WETLAND MITIGATION ANNUAL MONITORING REPORT

RENTSCHLER FIELD PARKING AND TRAFFIC CIRCULATION IMPROVEMENTS
MONITORING REPORT 1 OF 5
USACE PERMIT NO. CENAE-R-2007-2818

December 17, 2013

MMI #3097-01-44

Prepared for:

State of Connecticut
Office of Policy and Management
Adriaen's Landing/Rentschler Field Project Office
100 Columbus Boulevard, Suite 501
Hartford, Connecticut 06103

Prepared by:

MILONE & MACBROOM, INC.
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773
www.miloneandmacbroom.com

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1.0 PROJECT OVERVIEW

On behalf of the State of Connecticut Office of Policy and Management (OPM), Milone & MacBroom, Inc. (MMI) has prepared the first of five annual wetland mitigation monitoring reports for the Rentschler Field Parking and Traffic Circulation Improvements project located in East Hartford, Connecticut. On November 5, 2009, the U.S. Army Corps of Engineers New England District (USACE) granted permit number CENAE-R-2007-2818 for the construction of new parking areas, a rugby field, stormwater management areas, compensatory flood storage basins, the loss of approximately 0.15 acres of wetland, and the alteration of 0.85 acres of wetland associated with the Rentschler Field improvements. As part of the approved mitigation plan, the project proposed the restoration of approximately 2.2 acres of wetland and the restoration of approximately 0.1 acres of riparian zone associated with the unnamed tributary. The wetlands and riparian zone were restored to mitigate for the wetlands lost and/or altered as part of the construction project. A copy of the permit and mitigation design plans is attached as Appendix A. The mitigation goals of this project included the following:

- Enhanced wildlife habitat
- Increased biodiversity
- Enhanced water quality protection
- Improved aesthetic appeal

The wetland and riparian zone restoration projects were implemented in August 2011. Three mitigation sites – WR-1 (2.0 acres), WR-2 (0.2 acres), and RZ-1 (0.1 acres) – were restored in 2011. Figure 1 illustrates the location of the three mitigation sites. Wetland restoration area WR-1 has not been planted to date because of ongoing invasive species (common reed) management within the restoration area. OPM has implemented an intensive invasive species management program within this wetland, and it has been ongoing for the past three years.

Monitoring of the wetland mitigation areas is to be done every year for the first five years following the first full growing season. The wetland monitoring is to be completed using the

SOURCE(S):
CT Ortho, 2012

Figure 1: Wetland Mitigation Locations

LOCATION:
East Hartford, CT

N

Rentschler Field Parking and Traffic Circulation Improvement

MXD: G:\sdskproj\3097-01\Gis\Maps\Figure 1- Vegetation Plot Locations.mxd

Map By: JDW
MMI#: 3097-01
Original: 12/13/2013
Revision: 12/13/2013
Scale: 1 inch = 500 feet

MILONE & MACBROOM
99 Realty Drive Cheshire, CT 06410
(203) 271-1773 Fax: (203) 272-9733
www.miloneandmacbroom.com

USACE monitoring protocol and the four success standards. OPM has completed the first of five annual monitoring events within wetland mitigation sites WR-2 and RZ-1 and as specified under the USACE permit conditions. This monitoring report serves as the first of five annual monitoring reports to help satisfy the existing permit conditions.

MMI's first annual wetland monitoring events were conducted on June 15, 2013 and September 23, 2013. The following color aerial photos Figure 2, Figure 3, and Figure 4 were downloaded from the 2012 http://cteco.uconn.edu website and represent the wetland mitigation areas.

Figure 2 – Wetland Restoration Area WR-1 Spring 2012

Figure 3 – Wetland Restoration Area WR-2 Spring 2012

Figure 4 – Riparian Zone Area RZ-1 Spring 2012

2.0 SUMMARY OF PROBLEMS

In February 2010, it was observed that the proposed vegetation clearing limits around wetland mitigation area WR-2 were accidentally exceeded by the tree clearing contractor. MMI inspected the clearing on February 20, 2010 and summarized our findings in a letter report that is attached as Appendix F. This letter was forwarded to both the Connecticut Department of Energy & Environmental Protection (CTDEEP) and USACE on March 10, 2010. A new restoration planting plan was developed in September 2010 for wetland mitigation area WR-2 that included additional plantings than what had been previously permitted under the mitigation plan. This new mitigation plan was implemented during 2011. An as-built of the mitigation area WR-2 is found in Appendix B.

Overall, MMI has not observed any major problems within each of the mitigation sites. WR-1 will be treated with herbicide again during spring 2014. OPM is hopeful that the final wetland restoration components to this mitigation site can be completed during 2014, including minor hummock formation and planting. WR-2 is stable, the vegetative plant community is dense, and there are no significant problems within this wetland mitigation area. Common reed stalks were observed near the outlet of this wetland, and these limited number of plant stalks were treated with herbicide known as "Habitat," an Imazapyr-based product, during 2013. The presence of

other invasive species within this mitigation area will continue to be monitored during the 2014 monitoring year. RZ-1 is in stable condition with banks of the watercourse being heavily vegetated with native plant material. Invasive species such as pokeweed and European buckthorn will continue to be managed within this riparian zone mitigation area in 2014. The wetland and riparian zone mitigation sites are meeting the project goals as presented within the plan.

3.0 MONITORING SUMMARY

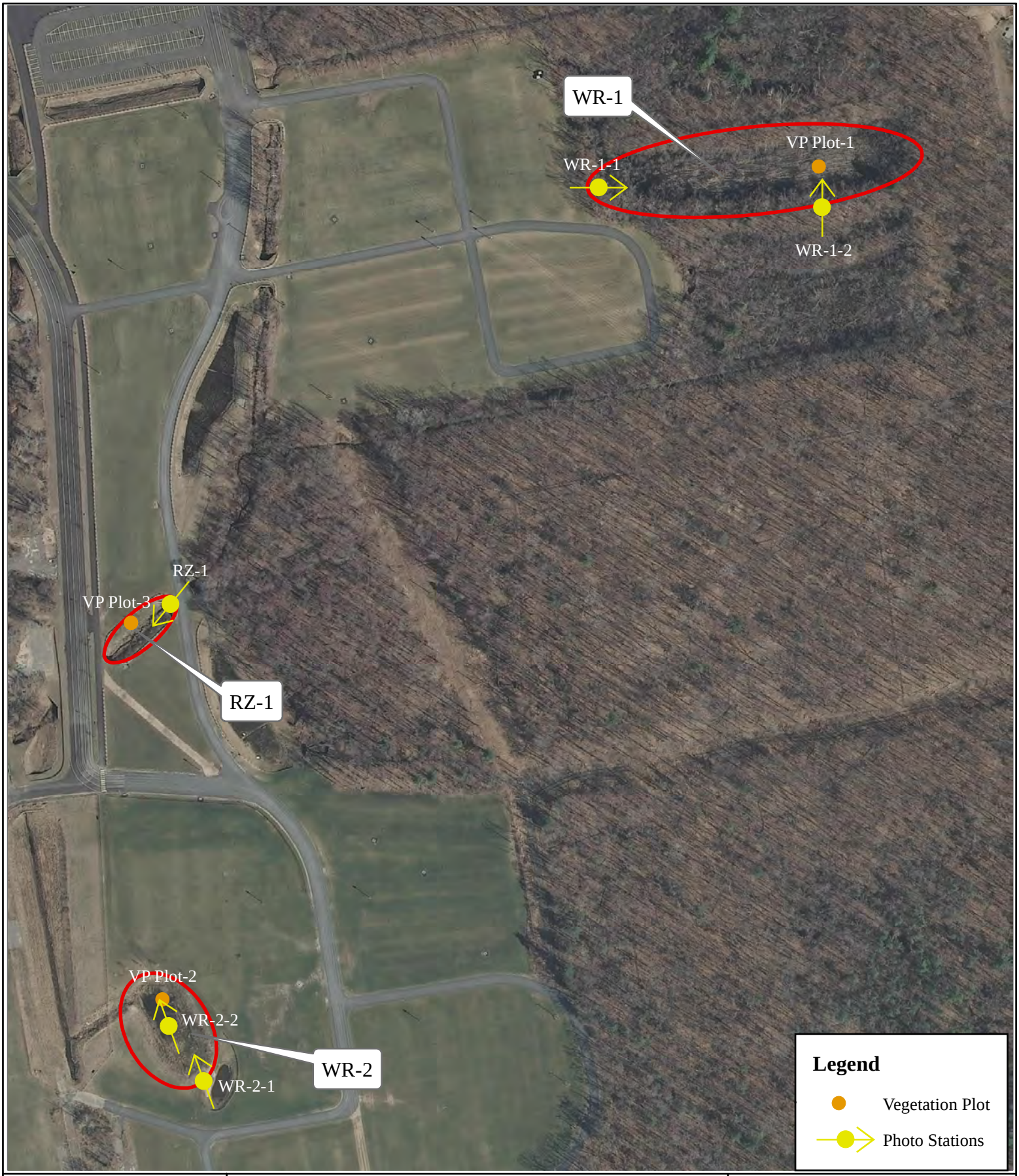
As stated previously, MMI conducted a spring site visit on June 15, 2013 and a late summer site visit on September 23, 2013. MMI established several vegetation plot areas and photo stations within the mitigation areas, and these are illustrated in Figure 5. A photo log of our 2013 site visits is attached as Appendix D.

3.1 Soil Analysis

The three mitigation sites involved the restoration of existing wetlands and/or riparian zone habitats. Creation of wetland areas through grading was not completed as part of the approved mitigation plan. The wetland areas were not expanded beyond their predevelopment conditions, so wetland delineations and soil analysis were not completed as part of the 2013 monitoring efforts. The soils within the two wetland restoration sites were delineated as hydric soils wetlands in 2008 (i.e., prior to any land development) and have remained hydric soils following the implementation of site improvements and wetland mitigation. The riparian zone restoration site does not contain hydric soils but does have a watercourse bordered by upland slopes. No new hydric soil conditions were created during the restoration of the banks bordering this watercourse.

3.2 Hydrology Analysis

Similar to the soils on this site, the hydrology of the two wetland mitigation areas and the riparian zone area were not significantly altered due to the implementation of site improvements. During the course of the design of the new grassed parking lot areas, specifically those areas



SOURCE(S):
CT Ortho, 2012

Figure 5: Photo Station and Vegetation Plot Locations

LOCATION:
East Hartford, CT

N

Rentschler Field Parking and Traffic Circulation Improvement

MXD: G:\sdskproj\3097-01\Gis\Maps\Figure 5- Photostations.mxd

Map By: JDW
MMI#: 3097-01
Original: 12/13/2013
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Scale: 1 inch = 250 feet

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bordering WR-2 and RZ-1, the design of site improvements were developed to maintain the hydrologic conditions to the wetland and/or watercourses associated with these mitigation sites. There were no changes made to the land cover, topography, or flow paths within the contributing watershed to WR-1. The hydrology within the WR-1, WR-2, and RZ-1 has remained unchanged since the implementation of the site improvements.

WR-2 typically becomes flooded/inundated with approximately one to two feet of standing water during the winter and early spring months. The depth of standing water varies year by year dependent upon precipitation levels during the early spring. For example, the springs of both 2012 and 2013 were relatively dry during the months of March and April; therefore, spring inundation levels within WR-2 were lower than what has been observed in the past. By July, there are a few pools of shallow standing water, and most of the soils within the wetland remain saturated to the surface.

The watercourse located within RZ-1 has higher flows during the winter and spring months and lower flows during the late summer. Similar to WR-2, the watercourse experienced unusually low flows during March and April of 2012 and 2013 due to the lack of precipitation. In fact, during the springs of 2012 and 2013, many of the state's watercourses and wetlands were closer to typical July low-flow conditions than typical spring flows.

Although the spring precipitation levels have been lower the last two springs, there has not been a noticeable change in the overall wetland and/or riparian zone vegetation associated with WR-1, WR-2, and/or RZ-1. The hydrology that is present at all three mitigation sites is supporting the intended wetland vegetative communities.

3.3 Vegetation Analysis

Vegetation plots were established within the three wetland mitigation sites during the 2012 monitoring year. Vegetation plot data is attached as Appendix C.

Wetland Mitigation Area WR-1

The vegetation densities vary widely within this wetland because the wetland is currently being managed for the removal of common reed. Native herbaceous plants have begun to colonize portions of the wetland including species such as yellow swamp candles, swamp beggar ticks, and soft rush. Common reed is still present within this wetland, but the overall population has been significantly reduced. Remaining plants appear stressed and have not produced any inflorescence (flower/seed heads) over the past three years. Common reed will be treated again in 2014.

Wetland Mitigation Area WR-2

WR-2 is well vegetated with a variety of emergent and wet meadow wetland plant species. The fringes of the wetland have shrubs including speckled alder, buttonbush, highbush blueberry, steeplebush, sweet pepperbush, and willows. This wetland has a diverse assemblage of native plant species and offers flowering plants, nectar-producing plants, and seed-producing plants. The vegetation is lush, green, and healthy and is meeting the goals of the mitigation plan. Table 3-1 presents the plant survivability percentages within WR-2 following the first full growing season.

TABLE 3-1
WR-2 Plant Survivability Percentages

Approved Shrub Species	Quantity Approved Under Mitigation Plan	Quantity Found in Spring 2013	Percent Survival
Red Maple	15	14	93%
Pin Oak	15	14	93%
Swamp White Oak	20	18	90%
Black Willow	10	3	30%
Buttonbush	25	23	92%
Speckled Alder	40	40	100%
Swamp Azalea	20	15	75%
Pussy Willow	15	12	80%
Highbush Blueberry	25	20	80%
Silky Dogwood	30	25	83%

Approved Shrub Species	Quantity Approved Under Mitigation Plan	Quantity Found in Spring 2013	Percent Survival
Sweet Pepperbush	100	95	95%
Sweet Fern	100	90	90%
Bayberry	100	85	85%
Totals	***515***	***454***	***88%***
Overall Average Survival			88%

Wetland Mitigation Area RZ-1

RZ-1 has well vegetated, stable banks that are predominantly native upland and wetland vegetation. There was a slight modification to the planting plan for RZ-1 made during construction. Black willows were not available at the specified sizes and were substituted with pin oaks. In addition, the quantity and size of the trees used within RZ-1 was modified due to availability. The approved mitigation plan required 50 trees at sizes ranging from five to six feet to be planted along both banks of the watercourse located within RZ-1. Instead, 18 trees were planted that ranged in size from 12 to 15 feet in height and were spaced approximately 12 feet on center from each other to provide appropriate spacing, light, and growth requirements. The trees are growing well and will provide shading of the watercourse over time. Table 3-2 presents the tree planting modifications and first year survival rates.

