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

CERTIFIED MAIL REQUEST RECEIPT REQUIRED

APR 27 2011

Maria Kaouris
Remediation Manager
Honeywell International Inc.
101 Columbia Road
Morristown NJ 07960-4640

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Former Besley/Bendix Products site located at 180 Laurel Street, Greenfield, MA 01301-3109, Franklin County; Authorization # MAG910138

Dear Ms. Kaouris:

Based on the review of a Notice of Intent (NOI) submitted on behalf of Honeywell International Inc. by the firm MACTEC Engineering and Consulting, Inc., for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as 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 check list does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: http://www.epa.gov/region1/npdes/mass.html#dgp.

Please note the enclosed checklist includes the parameters which you have marked "Believed Present". The checklist also includes parameters which your laboratory reports indicated there was insufficient sensitivity to detect this parameter at the minimum level established in Appendix VI of the RGP.

In addition, 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 facilities located in Massachusetts. For each parameter the reported dilution factor for this site of 73 is within a dilution range greater than fifty to one hundred (>50 -100), established in the RGP. (See the Appendix IV of the RGP for Massachusetts facilities). Therefore, the limits for lead of 66 ug/L, and iron of 5,000 ug/L, are required to achieve permit compliance at your site.

Finally, please note the list of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. 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 permit will terminate on December 31, 2015. You are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

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

Sincerely,

David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, MassDEP
Annette McLean, MACTEC

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910138 - Reissuance**
Autorization issued in	April, 2011
Facility/Site Name:	Former Besley/ Bendix Products
Facility/Site Address:	180 Laurel Street, Greenfield, MA 01301-3109, Franklin County Email address of owner: Maria.Kaouris@Honeywell.com ; Phone n: 973455-3302
Legal Name of Operator:	Same as the Owner
Operator contact name, title, and Address:	101 Columbia Road, Morristown, NJ 07960-4640 Email: Same as the Owner
Estimated Date of Completion:	December 31, 2015
Category and Sub-Category:	Category II. Non Petroleum Site Remediation. Volatile Organic Compound (VOC) Only Sites
Receiving Water:	Green River

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

	<u>**Parameter**</u>	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing **, Me#60.2/ML 5ug/L
	2. Total Residual Chlorine (TRC) 1	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
√	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) 2, 3	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 5ug/L
√	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
√	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
√	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
√	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
√	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) 4	100 ug/L/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether	70.0 ug/l /Me#8260C/ ML 10ug/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)
	(MtBE)	
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only (ug/L)/ Me#8260C/ ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only (ug/L) /Me#8260C/ ML 10ug/L
	14. Naphthalene [5]	20 ug/L /Me#8260C/ ML 2ug/L
√	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
√	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
√	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
√	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
√	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
√	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
√	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
√	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
√	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
√	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
√	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML5ug/L,Me#604 &625/ML 10ug/L
√	33. Total Phthalates (Phthalate esters) [6]	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L,

	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)
		Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene [5]	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	37. Total Polychlorinated Biphenyls (PCBs) [8, 9]	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
√	38. Chloride	Monitor only/Me# 300.0/ ML 0.1ug/L

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11]			
		Freshwater			
	39. Antimony	141/10mL			
	40. Arsenic **	500/20mL			
	41. Cadmium **	10/10ml			
	42. Chromium III (trivalent) **	1710/15mL			
	43. Chromium VI (hexavalent)	570/10mL			

	Metal parameter	Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11] Freshwater			
	**				
	44. Copper **	260/15mL			
√	45. Lead **	66/20mL			
	46. Mercury **	2.3/0.2mL			
	47. Nickel **	1451/20mL			
	48. Selenium **	250/20mL			
	49. Silver	57/10mL			
	50. Zinc **	1480/15mL			
√	51. Iron	5,000/20mL			

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

Footnotes:

[1] Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).
[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.
[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).
[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.
[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.
[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
[8] In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).
[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.
[11] For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using DF x 1,000ug/L (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =1,000 x 2 =2,000 ug/L., etc. not to exceed the DF=5.
[12] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).
[13] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

[14] Temperature sampling per Method 170.1

MACTEC

engineering and constructing a better tomorrow

February 17, 2011

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
(via electronic mail: NPDES.Generalpermits@epa.gov)

RE: **Notice of Intent for Remediation General Permit**
NPDES RGP #MAG910138
Former Besley/Bendix Products Site
180 Laurel Street
Greenfield, MA 01301-3109

Dear Sir/Madam:

MACTEC Engineering and Consulting, Inc. (MACTEC), on behalf of Honeywell, is submitting this National Pollution Discharge Elimination System (NPDES) Remediation General Permit (RGP) Notice of Intent (NOI) for the discharge of treated groundwater originating from Massachusetts Contingency Plan (MCP) remediation activities at the above referenced Site. Authorization to discharge for the Site has been granted under an existing RGP #MAG910138. As required by the U.S. Environmental Protection Agency (USEPA), Honeywell is reapplying for coverage under the 2010 RGP. Attached please find the following documents.

- Remediation General Permit Notice of Intent
- Figure 1 – Site Location
- Figure 2 – Site Plan Showing Location of Outfall(s)
- Figure 3 – Treatment System Layout
- Attachment A: Dwarf Wedge Mussel information
- Attachment B: Correspondence with National Fish and Wildlife Services

Please note that although the endangered Dwarf Wedge Mussel is located within Franklin County, it is not located proximal to the facility or its discharge location. Refer to the attached information for the Dwarf Wedge Mussel including excerpts from the *Dwarf Mussel Recovery Plan, February 8, 1993 by G. Andrew Moser, Annapolis Field Office, U.S. Fish and Wildlife Service, Annapolis, Maryland* and information from the Natural Heritage & Endangered Species Program, Massachusetts Division or Fisheries & Wildlife, 1 Rabbit Hill Road, Westborough, MA updated November 1, 2009.

As part of this submittal, Honeywell would like to take the opportunity to request a reduction in the influent monitoring requirements for the Site. As shown in Section 3.0 of the enclosed NOI, MACTEC has included 2-years worth of influent data for your review. The data show that concentrations of many analytes were below the minimum level (ML) for the monitoring period (December 2008 – November 2010). We will follow-up with you regarding this request by telephone within 30 days.

Sincerely,
MACTEC Engineering and Consulting, Inc.

Annette R. McLean
Project Scientist

Kerry R. Tull, LSP
Senior Principal

cc: Maria Kaouris, Honeywell

MassDEP, Bureau of Waste Site Cleanup – Western Regional Office
436 Dwight Street
Springfield, MA 01103

MassDEP, Division of Watershed Management
627 Main Street, 2nd Floor
Worcester, MA 01608

Town of Greenfield – Conservation Commission

MACTEC Project File [P:\3650090145 - Besley Remediation Alternatives\5.0 Project Information\5.4 Regulatory Requirements_Permits\RGP 2010 NOI\Besley Cover Letter.docx

Enclosures: Remediation General Permit Notice of Intent
Figures 1, 2, and 3
Attachments A & B

REMEDIATION GENERAL PERMIT NOTICE OF INTENT FORM

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**: Former Besley/Bendix Products Site		**Facility/site** mailing address:			
Location of **facility/site**: longitude: 42.579 latitude: -72.619	Facility SIC code(s): 32192	Street: 180 Laurel Street			
b) Name of **facility/site owner**: Honeywell International Inc.		Town: Greenfield			
Email address of facility/site owner: Maria.Kaouris@Honeywell.com		State: MA	Zip: 01301-3109	County: Franklin	
Telephone no. of facility/site **owner**: 973-455-3302					
Fax no. of facility/site **owner**: 973-455.3082		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ⦿ 4. Other ○ if so, describe:			
Address of **owner** (if different from site):					
Street: 101 Columbia Road					
Town: Morristown	State: NJ	Zip: 07960-4640	County: Morris		
c) Legal name of **operator**:	**Operator** telephone no:				
	Operator fax no.:		**Operator** email:		
Operator contact name and title:					
Address of **operator** (if different from owner):	Street:				
Town:	State:	Zip:	County:		

d) Check Y for "yes" or N for "no" for the following:

1. Has a prior NPDES permit exclusion been granted for the discharge? Y ⦿ N ○, if Y, number: MA0031496
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: MassDEP RTN 1-000079
2. permit or license # assigned: Tier IB
3. state agency contact information: name, location, and telephone number:

MassDEP
Mr. Fish
436 Dwight Street, Springfield, MA 01103

f) Is the site/facility covered by any other EPA permit, including:

1. Multi-Sector General Permit? Y ○ N ⦿, if Y, number:
2. Final Dewatering General Permit? Y ○ N ⦿, if Y, number:
3. EPA Construction General Permit? Y ○ N ⦿, if Y, number:
4. Individual NPDES permit? Y ○ N ⦿, if Y, number:
5. any other water quality related individual or general permit? Y ○ N ⦿, if Y, number:

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

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

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

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

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

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

Groundwater contaminated with VOCs is pumped through ultraviolet lamp and hydrogen peroxide treatment system and discharged to storm sewer. See attached Figure 2.

