# COMPENSATORY WETLAND ENHANCEMENT SITES MONITORING REPORT 2015

Maurice Rose Armed Forces Reserve Center Boardman Lane Wetland Mitigation Site Middletown, Connecticut







Headquarters, 99<sup>th</sup> Regional Support Command 5231 South Scott Plaza Fort Dix, New Jersey 08640-5062

December 2015

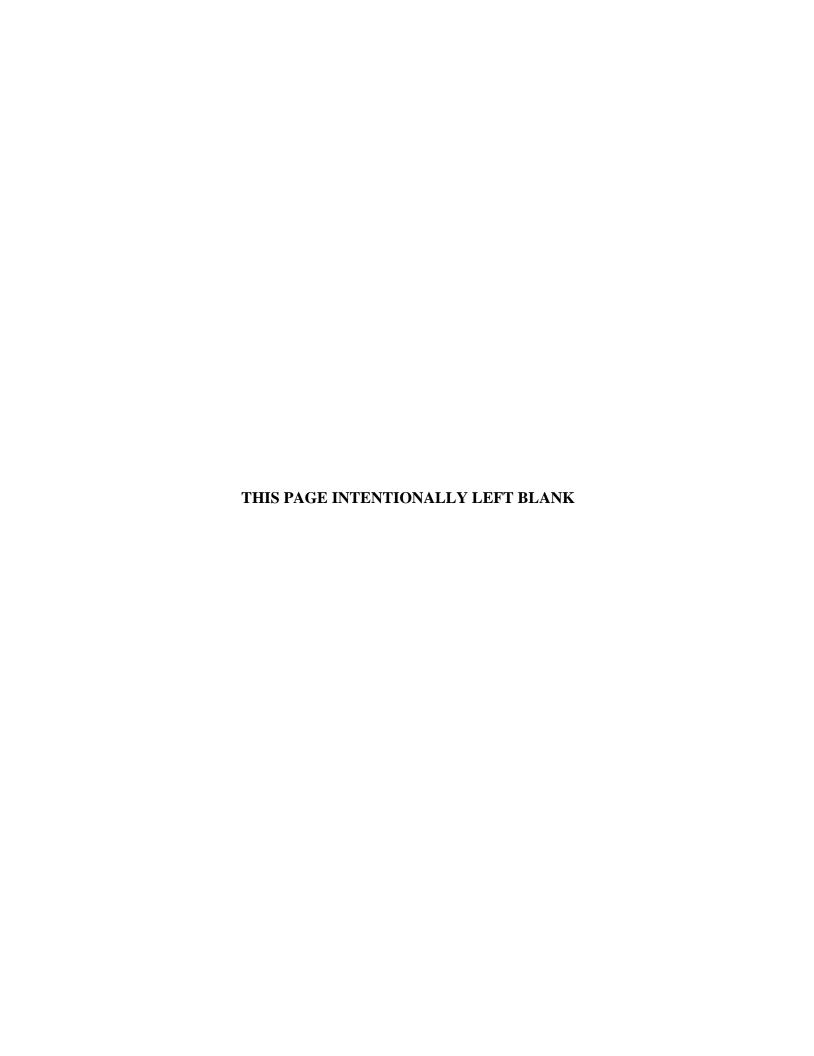
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#### 1.0 PROJECT OVERVIEW

This report presents the findings of wetland monitoring at two 99<sup>th</sup> Regional Support Command (RSC) wetland mitigation sites located in Middletown, Connecticut. The U.S. Army Corps of Engineers (USACE), Baltimore District conducted monitoring in May and September 2015 on behalf of the 99<sup>th</sup> RSC.

Both sites are currently out of compliance with the conditions of the permit. Invasive species control has not been conducted at either site and as a result, invasive species are beginning to spread throughout the Boardman Lane site and stands of common reed are expanding at the Smith Street site. Pursuant to the two options outlined in the USACE New England Regulatory Division correspondence to address the failure of the 4-acre Boardman Lane planting site, the option to make an In-lieu fee payment of \$88,241.02 was made to the Connecticut Chapter of the National Audubon Society on October 15, 2015.

The 99<sup>th</sup> RSC constructed the Maurice Rose Armed Forces Reserve Center (AFRC) and accompanying support facilities in accordance with the Defense Base Realignment and Closure (BRAC) Act of 1990 (Public Law 101-510) and ("BRAC Commission") recommendations. Portions of the Maurice Rose AFRC impacted non-tidal wetlands on the 40-acre Cucia Park property located on Smith Street in Middletown, Connecticut. The USACE, New England District, Regulatory Branch issued a Department of the Army Individual Permit (NAE-2008-2372) to USACE, Louisville District in care of the 99<sup>th</sup> RSC. The permit was issued for impacts to 1.5 acres of non-tidal wetlands. The permit is contingent upon compensatory wetlands mitigation to replace the lost functions and values of the impacted wetlands at the project site. This mitigation will be in the form of enhancement and invasive species control at both on-site and off-site locations (Appendix A, Figure 1).

The on-site mitigation project is identified as "Smith Street" and involves 0.75 acres of wetland and upland buffer enhancement plantings located adjacent to the impact areas. It also includes invasive vegetation species control and management within a 20-acre area neighboring Sawmill Brook (Appendix A, Figure 2). The off-site mitigation project, which is owned by the Middlesex Land Trust, but remains the responsibility of the 99<sup>th</sup> RSC, is identified as "Boardman Lane" and involves enhancement plantings and invasive species control within a 4-acre riparian area. It includes invasive species control and Box Turtle Habitat Management within a 10-acre area. Both sections of the off-site area are identified as grazed wet meadow (Appendix A, Figure 3).

The permit contains special conditions in the form of a wetland monitoring plan. This plan requires that both sites be routinely evaluated for a minimum of five years to ensure that the mitigation planting measures are successful and a minimum of 10 years to ensure the successful control of invasive species. The conditions further state that periodic monitoring reports are to be prepared which contain information indicating an inventory of the health of the surviving planted enhancement species. The reports will include a percent aerial coverage to show if invasive species are being successfully controlled. The reports will also include representative photographs of the sites, with the locations and orientation of each photograph, and a written plan to correct any deficiencies identified during the monitoring phase.

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#### 2.0 REQUIREMENTS

The goal of the on-site and off-site mitigation projects is to replace the lost functions and values of the impacted wetlands. This mitigation includes enhancement and protection of wildlife habitat, groundwater discharge, and water quality through plantings and invasive species control at the Smith Street and Boardman Lane locations.

### SMITH STREET (CUCIA PARK)

Compensatory mitigation measures at the Smith Street site include 0.75 acres of wetland and upland buffer enhancement plantings and 20 acres of invasive vegetation species control and management. The planting plan includes a variety of native woody species and native herbaceous seed mixes, in accordance with the enclosed planting plan prepared by AECOM, entitled: *Overview On-Site Mitigation Cucia Park*, *drawing number 4 of 6*, dated December 2009 (Appendix A, Figure 4), which is included in the mitigation plan, entitled: *Integrated Wetland Resource Stewardship Plan*, *Armed Forces Reserve Center Project, On-site Mitigation Area*, 375 Smith Street, Middletown, CT, dated January 28, 2011. Planted shrub species range in height from 18 to 24 inches and sapling species range in height from 4 to 6 feet.

## **BOARDMAN LANE**

Compensatory mitigation measures at the Boardman Lane site include permanent preservation of a 40-acre area consisting of 17 acres of wetland and 23 acres of upland. Within the 40-acre area, 14-acres of grazed wet meadow and 4-acres of riparian zone are being enhanced with native woody plantings and invasive species control. Ten acres of the grazed wet meadow are being managed for Box Turtle and Squarrose Sedge Habitat. The habitat management involves not only invasive species control, but also mowing restrictions to provide optimal conditions for box turtle habitat.

AECOM prepared a planting plan which includes a variety of native woody species and native herbaceous seed mixes. The plan is entitled: *Planting Plan, Off-Site Mitigation, Boardman Lane, drawing number 2 of 6*, dated December 2009, which is included in the mitigation plan, entitled: *Integrated Wetland Resource Stewardship Plan, Armed Forces Reserve Center Project, Boardman Lane Off-site Mitigation Area, 218 Boardman Lane, Middletown, CT*, dated January 28, 2011 (Appendix A, Figure 5). The planted shrub species are approximately 18 inches in height and the sapling species range in height from 18 to 24 inches.

Invasive species control and management at both sites involves the removal of existing invasive species, as well as control of newly observed species during successive monitoring years. The invasive species include, but are not limited to, common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), autumn olive (*Elaegnus umbellata*), multiflora rose (*Rosa multiflora*), Oriental bittersweet (*Celastrus orbiculatus*), honeysuckle (*Lonicera sp.*), reed canarygrass (*Phalaris arundinacea*), Japanese knotweed (*Fallopia japonica*), Russian olive (*Elaeagnus angustifolia*), and smooth and common buckthorns (*Frangula alnus* and *Rhamnus frangula*).

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#### 3.0 SUMMARY DATA

## **GENERAL SITE CONDITIONS**

#### SMITH STREET (CUCIA PARK)

The Smith Street mitigation site is owned and operated by the 99<sup>th</sup> RSC. At this location, the Army has recently constructed the Maurice Rose AFRC and accompanying support facilities. The AFRC consists of a five-story training facility, covering approximately 164,000 square-feet, an Organizational Maintenance Shop, covering approximately 34,979-square feet, and a storage building, covering approximately 3,886-square feet. The combined facilities support approximately 900 personnel, including reservists and civilians. The site is located on Smith Street in Middletown, Connecticut. Interstate 91 borders the site to the east and Sawmill Brook and its associated floodplain boarder the site to the west. The surrounding area is characterized by mixed land use, including commercial and industrial businesses, agricultural land, and residential properties. The site was selected due to the preference for on-site mitigation when possible.

#### **BOARDMAN LANE**

The Boardman Lane site is approximately 40-acres in size and is located north of Boardman Lane in Middletown, Connecticut. The site lies within the Lower Connecticut River Watershed and encompasses reaches of Richards Brook and Sawmill Brook and their associated floodplain. The majority of the site has soils that exhibit hydric indicators (which is consistent with the mapped Wilbraham silt loam complex associated with the floodplains of Sawmill and Richards Brooks). Wetlands extend over the eastern portion of the site. The western portion of the site rises slightly and is upland meadow. Forested uplands are found off-site to the west and north; forested and residential property off-site to the east and residential property to the south bordering Boardman Lane.

Although the 99<sup>th</sup> RSC is the responsible party for the Section 404 permit, the Boardman Lane site is owned by the Middlesex Land Trust, which has a Cooperative Agreement with the 99<sup>th</sup> RSC allowing site access for installation of the mitigation plantings and biannual monitoring. The site is used by a diverse mix of wildlife typical to upland forest, forested wetlands and agricultural fields in this region. Upland habitats on the site are comprised of mixed hardwood/coniferous forests, scrub/shrub areas, old agricultural fields, and pastureland. This site was selected because it offered the most preferred conditions of the alternatives investigated, and it is within the same watershed as the project site. Sufficient acreage exists at this site to achieve the mitigation ratios in accordance with USACE guidance.

Site visits were conducted on 20-22 May and 22-24 September 2015. Temperatures ranged from 55 to 60 degrees Fahrenheit with partly sunny conditions, during both visits. Precipitation events prior to the site visits were normal and typical for the season.

# **SITE VISIT FINDINGS**

#### SMITH STREET (CUCIA PARK)

#### **VEGETATION**

The findings of the Spring and Fall 2015 site visit are summarized in Table 3-1. Species counts were the same, as were site conditions, during both surveys. Overall, the plantings appeared healthy with the exception of the mountain laurel (*Kalmia latifolia*). All the planted mountain laurel was dead or in very poor condition. Some of the plant material was installed improperly (too high above grade) although, most of the individuals in this condition appear to be surviving. Very little mulch was observed in the planting areas.

Multiple volunteer tree species (seedling and sapling) were found in and around the mitigation plantings. The volunteer species observed were red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), slippery elm (*Ulmus rubra*), green ash (*Fraxinus pennsylvanica*), American sycamore (*Platanus occidentalis*), and cottonwood (*Populus deltoides*). The presence of these volunteers indicates favorable conditions within the site and the probable success of the site in the future.

**Cover Type** Scientific Name **Common Name Plantings** Observed Survival (Per Plan) **Rate (%)** (Good Health) Trees Pinus strobus White pine 106 68 72 Juniperus virginiana Red cedar 44 39 113 Shrub Kalmia latifolia Mountain laurel 90 0 0 Ilex verticillata Winterberry holly 15 57 380 Viburnum dentatum Arrowwood 60 25 41 Highbush blueberry 105 45 43 Vaccinium corymbnosum Clethra alnifolia Sweet pepperbush 53 71 New England Conservation Wildlife Mix Seed Mix New England Wetmix (Wetland Seed Mix)

Table 3-1: Plantings and Observations at Smith Street

Based on the observed number of surviving mitigation plantings (assuming the deviations from the planting schedule are acceptable) the combined survival rate is currently at 107 percent. This is well above the required greater than 75 percent survival and does not take into account the native woody volunteers, which further increases the success of this site.

Invasive species observed within the planting areas included multiflora rose, common reed, autumn olive, reed canary-grass, Oriental bittersweet, bush honeysuckle, Chinese privet (*Ligustrum sinense*), and buckthorn. These species are currently scattered and sparse, but if not properly controlled, are likely to overrun the planting areas.

Herbaceous species from the two seed mixes, New England Conservation Wildlife Mix and New England Wetmix, appeared to be doing well with approximately 80 percent coverage in the respective areas.

Soils and hydrology at the site are consistent with previous monitoring years. The details of this investigation are documented on the enclosed Data Forms for sample locations S1 and S2 (Appendix B), and the location is indicated on the location map (Appendix C, Figure 1). Since no treatments have been performed within the 20-acre area of invasive species control, the areas mentioned in the previous reports still require treatment. Several areas of common reed observed in 2013 and 2014 have slightly increased in size, but no additional areas were observed.