TABLE 3-2
RZ-1 Tree Specie Substitution and Quantity Modifications

Quantity Approved Under Mitigation Plan	Quantity Used Within RZ-1	Species Approved Under Mitigation Plan	Species Planted Within RZ-1	Tree Heights Approved Under Mitigation Plan	Tree Heights Planted Within RZ-1	QTY Surviving After First Full Growing Season
10	3	Red maple	Red Maple	5 to 6 feet	12 to 15 feet	3
15	5	Sycamore	Sycamore	5 to 6 feet	12 to 15 feet	5
15	6	Silver maple	Silver Maple	5 to 6 feet	12 to 15 feet	6
10	0	Black willow		5 to 6 feet		
0	4		Pin oak		12 to 15 feet	3

Table 3-3 provides a summary of the survivability rates of the shrubs planted within RZ-1.

TABLE 3-3
RZ-1 Shrub Survivability Percentages

Approved Shrub Species	Quantity Approved Under Mitigation Plan	Quantity Found in Spring 2013	Percent Survival
Silky Dogwood	100	76	76%
Grey Stemmed Dogwood	100	82	82%
Bayberry	100	72	72%
Inkberry	100	28	28%
Overall Average Survival			65%

The overall health and vigor of the wetland plants within WR-2 and RZ-1 during the spring and summer was good. Native plants are beginning to colonize WR-1. The species diversity within WR-1 is anticipated to increase over time. The goals for vegetation within WR-2 and RZ-1 are being met.

3.4 Wildlife and Fishery Analysis

Wildlife and fishery resources were also surveyed during both the spring and late summer field visits using visual encounter methods (i.e., active wildlife or other signs including tracks, nests, eggs, etc.) as well as auditory methods.

Wetland Mitigation Area WR-1

Wetland mitigation area WR-1 supports a host of wildlife species because of its size and proximity to larger tracts of forested wetland communities and upland forests to the north and south of the mitigation site. Table 3-4 presents the wildlife and/or fish species observed utilizing this wetland during 2013.

TABLE 3-4
WR-1 Wildlife and Fish Species Summary

Common Name	Latin Name
Mammals	
White tailed deer	*Odocoileus virginianus*
Red fox	*Vulpes vulpes*
Common raccoon	*Procyon Iotor*
Birds	
Red winged blackbird	*Agelaius phoeniceus*
Great blue heron	*Ardea herodias*
Green heron	*Butorides birescens*
Spotted sandpiper	*Actitis macularius*
American goldfinch	*Spinus tristis*
Swamp sparrow	*Melospiza georgiana*
Mallard	*Anas platyrhynchos*
Reptiles and Amphibians	
Pickerel frog	*Rana palustris*
Wood frog	*Rana sylvatica*
Green frog	*Lithobates clamitans*
Bull frog	*Rana catesbeiana*
Snapping turtle	*Chelydra serpentina*
Eastern garter snake	*Thamnophis sirtalis*
Insects	
Common green darner	*Anax junius*
Eastern amberwing	*Perithemis tenera*
Twelve spotted skimmer	*Libellula pulchella*
Common whitetail	*Libellula lydia*

Wetland Mitigation Area WR-2

Wetland mitigation area WR-2 is surrounded by grassed parking areas and relatively open areas, which limits the wildlife species that would use the wetland. Table 3-5 presents the wildlife and/or fish species observed utilizing this wetland during 2013.

TABLE 3-5
WR-2 Wildlife and Fish Species Summary

Common Name	Latin Name
Mammals	
White tailed deer	*Odocoileus virginianus*
Red fox	*Vulpes vulpes*
Common raccoon	*Procyon iotor*
Birds	
Red winged blackbird	*Agelaius phoeniceus*
Great blue heron	*Ardea herodias*

Common Name	Latin Name
Birds (Continued)	
Spotted sandpiper	*Actitis macularius*
American goldfinch	*Spinus tristis*
Killdeer	*Charadrius vociferus*
Canada goose	*Branta canadensis*
Mallard	*Anas platyrhynchos*
Reptiles and Amphibians	
Pickerel frog	*Rana palustris*
Green frog	*Lithobates clamitans*
Bull frog	*Rana catesbeiana*
Snapping turtle	*Chelydra serpentina*
Eastern garter snake	*Thamnophis sirtalis*
Insects	
Common green darner	*Anax junius*
Eastern amberwing	*Perithemis tenera*
Twelve spotted skimmer	*Libellula pulchella*
Common whitetail	*Libellula lydia*
Whirligig beetle	*Gyrinidae*

Wetland Mitigation Area RZ-1

Wetland mitigation area RZ-1 is surrounded by grassed parking areas and relatively open areas, which limits the wildlife species that would use the watercourse and riparian zone. Table 3-6 presents the wildlife and/or fish species observed utilizing this wetland during 2013.

TABLE 3-6
RZ-1 Wildlife and Fish Species Summary

Common Name	Latin Name
Mammals	
White tailed deer	*Odocoileus virginianus*
Common raccoon	*Procyon iotor*
Birds	
Red winged blackbird	*Agelaius phoeniceus*
American goldfinch	*Spinus tristis*
Killdeer	*Charadrius vociferus*
Reptiles and Amphibians	
Green frog	*Lithobates clamitans*
Eastern garter snake	*Thamnophis sirtalis*
Insects	
Common green darner	*Anax junius*
Common whitetail	*Libellula lydia*
Fish	
Blacknose dace	*Rhinichthys atratulus*

Overall, the wildlife diversity is moderate to high given the size, location, and surrounding land uses within and bordering the wetland mitigation sites.

3.5 Wetland Functions and Values Analysis

Wetlands and watercourses are generally accepted as performing certain hydrologic and ecological functions that provide social and economic values. An evaluation of the on-site wetlands' and watercourses' capability to perform these functions and provide these values is summarized in Tables 3-7, 3-8, and 3-9. The methodology follows the USACE's Wetland Functions and Values approach.

TABLE 3-7
Functional Evaluation of WR-1
U.S. Army Corps of Engineers Highway Workbook Methodology

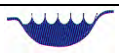
	Functions	Existing Conditions
	Groundwater Recharge / Discharge	Yes. High groundwater table is a primary contributor to the wetlands' hydrology.
	Floodflow Alteration (Storage and Desynchronization)	Yes. Provides localized floodwater attenuation.
	Fish and Shellfish Habitat	No. Emergent marsh and scrub shrub wetland habitats are present. No permanent pools capable of supporting fish are present.
	Sediment / Toxicant Retention	Yes. The wetlands' dense herbaceous communities have sediment and toxicant retention potential.
	Nutrient Removal / Retention / Transformation	Yes. The wetlands' dense herbaceous communities have nutrient removal and retention.
	Production Export (Nutrient)	Yes
	Sediment / Shoreline Stabilization	Yes. The wetlands' outside berms are stabilized by vegetation.
	Wildlife Habitat	Yes. Two diverse wetland vegetation communities provide ideal habitat for a variety of wildlife species. Large tracts of forested wetlands occur both north and south of this wetland mitigation area. Wetland serves as a migration linkage between wetland habitat communities and blocks.
	Recreation (Consumptive and Nonconsumptive)	No (access restricted)
	Educational Scientific Value	No (access restricted)
	Uniqueness / Heritage	No
	Visual Quality / Aesthetics	No
ES	Endangered Species	No

TABLE 3-8
Functional Evaluation of WR-2
U.S. Army Corps of Engineers Highway Workbook Methodology

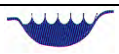
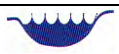
	Functions	Existing Conditions
	Groundwater Recharge / Discharge	Yes. High groundwater table is a primary contributor to the wetlands' hydrology.
	Floodflow Alteration (Storage and Desynchronization)	Yes. Provides localized floodwater attenuation.
	Fish and Shellfish Habitat	No. Emergent marsh and scrub shrub wetland habitats are present. No permanent pools capable of supporting fish are present.
	Sediment / Toxicant Retention	Yes. The wetlands' dense herbaceous communities have sediment and toxicant retention potential.
	Nutrient Removal / Retention / Transformation	Yes. The wetlands' dense herbaceous communities have nutrient removal and retention potential.
	Production Export (Nutrient)	No
	Sediment / Shoreline Stabilization	Yes. The wetlands' banks are well vegetated with native wetland and upland shrubs and are in stable condition.
	Wildlife Habitat	Yes. Diverse wetland vegetation communities provide ideal habitat for a variety of wildlife species.
	Recreation (Consumptive and Nonconsumptive)	No (access restricted)
	Educational Scientific Value	No (access restricted)
	Uniqueness / Heritage	No
	Visual Quality / Aesthetics	Yes. The wetland is bordered by grassed parking areas and are quite visible during event days at the stadium.
ES	Endangered Species	No

TABLE 3-9
Functional Evaluation of RZ-1 (Watercourse Only)
U.S. Army Corps of Engineers Highway Workbook Methodology

	Functions	Existing Conditions
	Groundwater Recharge / Discharge	Yes. Groundwater table is a primary contributor to the watercourse hydrology.
	Floodflow Alteration (Storage and Desynchronization)	Yes. Provides localized floodwater attenuation and is located within a FEMA designated 100-year flood zone.
	Fish and Shellfish Habitat	Yes. Watercourse provides fishery habitat.
	Sediment / Toxicant Retention	Yes. The watercourse has dense wetland herbaceous vegetation that has the potential to filter sediment and provide toxicant retention.
	Nutrient Removal / Retention / Transformation	Yes. The watercourse has dense wetland herbaceous vegetation that has the potential to provide nutrient removal and retention.
	Production Export (Nutrient)	No
	Sediment / Shoreline Stabilization	Yes. The watercourse banks are well vegetated with native wetland and upland shrubs and are in stable condition.
	Wildlife Habitat	Yes. Densely vegetated banks with berry producing plants provide ideal habitat for a variety of wildlife species.
	Recreation (Consumptive and Nonconsumptive)	No (access restricted)
	Educational Scientific Value	No (access restricted)
	Uniqueness / Heritage	No
	Visual Quality / Aesthetics	Yes. The watercourse is bordered by grassed parking areas and are quite visible during event days at the stadium.
ES	Endangered Species	No

3.6 Remediation Requirements

Wetland mitigation areas WR-2 and RZ-1 are functioning as intended, with ongoing mitigation activities occurring in WR-1. All slopes, substrates, and constructed features are stabilized, and all erosion control measures such as silt fence were removed in early 2012. There are no issues regarding plant germination, plant diversity, erosion control, or hydrology. OPM will continue to monitor and manage invasive plant species such as common reed, purple loosestrife, European buckthorn, autumn olive, and Japanese knotweed within and/or adjacent to the mitigation sites.

4.0 SUCCESS STANDARDS

This section of the report examines the four success standards as specified by the USACE.

4.1 Success Standard One

This success standard requires at least 60% plant survival rate within each planting zone. Based on the plant coverages after the first full growing season, it appears that each of the planting zones within WR-2 and RZ-1 has a minimum of 60% plant survival for the wetland mitigation area. The percent dominance of each plant within the planting zones are found in Appendix C.

4.2 Success Standard Two

This success standard requires that the intended wetlands have at least 80% cover of native plant material. As shown in Appendix C of this report, all of the vegetation plots within WR-2 and RZ-1 are meeting or exceeding the 80% native vegetative cover density after the first full growing season.

4.3 Success Standard Three

This success standard requires that invasive species as specified by the USACE should be controlled during the monitoring period. As stated previously, OPM is currently monitoring and managing plant species within WR-1, WR-2, and RZ-1, and this will continue into 2014.

4.4 Success Standard Four

This success standard requires that all slopes, substrates, and constructed features within and adjacent to the mitigation site be stabilized. During our 2013 field visits, all potential erosion issues (e.g., slopes, inlet/outlet control structures) appeared stable, and no additional remediation measures are required.

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APPENDIX A

Copy of Permit and Mitigation Conditions

DEPARTMENT OF THE ARMY PERMIT

Permittee Rentschler Field Development Corporation, LLC

Permit No. NAE-2007-2818

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

To place fill in, or otherwise disturb, 4.22 acres of Federal wetlands/waters in order to facilitate the planned buildout of a 7.8 million square feet mixed use development over a 15-20-year period at the 920-acre United Technologies Corporation campus (the "Rentschler Field" site). The 4.22 acres of impacts are as follows: 2.06 acres are to wetlands associated with Firemans Pond; 1.24 acres are to wetlands (primarily the eastern perimeter ditch) associated with the proposed Perimeter Road; and 0.92 acres are to ditches associated with the proposed new Stadium parking area.

This work is shown on the attached plans entitled "Rentschler Field Redevelopment" on 13 sheets (numbered 1 of 13 through 13 of 13), and variously dated and undated.

Project Location:

The work is proposed in wetlands/waters in the Pewterpot Brook watershed (tributary to the Connecticut River) at Silver Lane, East Hartford, Connecticut.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on DECEMBER 31, 2014. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall ensure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for work.

(Special Conditions continued on Page 4)

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Rentschler Field Development Company, LLC
By: TMG RF Management, LLC, its Manager
By: _____ 12/1/2009

(PERMITTEE) Daniel S. Matos *(DATE)*

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

for JMCarthy 11/5/09

(DISTRICT ENGINEER) *(DATE)*

Philip T. Feir
Colonel, Corps of Engineers

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____

(TRANSFEREE) *(DATE)*

☆U.S. GOVERNMENT PRINTING OFFICE: 1986 — 717-425

(Special Conditions continued from Page 2)

If the permit is issued after the construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract as a change order. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

2. The permittee shall complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

3. Mitigation shall be implemented as described in "Army Corps of Engineers Mitigation Plan, Rentschler Field, East Hartford, Connecticut", prepared by Fuss & O'Neill consultants, and dated June 17, 2009.

4. Work within the 129.2-acre Conservation Easement area executed as a Special Condition of permit NAE-2006-3244 (the "Cabela's permit) is allowed only to the extent to accomplish the mitigation work described in "Army Corps of Engineers Mitigation Plan, Rentschler Field, East Hartford, Connecticut", prepared by Fuss & O'Neill consultants, and dated June 17, 2009.