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 0.13 cfs Is maximum flow a **design value**? Y ◉ N ○ Average flow (include units) 0.076 cfs Is average flow a design value or estimate? Estimate

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

pt.1: lat 42.579	long -72.619	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 1/1/1991 end 12/31/2015

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

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	Appendix III Effluent Limit (ug/L)	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method	Minimum Level (ML) of Test Method	Maximum Daily Value		Average Daily Value	
									concentration (ug/L)	mass (kg)	concentration (ug/L0	mass (kg)
01 Total Suspended Solids (TSS)		30000	X		2	Grab	SM2540D	5	2000	0.373309	2000	0.37331
02 CHLORINE		11	X		2	Grab	SM-4500-ClF	10	20	0.003733	20	0.00373
03 Total Petroleum Hydrocarbons (TPH)		5000	X		8	Grab	EPA 1664A	3	5100	0.951937	2675	0.49930
04 CYANIDE	57125	5.2	X		2	Grab	LACH_204_00_1_A	5	10	0.001867	10	0.00187
05 BENZENE	71432	5	X		46	Grab	SW846 8260B	2	25	0.004666	3.2	0.00060
06 TOLUENE	108883	limited as total BTEX	X		46	Grab	SW846 8260B	2	25	0.004666	3.3	0.00062
07 ETHYLBENZENE	100414	limited as total BTEX	X		46	Grab	SW846 8260B	2	25	0.004666	3.2	0.00060
08 O-XYLENE	95476	limited as total BTEX	X		46	Grab	SW846 8260B	4	25	0.004666	3.2	0.00060
08 XYLENES, M & P		limited as total BTEX	X		46	Grab	SW846 8260B	4	50	0.009333	6.3	0.00118
09 Total BTEX (benzene, toluene, ethyl benzene, total xylenes)		100	X		46	Grab	SW846 8260B		150	0.027998	19	0.00355
10 1,2-DIBROMOETHANE	106934	0.05	X		46	Grab	SW846 8011	0.01	0.021	0.000004	0.02	0.0000037
11 METHYL TERT-BUTYL ETHER	1634044	70	X		46	Grab	SW846 8260B	10	25	0.004666	1.1	0.00021
12 TERT-BUTYL ALCOHOL	75650		X		46	Grab	SW846 8260B	10	1200	0.223985	190	0.03546
13 TERT-AMYL METHYL ETHER (TAME)	994058		X		46	Grab	SW846 8260B	10	120	0.022399	16	0.00299
14 NAPHTHALENE	91203	20	X		44	Grab	SW846 8260B	2	120	0.022399	20	0.00373
15 CARBON TETRACHLORIDE	56235	4.4	X		46	Grab	SW846 8260B	5	25	0.004666	2.8	0.00052
16 1,2-DICHLOROBENZENE	95501	600	X		46	Grab	SW846 8260B	5	25	0.004666	2.8	0.00052
17 1,3-DICHLOROBENZENE	541731	320	X		46	Grab	SW846 8260B	5	25	0.004666	2.8	0.00052
18 1,4-DICHLOROBENZENE	106467	5	X		46	Grab	SW846 8260B	5	25	0.004666	2.8	0.00052
18a Total Dichlorobenzene			X		46	Grab	SW846 8260B		75	0.013999	8.5	0.00159
19 1,1-DICHLOROETHANE	75343	70	X		46	Grab	SW846 8260B	5	25	0.004666	4.2	0.00078
20 1,2-DICHLOROETHANE	107062	5	X		46	Grab	SW846 8260B	5	25	0.004666	2.8	0.00052
21 1,1-DICHLOROETHENE	75354	3.2	X		46	Grab	SW846 8260B	5	25	0.004666	2.8	0.00052
22 CIS-1,2-DICHLOROETHENE	156592	70		X	46	Grab	SW846 8260B	5	350	0.065329	77	0.01437
23 METHYLENE CHLORIDE	75092	4.6	X		46	Grab	SW846 8260B	5	50	0.009333	5.9	0.00110
24 TETRACHLOROETHENE	127184	5	X		46	Grab	SW846 8260B	5	25	0.004666	2.6	0.00049
25 1,1,1-TRICHLOROETHANE	71556	200		X	46	Grab	SW846 8260B	5	25	0.004666	4	0.00075
26 1,1,2-TRICHLOROETHANE	79005	5	X		46	Grab	SW846 8260B	5	25	0.004666	2.8	0.00052
27 TRICHLOROETHENE	79016	5		X	46	Grab	SW846 8260B	5	1100	0.205320	250	0.04666
28 VINYL CHLORIDE	75014	2	X		46	Grab	SW846 8260B	5	12	0.002240	0.52	9.70603E-05
29 ACETONE	67641		X		46	Grab	SW846 8260B	50	1200	0.223985	160	0.029865
30 1,4-DIOXANE	123911		X		46	Grab	SW846 8260B	50	1200	0.223985	160	0.029865
31 PHENOL	108952	300	X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31 PHENOLS	64743039	300	X		2	Grab	LACH_210_00_1_A	2	10	0.001867	9.7	0.001811
31a 2,4,5-TRICHLOROPHENOL	95954		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31b 2,4,6-TRICHLOROPHENOL	88062		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31c 2,4-DICHLOROPHENOL	120832		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31d 2,4-DIMETHYLPHENOL	105679		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31e 2,4-DINITROPHENOL	51285		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.7	0.000317
31f 2-CHLOROPHENOL	95578		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31g 2-METHYLPHENOL	95487		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31h 2-NITROPHENOL	88755		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31i 3&4-METHYLPHENOL			X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31j 4,6-DINITRO-2-METHYLPHENOL	534521		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.7	0.000317
31k 4-CHLORO-3-METHYLPHENOL	59507		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
31l 4-NITROPHENOL	100027		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
32 PENTACHLOROPHENOL	87865	1	X		46	Grab	SW846 8270C	5	0	0	0	0
33 Total Phthalates		3	X		46	Grab	SW846 8270C		20.4	0.003808	6.1	0.001139
33a BUTYLBENZYL PHTHALATE	85687		X		2	Grab	SW846 8270C	5	0	0	0	0
33b DI-N-BUTYL PHTHALATE	84742		X		46	Grab	SW846 8270C	5	5.1	0.000952	0.67	0.000125
33c DIETHYL PHTHALATE	84662		X		46	Grab	SW846 8270C	5	11	0.002053	2.2	0.000411

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	Appendix III Effluent Limit (ug/L)	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method	Minimum Level (ML) of Test Method	Maximum Daily Value concentration (ug/L)	Maximum Daily Value mass (kg)	Average Daily Value concentration (ug/L0	Average Daily Value mass (kg)
33d DIMETHYL PHTHALATE	131113		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.8	0.000336
33e DI-N-OCTYL PHTHALATE	117840		X		46	Grab	SW846 8270C	5	5.1	0.000952	1.4	0.000261
34 BIS(2-ETHYLHEXYL)PHTHALATE	117817	6	X		2	Grab	SW846 8270C	5	0	0	0	0
35 Total Group I PAH Polycyclic Aromatic Hydrocarbons (PAH)		10	X		2	Grab	SW846 8270C		0	0	0	0
35a BENZO(A)ANTHRACENE	56553	0.0038	X		2	Grab	SW846 8270C	5	0	0	0	0
35b BENZO(A)PYRENE	50328	0.0038	X		2	Grab	SW846 8270C	5	0	0	0	0
35c BENZO(B)FLUORANTHENE	205992	0.0038	X		2	Grab	SW846 8270C	5	0	0	0	0
35d BENZO(K)FLUORANTHENE	207089	0.0038	X		2	Grab	SW846 8270C	5	0	0	0	0
35e CHRYSENE	218019	0.0038	X		2	Grab	SW846 8270C	5	0	0	0	0
35f DIBENZO(A,H)ANTHRACENE	53703	0.0038	X		2	Grab	SW846 8270C	5	0	0	0	0
35g INDENO(1,2,3-CD)PYRENE	193395	0.0038	X		2	Grab	SW846 8270C	5	0	0	0	0
36 Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		100	X		2	Grab	SW846 8270C	0	0	0	0	0
36h ACENAPHTHENE	83329	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
36i ACENAPHTHYLENE	208968	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
36j ANTHRACENE	120127	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
36k BENZO(G,H,I)PERYLENE	191242	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
36l FLUORANTHENE	206440	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
36m FLUORENE	86737	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
36n NAPHTHALENE	91203	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
36o PHENANTHRENE	85018	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
36p PYRENE	129000	imited as total Group II PAH	X		2	Grab	SW846 8270C	5	0	0	0	0
37 AROCLOR-1016	12674112		X		8	Grab	40CFR136A 608	0.5	1	0.000187	0.98	0.000183
37 AROCLOR-1221	11104282		X		8	Grab	40CFR136A 608	0.5	1	0.000187	0.98	0.000183
37 AROCLOR-1232	11141165		X		8	Grab	40CFR136A 608	0.5	1	0.000187	0.98	0.000183
37 AROCLOR-1242	53469219		X		8	Grab	40CFR136A 608	0.5	1	0.000187	0.98	0.000183
37 AROCLOR-1248	12672296		X		8	Grab	40CFR136A 608	0.5	1	0.000187	0.98	0.000183
37 AROCLOR-1254	11097691		X		8	Grab	40CFR136A 608	0.5	1	0.000187	0.98	0.000183
37 AROCLOR-1260	11096825		X		8	Grab	40CFR136A 608	0.5	1	0.000187	0.98	0.000183
37 Total PCBs		0.000064	X		8	Grab	40CFR136A 608		7	0.001307	6.8	0.001269
38 CHLORIDE	16887006		X		2	Grab	EPA300.0 PartA	100	180000	33.6	121000	22.6
39 ANTIMONY	7440360	5.6	X		8	Grab	EPA 200.7	10	0	0	0	0
40 ARSENIC	7440382	10	X		2	Grab	EPA 200.7	20	0	0	0	0
41 CADMIUM	7440439	0.2	X		8	Grab	EPA 200.7	10	0	0	0	0
42 CHROMIUM	7440473		X		2	Grab	EPA 200.7	15	0	0	0	0
42 CHROMIUM III	16065831	48.8	X		2	Grab	SW7196	10	0	0	0	0
43 HEXAVALENT CHROMIUM	18540299	11.4	X		2	Grab	SW7196	10	0	0	0	0
44 COPPER	7440508	5.2	X		2	Grab	EPA 200.7	15	0	0	0	0
45 LEAD	7439921	1.3		X	34	Grab	EPA 200.7	20	28	0.005226	0.82	0.000153
45 LEAD	7439921	1.3		X	12	Grab	EPA 200.8	0.2	2.8	0.000523	1.3	0.000243
46 MERCURY	7439976	0.9	X		8	Grab	EPA 245.1	0.2	0	0	0	0
47 NICKEL	7440020	29	X		2	Grab	EPA 200.7	20	0	0	0	0
48 SELENIUM	7782492	5	X		2	Grab	EPA 200.7	20	0	0	0	0
49 SILVER	7440224	1.2	X		8	Grab	EPA 200.7	10	0	0	0	0
50 ZINC	7440666	66.6	X		2	Grab	EPA 200.7	15	0	0	0	0
51 IRON	7439896	1000		X	8	Grab	EPA 200.7	20	350	0.065329	85	0.015866