The stormwater management facility is functioning properly, but requires some minor repairs as stated in the letter dated 19 June 2015 from the New England District USACE (Appendix A). It is anticipated that the minor repairs to the stormwater management system will be made shortly after a contractor is retained by the 99th RSC.

# FISH and WILDLIFE

Wildlife species observed during spring and fall efforts included northern oriole (*Icterus galbula*), northern flicker (*Colaptes auratus*), blue jay (*Cyanocitta cristata*), American robin (*Turdus migratorius*), tufted titmouse (*Baeolophus bicolor*), grey catbird (*Dumetella carolinensis*), common grackle (*Quiscalus quiscula*), great crested flycatcher (*Myiarchus crinitus*), common yellowthroat (*Geothlypis trichas*), green frog (*Rana clamitans*), meadow vole (*Microtus pennsylvanicus*), and white-tailed deer (*Odocoileus virginianus*). Additionally, the tracks of raccoon (*Procyon lotor*) and opossum (*Didelphimorphia* sp.) were observed near Sawmill Brook. The majority of these species are permanent residents of this area except the northern oriole, great crested flycatcher, common yellowthroat and possibly the common grackle, which are migratory.

# **BOARDMAN LANE**

#### **VEGETATION**

The 4-acre planting area was mowed prior to the Fall 2013 monitoring visit. The findings of the Spring and Fall 2015 site visit are summarized in Table 3-2. A few trees from the original planting remain, but the majority of the site is currently meadow. Swamp white oak (*Quercus bicolor*), silky dogwood (*Cornus amomum*), speckled alder (*Alnus rugosa*), multiple re-sprouts from the stumps of mowed pin oak (*Quercus palustris*), and common elderberry (*Sambucus canadensis*) can be found sporadically through the site. Common herbaceous species include goldenrod (*Solidago* spp.), common milkweed (*Asclepias syriaca*), curly dock (*Rumex crispis*), wild madder (*Gallium mollugo*), scouring rush (*Equisetum arvense*), virgins bower (*Clematis virginiana*), small-flowered agrimony (*Agrimonia parviflora*), and red clover (*Trifolium pratense*). Herbaceous ground cover was between 95-100 percent. Consistent with the planting plan (Appendix A, Figure 5) the table also breaks out Type I and II planting clusters.

Invasive species observed in the 4-acre planting area and the hedgerow include multiflora rose, common buckthorn, purple loosestrife, brown knapweed, Canada thistle, Oriental bittersweet, reed canary-grass, common reed, autumn olive, and bush honeysuckle. Cover by invasive species was approximately 40-45 percent.

Soil samples were taken at two locations, B1 and B2. Soil color and texture were consistent with previous monitoring events. Soils at B1 did not have hydric characteristics nor was wetland hydrology present. The details of this investigation are documented on the enclosed Data Forms for sample locations B1 and B2 (Appendix B), and the location is indicated the location map (Appendix C, Figure 2).

Table 3-2: Plantings and Observations at Boardman Lane

Area	Cover Type	Scientific Name	Common Name	Plantings	Observed
				(Per Plan)	
Wet Meadow	Shrub	Viburnum dentatum	Arrowwood	55	10
		Clethra alnifolia	Sweet pepperbush	60	0
		Vaccinium corybosum	Highbush blueberry	75	0
		Cornus amomum	Silky dogwood	60	25
		Salix discolor	Pussy willow	95	0
		Alnus rugosa	Speckled alder	60	2
		Sambucus canadensis	Elderberry	55	5
PFO	Canopy	Quercus palustris	Pin oak	180	Multiple re-
					sprouts
		Acer rubrum	Red maple	660	2
		Populus deltoides	Cottonwood	400	0
		Acer saccharinum	Silver maple	240	0
		Quercus bicolor	Swamp white oak	120	20
<b>PFO Planting</b>				Plantings	
Cluster		Scientific Name	Common Name	(Per Plan)	Observed
Type I		Quercus palustris	Pin oak	30	
		Acer rubrum	Red maple	50	
		Populus deltoides	Cottonwood	20	
		Acer saccharinum	Silver maple	40	Identified
		Quercus bicolor	Swamp white oak	20	Above
Type II		Acer rubrum	Red maple	90	
		Populus deltoides	Cottonwood	70	

The 10-acre area designated as Box Turtle and Squarrose Sedge Habitat had not been mowed recently. Herbaceous cover was approximately 100 percent with native species including woolgrass (*Scirpus cyperinus*), Joe Pye weed (*Eutrochium purpureum*), common milkweed, common boneset (*Eupatorium perfoliatum*), and narrow-leaved mountain mint (*Pycnanthemum tenuifolium*).

Moderate invasive species cover was identified within this area. Reed canary-grass and purple loosestrife are common in all wetland areas.

#### FISH and WILDLIFE

Observations during Spring and Fall efforts included American robin, song sparrow (*Melospiza melodia*), European starling (*Sturnus vulgaris*), red-winged blackbird (*Agelaius phoeniceus*), common yellowthroat, barn swallow (*Hirundo rustica*), mourning dove (*Zenaida macroura*), blue jay, northern oriole, yellow warbler (*Setophaga petechia*), red-bellied woodpecker (*Melanerpes carolinus*), tree swallow (*Tachycineta bicolor*), great crested flycatcher, orchard oriole (*Icterus spurious*), chimney swift (*Chaetura pelagic*), common grackle, northern cardinal (*Cardinalis cardinalis*), green frog, pickerel frog (*Lithobates palustris*), Eastern ribbon snake (*Thamnophis sauritus sauritus*), northern watersnake (*Nerodia sipedon*), white-tailed deer, tiger swallowtail butterfly (*Papilio glaucus*), and common whitetail dragonfly (*Plathemis lydia*).

#### 4.0 CONCLUSIONS

# SMITH STREET (CUCIA PARK)

The majority of the on-site mitigation project appears to be in compliance with the compensatory mitigation planting plan except for the lack of invasive species management. All plantings, except mountain laurel, appear healthy. The exact numbers of planting for some species do not match the planting schedule, but the number of surviving plants is greater than 75 percent, which meets the standard for success. Additionally, there are multiple volunteer native woody species.

Invasive species observed within the planting areas include multiflora rose, common reed, autumn olive, reed canary-grass, Oriental bittersweet, bush honeysuckle, Chinese privet, and buckthorn. Invasive species are not currently taking over the planting areas. There are three stands of common reed located within the invasive species management area, on the fringes of the mitigation planting areas.

#### **Recommended actions include:**

- 1. Coordinate herbicide application to coincide with Spring 2016 monitoring effort.
- 2. Eradicate the three stands of common reed located on the fringes of the buffer plantings area, as indicated on the enclosed map (Appendix C, Figure 1). The stands can be seen in the photos taken at the site identified as Photos 6, 7 and 8.
- 3. Eliminate the invasive species identified within and adjacent to the buffer plantings.
- 4. Continue regular monitoring to ensure removal of invasive species and survival of buffer plantings.
- 5. Do not replant mountain laurel. This species is not normally found in this habitat, and as such, it is recommended that it not be replanted.

#### **BOARDMAN LANE**

The off-site mitigation site is not in compliance with the compensatory mitigation planting plan and invasive species management. The majority of the planting had been moved prior to the Fall 2013 site visit, due to mortality.

The 10-acre invasive species control and mowing management area is not in accordance with the compensatory mitigation plan. No mowing had occurred, which is consistent with the mitigation plan. However, invasive species cover is increasing in this area, especially in the wetlands.

#### **Recommended actions include:**

- 1. Pursuant to correspondence from the NE District Regulatory Division dated 19 June 2015, the two options were available to address the non-compliance:
  - a. Replant the 4-acre mitigation site.
  - b. Make a payment to the Connecticut In-Lieu Fee Program instead of replanting.

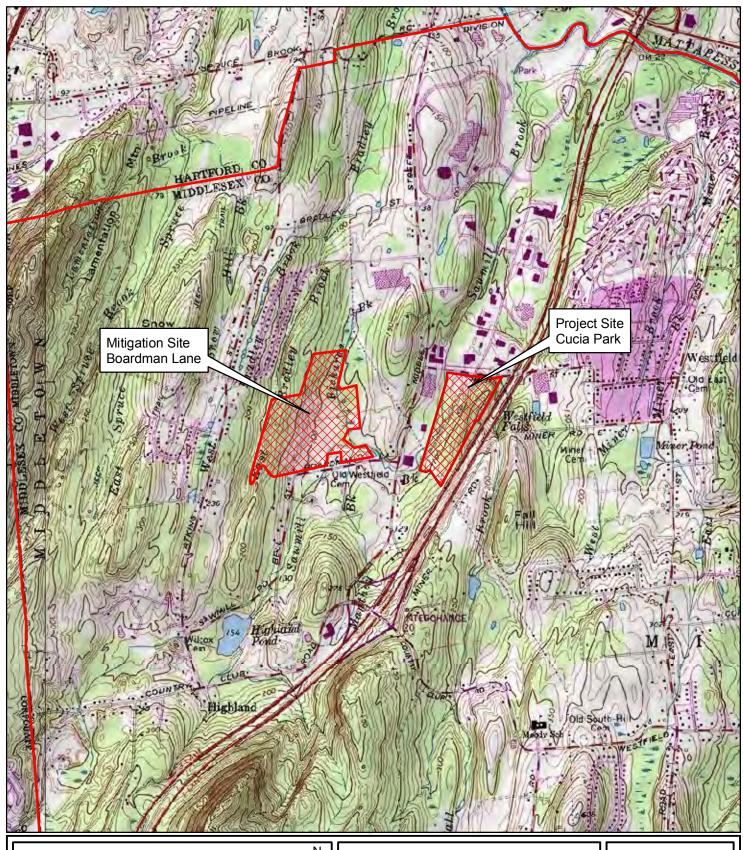
Option "b" was selected and an In-lieu fee payment of \$88,241.02 was made to the Connecticut Chapter of the National Audubon Society on October 15, 2015.

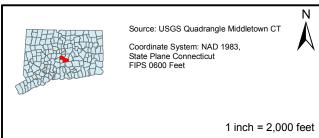
- 2. Coordinate herbicide application to coincide with Spring 2016 monitoring effort.
- 3. Eradicate the invasive species identified within the planting areas and the habitat management areas.
- 4. Continue to mow the habitat management area per the mitigation plan.
- 5. Monitor the site on a regular basis to ensure control of invasive species is working.

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Appendix A

Maps





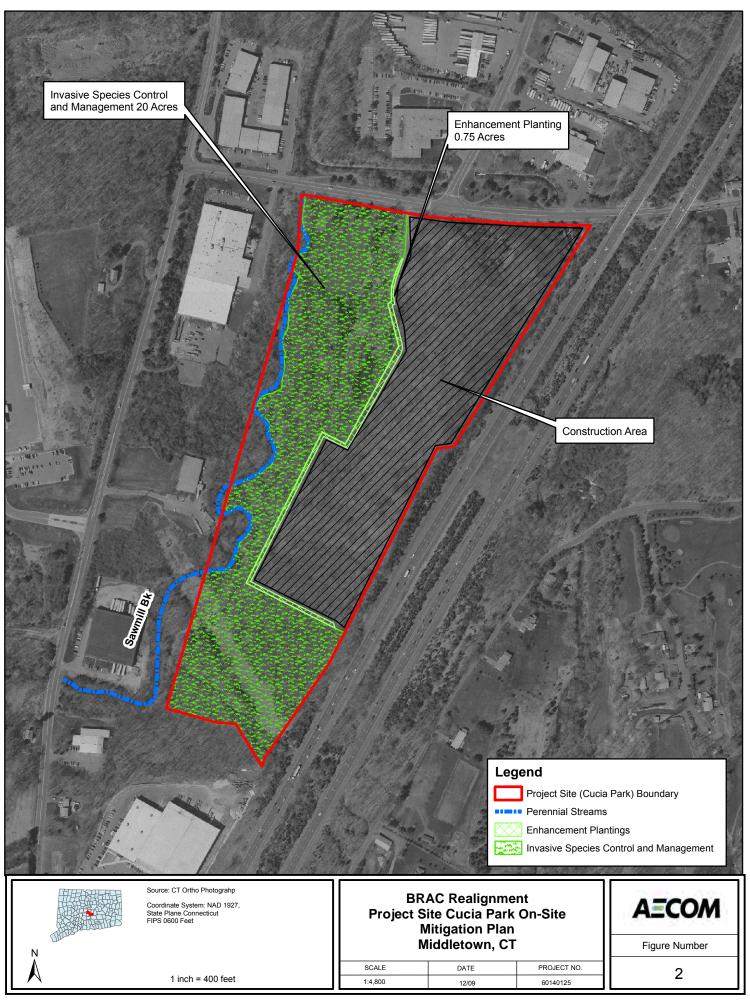
# Site Locus BRAC Realignment Middletown, CT