ARMY CORPS OF ENGINEERS

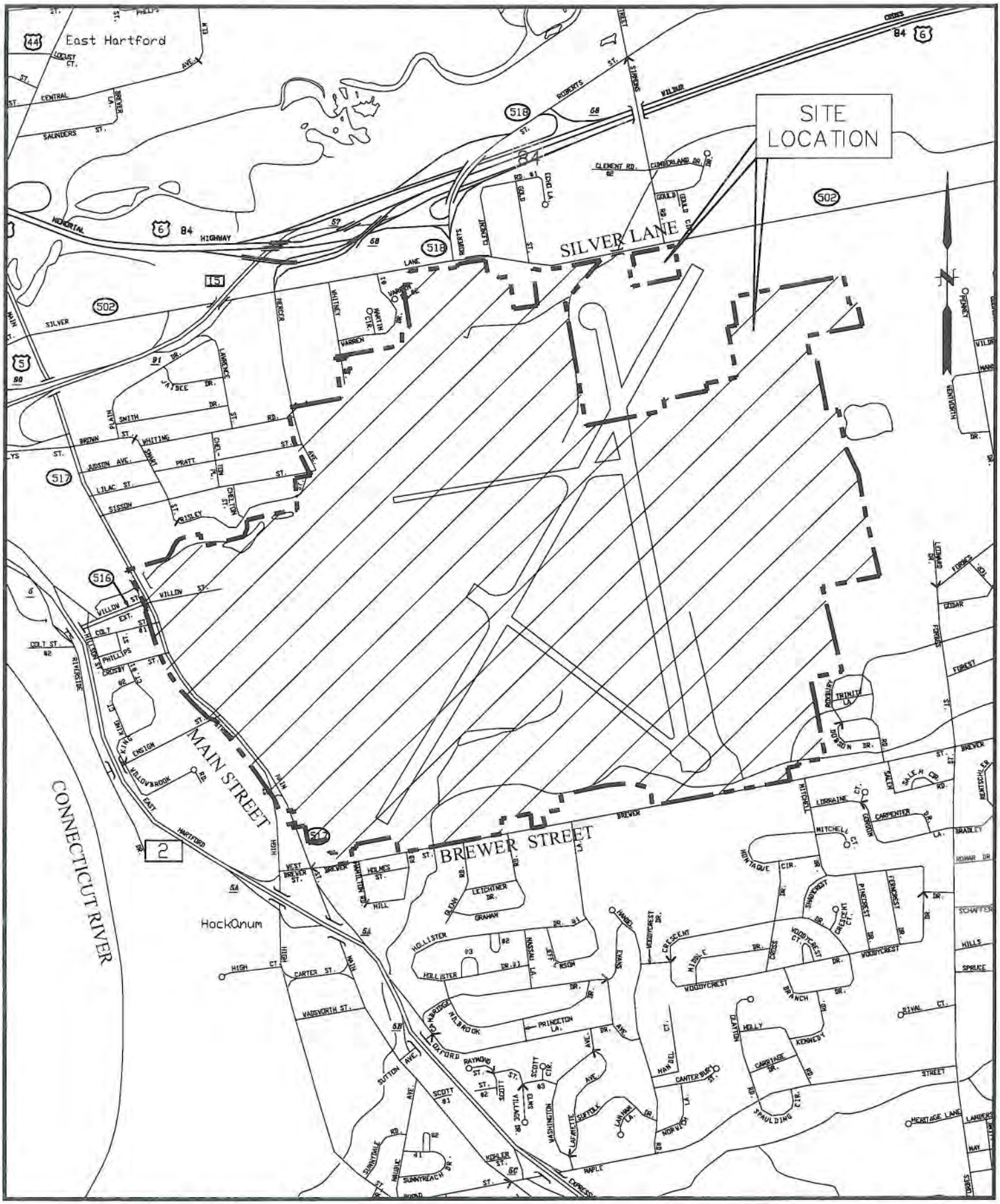
MITIGATION PLAN

RENTSCHLER FIELD
East Hartford, Connecticut

June 17, 2009

FUSS & O'NEILL
Disciplines to Deliver

Fuss & O'Neill
146 Hartford Road
Manchester, CT 06040



SCALE:	WWW.FandO.COM	THE MATOS GROUP	PROJ. No.: 2000.001.A88
HORZ.: NTS			DATE: JULY 2009
VERT.:	FUSS & O'NEILL	SITE LOCATION MAP	
DATUM:	*Disciplines to Deliver*		1 OF 13
HORZ.:			
VERT.:	146 HARTFORD RD MANCHESTER, CT 06040 860.646.2469	EAST HARTFORD CONNECTICUT	
0 0 0			
GRAPHIC SCALE			

File Path: J:\DWG\P2000\001A88\Public Notice - 20090707\100001A88LOC001.dwg, Layout: 1 of 13 Tue, Jun 30, 2009 - 3:56 PM jlisek jolw

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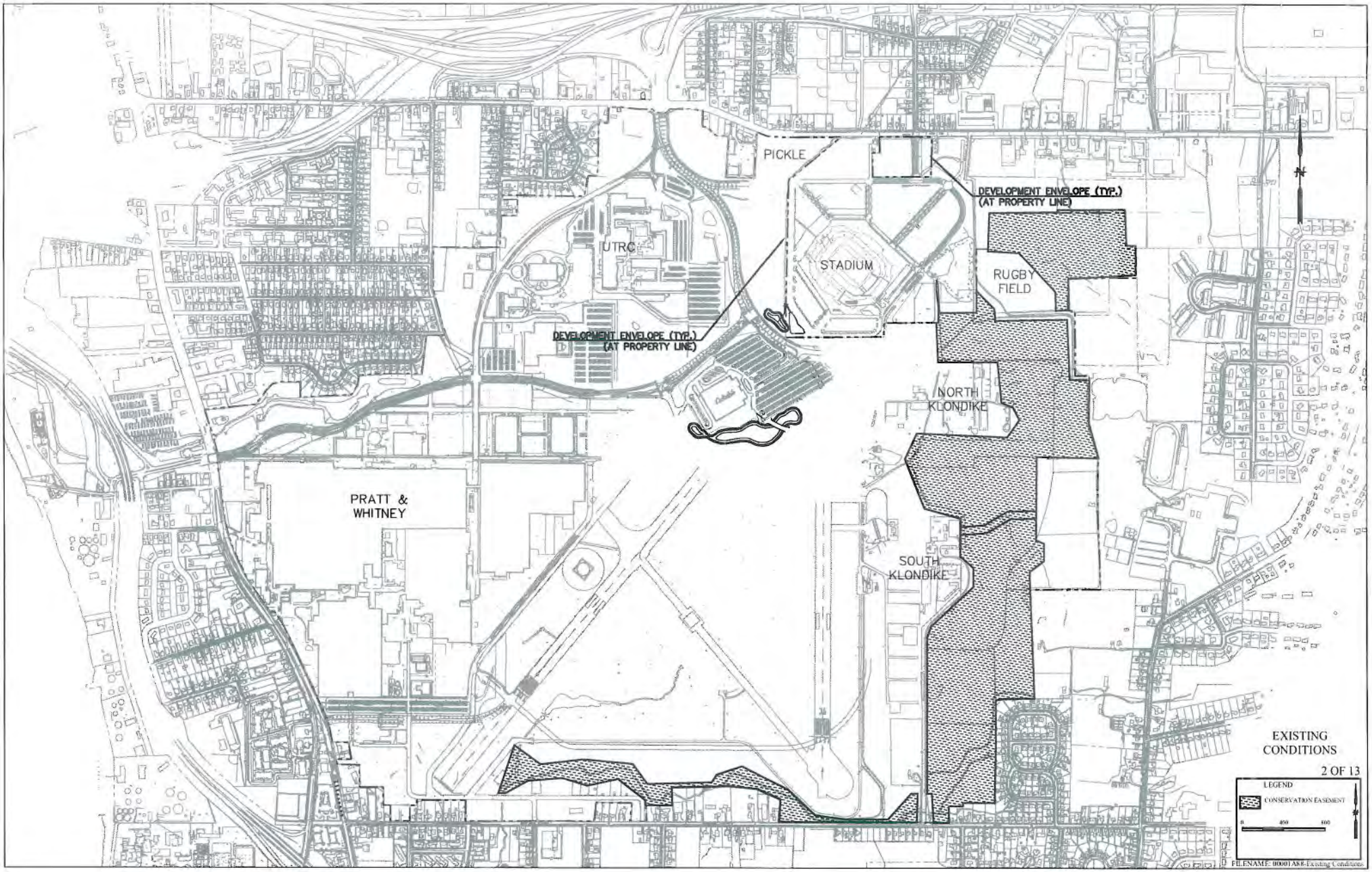
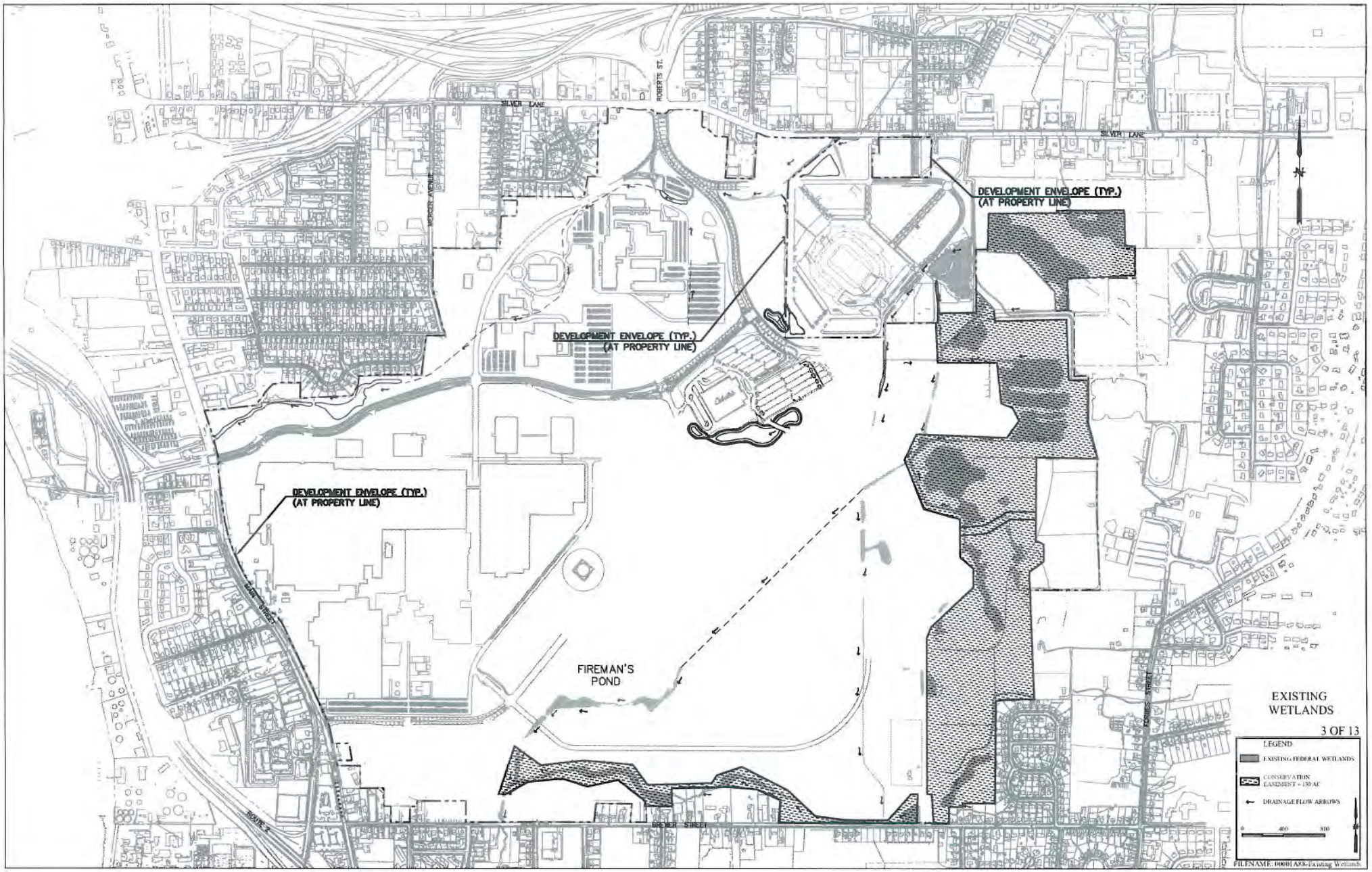

PICKLE
DEVELOPMENT ENVELOPE (TYP.)
(AT PROPERTY LINE)
UTRC
STADIUM
RUGBY
FIELD
DEVELOPMENT ENVELOPE (TYP.)
(AT PROPERTY LINE)
NORTH
KLONDIKE
PRATT &
WHITNEY
SOUTH
KLONDIKE
N
EXISTING
CONDITIONS
2 OF 13
LEGEND
CONSERVATION EASEMENT
0
400
800
FILENAME: 00001AKE-Existing Conditions


SILVER LANE
ROBERTS ST.
SILVER LANE
HENRY SCHOOL
DEVELOPMENT ENVELOPE (TYP.)
(AT PROPERTY LINE)
DEVELOPMENT ENVELOPE (TYP.)
(AT PROPERTY LINE)
DEVELOPMENT ENVELOPE (TYP.)
(AT PROPERTY LINE)
EAST STREET
FIREMAN'S
POND
ROUTE 4
BREWER STREET
BOWLES STREET
EXISTING
WETLANDS
3 OF 13
LEGEND
EXISTING FEDERAL WETLANDS
CONSERVATION
EASEMENT = 130 AC
DRAINAGE FLOW ARROWS
0
400
800
FILENAME: 0008IA88-Existing Wetlands