* = 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, and total Xylenes

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

4= The sum of the individual phthalate compounds

Prepared by: WPC 12/7/10
Checked by: ARM 12/7/10

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)
		☐	☐								
		☐	☐								

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? N/A
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: ____ DF: ____ Metal: ____ DF: ____ Metal: ____ DF: ____ Metal: ____ DF: ____ Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ○ N ○ If Y, list which metals: N/A

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:

Groundwater is extracted with recovery wells and pumped through an ultraviolet lamp and hydrogen peroxide treatment system and discharged to the storm sewer. See attached Figure 3.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☐	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☐
	Chlorination ☐	De-chlorination ☐	Other (please describe):	30 kilowatt rayox ultraviolet reactor		

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 34.3 gpm Maximum flow rate of treatment system 40.0 gpm

Design flow rate of treatment system 60 gpm

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

N/A

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:

The storm drain into which the treated effluent discharges leads to the Laurel Street storm drain line extending north to the Green 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 9.4 StreamStats 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)? Pathogens

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

6. ESA and NHPA Eligibility.

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

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

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

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

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

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?
1 ⊙ 2 ○ 3 ○

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

7. Supplemental information.

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

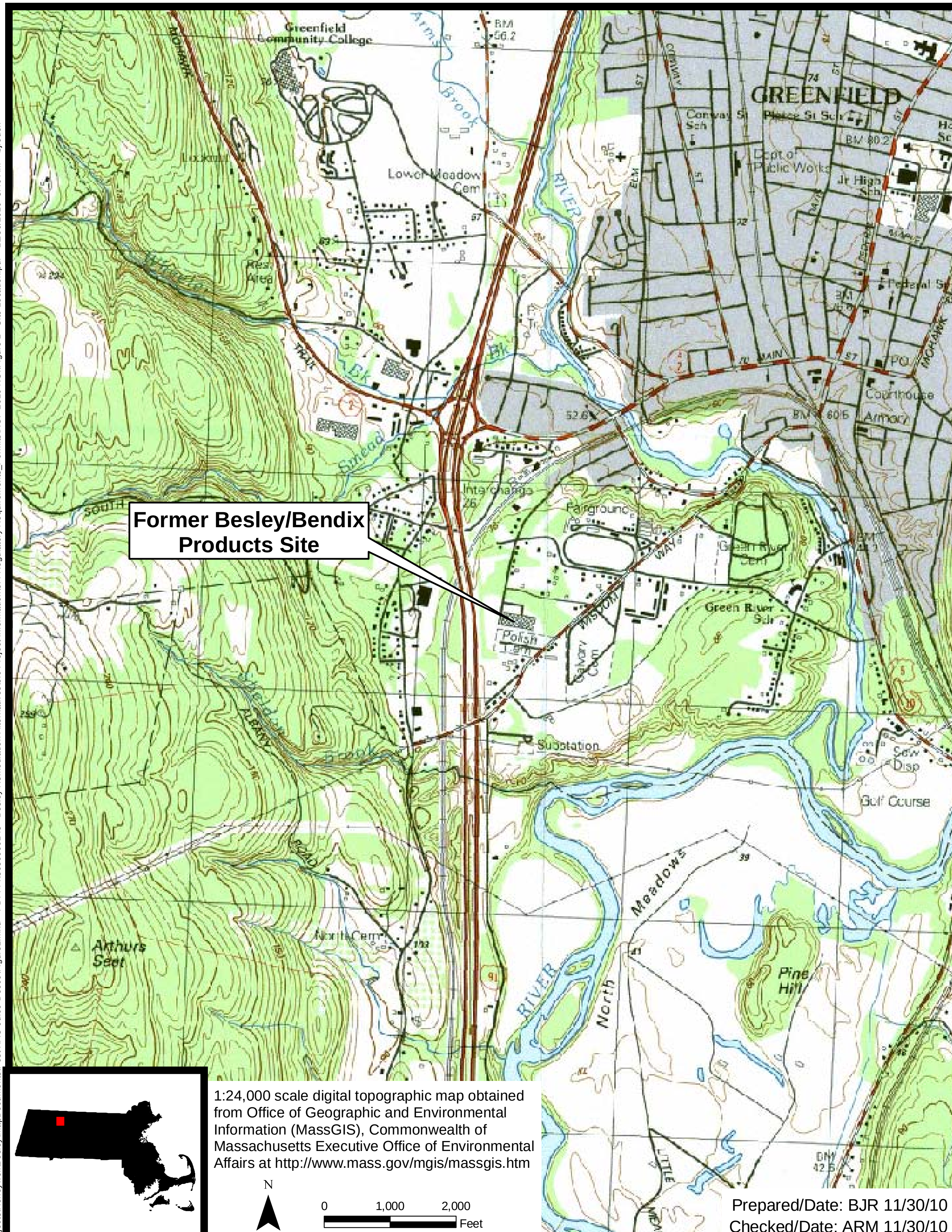
Figure 1 - Site Location
Figure 2 - Site Plan
Figure 3 - Groundwater Treatment Building Piping and Instrumentation Diagram
Attachment A - Endangered Species Information
Attachment B - Consultation with the Services

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.

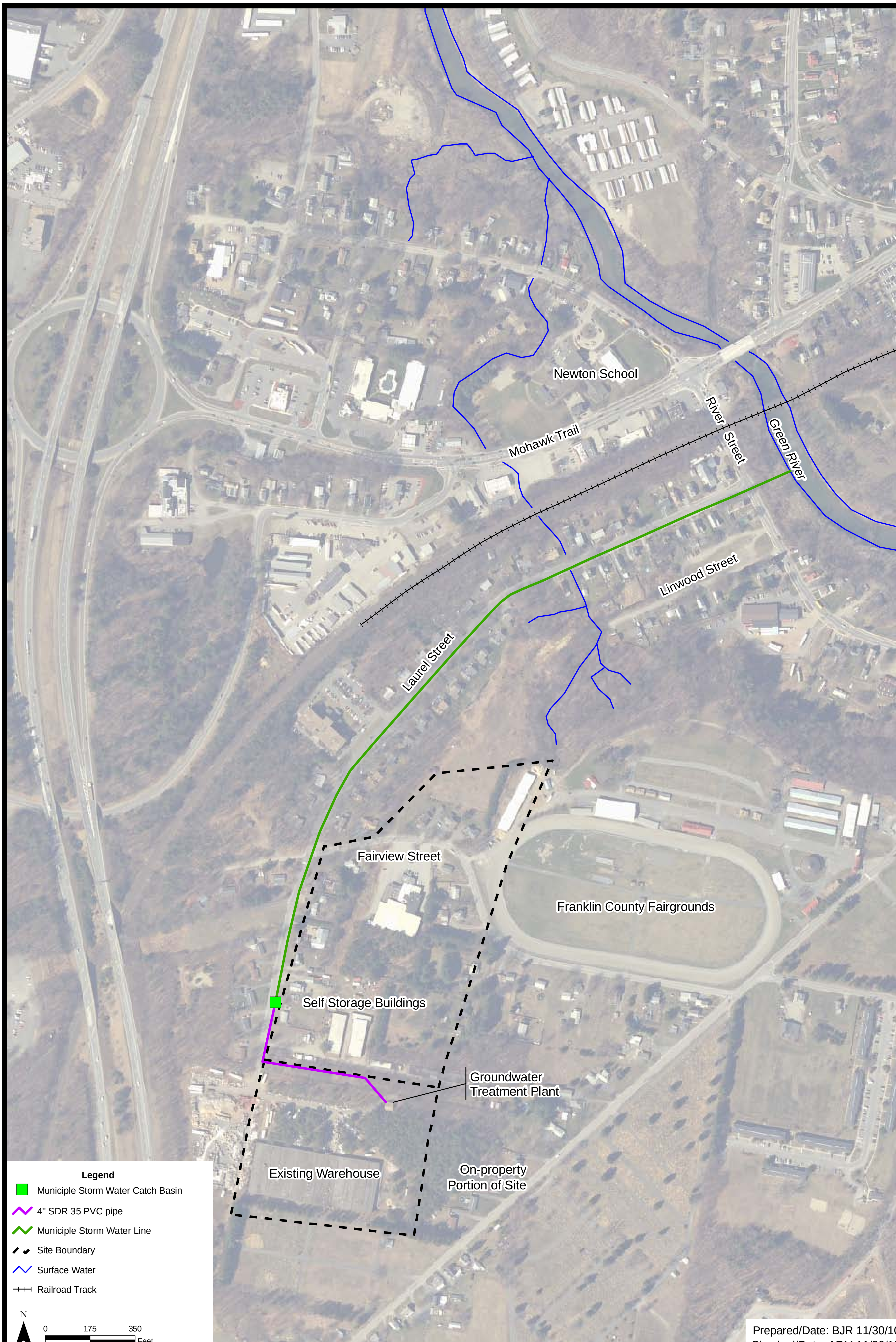
Facility/Site Name:	Former Besley/Bendix Products Site
Operator signature:	Maria Kaouris
Printed Name &Title:	Maria Kaouris, Remediation Manager
Date:	2/14/2011