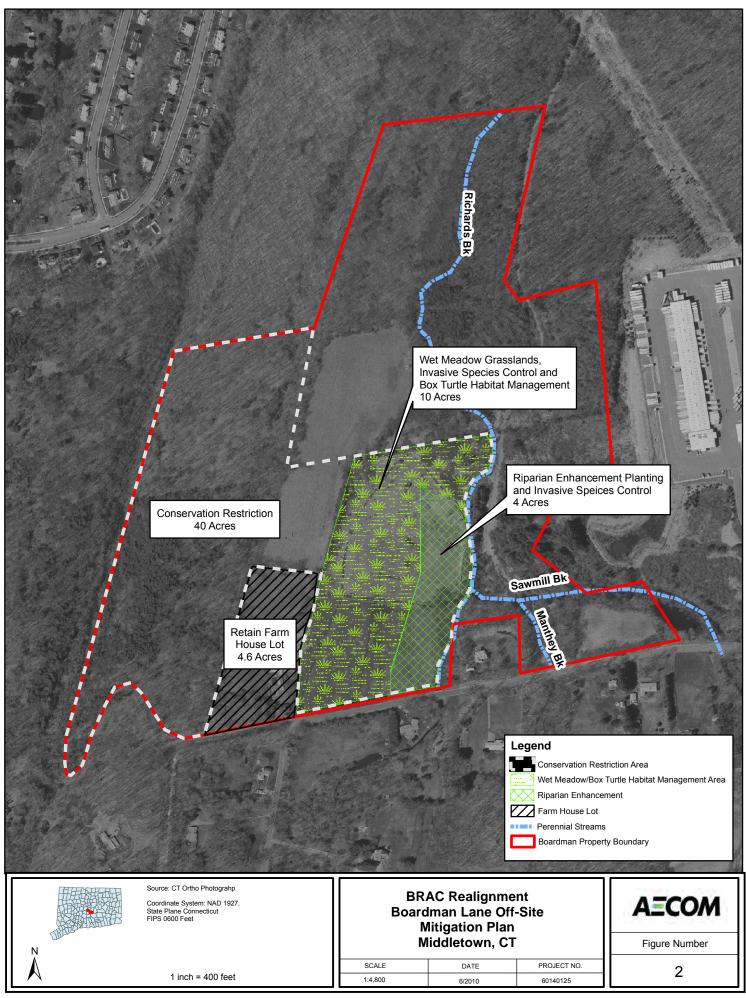
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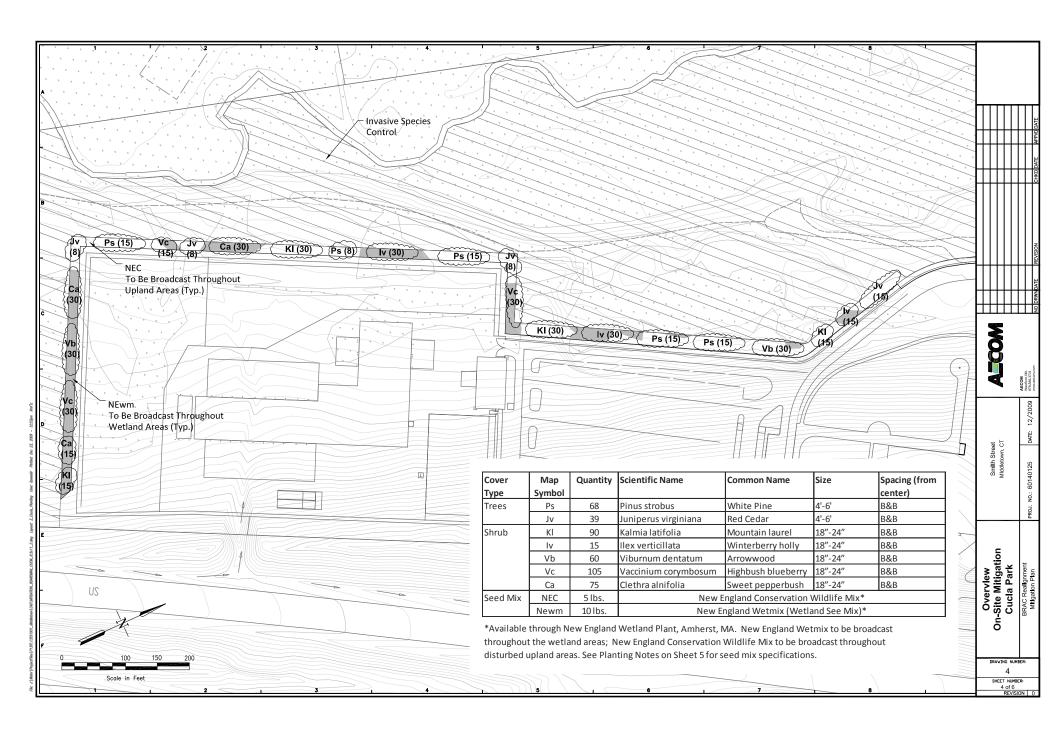
# **A**ECOM

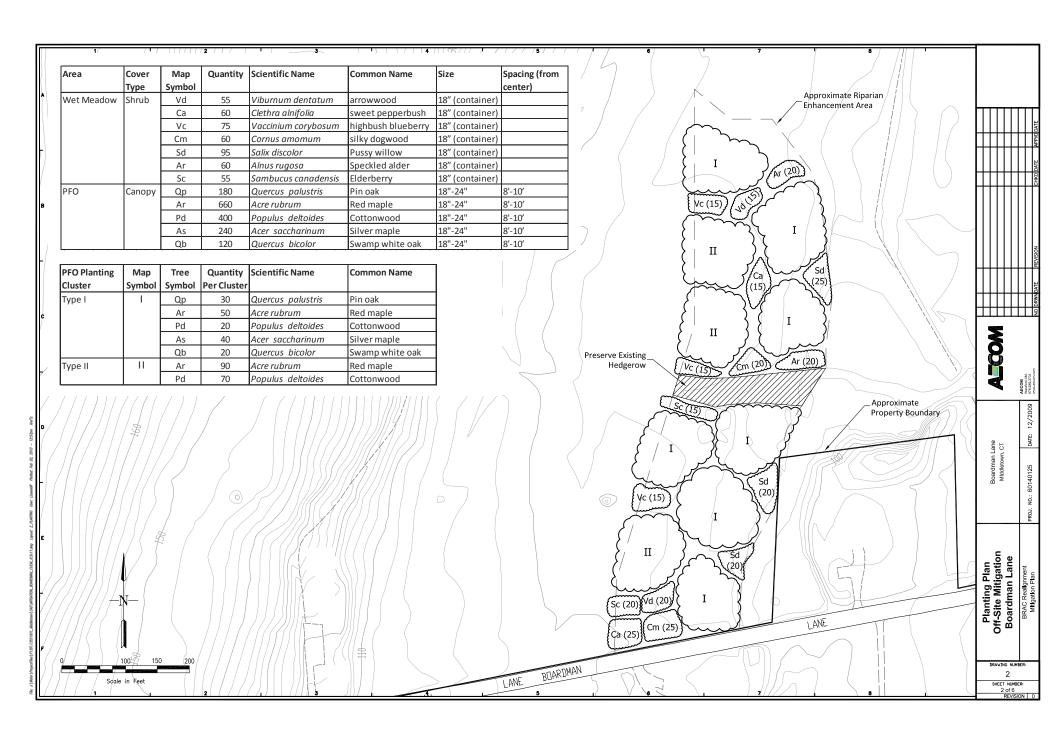
Figure Number

1









Appendix B

**Data Forms** 

# WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Boardman Lane Site	City/County: Middletown/Middlesex Sampling Date: 5/20/2015
Applicant/Owner: 99 <sup>th</sup> RSC	State: CT Sampling Point: B1
Investigator(s): DRC, ABL	Section, Township, Range:
Subregion (LRR or MLRA): LRR R Lat: 41	.578844 Long: -72.728506 Datum: NAD 83
Soil Map Unit Name: Wilbraham and Menlo	NWI classification:
Are climatic/hydrologic conditions on the site typical for this time of year	r? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly	disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally pro	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling poi	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes No	X within a Wetland? Yes NoX
Wetland Hydrology Present? Yes No	<u>x</u>
Remarks:	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna High Water Table (A2) Marl Deposits	<del></del>
Saturation (A3)  Hydrogen Sulfi	<u> </u>
	spheres along Living Roots (C3)  Dry-Season Water Table (C2)
	educed Iron (C4) Crayfish Burrows (C8)
<del></del>	duction in Tilled Soils (C6)  Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Sur	face (C7) Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain	in Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No _X Depth (inches):  Water Table Present? Yes No X Depth (inches):	
Saturation Present?	Wetland Hydrology
(includes capillary fringe) Yes No _X Depth (inches):	Present? Yes NoX
Describe Recorded Data (stream gauge, monitoring well, aerial photos	s, previous inspections), if available:
Remarks: No signs of wetland hydrology	

<b>VEGETATION</b> (Five Strata) - Use scientific names	s of plants.			Sampling Point	:: B1		
<u>Tree Stratum</u> (Plot Size: <u>20-foot radius plot)</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test v	vorksheet:		
1. 2. 3.				Number of Domina Are OBL, FACW, o	•	1	(A)
4. 5. 6.				Total Number of Do	ominant Species	2	(B)
50% of total cover:		= Total Cover 20% of total cover:		Percent of Domina Are OBL, FACW, o	•	50	(A/B)
Opening Otenham (Dist Ober 100 forth and in 114)				Prevalence Index	werkeheet.		
Sapling Stratum (Plot Size: 20-foot radius plot)  1. Quercus bicolor	2	Υ	FACW	Total % Cover of:		N de eldisole el	<b></b>
2.		<u> </u>	FACW	OBL species	n/a x 1	Multiply I	<u>by:</u> n/a
3.		<del>-</del>		FACW species	n/a x 2		n/a
4.		<del>-</del>		FAC species	n/a x 3		n/a
5.				FACU species	n/a x 4		n/a
6.				UPL species	n/a x 5		n/a
	2	= Total Cover		Column Totals:	n/a (A)	n/a	(B)
50% of total cover:		20% of total cover:		Prevalence Index =	: B/A =	n/a	
Shrub Stratum (Plot Size: 20-foot radius plot)  1.				Hydrophytic Vege	etation Indicators		
2.		<del>-</del>	_		Test for Hydroph		atation
		<del>-</del>			nance Test is >50	-	cialion
3.					llence Index is ≤3.		
4 5.		<del>-</del> -			atic Hydrophytic V		o.1
6.		<del>-</del>	_	1 TODIETTIC	the riyaropriyhe v	egetatioi	
·		= Total Cover					
50% of total cover:		20% of total cover:		(Explain)			
				<sup>1</sup> Indicators of hydric present, unless distu	•		must be
Herb Stratum (Plot Size: 20-foot radius plot)							
Ranunculus hispidus	10	N	FAC	Definitions of Five	Vegetation Stra	ta:	
2. Taraxacum officinale	5	N	FACU	Tree - Woody plan	nts, excluding woo	dy vines	,
3. Galium mollugo	10	N	FACU	approximately 20 ft	(6 m) or more in I	height ar	nd 3 in.
4. Solidago altissima	5	N	FACU	(7.6 cm) or larger in	i diameter at brea	st height	t (DBH).
5. Cirsium discolor	10	N	FACU	Sapling - Woody p			
6. Allium vineale	15	Y	FACU	approximately 20 ft		neight ar	nd less
7. Rumex crispis	5	N	FAC	than 3 in (7.6 cm) [	лвн.		
8. Clematis virginiana	5	N	FAC	Shrub – Woody pla			es,
9. Asclepias syriaca	2	N	UPL	approximately 3 to	20 ft (1 to 6 m) in	height.	
10				Herb - All herbaced	ous (non-woody) r	olants, in	cluding
11		<del></del> -		herbaceous vines,			
	67	= Total Cover	40.4	plants, except wood 3 ft (1 m) in height.		ı approxi	imately
50% of total cover:	33.5	20% of total cover:	13.4	Woody vine - All w		dless of	height.
Woody Vine Stratum (Plot Size: 20-foot radius plot)	<u>l</u>				_		
1. N/A							
2.				Domarka (fb.	rod liet manus last	nioc!	
3.				Remarks: (if observadaptations below.		Jicai	
		= Total Cover					
50% of total cover:		20% of total cover:		Hydrophytic Vegetation Present?	Yes X	No	

SOIL

Sampling Point:

B1

Profile Desc	ription: (Descr	ibe to the	depth needed t	to docum	ent the in	dicator or co	onfirm the abse	nce of indicators.)			
	Matrix	(	F	Redox Fea	atures						
Depth	Color		Color								
(Inches)	(Moist)	%	(Moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-8	7.5YR 3/4	100			<u> </u>		Silt loam				
8-12	7.5YR 4/6	100	-				Silt loam	-			
				<del></del> -				-			
			-	<del></del> -							
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			-	<del></del> -							
				<del></del> -							
<sup>1</sup> Type: C=Co	ncentration, D=l	Depletion, I	RM=Reduced M	latrix, MS	=Masked \$	Sand Grains.	<sup>2</sup> Location: PL=F	Pore Lining, M=Matrix			
Hydric Soil I	ndicators:							Indicators for Problematic Hydric Soils <sup>3</sup> :			
Listana	1 (44)		-	م بام بامار	Dalaw Com	face (CO) (LF	DCTII)	4 are Mirel (AO) (LDD O)			
Histoso				-		face (S8) <b>(LF</b>		1 cm Muck (A9) (LRR O)			
	pipedon (A2)					9) <b>(LRR S, T</b>		2 cm Muck (A10) (LRR S)			
	listic (A3)			-	-	al (F1) <b>(LRR</b>	0)	Reduced Vertic (F18) (Outside MLRA 150A, B)			
	en Sulfide (A4)			-	eyed Matrix			Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<b>—</b>	d Layers (A5)				Matrix (F3)			Anomalous Bright Loamy Soils (F20)			
Organio	Bodies (A6) (L	RR P, T, U	) F	Redox Dar	k Surface	(F6)		(MLRA 153B)			
<b>—</b>	ucky Mineral (A		T, U)	Depleted D	eted Dark Surface (F7)			Red Parent Material (TF2)			
Muck Presence (A8) (LRR U) Redox		Redox Dep	ox Depressions (F8)			Very Shallow Dark Surface (TF12)					
1 cm M	uck (A9) (LRR I	P, T)	N	Marl (F10)	(F10) <b>(LRR U)</b>			Other (Explain in Remarks)			
Deplete	ed Below Dark S	Surface (A1	1)	Depleted (	ed Ochric (F11) (MLRA 151)						
Thick D	ark Surface (A1	12)	lı	ron-Mang	Manganese Masses (F12) (LRR O, P, T)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless			
Coast F	Prairie Redox (A	16) <b>(MLRA</b>	150A)	Jmbric Su	ric Surface (F13) (LRR P, T, U)						
<del></del>	Mucky Mineral (				a Ochric (F17) <b>(MLRA 151)</b>			disturbed or problematic.			
	Gleyed Matrix (S					) (MLRA 150	A. 150B)	•			
	Redox (S5)	/			nont Floodplains Soils (F19) (MLRA 149A)						
	d Matrix (S6)				ralous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)						
	urface (S7) <b>(LRI</b>	RPSTI		Willow Williams	o brigint Lo	dilly collo (i	20) (III.Z.177 14 <b>0</b> )	, 1000, 1002)			
Dark Of	ariace (07) (EIVI	, ,	2)								
Restrictive I	ayer (if observ	/ed)·									
110011101110	Type:	ouj.		ļ	Hvd	ric Soil Pres	ent? Y	es No X			
Depth (i				_	,			<u> </u>			
Deptii (i											
Remarks:											
l											

# WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Boardman Lane Site	City/County: Middletown/Middlesex Sampling Date: 5/20/2015
Applicant/Owner: 99 <sup>th</sup> RSC	State: CT Sampling Point: B2
Investigator(s): DRC, ABL	Section, Township, Range:
Landform (hillslope, terrace, etc.): floodplain Local relief (c	oncave, convex, none): Flat Slope (%): >1%
Subregion (LRR or MLRA): LRR R Lat: 41.58	0988 Long: -72.728444 Datum: NAD 83
Soil Map Unit Name: Wilbraham and Menlo	NWI classification: PEM
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly dis	
<del>-</del>	<del></del>
Are Vegetation , Soil , or Hydrology naturally proble	ematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point	locations, transects, important features, etc.
Libration Property Vo. V. No.	In the Committed Associated
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No	Is the Sampled Area within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	
Domarko	
Remarks: Floodplain wetland associated with Richards Brook.	
HYDROLOGY	
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
X Surface Water (A1) Aquatic Fauna (B	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  Marl Deposits (B1	<del></del>
X Saturation (A3) Hydrogen Sulfide	· · · · · · · · · · · · · · · · · · ·
Water Marks (B1) Oxidized Rhizospi Sediment Deposits (B2) Presence of Redu	peres along Living Roots (C3) Dry-Season Water Table (C2)
	ced Iron (C4) Crayfish Burrows (C8) ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)  Algal Mat or Crust (B4)  Thin Muck Surfac	· / —
Iron Deposits (B5)  Other (Explain in	<u> </u>
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes X No Depth (inches):	1/2-1"
Water Table Present? Yes No Depth (inches): Saturation Present?	Westend Hydreleny
(includes capillary fringe) Yes X No Depth (inches):	Wetland Hydrology  0" Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
Pomorko	
Remarks: Inundation appears deeper that normal possibly due to beaver activity. Meaning the second s	lultiple trees flooded and dying or very stressed

VEGETATION (Five Strata) - Use scientific names	s of plants.			Sampling Poin	t: <b>B2</b>			
Tree Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test	worksheet:			
1. 2. 3.				Number of Domina Are OBL, FACW, o		at _	1	_ (A)
5. 4. 5. 6.				Total Number of D Across All Strata:	ominant Speci	ies _	1	_ (B)
50% of total cover:		= Total Cover 20% of total cover:		Percent of Domina Are OBL, FACW, o		at –	100	_ (A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index	worksheet:			
1.				Total % Cover of:		Mι	ultiply b	y:
2.			_	OBL species	n/a	x 1 =		n/a
3.		·		FACW species		x 2 =		n/a
4.		<u> </u>		FAC species	n/a	x 3 =		n/a
5.		·		FACU species	n/a	x 4 =		n/a
		<del></del>	<u></u>	-				
). 		<del></del> -		UPL species	n/a	x 5 =		n/a
50% of total cover:		= Total Cover 20% of total cover:		Column Totals:	n/a(	(A)	n/a	(B)
				Prevalence Index :	= B/A =		n/a	
Shrub Stratum (Plot Size: <u>20-foot radius plot)</u> 1.				Hydrophytic Vege	etation Indica	tors:		
2.		<del></del>			d Test for Hydr		c Vene	tation
<del></del>		<del></del>			inance Test is		J vege	lation
J		<del></del>						
l		<u> </u>			alence Index is			1
5 5.				Problem	atic Hydrophyt	tic Veg	etation	
		= Total Cover		(Explain)				
50% of total cover:		20% of total cover:		<sup>1</sup> Indicators of hydric	soil and wetlar	nd hydr	ology n	nust he
				present, unless distr		•		
Herb Stratum (Plot Size: 20-foot radius plot)				Definitions of Fire	- M	011-		
1. Phalaris arundinacea	60	Y	OBL	Definitions of Five	e vegetation	Strata:		
2. Carex stricta	10	N	OBL	Tree - Woody plan	nts, excluding	woody	vines,	
B. Equisetum arvense	10	N	FAC	approximately 20 f				d 3 in.
L. Carex stipata	10	N	OBL	(7.6 cm) or larger i	n diameter at l	breast	height	(DBH)
Mimulus ringens	5	N	OBL	Sapling - Woody papproximately 20 f	t (6 m) or more			
7		<u> </u>		than 3 in (7.6 cm)	увн.			
3. 9.		<del></del> -		Shrub – Woody pl approximately 3 to				5,
10.		- <u> </u>		Herb - All herbace		,	•	ludina
11.				herbaceous vines,	regardless of	size, a	nd woo	ody
	95	= Total Cover		plants, except woo 3 ft (1 m) in height.		than a	pproxir	nately
50% of total cover:	47.5	20% of total cover:	19	` ,			٠.	
Noody Vine Stratum (Plot Size: 20-foot radius plot)				Woody vine - All v	voody vines, r	egardie	ess of r	neight.
1. N/A								
2.		<del></del>		Domorkov (if about	and list recent	noloci:	ol.	
3.		<del></del>		Remarks: (if obser adaptations below.		iologica	al	
		= Total Cover						
50% of total cover:		20% of total cover:			Yes X	No		
				Vegetation Present?				

SOIL

Sampling Point: B2

Natrix   Redox Features										
Depth (Inches)         Color (Moist)         Color (Moist)         Type¹         Loc²         Texture         Remarks           0-1         10YR 3/2         100         Silt loam										
(Inches)         (Moist)         %         (Moist)         %         Type¹         Loc²         Texture         Remarks           0-1         10YR 3/2         100         Silt loam										
0-1 10YR 3/2 100 Silt loam										
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix										
Hydric Soil Indicators: Indicators for Problematic Hydric S	oils³:									
Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O)										
Histic Epipedon (A2)  Thin Dark Surface (S9) (LRR S, T, U)  2 cm Muck (A10) (LRR S)										
Black Histic (A3)  Loamy Mucky Mineral (F1) (LRR O)  Reduced Vertic (F18) (Outside MLRA	150A. B)									
	Piedmont Floodplain Soils (F19) (LRR P, S, T)									
Stratified Layers (A5)  X Depleted Matrix (F3)  Anomalous Bright Loamy Soils (F20)										
	(MLRA 153B)									
	Very Shallow Dark Surface (TF12)									
1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Other (Explain in Remarks)										
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151)										
Thick Dark Surface (A12)  Iron-Manganese Masses (F12) (LRR O, P, T)  Indicators of hydrophytic vegetation	and									
	wetland hydrology must be present, unless									
Sandy Mucky Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) disturbed or problematic.	· · · · · · · · · · · · · · · · · · ·									
Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B)										
Sandy Redox (S5) Piedmont Floodplains Soils (F19) (MLRA 149A)										
Stripped Matrix (S6)  Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)										
Dark Surface (S7) (LRR P, S, T, U)										
Restrictive Layer (if observed):										
Type: Hydric Soil Present? Yes X No										
· — — — — — — — — — — — — — — — — — — —										
Depth (inches):										
Remarks:										
remarks.										

# WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Smith Street Site	City/County: Middletown/Middlesex Sampling Date: 5/21/2015								
Applicant/Owner: 99 <sup>th</sup> RSC	State: CT Sampling Point: S1								
Investigator(s): DRC, ABL	Section, Township, Range:								
Landform (hillslope, terrace, etc.): Hillslope Local relief	concave, convex, none): Flat Slope (%): 8-10%								
· · · · · · · · · · · · · · · · · · ·									
	79278 Long: -72.719197 Datum: NAD 83								
Soil Map Unit Name: Wilbraham and Menlo	NWI classification: PFO								
Are climatic/hydrologic conditions on the site typical for this time of year	Yes X No (If no, explain in Remarks)								
Are Vegetation , Soil , or Hydrology significantly d	sturbed? Are "Normal Circumstances" present? Yes X No								
Are Vegetation , Soil , or Hydrology naturally prob	lematic? (If needed, explain any answers in Remarks.)								
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area								
Hydric Soil Present? Yes X No	within a Wetland? Yes X No								
Wetland Hydrology Present? Yes X No									
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  X Presence of Red Recent Iron Red Thin Muck Surfa	Drainage Patterns (B10)  Odor (C1)  Oheres along Living Roots (C3)  Uced Iron (C4)  Uction in Tilled Soils (C6)  Drainage Patterns (B10)  Moss Trim Lines (B16)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)								
Iron Deposits (B5) Other (Explain in Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)								
X Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)								
Field Observations:									
Surface Water Present? Yes No _X _ Depth (inches):									
Water Table Present? Yes No Depth (inches): Saturation Present?	Westernel Hydrology								
(includes capillary fringe) Yes X No Depth (inches):	Wetland Hydrology  4" Yes X No								
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:								
Remarks: Hillslope wetland. Shallow soil layer over bedrock. Water present at int	erface of soil and bedrock								

VEG	ELIATION (Five Strata) - Use scientific names	•			Sampling Poin	t: <b>S1</b>			
Tree	Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test	worksheet:			
1.	Acer rubrum	30	Y -	FAC	Number of Domina	nt Chasias T	*hot		
2.	Fraxinus pennsylvanica	5	N	FACW	Are OBL, FACW, o	•	naı -	4	_ (A)
<ol> <li>3.</li> <li>4.</li> <li>5.</li> </ol>					Total Number of D Across All Strata:	ominant Spe	cies -	4	(B)
6.		25	= Total Cover						
	50% of total cover:	35 17.5	20% of total cover:	7	Percent of Domina Are OBL, FACW, o	•	hat -	100	_ (A/B)
Sapl	ing Stratum (Plot Size: 20-foot radius plot)				Prevalence Index	worksheet:			
1.	Fraxinus pennsylvanica	20	Υ	FACW	Total % Cover of:		M	ultiply b	<u>oy:</u>
2.	Cornus florida	2	N	FACU	OBL species	n/a	x 1 =		n/a
3.			<u> </u>		FACW species	n/a	x 2 =		n/a
4.			<u> </u>		FAC species	n/a	x 3 =		n/a
5.					FACU species	n/a	x 4 =		n/a
6.			<u> </u>		UPL species	n/a	x 5 =		n/a
	_	22	= Total Cover		Column Totals:	n/a	(A)	n/a	(B)
	50% of total cover:	11	20% of total cover:	4.4					
					Prevalence Index :	= B/A =		n/a	
	<u>ıb Stratum</u> (Plot Size: <u>20-foot radius plot)</u>	40		E40	Hydrophytic Vege	station India	otoro		
1.	Viburnum dentatum	10	<u> </u>	FAC				!- \ /	4 - 4'
2.			<del>-</del>			d Test for Hyd		-	etation
3.			<del>-</del>			nance Test is			
4.			<del>-</del>			alence Index			1
5.			<del></del>		Problem	atic Hydrophy	ytic veg	jetation	1
6.		10	= Total Cover						
	50% of total cover:	10	20% of total cover:		(Explain)				
	30 % of total cover.		20 % Of total cover.		<sup>1</sup> Indicators of hydric present, unless dist		•	rology r	nust be
Herb	Stratum (Plot Size: 20-foot radius plot)								
1.	Juncus effuses	70	Υ	OBL	Definitions of Fiv	e Vegetation	Strata	10	
2.	Toxicodendron radicans	10	N	FAC	Tree - Woody plan	nts. excluding	boow r	vines.	
3.	Equisetum arvense	10	<u>N</u>	FAC	approximately 20 f	t (6 m) or mo	re in he	eight an	nd 3 in.
4.	Scirpus cyperinus	5	N	FACW	(7.6 cm) or larger i	n diameter at	t breast	height	(DBH).
5.					Sapling - Woody p	olants, exclud	ding woo	ody vin	es,
6.			<u> </u>		approximately 20 f		re in he	ight an	nd less
7.			<u> </u>		than 3 in (7.6 cm)	JBH.			
8.			<u> </u>		Shrub – Woody pl				S,
9.			<u> </u>		approximately 3 to	20 ft (1 to 6 i	m) in he	eight.	
10.			<u> </u>		Herb - All herbace	ous (non-woo	sla (vbo	ants. inc	cludina
11.			<u> </u>		herbaceous vines,	regardless of	of size, a	and wo	ody
	<u>-</u>	95	= Total Cover		plants, except woo 3 ft (1 m) in height		s than a	approxi	mately
	50% of total cover:	47.5	20% of total cover:	19	, ,				
Woo	dy Vine Stratum (Plot Size: 20-foot radius plot)				Woody vine - All v	voody vines,	regardle	ess of l	height.
1.	NI/A								
2.	N/A		<del></del>						
3.			<del></del>		Remarks: (if obser	ved, list morr	holoaic	cal	
J.			<u> </u>		adaptations below		3.4		
			= Total Cover						
	50% of total cover:		20% of total cover:		Hydrophytic	Yes X	No		
	-		-		Vegetation				

Sampling Point:

**S**1

Profile Descr	iption: (Descri	be to the	depth needed	to doc	ument the inc	dicator or c	onfirm the ab	bsence of indicators.)				
					Features							
Depth	Color		Color									
(Inches)	(Moist)	%	(Moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Textu	ture Remarks				
0-4	7.5YR 4/2	80	7.5YR 4/4	20	С	M	Silt lo	pam				
4-6	7.5YR 5/3	70	7.5YR 4/2	30	C	M	Silt lo	pam -				
				_				-				
				•								
			•									
<del></del>	-		•									
<sup>1</sup> Type: C=Con	ncentration, D=D	Depletion,	RM=Reduced	Matrix, I	MS=Masked S	and Grains	. <sup>2</sup> Location: P	PL=Pore Lining, M=Matrix				
Hydric Soil Ir	ndicators:							Indicators for Problematic Hydric Soils <sup>3</sup> :				
Histosol	` ,			-	ue Below Surf		-	1 cm Muck (A9) <b>(LRR O)</b>				
Histic Ep	pipedon (A2)			Thin Da	ark Surface (S	9) <b>(LRR S</b> ,	T, U)	2 cm Muck (A10) <b>(LRR S)</b>				
Black Hi	istic (A3)			Loamy	Mucky Minera	ıl (F1) <b>(LRR</b>	(O)	Reduced Vertic (F18) (Outside MLRA 150A, B)				
Hydroge	en Sulfide (A4)			Loamy	Gleyed Matrix	(F2)	<u>.</u>	Piedmont Floodplain Soils (F19) (LRR P, S, T)				
Stratified	d Layers (A5)			Deplete	ed Matrix (F3)		_	Anomalous Bright Loamy Soils (F20)				
Organic	Bodies (A6) (LI	RR P, T, L	J)	Redox	Dark Surface	(F6)		(MLRA 153B)				
5 cm Mu	ucky Mineral (A7	7) (LRR P	, T, U)	Deplete	ed Dark Surfac	e (F7)		X Red Parent Material (TF2)				
Muck Pr	resence (A8) <b>(L</b> I	RR U)		Redox	Depressions (	F8)	·-	Very Shallow Dark Surface (TF12)				
1 cm Mu	uck (A9) (LRR P	, T)		Marl (F	Other (Explain in Remarks)							
	d Below Dark Si	-			ed Ochric (F11	) (MLRA 1	51)					
	ark Surface (A1:				inganese Mas		-	3 Indicators of budge up to the constation and				
	rairie Redox (A	,			Surface (F13)		-	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless				
	/lucky Mineral (S				ochric (F17) (MLRA 151) wetland hydrology must be preser							
	Gleyed Matrix (S				ed Vertic (F18) (MLRA 150A, 150B)							
	Redox (S5)	• • •			ont Floodplains Soils (F19) (MLRA 149A)							
	Matrix (S6)				alous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)							
	rface (S7) <b>(LRR</b>	реті		Allollia	alous Bright Loanly Solis (F20) (MERA 149A, 133C, 133D)							
Dark Su	mace (37) (EKI	. 1 , 3, 1,	5,									
Postriotivo I	over (if observe	nd\.										
Restrictive L	ayer (if observe	-	drook		Llyde	ic Soil Pre	20nt2	Voc. V No.				
Danth (in	Type:		drock c"		nyui	ic Soil Fre	Sent?	Yes X No				
Depth (in	icnes):		6"									
Remarks:												
	d at 6" due to be	edrock R	ed narent mate	rial soils	2							
Trobe rejected	a at o auc to be	Jarook. Te	ca parent mate	ilai oon	,							

# WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Smith Street S	Site		City/County:	Middleto	wn/Middlesex	Sampling Date:	5/21/2015		
Applicant/Owner: 99th RSC			State: CT		Sampling Point:	S2			
Investigator(s): DRC, ABL			Section, Tow	nship, Range	:				
Landform (hillslope, terrace, etc.	): Floodplain	Local relief (d	concave, conv	ex, none):	Flat	Slope (%): <	1%		
Subregion (LRR or MLRA): LF	RR R	 Lat: 41.58	2439	Long:	-72.718699	Datum:	NAD 83		
Soil Map Unit Name: Wilbrah	nam and Menlo				NWI	classification:			
Are climatic/hydrologic condition		for this time of year?		Yes X	No	(If no, explain in F	Remarks)		
	, or Hydrology	·	sturbed? A	-	cumstances" present		No		
<del></del>	, or Hydrology				lain any answers in R				
Are vegetation , soii	, or riyurology	Haturally proble	siliatio: (i	i needed, exp	iaili aliy aliswels ili K	.cmarks.)			
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vegetation Present	Yes	No X	Is	the Sample	d Area				
Hydric Soil Present?	Yes	No X	w	ithin a Wetla	nd? Yes	No	X		
Wetland Hydrology Present?	Yes	NoX							
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of or Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	ne is required; chec 	sk all that apply)  Aquatic Fauna (B  Marl Deposits (B1  Hydrogen Sulfide  Oxidized Rhizospi	5) <b>(LRR U)</b> Odor (C1)	wing Poets (C	Surface Soi Sparsely Ve Drainage Pe Moss Trim	ators (minimum of il Cracks (B6) egetated Concave atterns (B10) Lines (B16) n Water Table (C2	Surface (B8)		
Sediment Deposits (B2)	_	Presence of Redu	_	-	Crayfish Bu		,		
Drift Deposits (B3)	_	Recent Iron Redu	ction in Tilled	Soils (C6)	Saturation \	Visible on Aerial Ir	nagery (C9)		
Algal Mat or Crust (B4)	_	Thin Muck Surface	e (C7)		Geomorphi	c Position (D2)			
Iron Deposits (B5)	_	Other (Explain in I	Remarks)		Shallow Aq				
Inundation Visible on Aeria					FAC-Neutra		<b>-</b>		
Water-Stained Leaves (B9	)				Spnagnum	Moss (D8) (LRR	1, <b>U)</b>		
Field Observations:									
Surface Water Present? Yes	No X	Depth (inches):							
Water Table Present? Yes	<del></del> <del></del> -	Depth (inches):		_					
Saturation Present? (includes capillary fringe) Yes	No X	Depth (inches):		Wetlan Presen	d Hydrology t? Ye	s N	o <u>X</u>		
Describe Recorded Data (stream Remarks: No signs of wetland hydrology	ngauge, monitoring	well, aerial photos, p	revious inspec	ctions), if avail	able:				

VEG	<b>GETATION</b> (Five Strata) - Use scientific names	•			Sampling Point	: 52			
Tree	<u>e Stratum</u> (Plot Size: <u>20-foot radius plot)</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test v	vorksheet:	•		
1.	Acer rubrum	5		FAC	Number of Domina	nt Species	That		
2.	Acer sacchrum	5		FACU	Are OBL, FACW, o	•	mat	5	(A)
3.	Quercus alba	10	Y -	FACU			_		_ (//)
4.	Carya ovata	15		FACU	Total Number of Do	ominant Sr	necies		
5.	Quercus velutina	5		NI	Across All Strata:	линан ор	COICS	2	(B)
6.			·				_		_ (D)
		40	= Total Cover		Percent of Domina	nt Snecies	That		
	50% of total cover:	20	20% of total cover:	8	Are OBL, FACW, o	•		40	(A/B)
Sap	ling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index	workshee	t:		
1.					Total % Cover of:		<u>Μι</u>	ultiply b	<u>y:</u>
2.			· <u></u> -		OBL species	n/a	x 1 =		n/a
3.					FACW species	n/a	x 2 =		n/a
4.			<u> </u>		FAC species	n/a	x 3 =		n/a
5.			<u> </u>		FACU species	n/a	x 4 =		n/a
6.					UPL species	n/a	x 5 =		n/a
			= Total Cover		Column Totals:	n/a	(A)	n/a	(B)
	50% of total cover:		20% of total cover:						
Ch	th Chapture (Dist Cine) 20 feet anding alet		•		Prevalence Index =	: B/A =		n/a	
<u>Snrt</u> 1.	ub Stratum (Plot Size: 20-foot radius plot)				Hydrophytic Vege	tation Indi	icators:		
2.			<del></del>			Test for H		c Vege	tation
3.			<del></del>			nance Test			
4.			<u> </u>			lence Inde			
5.	<u> </u>		· <u></u> -			atic Hydrop		etation	1
6.			<u> </u>				,		
0.			= Total Cover						
	50% of total cover:		20% of total cover:		(Explain)				
	00% of total coron.		20 /0 01 total 00 /01.		<sup>1</sup> Indicators of hydric present, unless distu			ology m	nust be
Hark	o Stratum (Plot Size: 20-foot radius plot)				present, unless dist	inced of bio	Diemanc.		
1.	·	5	Y	FAC	Definitions of Five	- Vegetatio	on Strata:		
1. 2.	Acer rubrum	5	- <u>'</u> '	FACU					
3.	Parthenocissus quinquefolia	5	- <u>'</u> -	FAC	Tree - Woody plan				d 0 :
3. 4.	Viburnum dentatum	3		FACW	approximately 20 ft (7.6 cm) or larger in				
٠. 5.	Onoclea sensibilis			TACV					
5. 6.			· <del></del> -		Sapling - Woody p approximately 20 ft				
0. 7.			·		than 3 in (7.6 cm) [		iore in Hel	yııı ail	u 1699
7. 8.			<del></del>		, ,				
o. 9.			·		Shrub – Woody pla approximately 3 to				5,
3. 10.			<u> </u>		approximately 5 to	2011 (1100	<i>J</i> 111 <i>)</i> 111 11C	igiit.	
11.			·		Herb - All herbace				
11.		20	= Total Cover		herbaceous vines, plants, except woo	regardless	ot size, <u>ai</u>	<u>nd</u> woo	ody mately
	50% of total cover:	10	20% of total cover:	4	3 ft (1 m) in height.		oo alan a	ррголи	natory
	50% of total cover:	10	20% of total cover.		Mandayina Ally				الماند الما
Woo	ody Vine Stratum (Plot Size: 20-foot radius plot)				Woody vine - All v	loody vines	s, regardie	SS OT I	neignt.
1.	NI/A								
1. 2.	N/A								
			·		Remarks: (if observe	ved list mo	rnhologic	 al	
3.			<del></del>		adaptations below.		. p. iologica	۱ م	
			- Total Cause						
	E00/ aftatal accom		= Total Cover		Hydrophytic				,
	50% of total cover:		20% of total cover:		Vegetation Present?	Yes	No		<u> </u>

Sampling Point:

S2

Profile Desc	ription: (Descr	ibe to the	depth needed	to doc	ument the in	dicator or co	onfirm the abse	nce of indicators.)			
	Matrix	(		Redox	Features						
Depth	Color		Color								
(Inches)	(Moist)	%	(Moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-2	7.5YR 3/3	100					Silt loam				
2-12	7.5YR 4/4	100					Silt loam	<u> </u>			
								-			
		<u>_</u>									
		<u>.</u>									
		<u>.</u>									
<sup>1</sup> Type: C=Co	ncentration, D=I	Depletion,	RM=Reduced	Matrix, N	MS=Masked S	Sand Grains.	<sup>2</sup> Location: PL=F	Pore Lining, M=Matrix			
Hydric Soil	Indicators:							Indicators for Problematic Hydric Soils <sup>3</sup> :			
Histoso	ol (A1)			Polyval	ue Below Sur	face (S8) <b>(LF</b>	RR S. T. U)	1 cm Muck (A9) (LRR O)			
<del></del>	Epipedon (A2)			•	ark Surface (S			2 cm Muck (A10) <b>(LRR S)</b>			
<del></del>	listic (A3)				Mucky Minera			Reduced Vertic (F18) (Outside MLRA 150A, B)			
	en Sulfide (A4)			-	Gleyed Matrix			Piedmont Floodplain Soils (F19) (LRR P, S, T)			
	ed Layers (A5)			-	ed Matrix (F3)			Anomalous Bright Loamy Soils (F20)			
	Bodies (A6) <b>(L</b>	RR P. T. l	n		Dark Surface		-	(MLRA 153B)			
	lucky Mineral (A				ed Dark Surfa		Х	Red Parent Material (TF2)			
	resence (A8) <b>(L</b>				Depressions	. ,		Very Shallow Dark Surface (TF12)			
<del></del>	luck (A9) (LRR I				10) <b>(LRR U)</b>	()		Other (Explain in Remarks)			
	ed Below Dark S	-			ed Ochric (F1	1) <b>(MLRA 15</b>	1)				
	ark Surface (A1		, <u> </u>		inganese Mas		-	31-disabara of hardenshadis association and			
	Prairie Redox (A		A 150A)		Surface (F13		-	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless			
<del></del>	Mucky Mineral (				chric (F17) (N		-,	disturbed or problematic.			
	Gleyed Matrix (S				ed Vertic (F18	-	A. 150B)				
	Redox (S5)	,			•						
	d Matrix (S6)				nont Floodplains Soils (F19) <b>(MLRA 149A)</b> nalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>						
	urface (S7) <b>(LRI</b>	R P, S, T, I	U)		J	, ,	, <b>,</b>	,			
	` ',		,								
Restrictive I	_ayer (if observ	red):									
	Type:	,			Hydi	ric Soil Pres	ent? Yo	es No X			
Depth (i											
Remarks:											

Project/Site: Smith Street Site	City/County: Middletown/Middlesex Sampling Date: 9/23/2015
Applicant/Owner: 99 <sup>th</sup> RSC	State: CT Sampling Point: S1
Investigator(s): DRC, ABL	Section, Township, Range:
Landform (hillslope, terrace, etc.): Hillslope Local relief	concave, convex, none): Flat Slope (%): 8-10%
· · · · · · · · · · · · · · · · · · ·	
Subregion (LRR or MLRA): LRR R Lat: 41.9	79278 Long: -72.719197 Datum: NAD 83
Soil Map Unit Name: Wilbraham and Menlo	NWI classification: PFO
Are climatic/hydrologic conditions on the site typical for this time of year	Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly of	sturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally prof	ematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling poin	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	
Sediment Deposits (B2)  X Presence of Rec	Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Uction in Tilled Soils (C6) Dry-Season Water Table (C9) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Field Observations:	
Surface Water Present? Yes No _X _ Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? (includes capillary fringe) Yes X No Depth (inches):	Wetland Hydrology 6" Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, Remarks:	
Hillslope wetland. Shallow soil layer over bedrock. Water present at in	erface of soil and bedrock