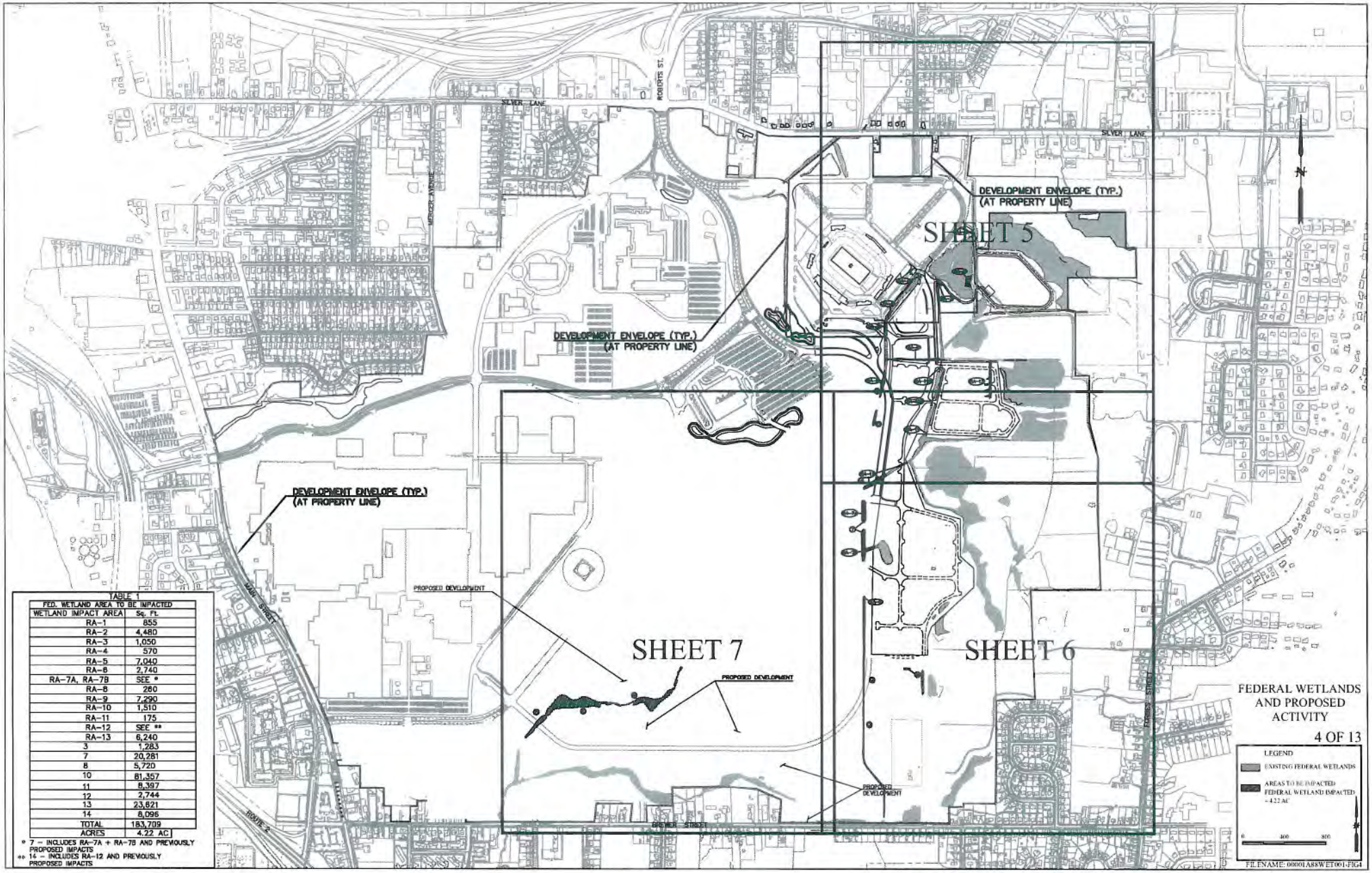
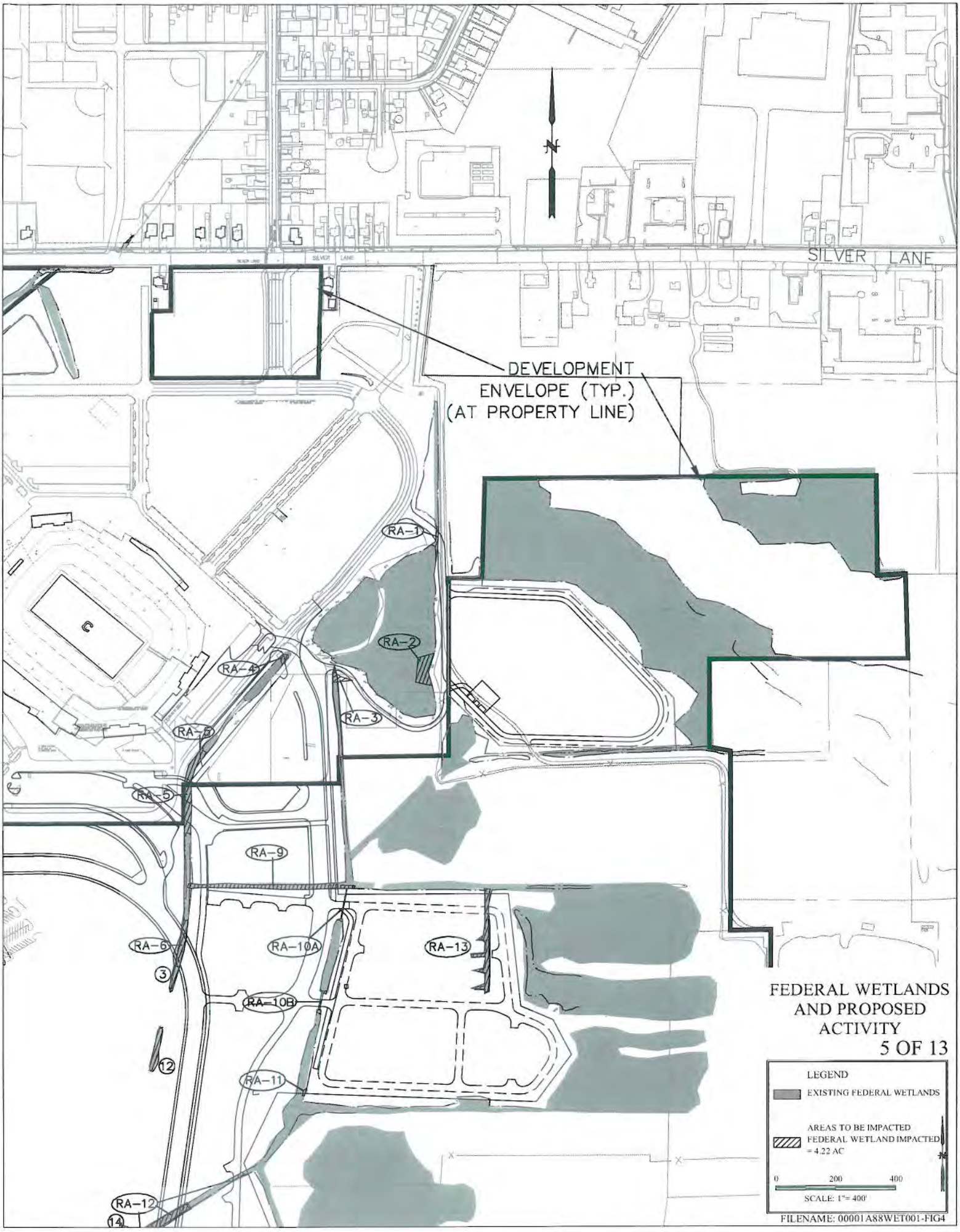
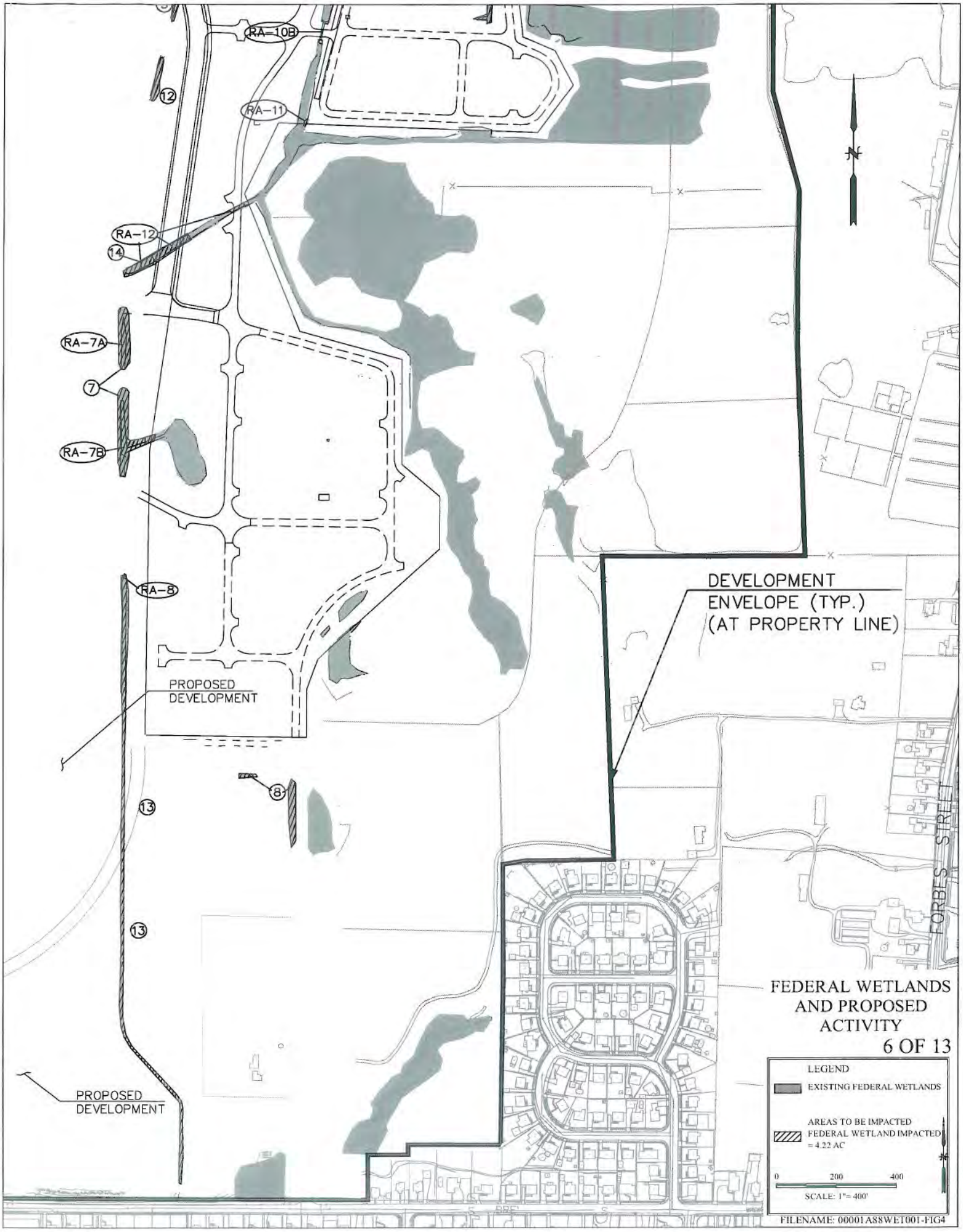


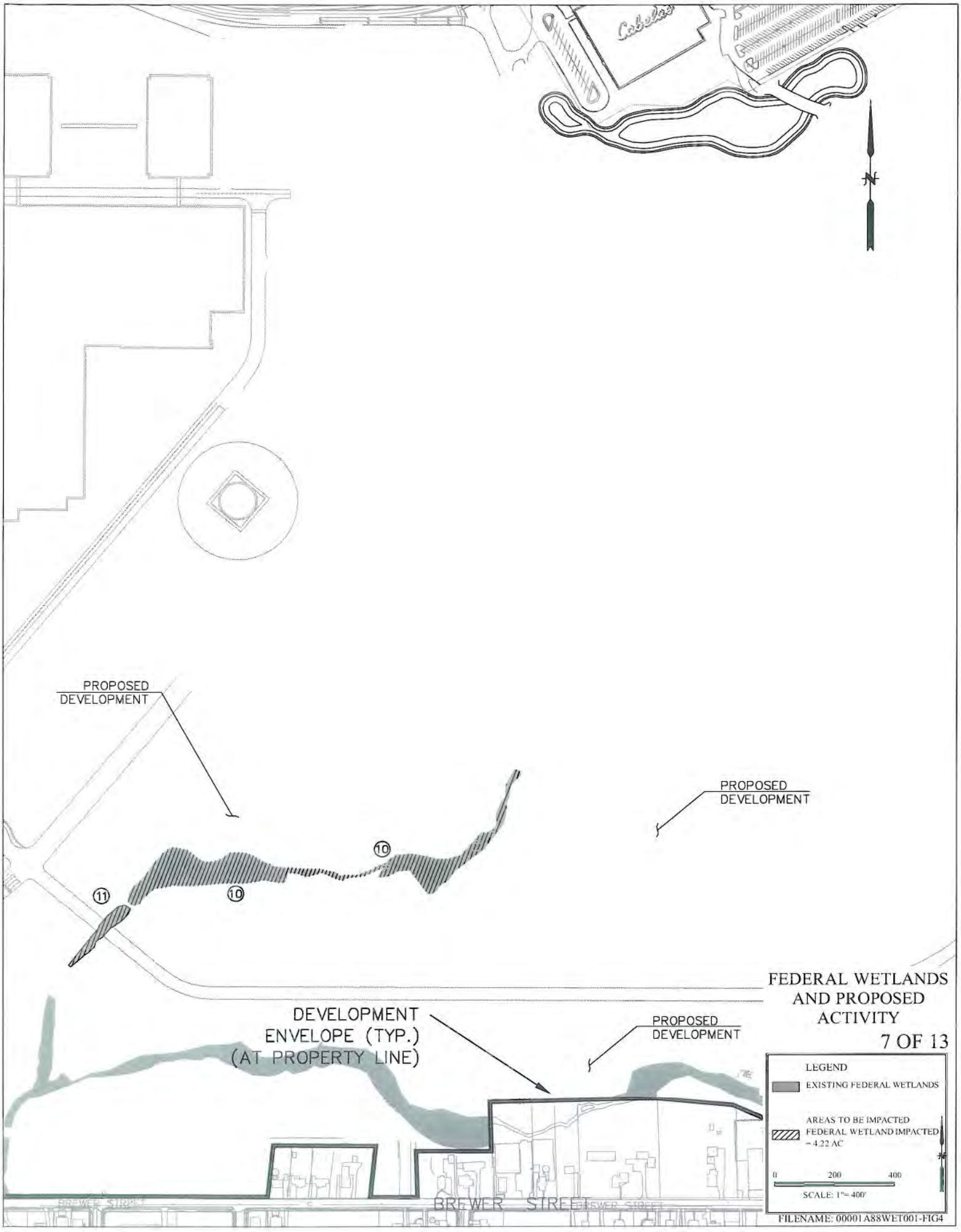
TABLE 1

FED. WETLAND AREA TO BE IMPACTED	
WETLAND IMPACT AREA	Sq. Ft.
RA-1	855
RA-2	4,480
RA-3	1,050
RA-4	570
RA-5	7,040
RA-6	2,740
RA-7A, RA-7B	SEE *
RA-8	260
RA-9	7,290
RA-10	1,510
RA-11	175
RA-12	SEE **
RA-13	6,240
3	1,283
7	20,281
8	5,720
10	81,357
11	8,397
12	2,744
13	23,821
14	8,096
TOTAL	183,709
ACRES	4.22 AC

* 7 – INCLUDES RA-7A + RA-7B AND PREVIOUSLY PROPOSED IMPACTS
** 14 – INCLUDES RA-12 AND PREVIOUSLY PROPOSED IMPACTS


SILVER LANE
DEVELOPMENT ENVELOPE (TYP.) (AT PROPERTY LINE)
RA-1
RA-2
RA-3
RA-4
RA-5
RA-6
RA-9
RA-10A
RA-10B
RA-11
RA-12
RA-13
3
12
14
FEDERAL WETLANDS AND PROPOSED ACTIVITY
5 OF 13
LEGEND
EXISTING FEDERAL WETLANDS
AREAS TO BE IMPACTED
FEDERAL WETLAND IMPACTED = 4.22 AC
0
200
400
SCALE: 1"= 400'
FILENAME: 00001A88WET001-FIG4