FIGURES



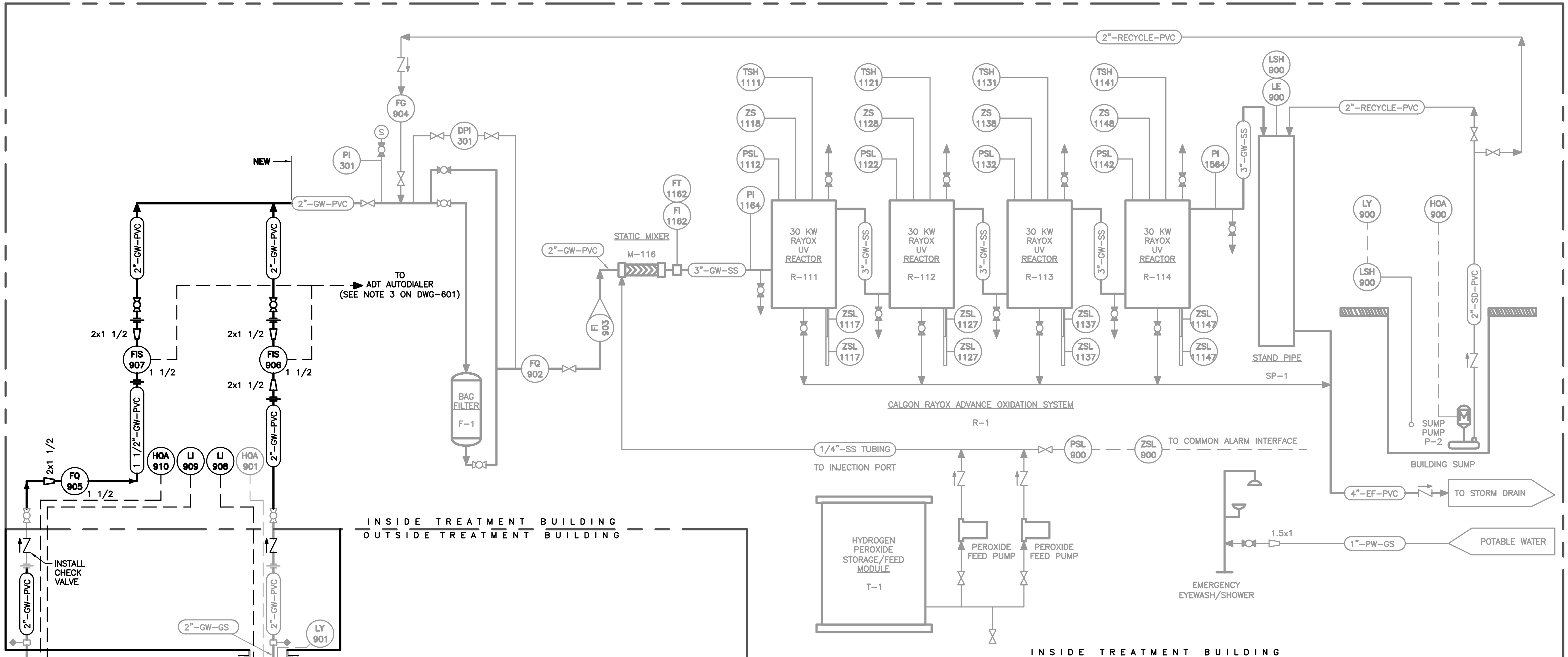
Honeywell International Inc. Former Besley/Bendix Products Site Greenfield, MA	MACTEC	Site Location Project 3650-09-0145 Figure 1

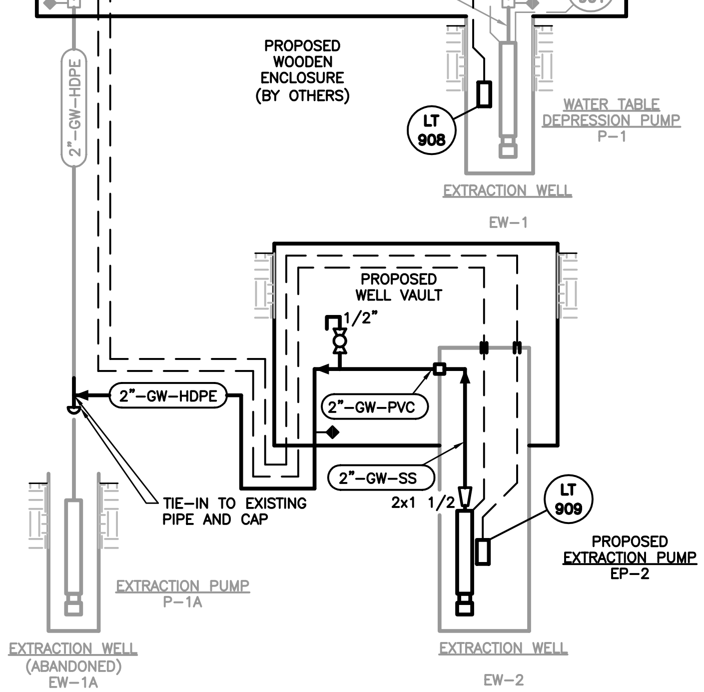
Document: P:\GIS\Projects\Honeywell\Besley\MapDocuments\Post RAO Jul09-Dec09\Figure1.mxd PDF: P:\3650090145 - Besley Remediation Alternatives\5.0 Project Information\5.4 Regulatory Requirements_Permits\RGP 2010 NOI\Figure 1 - Site Location.pdf 11/30/2010 8:46 AM bjroden



Honeywell International Inc. Former Besley/Bendix Products Site Greenfield, MA	MACTEC	Site Plan Project 3650-09-0145 Figure 2

Document: P:\GIS\Projects\Honeywell\Besley\MapDocuments\Post RAO Jan10-Jun10\Figure3.mxd PDF: P:\3650090145 - Besley Remediation Alternatives\5.0 Project Information\5.4 Regulatory Requirements_Permits\RGP 2010 NOI\Figure 2 - Site Plan.pdf 11/30/2010 9:14 AM bjroden





EP-2 PUMP SPECIFICATIONS:

1. GRUNDFOS MODEL 25S20-11 WITH 2 HP 480V MOTOR AND STAINLESS STEEL SAFTEY CHAIN

VALVE SPECIFICATIONS:

1. BALL VALVES
FULL PORT, 150# PVC TRUE UNION, PVC BALL, TFE RENEWABLE SEAT, (CHEMTROL OR EQUAL).

2. SWING CHECK VALVE
PVC BODY AND DISK, PTFE OR VITON SEAT AND SEAL, 150# RATED (ASAHI AMERICAN OR EQUAL).

PIPE SPECIFICATIONS:

1. PVC (POLYVINYL CHLORIDE) SCH 80 SOCKET WELD
2. HDPE (HIGH DENSITY POLYETHYLENE) DR 11
3. SS (STAINLESS STEEL) SCH 40 TYPE 304

INSTRUMENTS SPECIFICATIONS:

1. FIS-906 AND FIS-907
COLE-PALMER SS VANE STYLE FLOWMETER WITH SWITCH 1 1/2" MODEL U-32215-16 RANGE 0-60 GPM (VERTICAL INSTALLATION).

2. LT-908 AND LT-909
AMETEK MODEL SST SLIM-LINE SUBMERSIBLE LEVEL TRANSMITTER, 4-20ma OUTPUT, RANGE 0-34 FT, ATMOSPHERIC REFERENCE THRU INTEGRATED VENT TUBE.

3. LI-908 AND LI-909
COLE-PALMER PROGRAMABLE PROCESS METER MODEL U-94785-12 4 1/2" DIGIT LED METER, SCALE 0-34 FT, 4-20ma INPUT, 115 VAC POWER SUPPLY, (4-20ma OUTPUT, 2-SPDT RELAYS FOR FUTURE USE). MOUNT IN NEMA 12 PANEL.

4. FQ-905
NEPTUNE FLOW INTEGRATOR 1 1/2" MODEL NSF61.

SHUT-DOWN SYSTEM INTERLOCKS DESCRIPTION:

1. HIGH LEVEL IN SP-1
2. LOW WATER FLOW THROUGH R-1
3. HIGH OXIDATION CHAMBER TEMPERATURE
4. HIGH DRIVE ENCLOSURE TEMPERATURE
5. LOW PEROXIDE PRESSURE
6. OVER PRESSURE RELIEF FLOW WILL TRIP A FLOW SWITCH
7. MOISTURE DETECTED IN THE LAMP END ENCLOSURES
8. AN OPENED LAMP ENCLOSURE DOOR
9. HIGH SUMP LEVEL

Prepared/Date: ARM 12/03/10
Checked/Date: DEL 12/03/10

Honeywell International, Inc.
Former Besly/Bendix Products Site
Greenfield, Massachusetts

MACTEC

Groundwater Treatment Building
Piping And Instrumentation Diagram
Project 3650-09-0145
Figure 3

M:\Projects\HONEYWELL\GREENFIELD-MA\BESLY-WTF-BENDIX-SITE\GTF-FIG-3.dwg Fri, 03 Dec 2010 - 3:56pm delawrence

