DICHLOROETHANE	107-06-2	X		Grab	20	SW8260B	1									
1,3-DICHLOROBENZENE	541-73-1	X		Grab	10	SW8270C	20									
1,3-DICHLOROBENZENE	541-73-1	X		Grab	1	8260C	1									
1,3-DICHLOROBENZENE	541-73-1	X		Grab	20	SW8260B	1									
1,4-DICHLOROBENZENE	106-46-7	X		Grab	1	8260C	1									
1,4-DICHLOROBENZENE	106-46-7	X		Grab	10	SW8270C	5.3									
1,4-DICHLOROBENZENE	106-46-7	X		Grab	20	SW8260B	1									
1,4-DIOXANE	123-91-1	X		Grab	20	SW8260B	250									
1,4-DIOXANE	123-91-1	X		Grab	1	8260C	250									
2-Butanone	78-93-3	X		Grab	20	SW8260B	5									
2-Butanone	78-93-3		X	Grab	2	8260C	5	21	076MW02	6866	6.6	0.016	20.5	4176	8	0.009
ACENAPHTHENE	83-32-9	X		Grab	7	EPH-04-1.1	10									
ACENAPHTHENE	83-32-9	X		Grab	10	SW8270C	5.3									
ACENAPHTHYLENE	208-96-8	X		Grab	10	SW8270C	5.3									
ACENAPHTHYLENE	208-96-8	X		Grab	7	EPH-04-1.1	10									
ACETONE	67-64-1		X	Grab	1	8260C	5	16	076MW02	6866	6.6	0.013	16	4176	8	0.007
ACETONE	67-64-1	X		Grab	20	SW8260B	250									
ANTHRACENE	120-12-7	X		Grab	7	EPH-04-1.1	10									
ANTHRACENE	120-12-7	X		Grab	10	SW8270C	5.3									
ANTIMONY	7440-36-0	X		Grab	17	SW6010B	0.05									
ARSENIC	7440-38-2		X	Grab	3	6010C	5	19	079MW02	5196	5.5	0.01	11	4176	8	0.005
ARSENIC	7440-38-2		X	Grab	17	SW6010B	5	19	055MW01	7919	6.7	0.017	6	4176	8	0.003
BENZENE	71-43-2	X		Grab	1	8260C	0.5									
BENZENE	71-43-2	X		Grab	20	SW8260B	1									
BENZO(A)ANTHRACENE	56-55-3	X		Grab	7	EPH-04-1.1	10									
BENZO(A)ANTHRACENE	56-55-3	X		Grab	10	SW8270C	5.3									
BENZO(A)PYRENE	50-32-8	X		Grab	7	EPH-04-1.1	10									
BENZO(A)PYRENE	50-32-8	X		Grab	10	SW8270C	5.3									
BENZO(B)FLUORANTHENE	205-99-2	X		Grab	10	SW8270C	5.3									
BENZO(B)FLUORANTHENE	205-99-2	X		Grab	7	EPH-04-1.1	10									
BENZO(G,H,I)PERYLENE	191-24-2	X		Grab	7	EPH-04-1.1	10									
BENZO(G,H,I)PERYLENE	191-24-2	X		Grab	10	SW8270C	5.3									
BENZO(K)FLUORANTHENE	207-08-9	X		Grab	7	EPH-04-1.1	10									
BENZO(K)FLUORANTHENE	207-08-9	X		Grab	10	SW8270C	5.3									
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	X		Grab	10	SW8270C	5.3									
CADMIUM	7440-43-9	X		Grab	17	SW6010B	0.004									
CADMIUM	7440-43-9	X		Grab	1	6010C	0.004									
CARBON TETRACHLORIDE	56-23-5	X		Grab	1	8260C	1									
CARBON TETRACHLORIDE	56-23-5	X		Grab	20	SW8260B	1									
CHLORIDE	16887-00-6		X	Grab	1	SW9251	10	220,000	054MW01	9438	6.7	234.554	220,000	4176	8	93.641
CHLORIDE	16887-00-6		X	Grab	1	E300	12000	300,000	079MW02	5196	5.5	191.98	300,000	4176	8	127.693
CHROMIUM	7440-47-3	X		Grab	1	6010C	0.01									
CHROMIUM	7440-47-3	X		Grab	17	SW6010B	0.01									
Chromium VI (hexavalent)		X														
CHRYSENE	218-01-9	X		Grab	7	EPH-04-1.1	10									
CHRYSENE	218-01-9	X		Grab	10	SW8270C	5.3									
cis-1,2-Dichloroethene	156-59-2		X	Grab	21	SW8260B	1	8.5	079MW01	7296	5.5	0.008	1.69	4176	8	0.001
cis-1,2-Dichloroethene	156-59-2		X	Grab	2	8260C	1	8.3	079MW02	5196	5.5	0.01	4.4	4176	8	0.002
Copper	7440-50-8	X		Grab	1	6010C	0.01									
DIBENZO(A,H)ANTHRACENE	53-70-3	X		Grab	7	EPH-04-1.1	10									
DIBENZO(A,H)ANTHRACENE	53-70-3	X		Grab	10	SW8270C	5.3									
ETHYLBENZENE	100-41-4	X		Grab	1	8260C	1									
ETHYLBENZENE	100-41-4	X		Grab	20	SW8260B	1									
FLUORANTHENE	206-44-0	X		Grab	7	EPH-04-1.1	10									
FLUORANTHENE	206-44-0	X		Grab	10	SW8270C	5.3									
FLUORENE	86-73-7	X		Grab	7	EPH-04-1.1	10									
FLUORENE	86-73-7	X		Grab	10	SW8270C	5.3									

Table 1. Contaminant Informaiton, CSX ALN Excavation Notice of Intent, Allston, MA.