VEG	ETATION (Five Strata) - Use scientific names	•			Sampling Point	t: <b>S</b> 1			
Tree	Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test v	vorksheet:			
1.	Acer rubrum	30	- <u>'</u> Y	FAC	Number of Domina	nt Species That	+		
2.	Fraxinus pennsylvanica	5	N	FACW	Are OBL, FACW, o			5	(A)
<ul><li>4.</li><li>5.</li><li>6.</li></ul>			 		Total Number of De Across All Strata:	ominant Species	· —	5	_ (B)
0.		35	= Total Cover						
	50% of total cover:	17.5	20% of total cover:	7	Percent of Domina Are OBL, FACW, o	•		100	_ (A/B)
Sapl	ing Stratum (Plot Size: 20-foot radius plot)				Prevalence Index	worksheet:			
1.	Fraxinus pennsylvanica	20	Y	FACW	Total % Cover of:		Mul	tiply b	<u>y:</u>
2.	Cornus florida	2	N	FACU	OBL species	n/a x	1 =		n/a
3.					FACW species	n/a x	2 =		n/a
4.					FAC species	n/a x	3 =		n/a
5.					FACU species	n/a x	4 =		n/a
6.					UPL species	n/a x	5 =		n/a
		22	= Total Cover		Column Totals:	n/a (A)	,	n/a	(B)
	50% of total cover:	11	20% of total cover:	4.4					_
			-		Prevalence Index =	= B/A =	r	n/a	
	<u>ıb Stratum</u> (Plot Size: <u>20-foot radius plot)</u>				Hadaaahada Waa	4-41 1114-			
1.	Viburnum dentatum	10	Y	FAC	Hydrophytic Vege				
2.						d Test for Hydron		Vege	tation
3.			<u> </u>		2 - Domi	nance Test is >5	50%		
4.			<u> </u>		3 - Preva	alence Index is ≤	:3.0 <sup>1</sup>		
5.			<u> </u>		Problema	atic Hydrophytic	Vege	tation	1
6.			<u> </u>						
	_	10	= Total Cover		(Explain)				
	50% of total cover:		20% of total cover:		, , ,				
					<sup>1</sup> Indicators of hydric present, unless distu		•	logy m	nust be
	Stratum (Plot Size: 20-foot radius plot)				Definitions of Five	- Vosetation Ct	wata.		
1.	Juncus effuses	60	<u> </u>	OBL	Definitions of Five	e vegetation St	rata:		
2.	Toxicodendron radicans	10	<u>N</u>	FAC	Tree - Woody plar				
3.	Equisetum arvense	20	Y	FAC	approximately 20 f				
4.	Scirpus cyperinus	5	N	FACW	(7.6 cm) or larger in	n diameter at bro	east n	eignt	(DRH).
5.			<u> </u>		Sapling - Woody p	lants, excluding	wood	ly vine	es,
6.			<u> </u>		approximately 20 f		n heig	ht an	d less
7.			<u> </u>		than 3 in (7.6 cm) I	JBH.			
8.			<u> </u>		Shrub – Woody pla	ants, excluding	woody	vines	3,
9.			<u> </u>		approximately 3 to	20 ft (1 to 6 m)	in heiç	ght.	
10.			<u> </u>		Herb - All herbace	ous (non-woody	nlan	te inc	ludina
11.					herbaceous vines,	regardless of size	ze, an	d woo	ody
		95	= Total Cover		plants, except woo	dy vines, less th	an ap	proxir	nately
	50% of total cover:	47.5	20% of total cover:	19	3 ft (1 m) in height.				
Woo	dy Vine Stratum (Plot Size: 20-foot radius plot)				Woody vine - All v	voody vines, reg	ardles	ss of h	neight.
1.	NI/A								
1. 2.	N/A								
			<del>-</del> -		Remarks: (if observed)	ved list mornho	logica		
3.			<del>-</del> -		adaptations below.		Jugica	•	
			_ T-1-1-0			•			
	F00/ -51-1-1		= Total Cover		Hydrophytic		NI -		
	50% of total cover:		20% of total cover:		Vegetation	Yes X	No		

Sampling Point:

S1

Profile Descri	ption: (Descri	be to the	depth needed	to docu	ıment the in	dicator or c	onfirm the al	bsend	e of in	dicators	s.)		
	Matrix			Redox F	eatures								
Depth	Color		Color										
(Inches)	(Moist)	%	(Moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Text	ure				Remarks	
0-4	7.5YR 4/2	80	7.5YR 4/4	20	С	M	Silt lo	oam					
4-6	7.5YR 5/3	70	7.5YR 4/2	30	C	M	Silt lo	oam				-	
												-	
_	-									-			
	-												
	-								_				
										-			
¹Type: C=Cond	centration D=F	Depletion	RM=Reduced	Matrix N	//S=Masked S	Sand Grains	<sup>2</sup> I ocation: P	PI =Po	re I inir	ng M=Ma	atrix		
1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ochialion, D	opiciion,	TWI TREGUCE	ividuix, ii	no maonea e	Jana Oramo.	Loodilon. 1		TO LITTI	19, 111 1110	2017		
Hydric Soil In	dicators:								Indica	tors for	Proble	ematic Hydric Soils	3.
Historol	<b>(Λ1)</b>			Polyvali	io Bolow Sur	faco (S8) <b>(I</b> I	DD C T II\		1 cm N	luck (A9	\	0)	
Histosol	ipedon (A2)				ue Below Sur rk Surface (S		-			luck (A9)	, <b>.</b>	•	
												-	\A D\
Black His					Mucky Minera		0)				. ,	(Outside MLRA 150	
	n Sulfide (A4)			•	Gleyed Matrix	, ,					•	Soils (F19) <b>(LRR P, S</b>	o, I)
<del></del>	Layers (A5)				d Matrix (F3)							my Soils (F20)	
	Bodies (A6) (LI				Dark Surface	. ,			-	RA 153E	-		
	cky Mineral (A7	′ •	, T, U)		d Dark Surfac			<u>X</u>		arent Ma			
	esence (A8) <b>(L</b> l	•			Depressions (	(F8)			-			rface (TF12)	
	ck (A9) <b>(LRR P</b>	-			10) <b>(LRR U)</b>				Other (	Explain	in Rem	arks)	
Depleted	Below Dark S	urface (A1			d Ochric (F11	-	-						
Thick Da	rk Surface (A1	2)		Iron-Ma	nganese Mas	sses (F12) <b>(l</b>	.RR O, P, T)		<sup>3</sup> Indic	ators of I	hydropl	hytic vegetation and	
Coast Pr	airie Redox (A	16) <b>(MLR</b>	A 150A)	Umbric	Surface (F13	) (LRR P, T,	U)		wetla	nd hydro	logy m	ust be present, unles	ss
Sandy M	ucky Mineral (	S1) <b>(LRR</b>	O, S)	Delta O	chric (F17) <b>(N</b>	/ILRA 151)			distur	bed or p	roblem	atic.	
Sandy G	leyed Matrix (S	64)		Reduce	d Vertic (F18	) <b>(MLRA 15</b> 0	A, 150B)						
Sandy R	edox (S5)			Piedmo	nt Floodplain	s Soils (F19)	(MLRA 149	A)					
Stripped	Matrix (S6)		· <u></u>	Anomal	ous Bright Lo	amy Soils (F	20) <b>(MLRA 1</b>	149A,	153C,	153D)			
Dark Sur	face (S7) (LRR	R P, S, T, I	U)										
Restrictive La	yer (if observ	ed):											
	Type:	Bed	drock	'	Hydr	ric Soil Pres	ent?	Yes	;	X		No	
Depth (inc	ches):		6"									<del></del>	
Remarks:													
Probe rejected	l at 6" due to be	edrock. R	ed parent mate	rial soils	;								

Project/Site: Smith Street Sit	е		City/County	: Middleto	wn/Middlesex	Sampling Date:	9/23/2015	
Applicant/Owner: 99th RSC			State: C	Т	Sampling Point:	S2		
Investigator(s): DRC, ABL			Section, To	wnship, Range	:			
Landform (hillslope, terrace, etc.):	Floodplain	Local relief (c	concave, con	vex, none):	Flat	Slope (%): <	1%	
Subregion (LRR or MLRA): LRF	R	Lat: 41.58	2439	Long:	-72.718699	Datum:	NAD 83	
Soil Map Unit Name: Wilbraha	m and Menlo				NWI	classification:		
Are climatic/hydrologic conditions		for this time of year?		Yes X	No	(If no, explain in F	Remarks)	
	, or Hydrology	•	sturbed?	-	cumstances" present		No	
<u>—</u>	-				lain any answers in R			
Are vegetation , 30ii	, or Hydrology _	riaturally proble	smalle!	(II Heeded, exp	iaili aliy aliswels ili N	.cmarks.)		
SUMMARY OF FINDINGS - Attac	h site map showi	ng sampling point	locations, ti	ansects, impo	rtant features, etc.			
Hydrophytic Vegetation Present?	Yes	No X		s the Sampled	d Area			
Hydric Soil Present?	Yes	No X		within a Wetla	nd? Yes _	No	Х	
Wetland Hydrology Present?	Yes	NoX						
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2)	s is required; check	Aquatic Fauna (B Marl Deposits (B1	5) <b>(LRR U)</b>		Surface So Sparsely Ve Drainage P	ators (minimum of il Cracks (B6) egetated Concave atterns (B10)		
Saturation (A3)		Hydrogen Sulfide	. ,			Lines (B16)		
Water Marks (B1)	<del></del>	_	pheres along Living Roots (C3) Dry-Season Water Table (C2) duced Iron (C4) Crayfish Burrows (C8)					
Sediment Deposits (B2) Drift Deposits (B3)	· <del></del>	Presence of Redu Recent Iron Redu	•	•		visible on Aerial Ir	madery (CQ)	
Algal Mat or Crust (B4)		Thin Muck Surface		1 30113 (00)		c Position (D2)	nagery (C3)	
Iron Deposits (B5)		Other (Explain in I			Shallow Aq			
Inundation Visible on Aerial	Imagery (B7)	_ ` ` `			FAC-Neutra			
Water-Stained Leaves (B9)					Sphagnum	Moss (D8) (LRR	Γ, U)	
Field Observations:								
Surface Water Present? Yes	No X	Depth (inches):						
Water Table Present? Yes Saturation Present?	No X	Depth (inches):		Wotlan	d Hydrology			
(includes capillary fringe) Yes	NoX	Depth (inches):		Presen		s N	o <u>X</u>	
Describe Recorded Data (stream of	gauge, monitoring	well, aerial photos, p	revious insp	ections), if avail	able:			
Remarks: No signs of wetland hydrology								

VEG	<b>GETATION</b> (Five Strata) - Use scientific names	•			Sampling Point	: 52			
Tree	<u>e Stratum</u> (Plot Size: <u>20-foot radius plot)</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test v	vorksheet:	•		
1.	Acer rubrum	5		FAC	Number of Domina	nt Species	That		
2.	Acer sacchrum	5		FACU	Are OBL, FACW, o	•	mat	5	(A)
3.	Quercus alba	10	Y -	FACU			_		_ (//)
4.	Carya ovata	15		FACU	Total Number of Do	ominant Sr	necies		
5.	Quercus velutina	5		NI	Across All Strata:	линан ор	COICS	2	(B)
6.			·				_		_ (D)
		40	= Total Cover		Percent of Domina	nt Snecies	That		
	50% of total cover:	20	20% of total cover:	8	Are OBL, FACW, o	•		40	(A/B)
Sap	ling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index	workshee	t:		
1.					Total % Cover of:		<u>Μι</u>	ultiply b	<u>y:</u>
2.			· <u></u> -		OBL species	n/a	x 1 =		n/a
3.			<u> </u>		FACW species	n/a	x 2 =		n/a
4.			<u> </u>		FAC species	n/a	x 3 =		n/a
5.			<u> </u>		FACU species	n/a	x 4 =		n/a
6.			<u> </u>		UPL species	n/a	x 5 =		n/a
			= Total Cover		Column Totals:	n/a	(A)	n/a	(B)
	50% of total cover:		20% of total cover:						
Ch	th Chapture (Dist Cine) 20 feet anding alet		•		Prevalence Index =	: B/A =		n/a	
<u>Snrt</u> 1.	ub Stratum (Plot Size: 20-foot radius plot)				Hydrophytic Vege	tation Indi	icators:		
2.			<del></del>			Test for H		c Vege	tation
3.			<del></del>			nance Test			
4.			<u> </u>			lence Inde			
5.	<u> </u>		· <u></u> -			atic Hydrop		etation	1
6.			<u> </u>				,		
0.			= Total Cover						
	50% of total cover:		20% of total cover:		(Explain)				
	00% of total coron.		20 /0 01 total 00 /01.		<sup>1</sup> Indicators of hydric present, unless distu			ology m	nust be
Hark	o Stratum (Plot Size: 20-foot radius plot)				present, unless dist	inced of bio	Diemanc.		
1.	·	5	Y	FAC	Definitions of Five	- Vegetatio	on Strata:		
1. 2.	Acer rubrum	5	- <u>'</u> '	FACU					
3.	Parthenocissus quinquefolia	5	- <u>'</u> -	FAC	Tree - Woody plan				d 0 :
3. 4.	Viburnum dentatum	3		FACW	approximately 20 ft (7.6 cm) or larger in				
٠. 5.	Onoclea sensibilis			TACV					
5. 6.			· <del></del> -		Sapling - Woody p approximately 20 ft				
0. 7.			·		than 3 in (7.6 cm) [		iore in Hel	yııı ail	u 1699
7. 8.			<del></del>		, ,				
o. 9.			·		Shrub – Woody pla approximately 3 to				5,
3. 10.			<u> </u>		approximately 5 to	2011 (1100	<i>J</i> 111 <i>)</i> 111 11C	igiit.	
11.			·		Herb - All herbace				
11.		20	= Total Cover		herbaceous vines, plants, except woo	regardless	ot size, <u>ai</u>	<u>nd</u> woo	ody mately
	50% of total cover:	10	20% of total cover:	4	3 ft (1 m) in height.		oo triari a	ррголи	natory
	50% of total cover:	10	20% of total cover.		Mandayina Ally				الماند ( م
Woo	ody Vine Stratum (Plot Size: 20-foot radius plot)				Woody vine - All v	loody vines	s, regardie	SS OT I	neignt.
1.	NI/A								
1. 2.	N/A								
			·		Remarks: (if observe	ved list mo	rnhologic	 al	
3.			<del></del>		adaptations below.		. p. iologica	۱ م	
			- Total Cause						
	E00/ aftatal accom		= Total Cover		Hydrophytic				,
	50% of total cover:		20% of total cover:		Vegetation Present?	Yes	No		<u> </u>