ATTACHMENT A

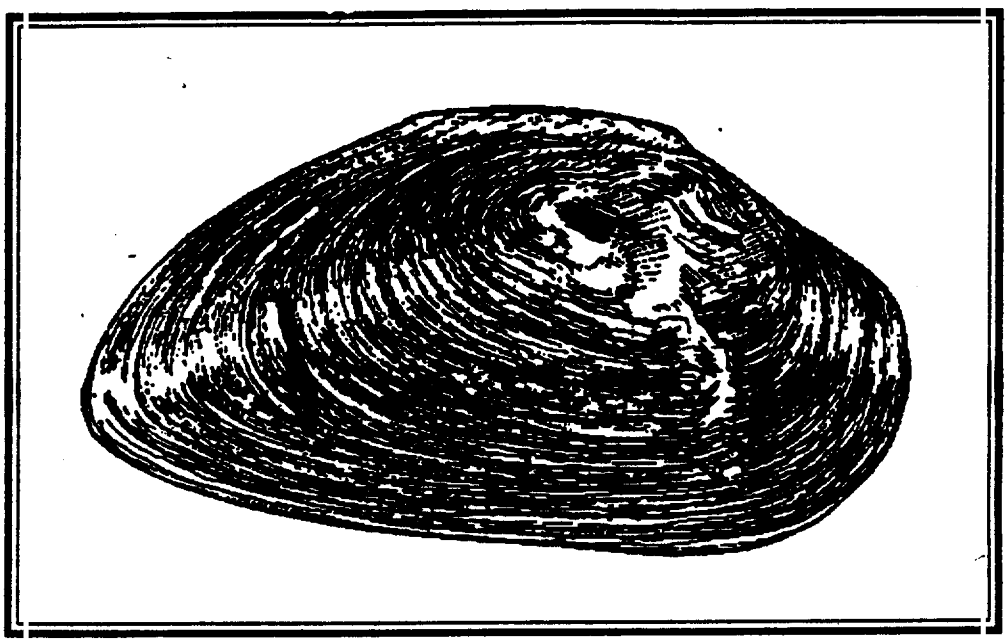
Dwarf Wedge Mussel information

90-03-14-001

DWARF WEDGE MUSSEL

(Alasmidonta heterodon)

RECOVERY PLAN



U.S. Fish and Wildlife Service, Northeast Region

DWARF WEDGE MUSSEL *(Alasmidonta heterodon)*

RECOVERY PLAN

Prepared by:

G. Andrew Moser
Annapolis Field Office
U.S. Fish and Wildlife Service
Annapolis, Maryland

for

Region Five
U.S. Fish and Wildlife Service
Hadley, Massachusetts

Approved: [signature]
Regional Director, Region Five
U.S. Fish and Wildlife Service

Date: FEB 08 1993

EXECUTIVE SUMMARY OF THE DWARF WEDGE MUSSEL RECOVERY PLAN

CURRENT STATUS: This freshwater mussel has declined precipitously over the last hundred years. Once known from at least 70 locations in 15 major Atlantic slope drainages from New Brunswick to North Carolina, it is now known from only 20 localities in eight drainages. These localities are in New Hampshire, Vermont, Connecticut, New York, Maryland, Virginia, and North Carolina. The dwarf wedge mussel (*Alasmidonta heterodon*) was listed as an endangered species in March of 1990.

HABITAT REQUIREMENTS AND LIMITING FACTORS: The dwarf wedge mussel lives on muddy sand, sand, and gravel bottoms in creeks and rivers of various sizes. It requires areas of slow to moderate current, good water quality, and little silt deposition. The species' recent dramatic decline, as well as the small size and extent of most of its remaining populations, indicate that individual populations remain highly vulnerable to extirpation.

RECOVERY OBJECTIVES: (1) Downlist to threatened status, and (2) delist.

RECOVERY CRITERIA: To downlist, populations of *A. heterodon* in the mainstem Connecticut River, Ashuelot River, Neversink River, upper Tar River, three sites in the Neuse River system, as well as in at least six other rivers, must be viable based on monitoring results over a 10-15 year period. To delist, populations must be dispersed widely enough within at least 10 of these rivers such that a single event is unlikely to eliminate a population from a given river reach. These populations must be distributed throughout the species' range, and must be permanently protected from foreseeable threats.

ACTIONS NEEDED:

1. Collect basic data needed for protection of *A. heterodon* populations.
2. Preserve *A. heterodon* populations and occupied habitats.
3. Develop an education program.
4. Conduct life history studies and identify ecological requirements of the species.
5. If feasible, re-establish populations within the species' historical range.
6. Implement a program to monitor population levels and habitat conditions.
7. Periodically evaluate the recovery program.

ESTIMATED COSTS ($1000s):

Year	Need 1	Need 2*	Need 3	Need 4	Need 5	Need 6	Total**
FY1	82	31		35			148
FY2	107	65	6			30	208
FY3	107	75	11				193
FY4	55	45	1				101
FY5		45	1		15	30	91
FY6		45	1		15		61
FY7		15	1		15		31
FY8		15	1		15	30	61
FY9		15	1		15		31
FY10		15	1			30	45
Total	351	366	24	35	75	120	971

* Total costs to provide long-term protection of essential habitats (Need 2) are not yet known.
** No costs are associated with Need 7.

DATE OF RECOVERY: Because a period of at least 10 years is required to document the stability of dwarf wedge mussel populations, downlisting will be considered sometime after the year 2002, when the recovery criterion has been met.

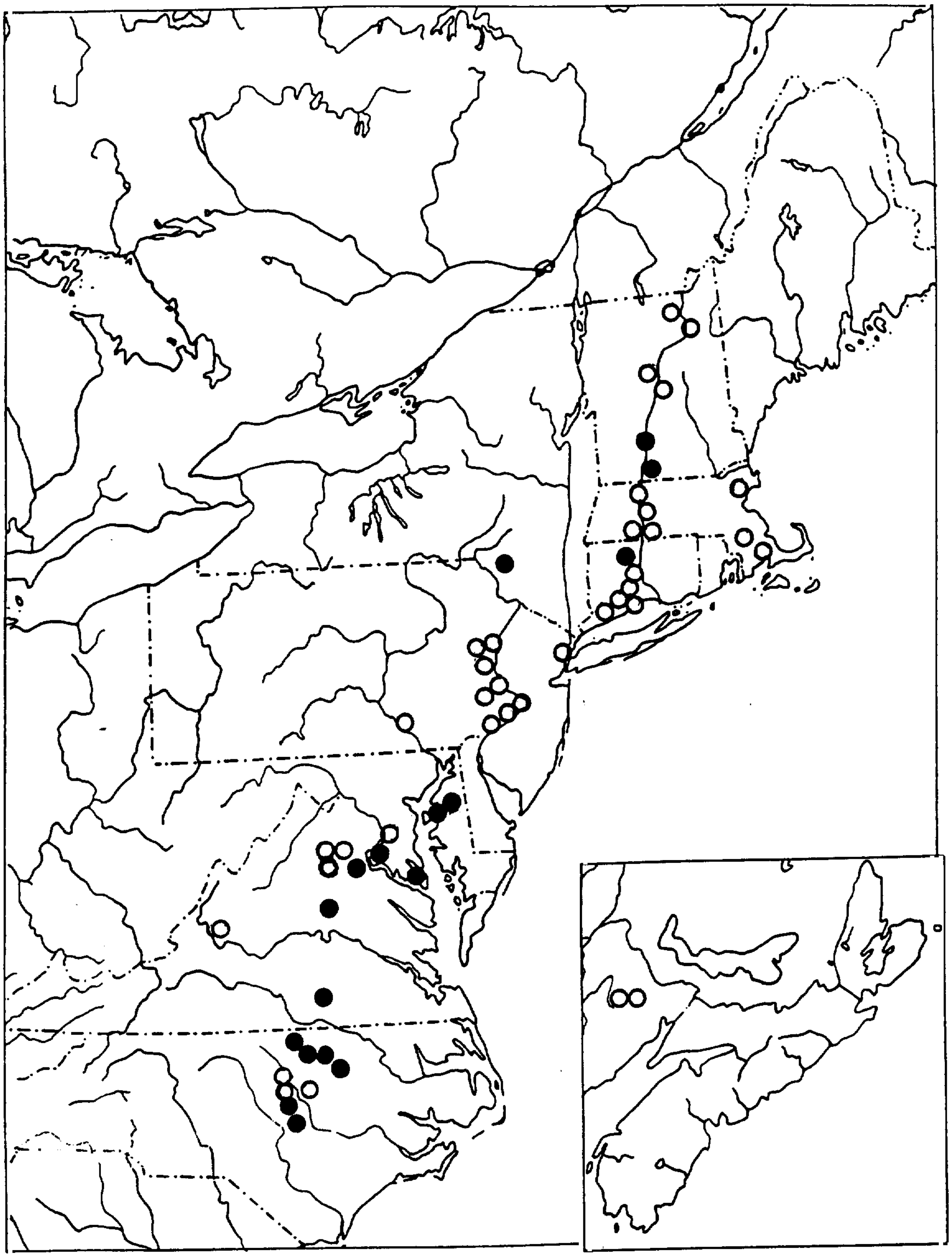
pers. comm.) has indicated that the periods of gravidity and glochidial release are highly variable; much of this variation appears to be based on latitude. Upon release into the water column, mature glochidia of the genus Alasmidonta attach to the fins and soft tissue of the buccal cavity of appropriate host fishes to encyst and eventually metamorphose to the juvenile stage. When metamorphosis is complete, they drop to the streambed as juvenile mussels.

The host fish(es) for A. heterodon have not been determined. Studies are currently underway at the Cooperative Fishery and Wildlife Unit of the Virginia Polytechnic Institute and State University (VPI&SU) to determine this and other life history requirements.

DISTRIBUTION

Historically, the dwarf wedge mussel was widely but discontinuously distributed in Atlantic drainages from the Petitcodiac River in New Brunswick, Canada, south to the Neuse River in North Carolina. The species was known from at least 70 locations in 11 states and one Canadian province.