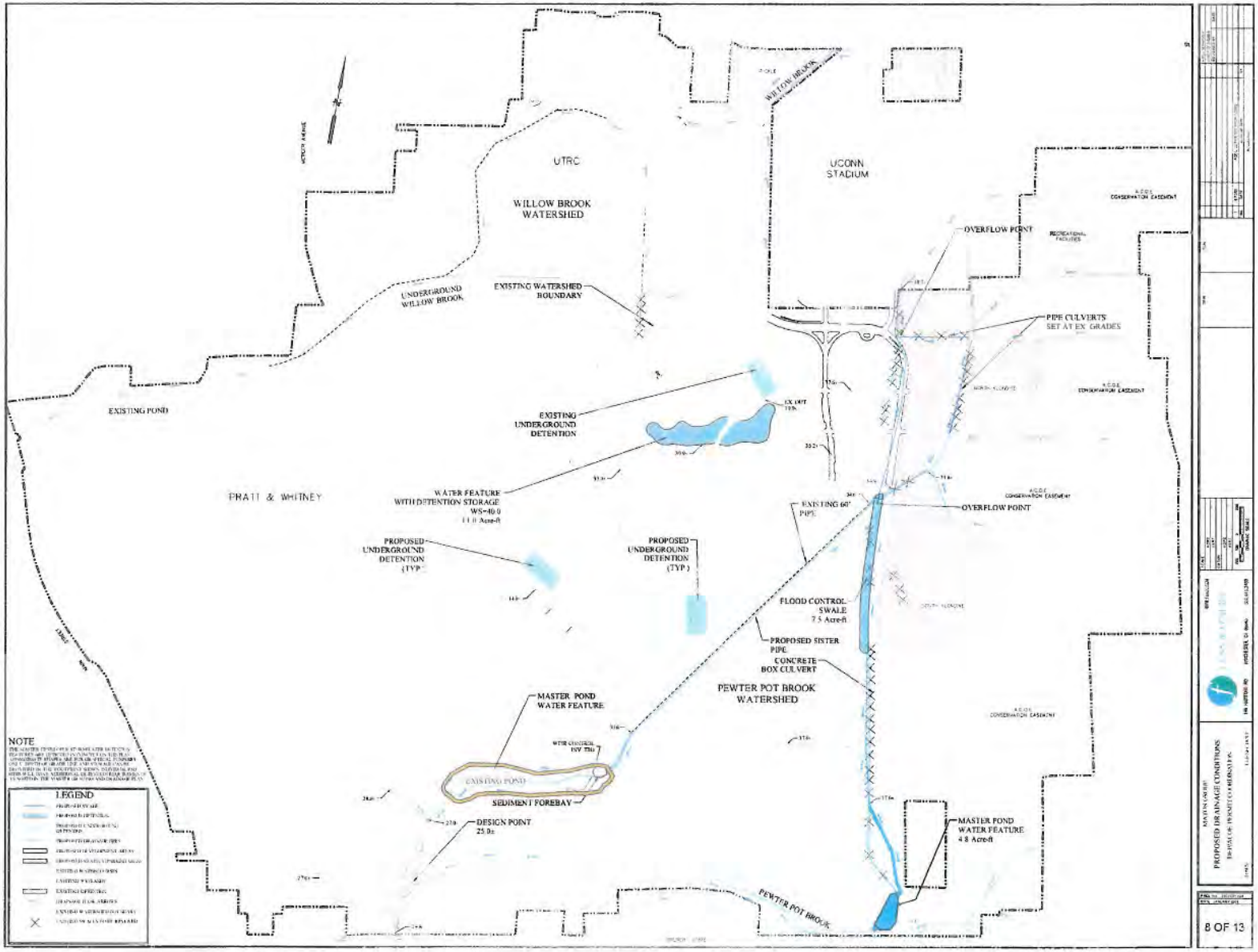

RA-10B
12
RA-11
RA-12
14
RA-7A
7
RA-7B
RA-8
PROPOSED
DEVELOPMENT
8
13
13
PROPOSED
DEVELOPMENT
DEVELOPMENT
ENVELOPE (TYP.)
(AT PROPERTY LINE)
FORBES STREET
N
FEDERAL WETLANDS
AND PROPOSED
ACTIVITY
6 OF 13
LEGEND
EXISTING FEDERAL WETLANDS
AREAS TO BE IMPACTED
FEDERAL WETLAND IMPACTED
= 4.22 AC
0
200
400
SCALE: 1"= 400'
FILENAME: 00001A88WET001-FIG4



FEDERAL WETLANDS AND PROPOSED ACTIVITY

7 OF 13

FILENAME: 00001A88WET001-FIG4



PROPOSED DRAINAGE CONDITIONS

8 OF 13

MASTER PLAN QUALIFICATION

The Master Plan of Development depicted hereon is provided to show the development envelope and it's associated wetland impacts. Actual development and market conditions will dictate a different development pattern. Building, parking and associated roadway connections will vary as the project is built out over the next 10-20 years, however, the wetland impacts and mitigation will be as proposed in this Individual Permit.

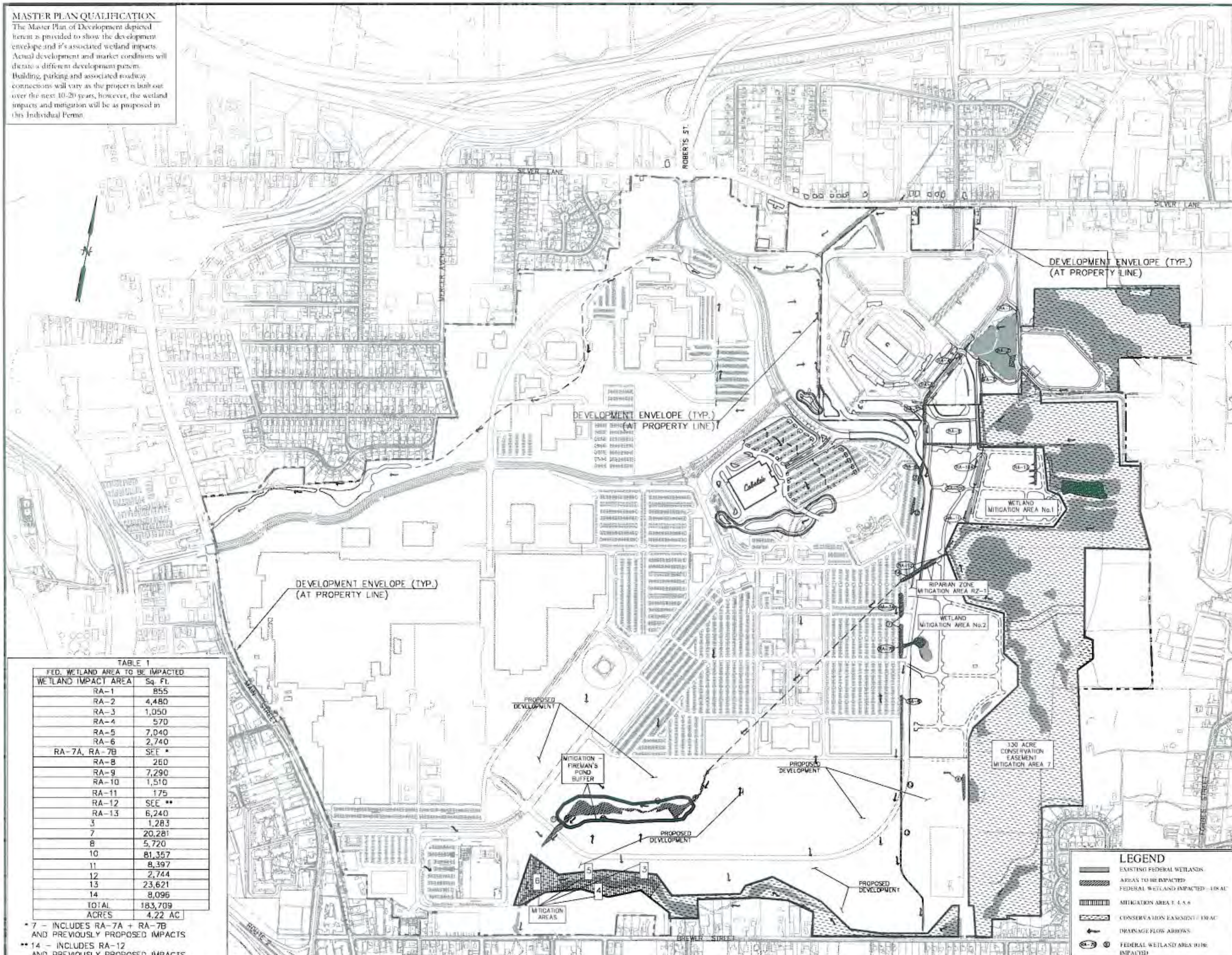


TABLE 1

FED. WETLAND AREA TO BE IMPACTED	
WETLAND IMPACT AREA	Sq. Ft.
RA-1	855
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RA-6	2,740
RA-7A, RA-7B	SEE *
RA-8	260
RA-9	7,290
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RA-11	175
RA-12	SEE **
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3	1,283
7	20,281
8	5,720
10	81,357
11	8,397
12	2,744
13	23,621
14	8,096
TOTAL	183,709
ACRES	4.22 AC

* 7 - INCLUDES RA-7A + RA-7B AND PREVIOUSLY PROPOSED IMPACTS

** 14 - INCLUDES RA-12 AND PREVIOUSLY PROPOSED IMPACTS

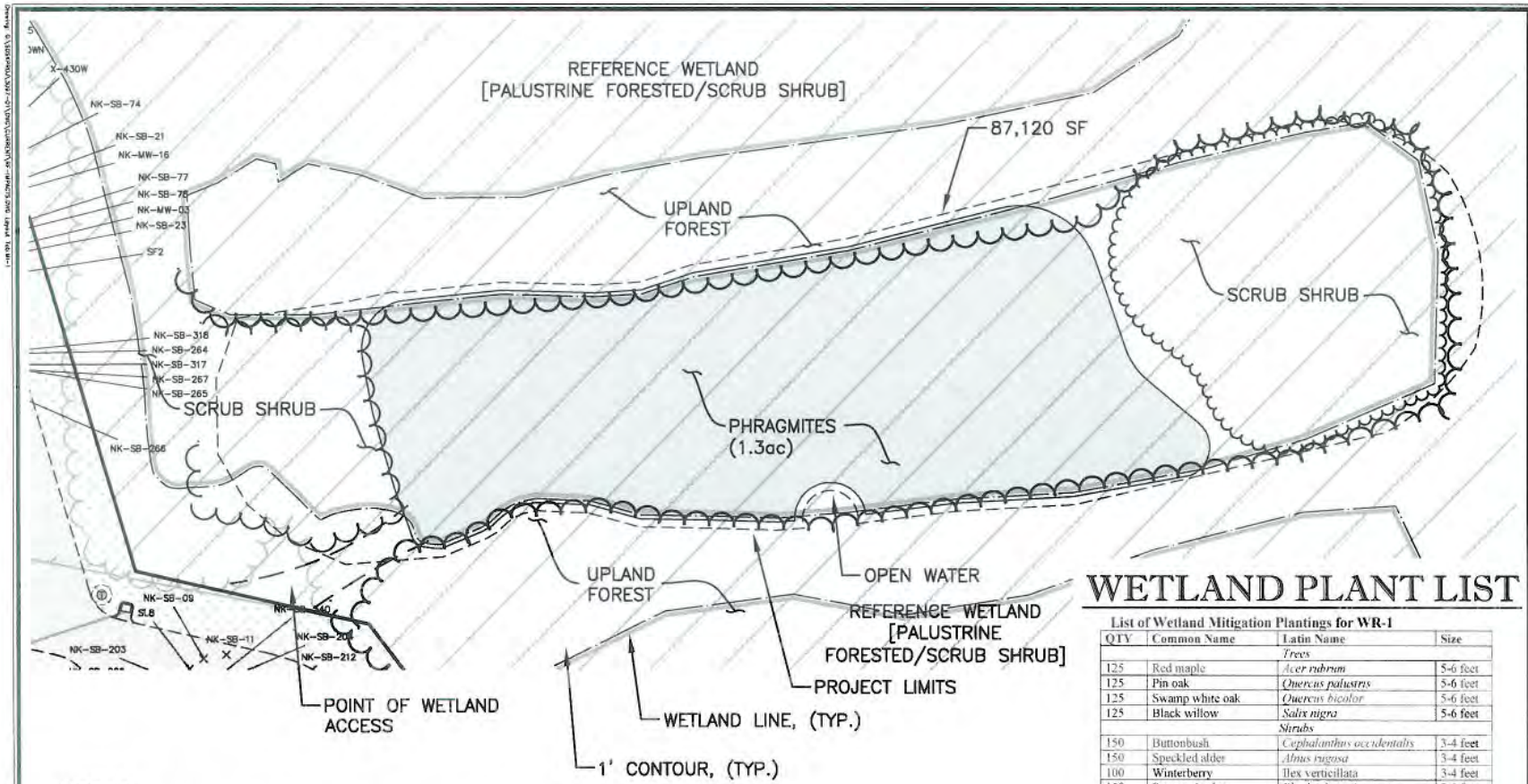
THE MATOS GROUP, LLC
MITIGATION OVERVIEW PLAN
EAST HARTFORD CONNECTICUT

FUSS & O'NEILL
Disciplines to Deliver
146 HARTFORD RD MANCHESTER, CT 06040 860.646.2469 www.FandO.com

GRAPHIC SCALE

DATE: JUNE 12, 2009

9 OF 13



WETLAND PLANT LIST

List of Wetland Mitigation Plantings for WR-1

QTY	Common Name	Latin Name	Size
		Trees	
125	Red maple	*Acer rubrum*	5-6 feet
125	Pin oak	*Quercus palustris*	5-6 feet
125	Swamp white oak	*Quercus bicolor*	5-6 feet
125	Black willow	*Salix nigra*	5-6 feet
		Shrubs	
150	Buttonbush	*Cephalanthus occidentalis*	3-4 feet
150	Speckled alder	*Alnus rugosa*	3-4 feet
100	Winterberry	*Ilex verticillata*	3-4 feet
150	Swamp Azalea	*Rhodendron viscosum*	3-4 feet
150	Pussy willow	*Salix discolor*	3-4 feet
100	Swamp Rose	*Rosa palustris*	3-4 feet
100	Highbush Blueberry	*Vaccinium corybosum*	3-4 feet
		Herbaceous	
150	Royal fern	*Osmunda regalis*	Quart Pot
300	Sweetflag	*Acorus americanus*	Plugs
300	Blue flag iris	*Iris versicolor*	Plugs
300	American burreed	*Sparganium americanum*	Plugs
300	Tussock sedge	*Cares stricta*	Plugs
300	Fowl manna grass	*Glyceria canadensis*	Plugs
300	Soft stem bulrush	*Schoenoplectus americanus*	Plugs
		Seed Mixes	
2 lbs	New England Wildlife/Conservation seed mix		

NOTES:

1. SEE WETLAND MITIGATION SCHEDULE WITHIN MITIGATION SECTION OF PERMIT APPLICATION
2. SHRUBS SHALL BE PLANTED 10' ON CENTER (O.C.) OR AS DIRECTED BY WETLAND SCIENTIST
3. TREES SHALL BE RANDOMLY INTERMIXED BETWEEN SHRUBS AS DIRECTED BY WETLAND SCIENTIST