Sampling Point:

S2

Profile Desc	ription: (Descr	ibe to the	depth needed	to doc	ument the in	dicator or co	onfirm the abse	nce of indicators.)			
	Matrix	(		Redox	Features						
Depth	Color		Color								
(Inches)	(Moist)	%	(Moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-2	7.5YR 3/3	100					Silt loam				
2-12	7.5YR 4/4	100					Silt loam	<u> </u>			
								-			
		<u>_</u>									
		<u>.</u>									
		<u>.</u>									
<sup>1</sup> Type: C=Co	ncentration, D=I	Depletion,	RM=Reduced	Matrix, N	MS=Masked S	Sand Grains.	<sup>2</sup> Location: PL=F	Pore Lining, M=Matrix			
Hydric Soil	Indicators:							Indicators for Problematic Hydric Soils <sup>3</sup> :			
Histoso	ol (A1)			Polyval	ue Below Sur	face (S8) <b>(LF</b>	RR S. T. U)	1 cm Muck (A9) (LRR O)			
<del></del>	Epipedon (A2)			•	ark Surface (S			2 cm Muck (A10) <b>(LRR S)</b>			
<del></del>	listic (A3)				Mucky Minera			Reduced Vertic (F18) (Outside MLRA 150A, B)			
	en Sulfide (A4)			-	Gleyed Matrix			Piedmont Floodplain Soils (F19) (LRR P, S, T)			
	ed Layers (A5)			-	ed Matrix (F3)			Anomalous Bright Loamy Soils (F20)			
	Bodies (A6) <b>(L</b>	RR P. T. l	n		Dark Surface		-	(MLRA 153B)			
	lucky Mineral (A				ed Dark Surfa		Х	Red Parent Material (TF2)			
	resence (A8) <b>(L</b>				Depressions	. ,		Very Shallow Dark Surface (TF12)			
<del></del>	luck (A9) (LRR I				10) <b>(LRR U)</b>	()		Other (Explain in Remarks)			
	ed Below Dark S	-			ed Ochric (F1	1) <b>(MLRA 15</b>	1)				
	ark Surface (A1		, <u> </u>		inganese Mas		-	31-disabara of hardenshadis association and			
	Prairie Redox (A		A 150A)		Surface (F13		-	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless			
<del></del>	Mucky Mineral (				chric (F17) (N		-,	disturbed or problematic.			
	Gleyed Matrix (S				ed Vertic (F18	-	A. 150B)				
	Redox (S5)	,			•						
	d Matrix (S6)				nont Floodplains Soils (F19) <b>(MLRA 149A)</b> nalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>						
	urface (S7) <b>(LRI</b>	R P, S, T, I	U)		J	, ,	, <b>,</b>	,			
	` ',		,								
Restrictive I	_ayer (if observ	red):									
	Type:	,			Hydi	ric Soil Pres	ent? Yo	es No X			
Depth (i											
Remarks:											

Project/Site: Boardman L	ane Site		City/County:	Middleto	wn/Middlesex	Sampling Date:	9/22/2015
Applicant/Owner: 99 <sup>th</sup> RS0			State: CT		Sampling Point:	B1	
Investigator(s): DRC, Al	3L		Section, Tow	nship, Range	:		
Landform (hillslope, terrace, et	c.): Floodplain	Local relief (o	concave, conv		Flat	Slope (%): <	1%
Subregion (LRR or MLRA):	, <del></del>	 Lat: 41.57		Long:	-72.728506	Datum:	NAD 83
						classification:	
	aham and Menlo						
Are climatic/hydrologic condition	ons on the site typical f	or this time of year?		Yes X	No	(If no, explain in F	Remarks)
Are Vegetation , Soil	, or Hydrology	significantly dis	sturbed? A	re "Normal Ci	rcumstances" present	? Yes X	No
Are Vegetation , Soil	, or Hydrology _	naturally proble	ematic? (I	f needed, exp	lain any answers in R	Remarks.)	
SUMMARY OF FINDINGS - A	ttach site map showi	ng sampling point	locations, tra	nsects, impo	ortant features, etc.		
Hydrophytic Vegetation Preser	nt? Yes	No X	Is	the Sample	d Area		
Hydric Soil Present?	Yes	No X		ithin a Wetla		No	Χ
Wetland Hydrology Present?	Yes	No X			_		
HYDROLOGY  Wetland Hydrology Indicators  Primary Indicators (minimum of  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Ae  Water-Stained Leaves (I	one is required; check	all that apply) Aquatic Fauna (B' Marl Deposits (B1 Hydrogen Sulfide Oxidized Rhizospl Presence of Redu Recent Iron Redu Thin Muck Surface Other (Explain in I	5) (LRR U) Odor (C1) heres along Li nced Iron (C4) ction in Tilled e (C7)		Surface So Sparsely Vo Drainage P Moss Trim Dry-Seasor Crayfish Bu Saturation Geomorphi Shallow Aq FAC-Neutra	ators (minimum of il Cracks (B6) egetated Concave latterns (B10) Lines (B16) in Water Table (C2 urrows (C8) Visible on Aerial Ir ic Position (D2) juitard (D3) al Test (D5) Moss (D8) (LRR	Surface (B8) ) magery (C9)
Field Observations:							
Surface Water Present? Y	es No X	Depth (inches):		_			
	es No X	Depth (inches):		- 			
Saturation Present? (includes capillary fringe) Y	es No _X	Depth (inches):		Wetlan Presen	d Hydrology t? Ye	s N	o <u>X</u>
Describe Recorded Data (streaments:  No signs of wetland hydrology	am gauge, monitoring v	well, aerial photos, p	revious insped	ctions), if avai	lable:		

Absolute	1 (A cicies 3 (B That 33 (A/E  Multiply by: x 1 = n/a x 2 = n/a x 3 = n/a x 4 = n/a x 5 = n/a (A) n/a (E
2.	1 (A cicies 3 (B That 33 (A/E  Multiply by: x 1 = n/a x 2 = n/a x 3 = n/a x 4 = n/a x 5 = n/a (A) n/a (E
5.	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
= Total Cover   20% of total cover:   20% of total cover:   Percent of Dominant Species Total Cover   Are OBL, FACW, or FAC:	
1. Quercus bicolor         2         Y         FACW         Total % Cover of:	Multiply by: x 1 = n/a x 2 = n/a x 3 = n/a x 4 = n/a x 5 = n/a (A) n/a (E
2.   OBL species   n/a   FACW species   n/a   FACW species   n/a   FACU species   n/a   UPL species   n/a   UPL species   n/a   Column Totals:   n/a   Column Totals:   n/a   FACU species   n/a	x 1 =
3.	x 1 =
4.	x 3 =
## FAC species	x 4 =
5.	x 5 =
6.	(A)(E
2	(A)(E
Prevalence Index = B/A =	
1.       Hydrophytic Vegetation Indic.         2.       1 - Rapid Test for Hydrophytics.         3.       2 - Dominance Test is.         4.       3 - Prevalence Index is.         5.       Problematic Hydrophytics.         6.       = Total Cover         (Explain)	ators:
2.     1 - Rapid Test for Hyd       3.     2 - Dominance Test is       4.     3 - Prevalence Index is       5.     Problematic Hydrophy       6.     = Total Cover (Explain)	
4. 3 - Prevalence Index 5. Problematic Hydrophy 6. = Total Cover (Explain)	drophytic Vegetation
5. Problematic Hydrophy 6. = Total Cover (Explain)	s >50%
5. Problematic Hydrophy 6. = Total Cover (Explain)	is ≤3.0 <sup>1</sup>
6. = Total Cover (Explain)	
= Total Cover (Explain)	, 0
——————————————————————————————————————	
<sup>1</sup> Indicators of hydric soil and wetlate present, unless disturbed or problem.	
Herb Stratum (Plot Size: 20-foot radius plot)	
1. Ranunculus hispidus 10 N FAC Definitions of Five Vegetation	ı Strata:
2. <u>Taraxacum officinale</u> <u>5</u> <u>N</u> <u>FACU</u> <b>Tree -</b> Woody plants, excluding	g woody vines,
3. <u>Galium mollugo</u> 15 Y FACU approximately 20 ft (6 m) or mo	ore in height and 3 in
4. Solidago altissima 5 N FACU (7.6 cm) or larger in diameter at	t breast height (DBH
5. <u>Cirsium discolor</u> 10 N FACU Sapling - Woody plants, exclud	ding woody vines,
6. <u>Centaurea jacea</u> 20 Y FACU approximately 20 ft (6 m) or mo	re in height and less
7.         Rumex crispis         5         N         FAC         than 3 in (7.6 cm) DBH.	
8. <u>Asclepias syriaca</u> 3 N UPL Shrub – Woody plants, excludir approximately 3 to 20 ft (1 to 6 i	
10. Herb - All herbaceous (non-woo	ody) plants, including
11 herbaceous vines, regardless o	of size, and woody
73 = Total Cover plants, except woody vines, less	s than approximately
50% of total cover: 36.5 20% of total cover: 14.0	regardless of beight
Woody Vine Stratum (Plot Size: 20-foot radius plot)  Woody Vine Stratum (Plot Size: 20-foot radius plot)	regardiess of neight
1. N/A	
2.	
3. Remarks: (if observed, list morp adaptations below.)	phological
= Total Cover	-
50% of total cover:  20% of total cover:  Wegetation  Present?	-

Sampling Point:

B1

Profile Descr	ription: (Descri	ibe to the c	depth needed to do	cument the ir	ndicator or co	onfirm the abse	nce of indicators.)			
	Matrix	(	Redo	x Features						
Depth	Color		Color							
(Inches)	(Moist)	%	(Moist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-8	7.5YR 3/4	100				Silt loam				
8-12	7.5YR 4/6	100				Silt loam	-			
							-			
-					-					
							<del></del>			
<sup>1</sup> Type: C=Cor	ncentration, D=I	Depletion, F	RM=Reduced Matrix	, MS=Masked	Sand Grains.	<sup>2</sup> Location: PL=F	Pore Lining, M=Matrix			
Hydric Soil Ir	ndicators:						Indicators for Problematic Hydric Soils <sup>3</sup> :			
Histosol	(A1)		Polys	alue Below Su	rface (S8) (I F	RR S. T. U)	1 cm Muck (A9) <b>(LRR 0)</b>			
	pipedon (A2)			Dark Surface (						
				y Mucky Miner			cm Muck (A10) (LRR S) educed Vertic (F18) (Outside MLRA 150A, B)			
Black Histic (A3) Loamy M Hydrogen Sulfide (A4) Loamy G							_			
							Piedmont Floodplain Soils (F19) (LRR P, S, T)			
	Bodies (A6) <b>(L</b>			eted Matrix (F3)			Anomalous Bright Loamy Soils (F20)			
		x Dark Surface	. ,		(MLRA 153B)					
5 cm Mu	· · · — ·	eted Dark Surfa			Red Parent Material (TF2)					
	resence (A8) (L			x Depressions	(F8)		Very Shallow Dark Surface (TF12)			
	uck (A9) <b>(LRR F</b>	-		(F10) <b>(LRR U)</b>			Other (Explain in Remarks)			
	d Below Dark S		· —	eted Ochric (F1		-				
	ark Surface (A1			Manganese Ma		-	<sup>3</sup> Indicators of hydrophytic vegetation and			
	rairie Redox (A			ic Surface (F1		U)	wetland hydrology must be present, unless			
	Mucky Mineral (			Ochric (F17) (			disturbed or problematic.			
Sandy C	Gleyed Matrix (S	64)	Redu	ced Vertic (F18	B) <b>(MLRA 150</b>	A, 150B)				
Sandy F	Redox (S5)		Piedr	nont Floodplains Soils (F19) <b>(MLRA 149A)</b>						
Stripped	d Matrix (S6)		Anom	nalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)						
Dark Su	ırface (S7) <b>(LRF</b>	R P, S, T, U	)							
Restrictive L	ayer (if observ	ed):								
	Type:			Hyd	Iric Soil Pres	ent? Y	es No X			
Depth (ir	nches):									
Remarks:				•						

Project/Site: Boardman Lane Site	City/County: Middletown/Middlesex Sampling Date: 9/22/2015
Applicant/Owner: 99 <sup>th</sup> RSC	State: CT Sampling Point: B2
Investigator(s): DRC, ABL	Section, Township, Range:
Landform (hillslope, terrace, etc.): floodplain Local relief	(concave, convex, none): Flat Slope (%): >1%
Subregion (LRR or MLRA): LRR R Lat: 41.5	80988 Long: -72.728444 Datum: NAD 83
Soil Map Unit Name:Wilbraham and Menlo	NWI classification: PEM
Are climatic/hydrologic conditions on the site typical for this time of year	? Yes X No (If no, explain in Remarks)
Are Vegetation , Soil , or Hydrology significantly of	isturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally prob	lematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling poin	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	
Remarks: Floodplain wetland associated with Richards Brook.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (	<u> </u>
High Water Table (A2)  Marl Deposits (E	<del></del>
Saturation (A3) Hydrogen Sulfid	<u> </u>
<del></del>	pheres along Living Roots (C3) Dry-Season Water Table (C2) uced Iron (C4) Crayfish Burrows (C8)
<del></del>	uction in Tilled Soils (C6)  Claylish Burlows (C6)  Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)  Algal Mat or Crust (B4)  Thin Muck Surfa	<del></del>
Iron Deposits (B5)  Other (Explain in	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No _X Depth (inches):	
Water Table Present? Yes No Depth (inches): Saturation Present?	Wetland Hydrology
(includes capillary fringe) Yes X No Depth (inches):	8" Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:
Remarks: Area is much drier than during spring monitoring. No standing water pro	sent on site within wetland areas