Master (1986) reported that an extensive status survey of historical and potential sites turned up only eight extant populations. Since then, 12 additional extant populations have been found in Maryland, North Carolina, Virginia, and New York. Although a few additional populations may still be discovered, a clear pattern has emerged -- relatively small, scattered relict populations remain from a once extensive distribution. The Neversink River population in New York, estimated at 80,000 mussels, appears to be the sole exception to this pattern; it far outnumbers any other population, although it occupies a relatively short reach of the river. Figure 4 and Table 1 describe current and historical localities for the dwarf wedge mussel. The locations of the 20 extant populations are as follows:



● = Present occurrence
○ = Historical occurrence, presumed extirpated

Figure 4. Distribution of ***Alasmidonta heterodon***

(insert shows locations in New Brunswick)

Connecticut River Drainage

1. Connecticut River from the confluence with the Ottauquechee River to Weathersfield Bow in Sullivan County, New Hampshire and Windsor County, Vermont
2. Ashuelot River in Cheshire County, New Hampshire
3. Muddy Brook in Hartford County, Connecticut

Delaware River Drainage

4. Neversink River in Orange County, New York

Tuckahoe Creek (Choptank River) Drainage

5. Norwich Creek in Queen Anne's and Talbot Counties, Maryland
6. Long Marsh Ditch in Queen Anne's and Caroline Counties, Maryland

Potomac River Drainage

7. McIntosh Run in St. Mary's County, Maryland
8. Nanjemoy Creek in Charles County, Maryland
9. Aquia Creek in Stafford County, Virginia

York River Drainage

10. South Anna River in Louisa County, Virginia

Nottoway River Drainage

11. Nottoway River in Nottoway and Lunenberg Counties, Virginia

Tar River Drainage

12. Tar River in Granville County, North Carolina
13. Cedar Creek in Franklin County, North Carolina
14. Crooked Creek in Franklin County, North Carolina
15. Stony Creek in Nash County, North Carolina

Neuse River Drainage

16. Little River in Johnston and Wake Counties, North Carolina
17. Swift Creek in Johnston County, North Carolina
18. Middle Creek in Johnston County, North Carolina
19. Turkey Creek in Wilson and Nash Counties, North Carolina
20. Moccasin Creek in Nash, Wilson, and Johnston Counties, North Carolina

Of these populations, those located in the Connecticut River, the Neversink River, and the Upper Tar River appear to be the largest.

Table 1. Historical (H) and present (P) occurrences of the dwarf wedge mussel

	Petitcodiac River System, New Brunswick, Canada	
(H) 1953	North River NW of Salisbury	Westmoreland County, NB
(H) 1960	Petitcodiac River at River Glade	Westmoreland County, NB
	Merrimack River System	
(H)	Merrimack River at Andover	Essex County, MA
	Taunton River System	
(H) 1969	Canoe river near Norton	Bristol County, MA
	Agawam River System	
(H)	Agawam River	Plymouth County, MA
	Connecticut River System	
(H)	Connecticut River at Bloomfield	Essex County, VT
(H)	Connecticut River at Northumberland	Coos County, NH
(H)	Connecticut River at Ryegate	Caledonia County, VT
(H)	Connecticut River N of Monroe	Grafton County, NH
(P)	Connecticut River from confluence with the Ottauquechee River to Weathersfield Bow	Sullivan County, NH and Windsor County, VT
(P)	Ashuelot River near Keene	Cheshire County, NH
(H) 1948	Connecticut River at Northfield	Franklin County, MA
(H) 1979	Connecticut River at Sunderland	Franklin County, MA
(H)	Connecticut River at Chicopee	Hampden County, MA
(H) 1940	Canal at Westfield	Hampden County, MA
(H)	Connecticut River at Springfield	Hampden County, MA
(H) 1951	Scantic River near Hampden	Hampden County, MA
(H) 1984	Fort River in Amherst	Hampshire County, MA
(H) 1973	Mill River at Northampton	Hampshire County, MA
(H)	Connecticut River at Hadley	Hampshire County, MA
(H)	Connecticut River at Granby	Hartford County, CT
(H) 1959	Philo Brook at Suffield	Hartford County, CT
(P)	Muddy Brook	Hartford County, CT
	Quinnipiac River System	
(H)	Ten Mile River at Mixville	New Haven County, CT
(H)	Quinnipiac River at Meriden	New Haven County, CT
(H)	Wilmot Brook at New Haven	New Haven County, CT
	Hackensack River System	
(H)	Brook flowing W from Closter to Hackensack	Bergen County, NJ
	Delaware River System	
(P)	Neversink River	Orange County, NY
(H) 1919	Delaware River at Shawnee	Monroe County, PA
(H) 1919	Princess Creek at Kunkleton	Monroe County, PA
(H)	Pohopoco Creek near Leighton	Carbon County, PA
(H)	Delaware River	Bucks County, PA

Table 1 (continued). Historical (H) and present (P) occurrences of the dwarf wedge mussel

	<u>Delaware River System (continued)</u>	
(H)	Big Neshaminy Creek near Edderson	Bucks County, PA
(H)	Schuylkill River at junction with Darby Creek	Delaware County, PA
(H) 1919	Canal along Schuylkill at Manayunk	Philadelphia County, PA
(H) 1919	Schuylkill River below Fairmount Dam	Philadelphia County, PA
	<u>Susquehanna River System</u>	
(H)	Susquehanna River at Columbia	Lancaster County, PA
	<u>Choptank River System</u>	
(P)	Norwich Creek	Queen Anne's and Talbot Cos., MD
(P)	Long Marsh Ditch	Queen Anne's and Caroline Cos., MD
	<u>Potomac River System</u>	
(H)	Potomac River near Washington, D.C.	Washington, D.C.
(P)	McIntosh Run	St. Mary's County, MD
(P)	Nanjemoy Creek	Charles County, MD
(P)	Aquia Creek	Stafford County, VA
	<u>Rappahannock River System</u>	
(H)	Mountain Run	Culpeper County, VA
(H)	Marsh Run near Remington	Fauquier County, VA
(H)	Blue River	Orange County, VA
	<u>York River System</u>	
(P)	South Anna River	Louisa County, VA
(H)	South Anna River	Hanover County, VA
	<u>James River System</u>	
(H)	Maury River (North River) at Lexington	Rockbridge County, VA
	<u>Nottoway River System</u>	
(P)	Nottoway River	Nottoway and Lunenberg Cos., VA
	<u>Tar River System</u>	
(P)	Tar River	Granville County, NC
(P)	Cedar Creek	Franklin County, NC
(P)	Crooked Creek	Franklin County, NC
(P)	Stony Creek	Nash County, NC
	<u>Neuse River System</u>	
(H)	Neuse River at Poolec Bridge	Wake County, NC
(H)	Neuse River E of Raleigh	Wake County, NC
(H)	Neuse River NE of Wendell	Wake County, NC
(P)	Little River	Johnston and Wake Cos., NC
(P)	Swift Creek	Johnston County, NC
(P)	Middle Creek	Johnston County, NC
(P)	Turkey Creek	Wilson and Nash Cos., NC
(P)	Moccasin Creek	Nash, Wilson, and Johnston Cos., NC

REASONS FOR DECLINE AND THREATS TO CONTINUED EXISTENCE

Although the dwarf wedge mussel still survives at a number of sites, its dramatic decline as well as the small size and extent of most of its remaining populations indicate that it is highly vulnerable to extirpation. Evidence is growing that the decline of Alasmidonta heterodon may be the forerunner of a general decline in the Unionid fauna of the Atlantic slope drainages. For example, recent status surveys indicate that other formerly widespread mussel species, including Alasmidonta varicosa and Lampsilis subviridis, are also declining. This section provides a general discussion of factors that may have contributed to the decline of the dwarf wedge mussel in the various Atlantic slope drainages within its range.

Impoundment

The damming and channelization of rivers throughout the species' range has resulted in the elimination of much formerly occupied habitat. For example, dams have converted much of the Connecticut River mainstream into a series of impoundments (Master 1986). Immediately upstream from each dam, conditions (including heavy silt deposition and low oxygen levels) are inimical to mussel species such as the dwarf wedge mussel. Immediately downstream from these dams, daily water level and water temperature fluctuations resulting from intermittent power generation and hypolimnetic discharges are also stressful to mussels (Master 1986). Some extreme variations in flow have been observed below dams on the Ashuelot River in New Hampshire. Master (1992, in litt.) indicates that mollusks, including the dwarf wedge mussel, have been stranded by extreme low water on two recent occasions -- once when water discharge was lowered from over 100 CFS to 10 CFS in one day, and once in the summer of 1991 when a dam in Keene was under repair.