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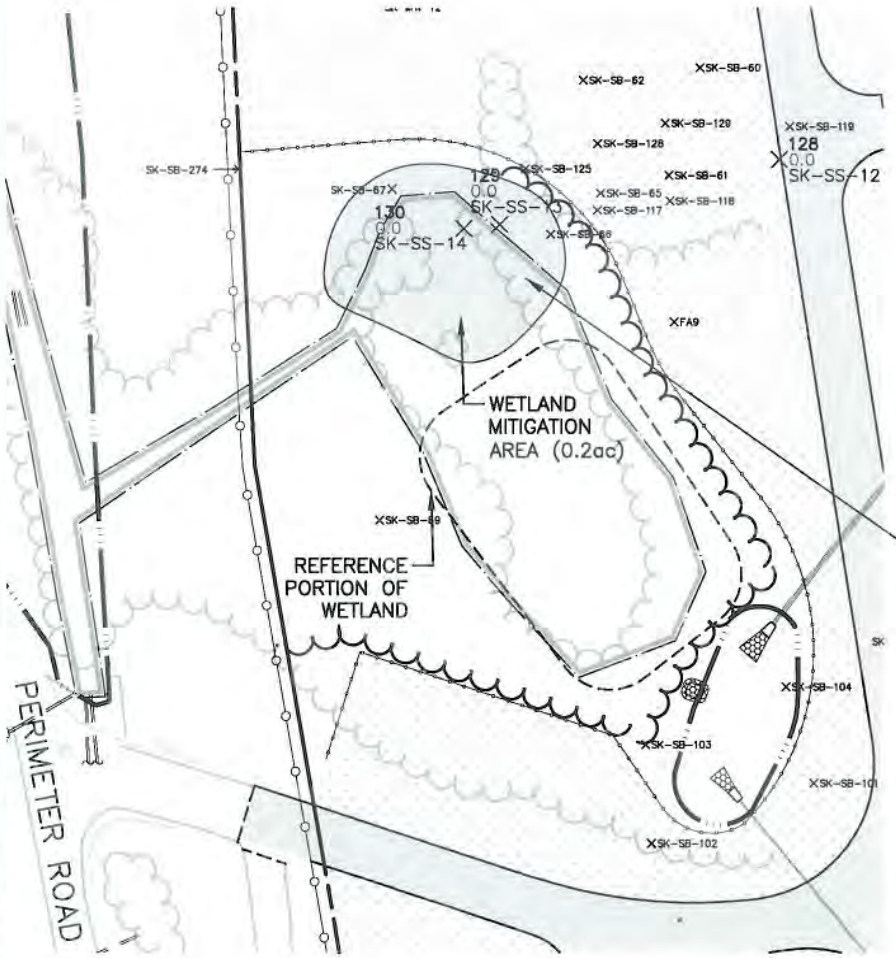
REVISIONS

WETLAND MITIGATION AREA 1
RENTSCHLER FIELD
PARKING AND TRAFFIC CIRCULATION IMPROVEMENTS
EAST HARTFORD, CONNECTICUT

MS	JH	AC
DESIGNED	DRAWN	CHECKED

SCALE: 1"=50'
DATE: MAR. 17, 2009
PROJECT NO. 3087-01



(1/2") (1")
0 25' 50'

WETLAND PLANT LIST

QTY	Common Name	Latin Name	Size
		Trees	
5	Red maple	*Acer rubrum*	5-6 feet
5	Pin oak	*Quercus palustris*	5-6 feet
5	Swamp white oak	*Quercus bicolor*	5-6 feet
5	Black willow	*Salix nigra*	5-6 feet
		Shrubs	
20	Buttonbush	*Cephalanthus occidentalis*	3-4 feet
20	Speckled alder	*Alnus rugosa*	3-4 feet
20	Swamp Azalea	*Rhodendron viscosum*	3-4 feet
10	Pussy willow	*Salix discolor*	3-4 feet
10	Highbush Blueberry	*Vaccinum corybosum*	3-4 feet
		Herbaceous	
150	Blue flag iris	*Iris versicolor*	Plugs
150	American burreed	*Sparganium americanum*	Plugs
150	Fowl manna grass	*Glyceria canadensis*	Plugs
150	Soft stem bulrush	*Schoenoplectus americanus*	Plugs
		Seed Mixes	
3 lbs	New England Wildlife/Conservation Seed Mix		
4 lbs	New England Erosion Control for moist sites		

CONSTRUCTION NOTES:

1. DEMOLISH AND REMOVE ALL STRUCTURES (E.G. CONCRETE RETAINING WALLS, PIERS, FOUNDATIONS, AND METAL STRUCTURES)
2. GRADE 2:1 SLOPE AT NORTH EDGE OF WETLAND
3. STABILIZE SLOPE WITH NEW ENGLAND WILDLIFE/CONSERVATION SEED MIX
4. PLANTING SHALL BE COMPLETED WHEN WETLAND IS DRY (LATE SEPT. – EARLY OCT.)
5. SHRUBS SHALL BE PLANTED 10' ON CENTER (O.C.) OR AS DIRECTED BY WETLAND SCIENTIST
6. TREES SHALL BE RANDOMLY INTERMIXED BETWEEN SHRUBS AS DIRECTED BY WETLAND SCIENTIST

Engineering
Landscape Architecture
Land Development Consulting
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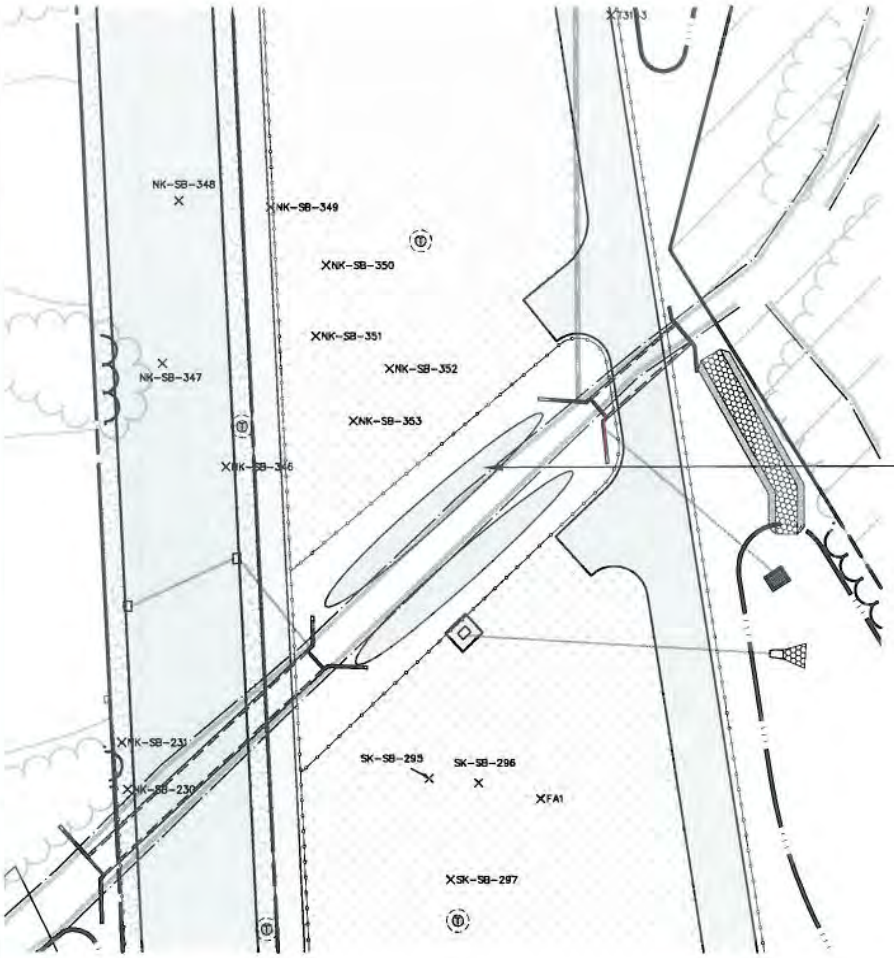
REVISIONS
07-01-2008

WETLAND MITIGATION AREA 2
RENTSCHLER FIELD
PARKING AND TRAFFIC CIRCULATION IMPROVEMENTS
EAST HARTFORD, CONNECTICUT

MB	JH	AC
DESIGNED	DRAWN	CHECKED

SCALE: 1"=50'
DATE: MAR. 17, 2009
PROJECT NO. 3087-01

11 OF 13
SHEET NO.



RIPARIAN ZONE PLANT LIST

QTY	Common Name	Latin Name	Size
		Trees	
10	Red maple	*Acer rubrum*	5-6 feet
15	Sycamore	*Platanus occidentalis*	5-6 feet
15	Silver maple	*Acer saccharinum*	5-6 feet
10	Black willow	*Salix nigra*	5-6 feet
		Shrubs	
100	Silky dogwood	*Cornus amomum*	3-4 feet
100	Gray dogwood	*Cornus racemosa*	3-4 feet
100	Bayberry	*Morella (Myrica) pensylvanica*	3-4 feet
100	Inkberry	*Ilex glabra*	3-4 feet
		Seed Mixes	
3 lbs	New England Wildlife/Conservation Seed Mix		

NOTES:

1. ALL INVASIVE SPECIES SHALL BE REMOVED USING MECHANIZED EQUIPMENT AS DIRECTED BY THE SUPERVISING WETLAND SCIENTIST.
2. PLANT CLEARED BANKS WITH NATIVE VEGETATION AS SPECIFIED IN THE THE PLANT LIST ABOVE.

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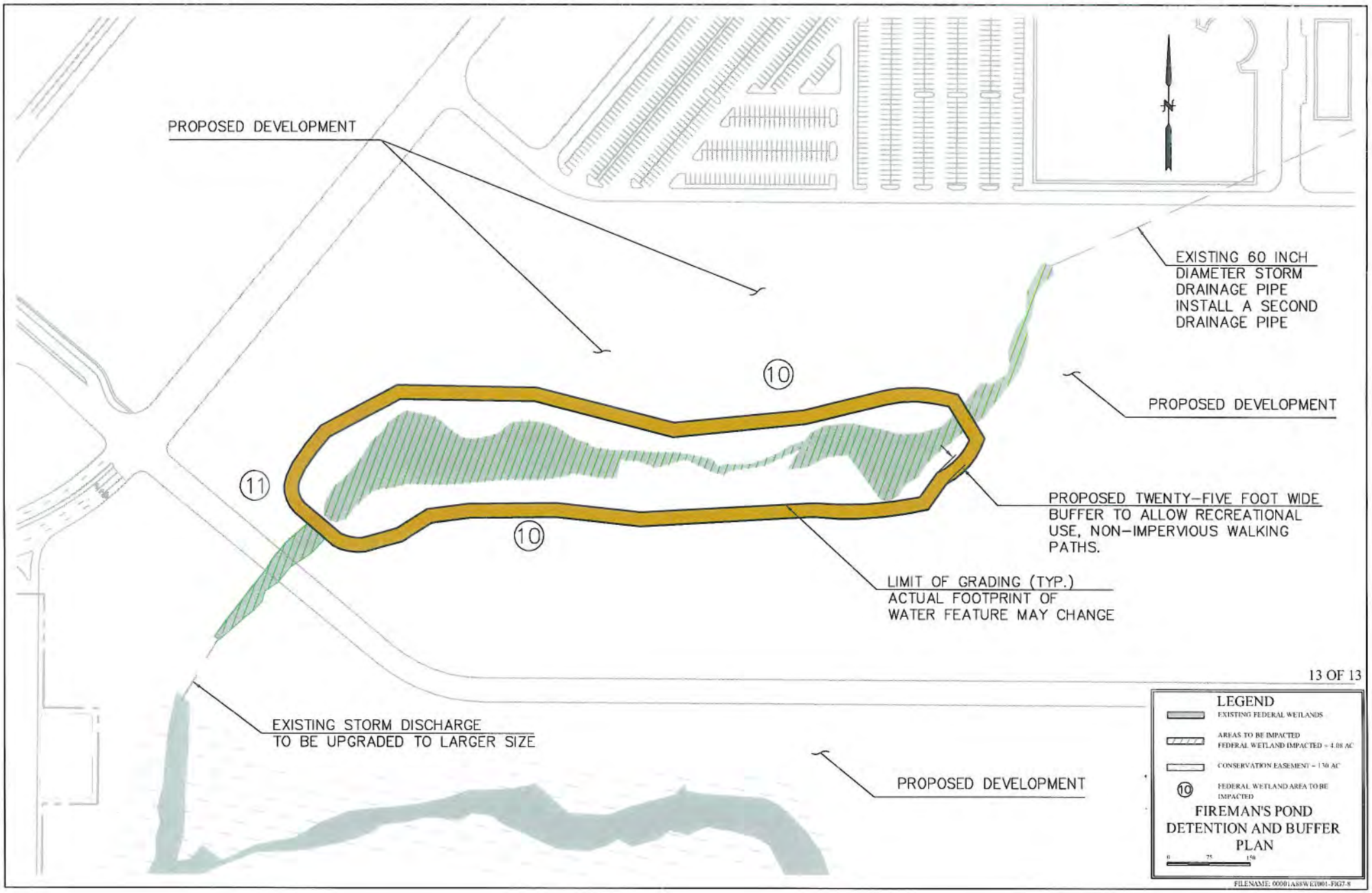
REVISIONS
07-01-2008

RIPARIAN ZONE MITIGATION AREA WR-2
RENTSCHLER FIELD
PARKING AND TRAFFIC CIRCULATION IMPROVEMENTS
EAST HARTFORD, CONNECTICUT

MB	JH	AC
DESIGNED	DRAWN	CHECKED

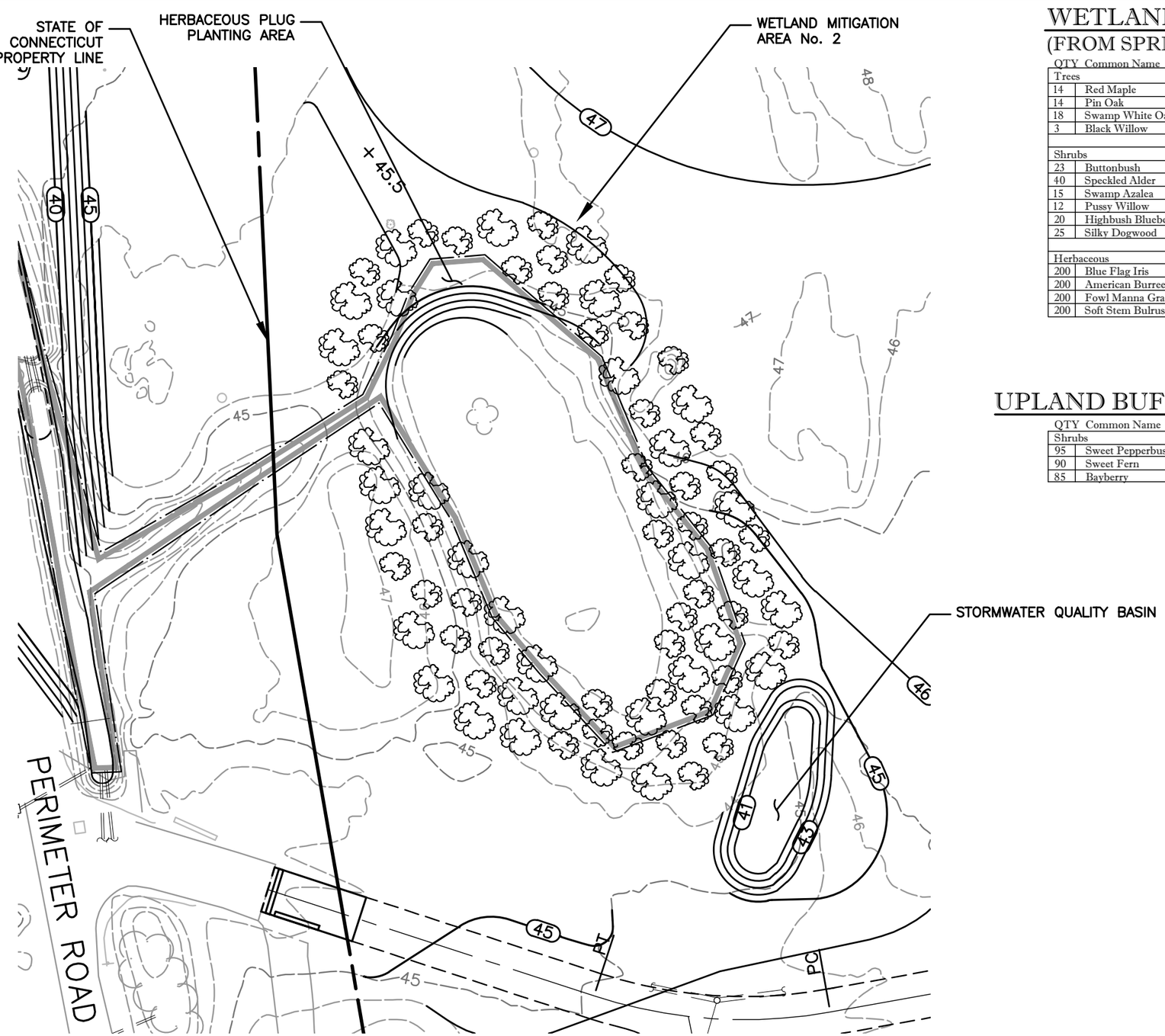
SCALE: 1"=50'
DATE: MAR. 17, 2009
PROJECT NO. 3097-01