<b>VEGETATION</b> (Five Strata) - Use scientific names				Sampling Point:	B2			
Tree Stratum (Plot Size: 20-foot radius plot)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test w	orksheet:			
1.		. <u> </u>		Number of Dominar		hat		
2		<u> </u>		Are OBL, FACW, or	r FAC:	_	2	(A)
3.		. <u></u> -						
4.		. <u></u> -		Total Number of Do	minant Spe	cies		
5.		<u> </u>		Across All Strata:		-	2	(B)
6.								
E0% of total cover:		= Total Cover 20% of total cover:		Percent of Dominar		nat	100	
50% of total cover:		20% Of total cover.		Are OBL, FACW, or	FAC.	-	100	_ (A/B)
Sapling Stratum (Plot Size: 20-foot radius plot)				Prevalence Index	worksheet:			
1.				Total % Cover of:		<u>M</u>	ultiply b	<u>y:</u>
2.			-	OBL species	n/a	x 1 =		n/a
3.				FACW species	n/a	x 2 =		n/a
4.				FAC species	n/a	x 3 =		n/a
5.		<u> </u>		FACU species	n/a	x 4 =		n/a
6.		. <u> </u>		UPL species	n/a	x 5 =		n/a
		= Total Cover		Column Totals:	n/a	(A)	n/a	(B)
50% of total cover:		20% of total cover:						
				Prevalence Index =	B/A =		n/a	
Shrub Stratum (Plot Size: 20-foot radius plot)  1.				Hydrophytic Vege	tation Indica	ators:		
2.		<u> </u>					ic Vege	tation
3.		<del></del>		1 - Rapid Test for Hydrophytic Vegetatio 2 - Dominance Test is >50%			tation	
4.		·			lence Index			
5.		<del></del>			itic Hydrophy			1
6.		·			<b>,</b> ,-		,	
		= Total Cover		<del>-</del>				
50% of total cover:		20% of total cover:		(Explain)				
•		•		<sup>1</sup> Indicators of hydric s	soil and wetla	and hyd	rology m	nust be
				present, unless distu	rbed or probl	ematic.		
Herb Stratum (Plot Size: 20-foot radius plot)				Definitions of Five	Voseteties	Ctroto		
1. Phalaris arundinacea	50	. <u>Y</u> .	OBL	Delinitions of Five	vegetation	Strata		
2. Carex stricta	10	. <u>N</u>	OBL	Tree - Woody plan				
3. <u>Equisetum arvense</u>	10 10	N	FAC	approximately 20 ft (6 m) or more in height and 3 (7.6 cm) or larger in diameter at breast height (Df				
4. <u>Carex stipata</u>	30	N 	OBL OBL				_	
5. <u>Lythrum salicaria</u> 6.	30	<u> </u>	OBL	Sapling - Woody pl approximately 20 ft				
7.		<u> </u>	<u></u>	than 3 in (7.6 cm) D		e iii iie	ignt and	u iess
8.		<u> </u>		, , , ,				
9		·		Shrub – Woody pla approximately 3 to 2				5,
10		·			,	,	•	
11.		·		Herb - All herbaced				
···	110	= Total Cover		herbaceous vines, r				
50% of total cover:	55	20% of total cover:	22	3 ft (1 m) in height.	,			,
00% 01 total 00001.		2070 01 total 00101.		Woody vine - All w	ondy vines	renardl	ess of t	neiaht
Woody Vine Stratum (Plot Size: 20-foot radius plot)				The Park W	July villed,	. Jyurur	JUJ 01 1	
1. N/A								
2.		·						
3.		<u> </u>		Remarks: (if observ		hologic	cal	
		<u> </u>		adaptations below.)	•	-		
		= Total Cover						
50% of total cover:		20% of total cover:			res X	No	<b></b>	
		•		Vegetation Present?		_	-	

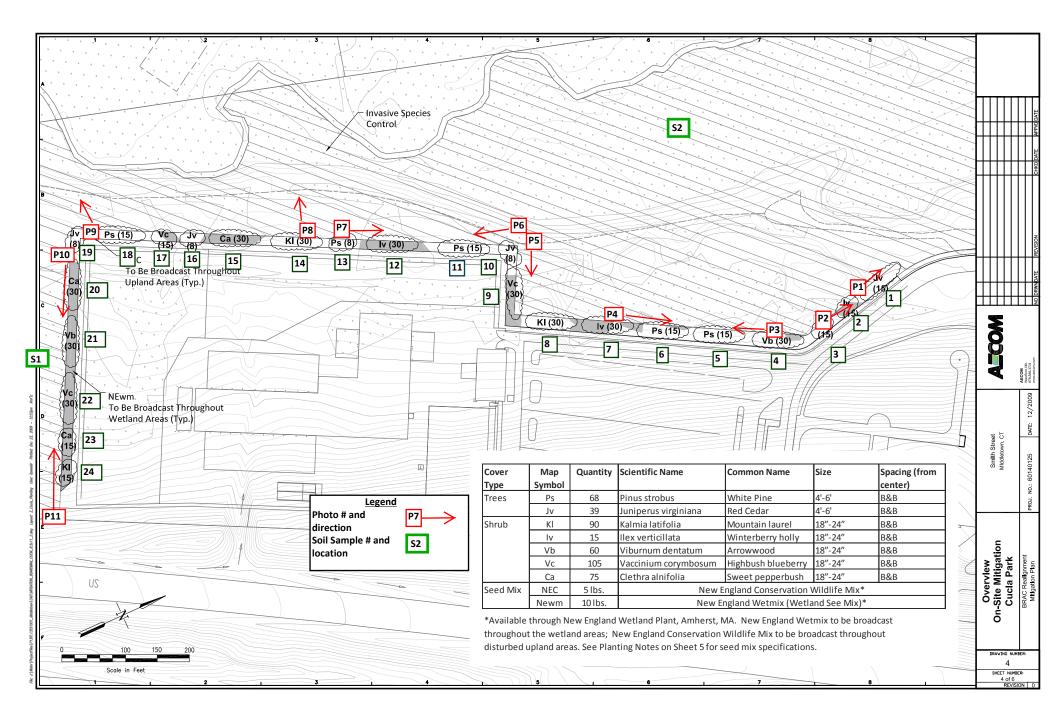
Sampling Point:

B2

Profile Descri	iption: (Descri	ibe to the d	epth needed to	document the in	ndicator or co	onfirm the ab	sence	e of inc	dicators.)	)	
	Matrix	(	Red	dox Features							
Depth	Color		Color								
(Inches)	(Moist)	%	(Moist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Textu	Texture		Remarks		emarks
0-1	10YR 3/2	100				Silt loam		·-			
1-12	10YR 3/1	80	5YR3/4 2	0 C	M	Silt loam				-	
		<u> </u>									-
,	•										
				<u> </u>					-		
									-		
,	•					_					
¹Type: C=Con	centration D=[	Depletion R	M=Reduced Mat	rix, MS=Masked	Sand Grains	<sup>2</sup> I ocation: PI	I =Por	e Linin	g M=Mat	rix	
Type. C Con	ochiration, D	Sopiction, 10	ivi recuded ivide	in, ivic ividored	Caria Granio.	Loodiion. 1	_ 1 01	C LIIIII	g, ivi iviat	TIX.	
Hydric Soil In	dicators:						ı	Indicat	tors for P	roblemati	ic Hydric Soils³:
Histosol	(Δ1)		Pol	yvalue Below Su	rface (S8) (I E	DD C T III		1 cm M	luck (A9)	(I PP O)	
	. ,			n Dark Surface (					, ,	(LRR S)	
	pipedon (A2)					_					oido MLDA 150A D)
Black His				my Mucky Miner		_					side MLRA 150A, B)
	n Sulfide (A4)			my Gleyed Matri		_					(F19) <b>(LRR P, S, T)</b>
	Layers (A5)			oleted Matrix (F3)		_			llous Bright Loamy Soils (F20)		
	Bodies (A6) (L	_						RA 153B)			
	cky Mineral (A							rent Material (TF2)			
	esence (A8) <b>(L</b>	-		dox Depressions	· · · · · · · · · · · · · · · · · · ·			nallow Dark Surface (TF12)			
1 cm Mu	ck (A9) (LRR F	P, T)	Ma	rl (F10) <b>(LRR U)</b>	Other (Expl			Explain in	Remarks	)	
Depleted	l Below Dark S	urface (A11	) <u> </u>	oleted Ochric (F1	1) <b>(MLRA 15</b>	1)					
Thick Da	ırk Surface (A1	2)	Iror	n-Manganese Ma	ganese Masses (F12) (LRR O, P, T) <sup>3</sup> Indicators				ators of hy	vdrophytic	vegetation and
Coast Pr	airie Redox (A	16) <b>(MLRA</b>	<b>150A)</b> Um	bric Surface (F13	( (540) (1555 5 11)						e present, unless
Sandy M	lucky Mineral (	S1) (LRR O	, <b>S)</b> Del	ta Ochric (F17) <b>(</b> I	MLRA 151)				-	blematic.	·
Sandy G	leyed Matrix (S	84)	Red	duced Vertic (F18	8) <b>(MLRA 150</b>	A, 150B)					
Sandy R	edox (S5)		— Pie	dmont Floodplair	ns Soils (F19)	(MLRA 149A	١)				
	Matrix (S6)			omalous Bright Lo		-	-	53C, 1	53D)		
	face (S7) (LRF	R P. S. T. U)		· ·	, ,	, ,	•	·	•		
<del></del> ;	` / `	,									
Restrictive La	ver (if observ	ed):									
	Type:			Hvd	Iric Soil Pres	ent?	Yes		Х	No	
Depth (in				-							
Beptii (iii				-							
Remarks:											

Appendix C

**Photos** 



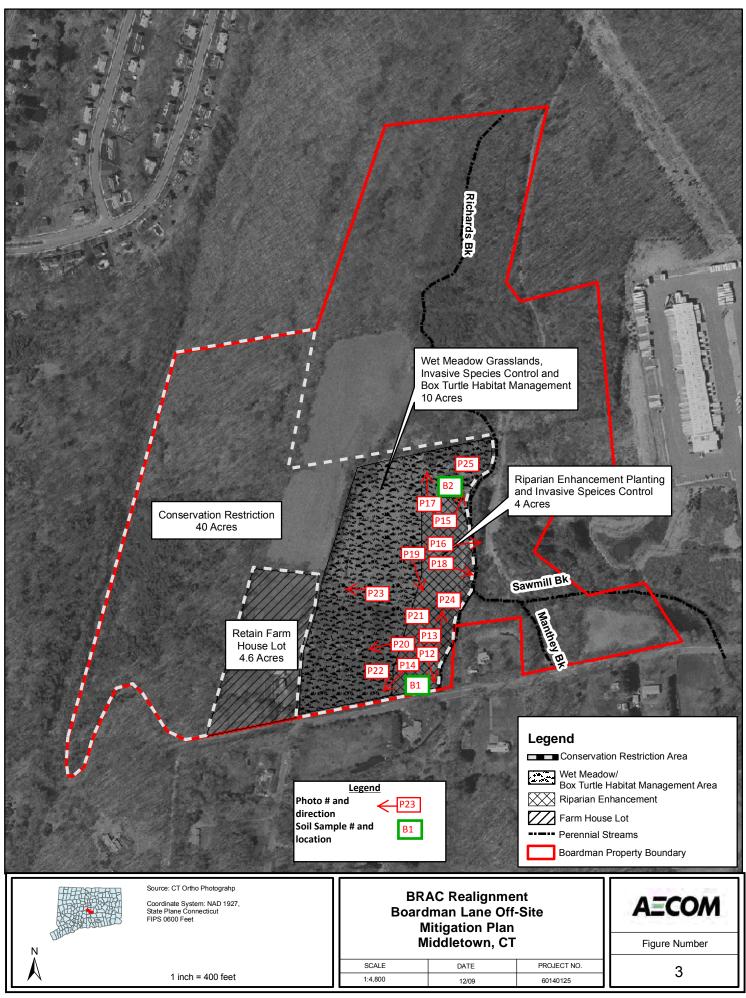




Photo 1 – Smith Street - North end of site looking north planted red cedar on right, reed canary grass in center (Fall)



Photo 2 – Smith Street - North end of site looking north – Volunteer Am sycamore on left, multiflora rose and oriental bittersweet on right. (Fall)



Photo 3 – Smith Street - North end of site looking south – Planted white pine on right, colts foot in center. (Fall)



Photo 4 – Smith Street - North end of site looking north – green ash seedlings (Spring)



Photo 5 – Smith Street - Center of site looking east (Spring)



Photo 6 – Smith Street - Center of site looking south – Common reed at toe of slope, bush honeysuckle left center. (Spring)



Photo 7 – Smith Street – Center of site looking north – white pine plantings in center – multiflora rose on left and right (Fall)



Photo 8 – Smith Street – Center of site of site looking west, common reed in center (Fall)



Photo 9 – Smith Street – Southwest corner of site looking southwest at common reed stand (Spring)



Photo 10 – Smith Street – Southwest corner of site looking east – New England Wetmix application area. (Spring)



Photo 11 – Smith Street - South end of site looking westdeer tongue grass left center. (Fall)



Photo 12 – Boardman Lane - South end of site looking southeast. (Spring)



Photo 13 – Boardman Lane - South end of site looking north (Fall)



Photo 14 – Boardman Lane - South end of site looking southwest toward southern portion of habitat management area. (Fall)



Photo 15 – Boardman Lane - North end of site looking northeast. (Spring)



Photo 16 – Boardman Lane - North end of site looking east-reed canary grass. (Spring)



Photo 17 – Boardman Lane - North end of site looking north. (Fall)



Photo 18 – Boardman Lane - North end of site looking east, reed canary grass in center. (Fall)



Photo 19 – Boardman Lane - North end of site looking south towards hedgerow. (Spring)



Photo 20 – Boardman Lane - South end of site looking west at habitat management area. (Spring)



Photo 21 – Boardman Lane – Close up of typical vegetation – goldenrod, horsetail, deer tongue grass, wild madder. (Spring)



Photo 22 – Boardman Lane – Brown knapweed, common throughout (Fall)



Photo 23 – Boardman Lane – Center of site looking west, Canada thistle center and left center. (Fall)



Photo 24 – Boardman Lane – Autumn olive, tree-row in center of site. (Fall)



Photo 25 – Boardman Lane –Purple loosestrife, common in wetland areas. (Fall)