Natural Heritage & Endangered Species Program

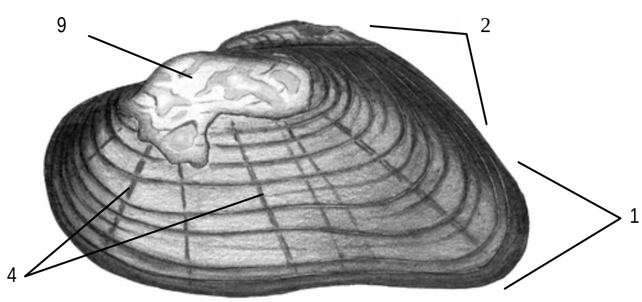
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road,, Westborough, MA 01581
tel: (508) 389-6360; fax: (508) 389-7891
www.nhesp.org

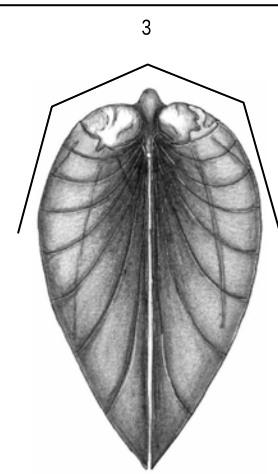
Dwarf Wedgemussel
Alasmidonta heterodon

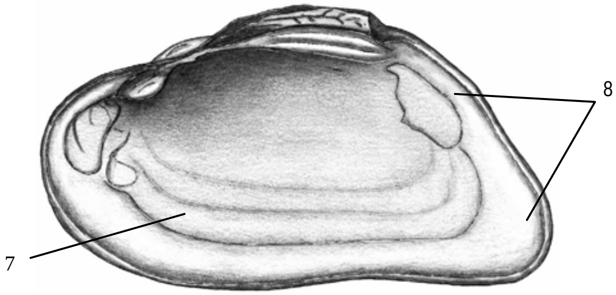
State Status: **Endangered**
Federal Status: **Endangered**

Description: The dwarf wedgemussel is a small species that rarely exceeds 1.75 inches (45 mm) in length; the largest known specimens came from a New Hampshire river and were 2.2 inches (56 mm) long. The shell is triangular or trapezoidal. The posterior end of the shell tapers to a rounded point (1) and has been described as “wedge-shaped,” although this distinctive shape varies with the size and gender of an individual. There is a prominent rounded ridge along the dorso-posterior slope (2). The valves are usually laterally compressed to slightly inflated (3); mature females tend to be more inflated than males. The shell is smooth and may be yellowish-brown, olive-brown, or brownish-black in color. Faint greenish rays (4) are evident on the shells of juveniles and light-colored adults. Hinge teeth are present but delicate. This is the only species in North America that has two lateral teeth (5) on the right valve and one lateral tooth on the left valve (all other species with lateral teeth have the opposite configuration). The dwarf wedgemussel also has pseudocardinal teeth—two on the left valve and one (6) on the right valve. The color of the nacre (7) is bluish-white and often iridescent along the posterior margin (8). The foot is often a pale beige or slightly orange color.

Similar Species in Massachusetts: The small size, wedge shape, and hinge tooth morphology of this species make shells easily distinguishable from all other species in New England. None of the species it might be confused with (brook floater, triangle floater, and creeper) has lateral teeth. However, live animals, which are often identified based on variable features such as shape or color, can sometimes be difficult to distinguish from a young brook floater, triangle floater, or creeper. Unlike the brook floater, the dwarf wedgemussel lacks corrugations along the dorso-posterior slope and its feet are not cantaloupe colored. The triangle floater is more subovate and laterally inflated than the dwarf wedgemussel and has coarse uneven beak sculpturing (9). To the novice, it is most difficult to distinguish between dwarf wedgemussels and young creepers because their shape and color are







Illustrations by Ethan Nedeau

Text contributed by Ethan Nedeau, December 2007,Eastern Pondmussel Fact Sheet.

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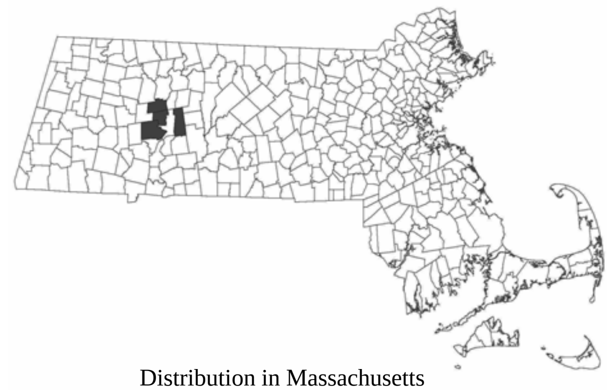
similar. The dwarf wedgemussel is a federally endangered species and it is imperative that animals are not harmed or removed from the water. Furthermore, commonly confused species are also protected in Massachusetts and an expert should always be consulted.

Range: The historic range of the dwarf wedgemussel included 70 locations in 15 major Atlantic coastal watersheds from North Carolina to eastern New Brunswick. By the early 1990s, its range was thought to have shrunk to approximately 20 locations in eight watersheds (USFWS 1993). In the last 15-18 years, biologists have rediscovered populations that were considered extirpated and discovered entirely new populations (Nedeau 2006). It is currently known from 70 locations in 15 major watersheds, with the largest populations in the Connecticut River watershed (Nedeau 2008). In Massachusetts, live animals have been found in only three water bodies in the Connecticut River watershed in the last 25 years.

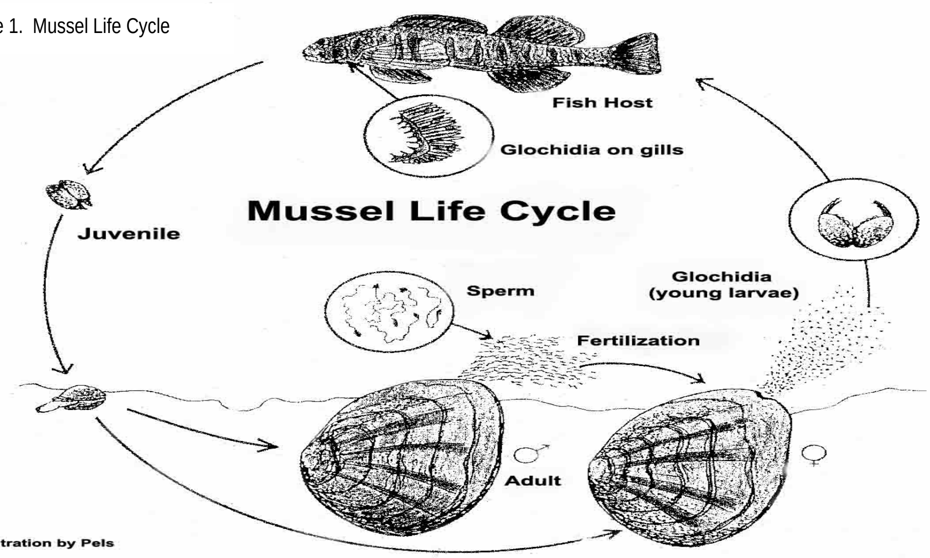
Habitat: The dwarf wedgemussel is a generalist in terms of its preference for stream size, substrate, and flow conditions (Nedeau 2008). It inhabits small streams less than five meters wide to large rivers more than 100 meters wide. It is found in a variety of substrate types including clay, sand, gravel, and pebble, and often in areas of rivers with large amounts of silt (e.g., depositional areas and near banks). The dwarf wedgemussel inhabits very shallow water along streambanks and can move laterally or horizontally in the substrate as water levels fluctuate, but they have also been found at depths of 25 feet in the Connecticut River. The dwarf wedgemussel does not inhabit lakes or reservoirs but may occur in small impoundments created by run-of-river lowhead dams, beaver dams, or by natural landforms that create deep and stable stream reaches. An increasing number of published studies and field observations suggest that stable flow and substrate are critical for this species (reviewed in Nedeau 2008). Dwarf wedgemussels are often patchily distributed in rivers, especially those with highly variable physical habitat and fragmenting features such as dams and culverts. Identifying and protecting these patches are critical for conserving the species.



Distribution in Massachusetts
1984-2009
Based on records in Natural Heritage Database

Biology: Dwarf wedgemussels are essentially sedentary filter feeders that spend most of their lives partially burrowed into the bottoms of rivers and streams. Like all freshwater mussels, larvae (called glochidia) of the dwarf wedgemussel must attach to the gills or fins of a vertebrate host to develop into juveniles. The tessellated darter is considered the primary host in the Connecticut River watershed and its range is most congruent with that of the dwarf wedgemussel, but several other fish (e.g., Atlantic salmon) have been identified as potential hosts (Nedeau 2008). Tessellated darters do not move very far—usually less than 100 meters during their short lives—thus the

Figure 1. Mussel Life Cycle



Text contributed by Ethan Nedeau, December 2007,Eastern Pondmussel Fact Sheet.

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dispersal ability of dwarf wedgemussels may be low and the rate at which they might recolonize former habitat is slow (McLain and Ross 2005). The life span of a dwarf wedgemussel is considered less than 12 years (Michaelson and Neves 1995), which is young compared with many other freshwater mussel species in the Northeast. Short life spans, low fecundity, high degree of host specificity, limited dispersal ability of its primary host, and low population densities likely all contribute to the endangered status of the dwarf wedgemussel.

Population Status in Massachusetts: The dwarf wedgemussel is one of the most endangered mussels in all of northeastern North America. It is listed as endangered in Massachusetts and protected under the Massachusetts Endangered Species Act (MG.L. c.131A) and its implementing regulations (321 CMR 10.00), and is the only federally endangered mussel in the state. In Massachusetts, it was historically known from the mainstem Connecticut River, several of its tributaries, and four other rivers in the southeastern and northeastern parts of the state. It is now believed extirpated from most of these sites (USFWS 1993) and recent (<25 years) records are confined to just a four water bodies within the Connecticut River watershed. Dwarf wedgemussels occur discontinuously within these river systems and usually at low population densities, raising concern about the viability of the populations.

Threats: Because dwarf wedgemussels are essentially sedentary filter feeders, they are unable to flee from degraded environments and are vulnerable to the alterations of waterways. Some of the many threats to the dwarf wedgemussel and its habitat in Massachusetts include: nutrient enrichment, sedimentation, point-source pollution, alteration of natural flow regimes, water withdrawal, encroachment of river corridors by development, non-native and invasive species, habitat fragmentation caused by dams and road-stream crossings, and a legacy of land use that has greatly altered the natural dynamics of river corridors (Nedeau 2008). Bacterial pathogens and nitrogenous wastes can cause problems downslope and downstream of agricultural lands; ammonia-nitrogen is considered particularly toxic to mussels. In 2001, runoff from a small farm killed more than 25 dwarf wedgemussels and hundreds of other mussels in a river in Massachusetts. Livestock allowed access to streams can severely damage mussel communities by trampling mussels, causing sedimentation, destabilizing streambanks, and defecating in the water.
In addition, the long-term effects of regional or global problems such as acidic precipitation, mercury, and climate change are considered severe but little empirical data relates these stressors to mussel populations. As local populations of dwarf wedgemussels decline and/or become extirpated in response to these threats, dispersal distances between populations increase, weakening overall reproductive success, and ultimately genetic diversity.