chemical_name	cas_rn	Believed Absent	Believed Present	SampType	Number Of Samples	Analytical Method Used	Max RL of Test Method	Max Result ug/l	Max Result Location	Max Result Location Area sf	depth of water ft	Max Mass kg	Avg Result ug/l	Avg Location Area sf	Avg Depth to Water ft	Avg Mass kg
INDENO(1,2,3-CD)PYRENE	193-39-5	X		Grab	7	EPH-04-1.1	10									
INDENO(1,2,3-CD)PYRENE	193-39-5	X		Grab	10	SW8270C	5.3									
IRON	7439-89-6		X	Grab	6	6010C	50	25,000	079MW02	5196	5.5	16.00	18,830	4176	8	8.015
LEAD	7439-92-1		X	Grab	17	SW6010B	10	15	079MW01	7296	5.5	0.013	6	4176	8	0.003
MERCURY	7439-97-6	X		Grab	17	SW7470A	0.0002									
METHYL TERT BUTYL ETHER	1634-04-4	X		Grab	1	8260C	2									
METHYL TERT BUTYL ETHER	1634-04-4	X		Grab	20	SW8260B	2									
METHYLENE CHLORIDE	75-09-2	X		Grab	20	SW8260B	5									
METHYLENE CHLORIDE	75-09-2	X		Grab	1	8260C	2									
NAPHTHALENE	91-20-3	X		Grab	1	8260C	2									
NAPHTHALENE	91-20-3		X	Grab	21	SW8260B	5	7.7	068MW02	5013	6.5	0.004	2.03	4176	8	0.001
NAPHTHALENE	91-20-3	X		Grab	7	EPH-04-1.1	10									
NAPHTHALENE	91-20-3	X		Grab	10	SW8270C	5.3									
NICKEL	7440-02-0	X		Grab	1	6010C	0.025									
NICKEL	7440-02-0	X		Grab	10	SW6010B	0.025									
O-XYLENE	95-47-6	X		Grab	1	8260C	1									
O-XYLENE	95-47-6	X		Grab	20	SW8260B	1									
P/M-XYLENE	1330-20-7P/M	X		Grab	20	SW8260B	2									
P/M-XYLENE	1330-20-7P/M	X		Grab	1	8260C	2									
PENTACHLOROPHENOL	87-86-5	X		Grab	10	SW8270C	10									
PHENANTHRENE	85-01-8	X		Grab	7	EPH-04-1.1	10									
PHENANTHRENE	85-01-8	X		Grab	10	SW8270C	5.3									
PHENOL	108-95-2	X		Grab	10	SW8270C	20									
PHYSIOLOGICALLY AVAILABLE CYAN	57-12-5		X	Grab	10	SW9014	5	26	055MW01	7919	6.7	0.023	4	4176	8	0.002
PYRENE	129-00-0	X		Grab	7	EPH-04-1.1	10									
PYRENE	129-00-0	X		Grab	10	SW8270C	5.3									
SELENIUM	7782-49-2	X		Grab	1	6010C	0.01									
SELENIUM	7782-49-2	X		Grab	10	SW6010B	0.01									
SILVER	7440-22-4	X		Grab	10	SW6010B	0.007									
tert-Butyl Alcohol		X														
TERTIARY-AMYL METHYL ETHER	994-05-8	X		Grab	1	8260C	2									
TERTIARY-AMYL METHYL ETHER	994-05-8	X		Grab	20	SW8260B	2									
Tetrachloroethene	127-18-4	X		Grab	1	8260C	1									
Tetrachloroethene	127-18-4	X		Grab	20	SW8260B	1									
TETRAHYDROFURAN	109-99-9	X		Grab	20	SW8260B	250									
TETRAHYDROFURAN	109-99-9		X	Grab	2	8260C	5	20	076MW02	6866	6.6	0.016	19.5	4176	8	0.008
TOLUENE	108-88-3	X		Grab	1	8260C	1									
TOLUENE	108-88-3	X		Grab	20	SW8260B	1									
Total dichlorobenzene		X														
Total Petroleum Hydrocarbons (TPH)		X														
Total Phthalates		X														
Total Polychlorinated Biphenyls (PCBs)		X														
Total Residual Chlorine (TRC)		X														
Total Suspended Solids (TSS)		X														
TRICHLOROETHENE	79-01-6	X		Grab	1	8260C	1									
TRICHLOROETHENE	79-01-6		X	Grab	21	SW8260B	1	6.4	068MW03	5013	6.5	0.004	0.85	4176	8	0.0004
Vinyl chloride	75-01-4		X	Grab	2	8260C	1	6.2	079MW02	5196	5.5	0.004	3.35	4176	8	0.001
Vinyl chloride	75-01-4		X	Grab	21	SW8260B	1	15	054MW01	9438	6.7	0.016	3.02	4176	8	0.001
ZINC	7440-66-6		X	Grab	17	SW6010B	50	99	079MW01	7296	5.5	0.089	30	4176	8	0.013
ZINC	7440-66-6	X		Grab	1	6010C	0.05									