12 OF 13
SHEET NO.


PROPOSED DEVELOPMENT
EXISTING 60 INCH DIAMETER STORM DRAINAGE PIPE INSTALL A SECOND DRAINAGE PIPE
10
PROPOSED DEVELOPMENT
11
10
PROPOSED TWENTY–FIVE FOOT WIDE BUFFER TO ALLOW RECREATIONAL USE, NON–IMPERVIOUS WALKING PATHS.
LIMIT OF GRADING (TYP.)
ACTUAL FOOTPRINT OF WATER FEATURE MAY CHANGE
13 OF 13
EXISTING STORM DISCHARGE TO BE UPGRADED TO LARGER SIZE
PROPOSED DEVELOPMENT
LEGEND
EXISTING FEDERAL WETLANDS
AREAS TO BE IMPACTED
FEDERAL WETLAND IMPACTED = 4.08 AC
CONSERVATION EASEMENT = 1.70 AC
10
FEDERAL WETLAND AREA TO BE IMPACTED
FIREMAN'S POND DETENTION AND BUFFER PLAN
0
25
150
FILENAME: 00001A88WET001-FIG7-8

APPENDIX B

As-Built Plans of Wetland Mitigation Areas WR-2 and RZ-1



WETLAND PLANT LIST
(FROM SPRING 2013 INSPECTION)

QTY	Common Name	Latin Name	Size
Trees			
14	Red Maple	Acer Rubrum	5-6 feet
14	Pin Oak	Quercus Palustris	5-6 feet
18	Swamp White Oak	Quercus Bicolor	5-6 feet
3	Black Willow	Salix Nigra	5-6 feet
Shrubs			
23	Buttonbush	Cephalanthus Occidentalis	3-4 feet
40	Speckled Alder	Alnus Rugosa	3-4 feet
15	Swamp Azalea	Rhodendron Viscosum	3-4 feet
12	Pussy Willow	Salix Discolor	3-4 feet
20	Highbush Blueberry	Vaccinium Corybosum	3-4 feet
25	Silky Dogwood	Cornus Amomum	3-4 feet
Herbaceous			
200	Blue Flag Iris	Iris Versicolor	Plugs
200	American Burreed	Sparganium Americanum	Plugs
200	Fowl Manna Grass	Glyceria Canadensis	Plugs
200	Soft Stem Bulrush	Schoenoplectus Americanus	Plugs

UPLAND BUFFER PLANT LIST

QTY	Common Name	Latin Name	Size
Shrubs			
95	Sweet Pepperbush	Clethra Alnifolia	3-4 feet
90	Sweet Fern	Comptonia Peregrina	3-4 feet
85	Bayberry	Myrica Pensylvanica	3-4 feet

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REVISIONS

WETLAND MITIGATION AREA NO. 2 (WR-2) AS-BUILT

RENTSCHLER FIELD
PARKING AND TRAFFIC CIRCULATION IMPROVEMENTS

EAST HARTFORD, CONNECTICUT

FOR CONSTRUCTION

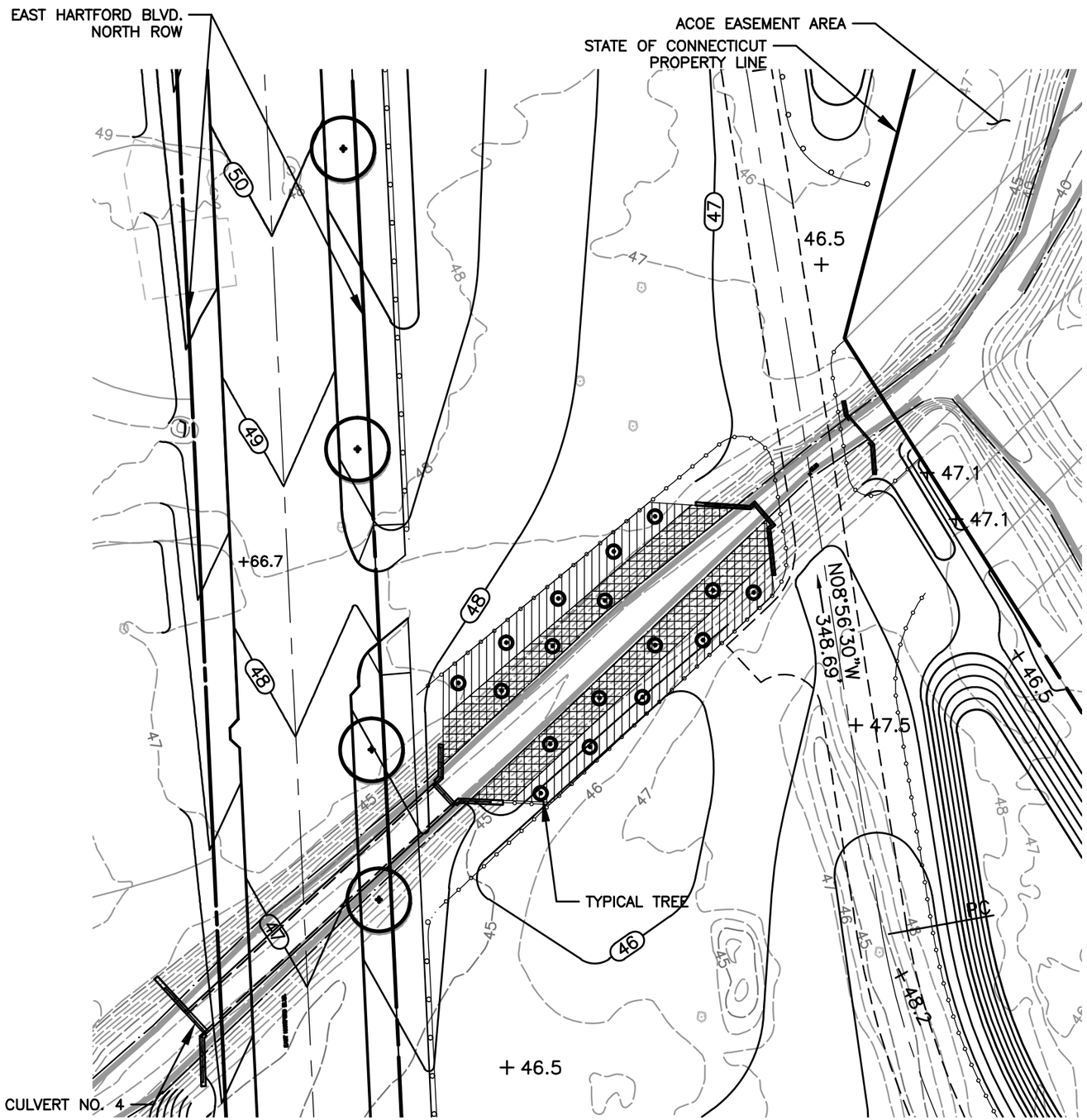
MS	SMB	--
DESIGNED	DRAWN	CHECKED

1"=50'
SCALE

DEC. 20, 2013
DATE

3097-01-44
PROJECT NO.

1 of 2
SHEET NO.



RIPARIAN ZONE PLANT LIST
(FROM SPRING 2013 INSPECTION)

Key	QTY	Common Name	Latin Name	Size	Comment
Trees					
AR	3	Red Maple	Acer Rubrum	3" Cal.	B&B 8' Min. Branch Height
PO	5	Sycamore	Platanas Occidentalis	3" Cal.	B&B 10' Min. Branch Height
AS	6	Silver Maple	Acer Saccharinum	3" Cal.	B&B 8' Min. Branch Height
QP	3	Pin Oak	Quercus Palustris	3" Cal.	B&B 10' Min. Branch Height
Shrubs					
	76	Silky Dogwood	Cornus Amomum	3-4 Feet	
	82	Gray Dogwood	Cornus Racemosa	3-4 Feet	
	72	Bayberry	Morella (Myrica) Pensylvanica	3-4 Feet	
	28	Inkberry	Ilex Glabra	3-4 Feet	

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REVISIONS

RIPARIAN ZONE MITIGATION AREA RZ-1 AS-BUILT

RENTSCHLER FIELD
PARKING AND TRAFFIC CIRCULATION IMPROVEMENTS

EAST HARTFORD, CONNECTICUT

MS	SMB	--
DESIGNED	DRAWN	CHECKED

SCALE: 1"=50'

DATE: DEC. 20, 2013

PROJECT NO.: 3097-01-44

SHEET NO.: 2 of 2

APPENDIX C

Vegetation Lists and Plot Data

Rentschler Field Parking and Traffic Circulation Improvements Mitigation Monitoring Report

Late Spring Vegetation Survey (June 15, 2013)

Weather Sunny 72 degrees F

Vegetation Plot	Common Name	Latin Name	% Cover	Total % Cover	Comments
WR-1	common reed	*Phragmites australis*	5%	15 % coverage within managed common reed area. Exposed saturated soils with dead common reed stalks	Emergent marsh/scrub shrub wetland. Staurated soils.
	soft stem bulrush	*Scirpus validus*	5%		
	Yellow loosetrife	*Lysimachia terrestris*	20%		
	Soft rush	*Juncus effusus*	2%		
	Moss				
WR-2	Button bush	*Cephalanthus occidentalis*	5%	100% of soil surface colonized by herbaceous plants	Scrub Shrub wetland fringe and shallow marsh wetland community. Water depth ranges from 0.1 to 2.0 feet
	Speckled alder	*Alnus rugosa*	5%		
	Pussy willow	*Salix discolor*	1%		
	Highbush blueberry	*Vaccinium corymbosum*	2%		
	Steeplebush	*Spiraea tomentosa*	1%		
	blueflag iris	*Iris versicolor*	5%		
	yellow loosestrife	*Lysimachia terrestris*	1%		
	tussock sedge	*Carex stricta*	5%		
	fox sedge	*Carex vulpinoidea*	15%		
	soft rush	*Juncus effusus*	20%		
	canada rush	*Juncus canadensis*	15%		
	woolgrass	*Scripus cyperinus*	1%		
	jewelweed	*Impatiens capensis*	1%		
	fringed sedge	*Carex crinita*	5%		
	green bulrush	*Scripus atrovirens*	1%		
	lurid sedge	*Carex lurida*	5%		
	cattail	*Typha angustifolia*	1%		
	marsh St. John's-wort	*Hypericum virginicum*	1%		
	broad-leaved arrowhead	*Sagitara latifolia*	5%		
	grass-like arrowhead	*Sagitara graminea*	2%		
	monkeyflower	*Mimulus ringens*	1%		
	soft stem bulrush	*Scirpus validus*	1%		
RZ-1	Pin oak	*Quercus palustris*	5%	100% of soil surface colonized by plant material.	Vegetated riparain zone. Inlcudes vegetated banks only. Wetland vegetation is growing within the watercourse channel via natural recruitment including speckled alder, broad leaved cattail, softstem bulrush, woolgrass, American burreed, jewelweed, and duck potato
	Sycamore	*Platanus occidentalis*	5%		
	Red maple	*Acer rubrum*	5%		
	Silver Maple	*Acer saccharium*	5%		
	speckled alder	*Alnus rugosa*	2%		
	European buckthorn	*Rhamnus cathartica*	2%		
	silky dogwood	*Cornus amomum*	15%		
	grey stemmed dogwood	*Cornus racemosa*	15%		
	bayberry	*Myrica penslyvanica*	5%		
	inkberry	*Ilex glabra*	1%		
	wormwood	*Artemisia absinthium*	30%		
	American pokeweed	*Phytolacca americana*	5%		
	grasses		30%		
	jewelweed	*Impatiens capensis*	2%		
	Oriental bittersweet	*Celastrus orbiculatus*	10%		

Rentschler Field Parking and Traffic Circulation Improvements Mitigation Monitoring Report

Late Summer Vegetation Survey (September 23, 2013)