Conservation and Management Recommendations: Discovery and protection of viable mussel populations is critical for the long-term conservation of freshwater mussels. Currently, much of the available mussel occurrence data are the result of limited presence/absence surveys at road crossings or other easily accessed points of entry. Regulatory protection under MESA only applies to rare species occurrences that are less than 25 years old. Surveys are critically needed to monitor known populations, evaluate habitat, locate new populations, and assess population viability at various spatial scales (e.g., river, watershed, state) so that conservation and restoration efforts, as well as regulatory protection, can be effectively targeted. The NHESP has produced *Freshwater Mussel Habitat Assessment* and *Survey Guidelines* and has been working with qualified experts to conduct surveys. Other conservation and management recommendations include:

- Maintain naturally variable river flow and limit water withdrawals
- Identify, mitigate, or eliminate sources of pollution to rivers
- Identify dispersal barriers (e.g., dams, impassable culverts) for host fish, especially those that fragment the species range within a river or watershed, and seek options to improve fish passage or remove the barrier
- Maintain adequate vegetated riparian buffer
- Protect or acquire land at high priority sites

Further Reading

Lefevre, G., and W.C. Curtis. 1911. Metamorphosis without parasitism in the Unionidae. *Science* 33: 863-865.

McLain, D.C., and M.R. Ross. 2005. Reproduction based on local patch size of *Alasmidonta heterodon* and dispersal by its darter host in the Mill River, Massachusetts, USA. *Journal of the North American Benthological Society* 24:139-147.

Michaelson, D.L., and R.J. Neves. 1995. Life history and habitat of the endangered dwarf wedgemussel *Alasmidonta heterodon* (Bivalvia: Unionidae). *Journal of the North American Benthological Society* 14:324-340.

Nedeau, E.J. 2008. *Freshwater Mussels and the Connecticut River Watershed.* Connecticut River Watershed Council, Greenfield, Massachusetts. xviii+ 132 pp.

Nedeau, E.J. 2006. In Hopes the Dwarf Wedgemussel Survives. *Gulf of Maine Times*, Winter 2006.

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Raithel, C.J., and R.H. Hartenstine. 2006. The Status of Freshwater Mussels in Rhode Island. *Northeastern Naturalist* 13(1): 103-116.

Text contributed by Ethan Nedeau, December 2007,Eastern Pondmussel Fact Sheet.

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Strayer, D.L., S.J. Sprague, and S. Claypool. 1996. A range-wide assessment of populations of *Alasmidonta heterodon*, an endangered freshwater mussel (Bivalvia: Unionidae). *Journal of the North American Benthological Society* 15(3): 308-317.

Vaughn, C. 1993. Can biogeographic models be used to predict the persistence of mussel populations in rivers? pp.117-122 *in* K.S Cummings, A.C. Buchanan and L.M. Koch (eds)., Conservation and Management of Freshwater Mussels: proceedings of a UMRCC symposium, 12-14 October 1992, St. Louis, Missouri. Upper Mississippi River Cons. Com., Rock Island, Illinois. 189 pp.

United States Fish and Wildlife Service (USFWS). 1993. Dwarf Wedge Mussel (*Alasmidonta heterodon*) Recovery Plan.

Updated: 11/01/09

Text contributed by Ethan Nedeau, December 2007,Eastern Pondmussel Fact Sheet.

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ATTACHMENT B

Consultation with Services

MACTEC

engineering and constructing a better tomorrow

February 17, 2011

U.S. Fish and Wildlife Service
New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087

RE: Request for Cultural Resource Information
Former Besley/Bendix Products Site
180 Laurel Street
Greenfield, MA 01301-3109
MACTEC Project No. 3650090145

Dear Fish and Wildlife Reviewer:

MACTEC Engineering and Consulting, Inc. (MACTEC) respectfully requests information regarding the presence of rare, threatened, and endangered species and associated critical habitat known in the vicinity of the Former Besley/Bendix Products Site located at 180 Laurel Street in Greenfield, Franklin County, Massachusetts (please refer to the attached Site Locus Map). We are requesting this information as part of a National Pollutant Discharge Elimination System (NPDES) 2010 Remedial General Permit (RGP) renewal application.

From a preliminary review of information provided in the NPDES 2010 RGP (Appendix II: *Endangered Species Act: List of Species by County in Massachusetts and New Hampshire*), we identified the northeastern bulrush and dwarf wedgemussel that exist in Franklin County, Massachusetts. We request any further information about the presence of this species in the vicinity of the Former Besley/Bendix Products Site.

Please feel free to call Annette McLean at 781-213-5608 or Kerry Tull at 781-213-5637 with any questions regarding this request. Thank you in advance for this information.

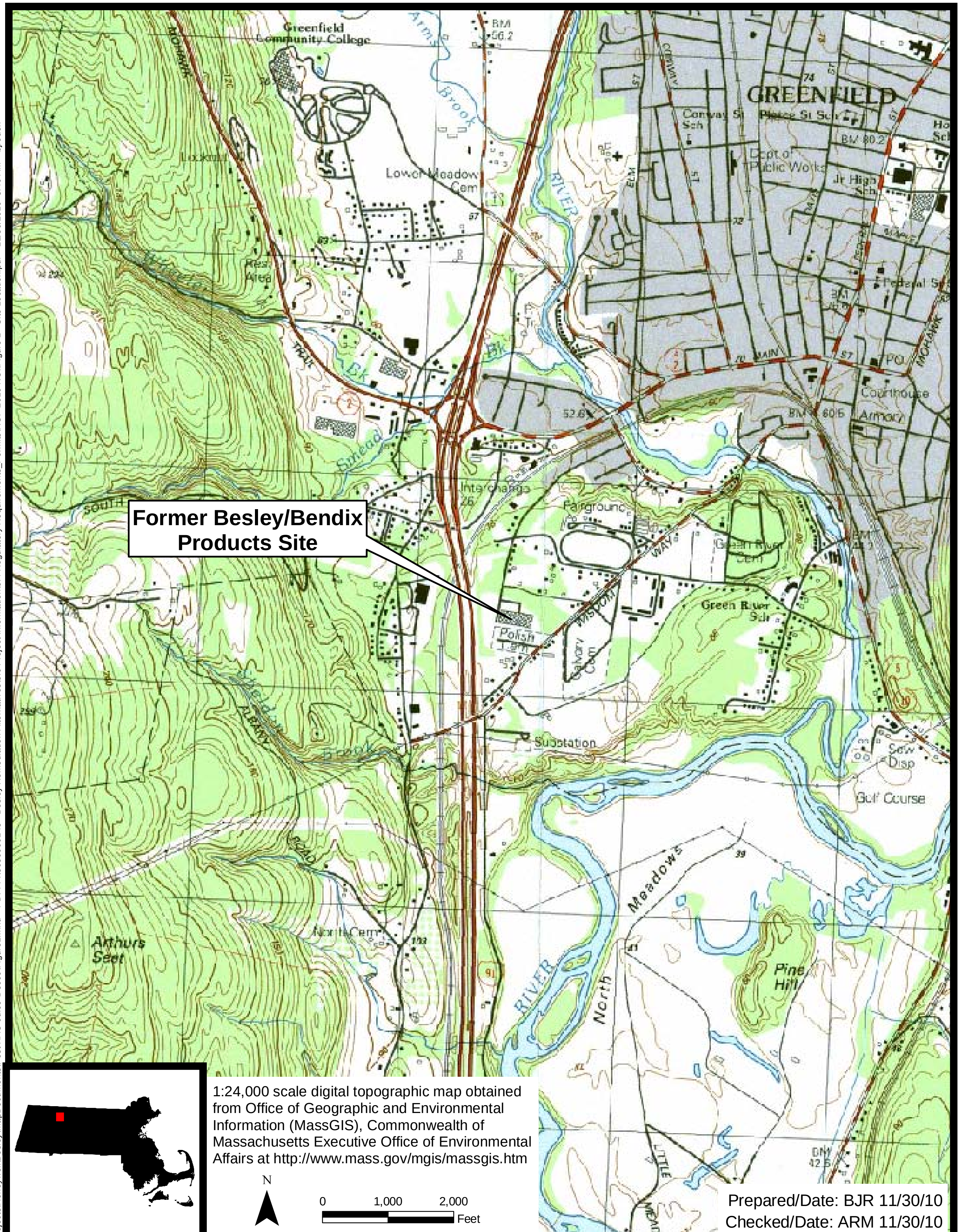
Sincerely,
MACTEC, Engineering and Consulting, Inc.

Annette McLean
Project Scientist

Kerry R. Tull, LSP
Senior Principal

Attachment: Figure 1 – Site Location

cc: Maria Kaouris, Honeywell
MACTEC Project File
P:\3650090145 - Besley Remediation Alternatives\5.0 Project Information\5.4 Regulatory Requirements_Permits\RGP 2010 NOI\USFWSrequest-Besley.doc



1:24,000 scale digital topographic map obtained from Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs at http://www.mass.gov/mgis/massgis.htm

Prepared/Date: BJR 11/30/10
Checked/Date: ARM 11/30/10

Honeywell International Inc. Former Besley/Bendix Products Site Greenfield, MA	MACTEC	Site Location Project 3650-09-0145 Figure 1

Document: P:\GIS\Projects\Honeywell\Besley\MapDocuments\Post RAO Jul09-Dec09\Figure1.mxd PDF: P:\3650090145 - Besley Remediation Alternatives\5.0 Project Information\5.4 Regulatory Requirements_Permits\RGP 2010 NOI\Figure 1 - Site Location.pdf 11/30/2010 8:46 AM bjroden