Weather Sunny 80 degrees F

Vegetation Plot	Common Name	Latin Name	% Cover	Total % Cover	Comments
WR-1	common reed	*Phragmites australis*	5%	40 % coverage within managed common reed area. Exposed saturated soils with dead common reed stalks	Emergent marsh/scrub shrub wetland saturated soil 100% Wetland is being managed for common reed.
	soft stem bulrush	*Scirpus validus*	*5%*		
	Swamp beggar tick	*Bidens connata*	*60%*		
	Yellow loosetrife	*Lysimachia terrestris*	*10%*		
	Soft rush	*Juncus effusus*	*2%*		
	Moss				
WR-2	Button bush	*Cephalanthus occidentalis*	5%	100% of soil surface colonized by herbaceous plants	Scrub Shrub wetland fringe and shallow marsh wetland community. Water depth ranges from 0.1 to 2.0 feet
	Speckled alder	*Alnus rugosa*	5%		
	Pussy willow	*Salix discolor*	1%		
	Highbush blueberry	*Vaccinium corymbosum*	2%		
	Steeplebush	*Spiraea tomentosa*	1%		
	blueflag iris	*Iris versicolor*	5%		
	yellow loosestrife	*Lysimachia terrestris*	2%		
	tussock sedge	*Carex stricta*	*10%*		
	fox sedge	*Carex vulpinoidea*	*10%*		
	soft rush	*Juncus effusus*	*20%*		
	canada rush	*Juncus canadensis*	*30%*		
	woolgrass	*Scripus cyperinus*	2%		
	jewelweed	*Impatiens capensis*	*1%*		
	fringed sedge	*Carex crinita*	*5%*		
	green bulrush	*Scripus atrovirens*	*1%*		
	lurid sedge	*Carex lurida*	*5%*		
	cattail	*Typha angustifolia*	*1%*		
	marsh St. John's-wort	*Hypericum virginicum*	*1%*		
	broad-leaved arrowhead	*Sagitara latifolia*	*5%*		
	grass-like arrowhead	*Sagitara graminea*	*2%*		
	monkeyflower	*Mimulus ringens*	*1%*		
	soft stem bulrush	*Scirpus validus*	*1%*		
RZ-1	Pin oak	*Quercus palustris*	*5%*	100% of soil surface colonized by plant material.	Vegetated riparain zone. Inlcudes vegetated banks only. Wetland vegetation is growing within the watercourse channel via natural recruitment including speckled alder, broad leaved cattail, softstem bulrush, woolgrass, American burreed, jewelweed, and duck potato.
	Sycamore	*Platanus occidentalis*	*5%*		
	Red maple	*Acer rubrum*	*5%*		
	Silver Maple	*Acer saccharium*	*5%*		
	speckled alder	*Alnus rugosa*	*5%*		
	European buckthorn	*Rhamnus cathartica*	*2%*		
	silky dogwood	*Cornus amomum*	*10%*		
	grey stemmed dogwood	*Cornus racemosa*	*10%*		
	bayberry	*Myrica penslyvanica*	5%		
	inkberry	*Ilex glabra*	1%		
	wormwood	*Artemisia absinthium*	20%		
	American pokeweed	*Phytolacca americana*	10%		
	grasses		30%		
	Evening primrose	*Oenothera* biennis	5%		
	jewelweed	*Impatiens capensis*	2%		
	mullen	*Verbascum thapsus*	1%		
	Oriental bittersweet	*Celastrus orbiculatus*	10%		

APPENDIX D

Photo Log

PHOTO LOG

Rentschler Field Parking and Traffic Circulation Improvements
Wetland Mitigation Annual Monitoring Report

Photos of 2013

MMI #3097-01-44

Photo Station WR-1-1 – June 15, 2013

Photo Station WR-1-2 – June 15, 2013

Photo Station WR-1-2 – September 23, 2013

Photo Station WR-2-2 – June 15, 2013

Photo Station WR-2-1 – September 23, 2013

Photo Station RZ-1-1 – June 15, 2013

Photo Station RZ-1-1 – September 23, 2013

3097-01-44-d1613-2-rpt.doc

APPENDIX E

Mitigation Work Start Notification Form

US Army Corps
of Engineers
New England District

INDIVIDUAL PERMIT
WORK-START NOTIFICATION FORM
(Minimum Notice: Two weeks before work begins)

****
* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Policy Analysis/Technical Support Branch *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *
****

Corps of Engineers Permit No. NAE-2007-2818 was issued to the Rentschler Field Development Corporation, LLC. This work is located in wetlands associated with Pewterpot Brook at Silver Lane in East Hartford, Connecticut. The permit authorized the permittee to place fill in 4.22 acres of wetlands in order to facilitate the planned buildout of a 7.8 million square feet mixed use development over a 15-20-year period at the 920-acre United Technologies Corporation campus (the "Rentschler Field" site).

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: Milton C. Beebe & Sons, Inc.

Business Address: 12 Beebe Lane
Storrs, CT 06268

Telephone Numbers: (860) 429-4740 ( )

Proposed Work Dates: **Start:** March 2010 **Finish:** August 2011

Permittee/Agent Signature: Rentschler Field Development Company, LLC **Date:**

Printed Name: By: Daniel S. Matos **Title:** Authorized Rep.

Date Permit Issued: 11/5/09 **Date Permit Expires:** 12/31/2029

****

FOR USE BY THE CORPS OF ENGINEERS

PM: _____ **Submittals Required:** _____

Inspection Recommendation: _____

US Army Corps
of Engineers ®
New England District

MITIGATION
WORK-START NOTIFICATION FORM
(Minimum Notice: Two weeks before mitigation work begins)

****
* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Policy Analysis/Technical Support Branch *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *
****

Corps of Engineers Permit No. NAE-2007-2818 was issued to Rentschler Field Development Corporation LLC. This work is located in wetlands in the Pewterpot Brook watershed at Silver Lane in East Hartford, Connecticut. The permit authorized the permittee to place fill in 4.22 acres of wetlands in order to facilitate the planned buildout of a 7.8 million square feet mixed use development over a 15-20-year period at the 920-acre United Technologies Corporation campus (the "Rentschler Field" site).

The permit required compensatory mitigation as described in "Army Corps of Engineers Mitigation Plan, Rentschler Field, East Hartford, Connecticut", prepared by Fuss & O'Neill consultants, and dated June 17, 2009, with some of the work to occur within the 129.2-acre Conservation Easement area. Monitoring reports are not, however, a requirement of the permit.

Those listed below will perform the mitigation, including monitoring and remediation if required. They understand the requirements of the permit and the mitigation and monitoring plan.

PLEASE PRINT OR TYPE

	Environmental Consultant/Scientist	**Mitigation Contractor**
Name of Person/Firm:	Milone & MacBroom, Inc. Matthew Sanford	All Habitat Services David Roach
Business Address:	99 Realty Drive	2 Tipping Drive
	Cheshire, CT 06410	Branford, CT 06405
Telephone Number:	(203) 271-1773	(203) 245-1212

Proposed Mitigation Work Dates: **Start** August 2010 **Finish** November 2013

Permittee's Signature: Rentschler Field Development Company, LLC **Date:**

Printed Name: By: Daniel S. Matos **Title:** Authorized Rep.

Corps PM's: Bill Mullen

APPENDIX F

Clearing Limit Discrepancy Letter for Wetland Mitigation Area WR-2

Engineering,
Landscape Architecture
and Environmental Science

MILONE & MACBROOM®

John M. Milone, P.E.
James G. MacBroom, P.E.
Vincent C. McDermott, FASLA, AICP
Stephen R. Dietzko, P.E.
Jeanine Armstrong Gouin, P.E.
Robert A. Jackson, L.S.
John R. Gilmore, P.E.
Edward A. Hart, P.E.
Thomas R. Sheil, L.A.

David W. Dickson, L.A.
Thomas J. Daly, P.E.
W. Andrew Greene, P.E., LEED AP
Darin L. Overton, P.E.
Anthony A. Ciriello, P.E.
Nicolle Burnham, P.E.
Mark Arigoni, L.A.
Michael J. Joyce, P.E.
Michael F. Mansfield, L.S.
David Murphy, P.E.
Alan Wm. Mess, P.E.
Henry Ditman, P.E.
David Sullivan, P.E.
Philip Michalowski, AICP
Richard Harrall
Kishor Patel, P.E.
Thomas P. Balskus, P.E.
Ted G. Crawford, P.E., LEED AP
Gary Fontanella, P.E.

Rodney I. Shaw, L.A.
David R. Bragg, P.E., L.S.
William A. Root, M.E.S.
Garret Harlow, L.A.
Paul F. Mills, P.E.
Steven D. George, P.E.
Ryan R. Chmielewski, L.A.
John Hammer, L.A.
Scott G. Bristol, LEP
William J. Nagle, Jr., L.S.
John Mike Wilson, P.E.
Ryan McEvoy, P.E.
Nicholas M. Fomenko, P.E.
Andrew T. Manning, P.E.
George G. Caughman, P.E.
Michael G. Sherman, P.E.
Michael T. Looney, AICP
Jarrod B. Edens, P.E.
Glenn D. Jarvis, P.E.
Brian M. Cote, P.E.
Nicholas Mansfield, P.L.S.
Daniel Kroeber, P.E.
Kevin C. Fuselier, L.A.
Jason D. McCabe, P.E.
Keith C. Buda, P.E.
Michael T. Doherty, L.A.
Martin S. Overton, CEng., CEnv.

March 1, 2010

Mr. Phillip McLellan
State of Connecticut
Office of Policy and Management
Adriaen's Landing/Rentschler Field Project Office
100 Columbus Boulevard, Suite 501
Hartford, CT 06103

RE: Site Inspection of Wetland Mitigation Area No. 2
Rentschler Field Traffic and Parking Circulation Project
East Hartford, Connecticut
CTDEP IW-200903066
ACOE NAE-2007-2818
MMI #3097-01-19

Dear Mr. McLellan:

At the request of the Office of Policy and Management (OPM), a professional wetland scientist with Milone & MacBroom, Inc. (MMI) conducted a site inspection of Wetland Mitigation Area No. 2. Silt fence installation and tree clearing has been ongoing within the North and South Klondike parcels on this site since early February 2010. Wetland Mitigation Area No. 2 is located in the South Klondike and is illustrated in Figure 1. The northern part of this wetland is bordered by concrete retaining walls, and the interior of the wetland has other anthropogenic structures. These features were to be removed in accordance with IW-200903066 and NAE-2007-2818 and the area regraded and planted with native wetland vegetation as mitigation. The remaining portions of the wetland were to remain heavily vegetated with its existing woody vegetation including red maple, pin oak, highbush blueberry, silky dogwood, and speckled alder. The wetland's woody vegetation was to remain to help maintain the wetland's natural characteristics and to serve as a barrier, preventing cars from driving into the wetland.

MMI conducted a site walk on February 22, 2010 and found that the tree clearing contractor had accidentally cleared beyond the silt fence and clearing limits as shown on the site clearing plan. A photo log of our site visit is appended. All of the woody vegetation was cut to approximately eight inches in height. Clearing of this vegetation was not part of the final wetland mitigation plan or the state and/or federal wetland permits. At this time, MMI recommends that OPM report this accidental clearing to both the Connecticut Department of Environmental Protection Inland Water Resources Division and the United States Army Corps of Engineers.

MMI believes that some of the woody vegetation will sucker or in some cases resprout off existing cut stumps. This will most likely occur over the spring and early summer. If the woody

vegetation does not appear to resprout aggressively or to OPM's satisfaction, then the existing wetland mitigation plan for this area will need to be revised to include additional plantings.

Very truly yours,

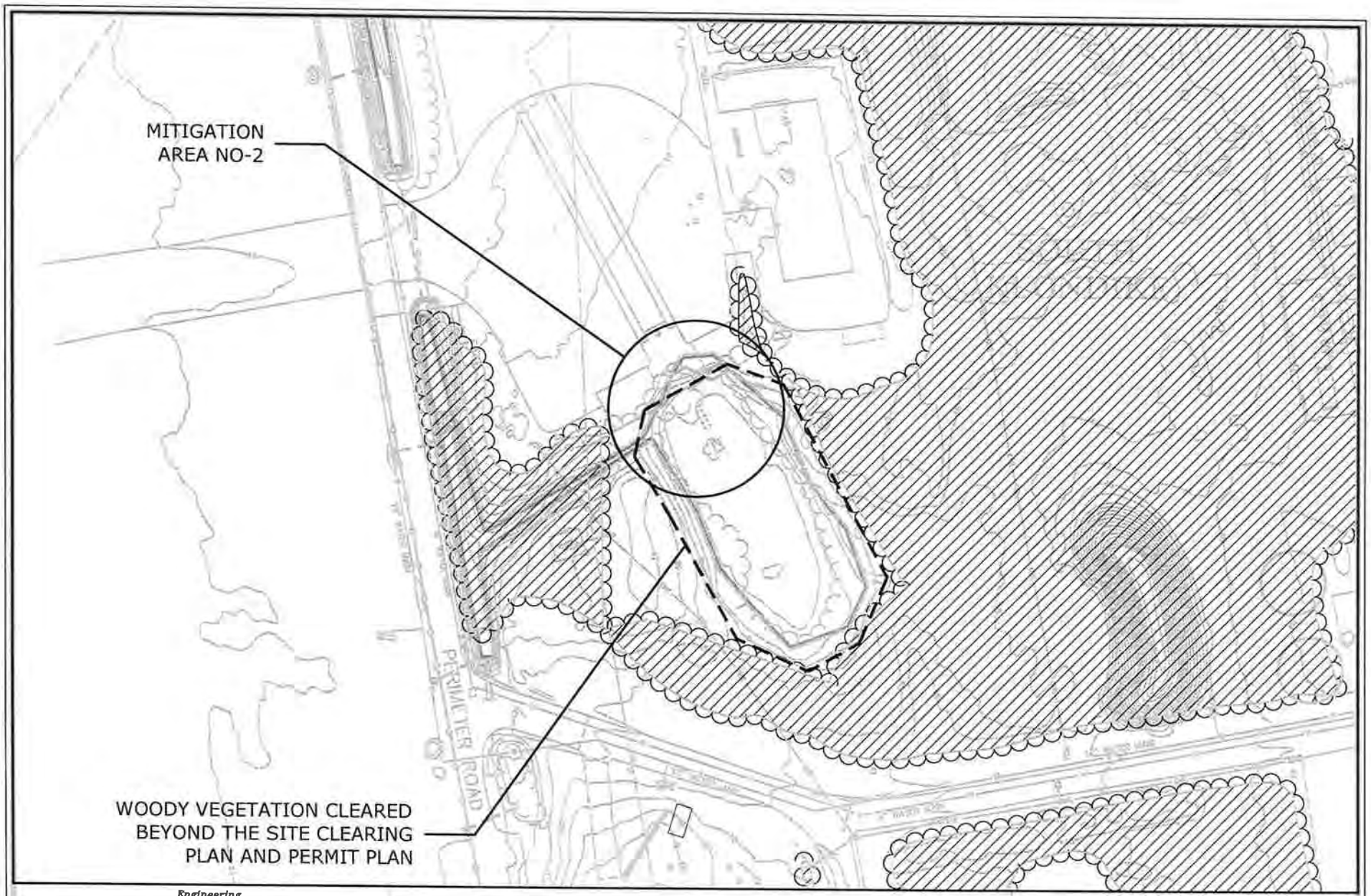
MILONE & MACBROOM, INC.

Matthew J. Sanford, M.S.
Professional Wetland Scientist #1677
Professional Certified Soil Scientist

Enclosure

cc: Sheila Sullivan, OPM
Tony Ciriello, MMI

3097-01-19-mr110-ltr.doc



Engineering,
Landscape Architecture
and Environmental Science
MILONE & MACBROOM®
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Cheshire, Connecticut 06410
(203) 271-1773 Fax (203) 272-9733
www.miloneandmacbroom.com

RENTSCHLER FIELD PARKING AND TRAFFIC CIRCULATION IMPROVEMENTS

ON: ---
AT: ---

WETLAND MITIGATION AREA NO-2 LOCATION MAP

APPLICANT:

DATE: MARCH 1, 2010

SCALE: 1" = 100'

SHEET: 1

Rentschler Field Traffic and Parking Circulation Improvement Project
Wetland Mitigation Area No.2
Inspection Photo Log

Wetland Basin with cleared vegetation

Vegetation cut to approximately eight inch stumps.

Vegetation cleared beyond silt fence.

Vegetation cleared beyond silt fence