

Proposed Sherwood Substation

6 New Creek Road
Westport, Connecticut

Prepared for



**Connecticut
Light & Power**

The Northeast Utilities System

Prepared by

VHB / Vanasse Hangen Brustlin, Inc.

54 Tuttle Place

Middletown, Connecticut 06457-1847

May 2009

Table of Contents

Introduction	1
Project Description	3
Location Description	3
Site Vicinity Characteristics	3
Proposed Activity	4
Mapped Soil Types	6
Rare Species Habitat	7
Wetland Description	8
Proposed Activities Relative to Nearby Wetlands and Impact Analysis	8
Mitigation	10
Project Contacts	13

Figures

Figure No.	Title
1	Site Location Map, USGS
2	Site Location Map, Aerial Photograph
3	Existing and Proposed Conditions
4	Environmental Resources Screen

Appendices

Appendix	Description
A	Location Review Concept Plans
B	Wetland Delineation Report
C	CTDEP NDDB Response Letter
D	Wetland Buffer Enhancement Area Plan

1

Introduction

The Applicant, The Connecticut Light and Power Company (“CL&P”), seeks to construct a new substation (the “Substation”) on its property located at 6 New Creek Road in Westport, Connecticut (the “Property” or “Site”) for the purpose of improving the electric power distribution system in the Town of Westport. The proposed Substation project (the “Project”) is subject to the jurisdiction of the Connecticut Siting Council, pursuant to Title 16, Chapter 277a of the Connecticut General Statutes. However, local wetlands and zoning commissions are provided an opportunity to participate in the Council’s decision-making process with respect to the location of certain utility facilities, including substations.

The purpose of the Project is to increase electric distribution system capacity and improve reliability in Westport by establishing a new bulk-power substation in the Greens Farms section of town. The existing substations system configuration will not meet the Town’s growing electric demand and future reliability needs.

Currently, the distribution load in Westport is being served from two older and physically space-limited, 27.6 kV-supplied substations, Westport and Greens Farms Substations. Both Westport and Greens Farms Substations have no expansion capabilities due to the lack of physical space at each location. The new Substation would replace Greens Farms Substation with newer equipment and enhanced

distribution capacity. Once the new Substation is operative, Greens Farms Substation would ultimately be de-energized and removed.

In addition to being supplied by the Westport and Greens Farms Substations, the electric load in town is currently being served from the transmission system by three bulk power substations; two located in Westport - Compo Substation and a temporary transformer within the Sasco Creek Substation - and a third, Weston Substation, located in the neighboring Town of Weston. Compo Substation was upgraded in the mid-1990s to a 115 kV supply, but due to physical limitations, CL&P is unable to further expand this Substation to provide more capacity. Since CL&P will not be allowed to maintain its existing temporary transformer at Sasco Creek, the new Substation would also replace the Sasco Creek Substation temporary supply. Sasco Creek Substation would continue operations dedicated solely to the railroad. The Weston Substation, while supplied via a 115 kV transmission supply, is not a viable option for expanding further into Westport due to its distance from the load center.

The *Site Location Map, USGS*, provided as Figure 1, depicts the Property's approximate location and the existing substations currently supplying service to Westport.

2

Project Description

Location Description

The 2.56-acre Property consists of a residential house lot located at 6 New Creek Road.

The Property is identified by the Westport Assessor's Office on Map G06, as Lot 5.

After review of several other potential sites, the Property was purchased by CL&P on June 18, 2008 specifically with the Project in mind.

For the following reasons, the Property is well suited for the Substation:

- Two existing 115-kV transmission lines are located immediately to the north, providing for a direct connection without the need for substantial additional infrastructure and/or rights-of-way with associated clearing.
- Substantial transportation (active rail line and associated catenaries) and utility infrastructure (overhead transmission lines and support structures) abut the Property;
- There are optimal interconnection opportunities to existing distribution feeders along New Creek Road, Greens Farms Road, and Maple Lane;
- The Property has sufficient size and shape and access from a local road; and,
- Construction can be completed and the Substation can be operated with minimal effects on the surrounding environment.

Site Vicinity Characteristics

Significantly, the Substation would connect to existing facilities within a multi-use transportation and energy infrastructure corridor. The Site is abutted to the north by

two sets of single-circuit transmission structures that parallel the existing four-track MetroNorth New York to Boston railway, which includes overhead catenary structures. Interstate 95 lies immediately north of the active rail line. New Creek Road abuts the Property to the east and south; a tidal salt marsh and Greens Farms Brook are located across New Creek Road. A residential property bounds the Property to the west.

A 2006 color aerial photograph depicting conditions in the vicinity is provided as Figure 2, *Site Location Map, Aerial Photograph*.

Proposed Activity

The Substation would be located within an irregularly shaped fenced compound which would encompass a 20,610± square foot area in the eastern portion of the Property, just south of the existing transmission line and railroad corridor. No portion of the Substation would be located within on-site wetlands and none of the Substation components/structures would be situated within 50 feet of these wetlands. A small section of the Substation's northwest corner (consisting of trap rock and fencing) would fall within 50 feet of the wetlands.

Connecting the Substation to the existing 115-kV line requires the installation of two new steel monopoles, similar in size to those currently occupying the transmission line corridor. The interconnections between the Substation and the new transmission line poles would be accomplished by installing two new line-terminal structures (approximately 50 feet in height) within the Substation. The Substation would also be outfitted with a circuit breaker, seven disconnect switches, five circuit switchers and two 60- Megavolt-Ampere (MVA) power transformers which would step down the

voltage from 115 kV to 13.8 kV. A third transformer position would be provided to accommodate a temporary, mobile transformer for emergency conditions. Four metal switchgear enclosures, each approximately 21-feet long, 14-feet wide and 14-feet high would be installed to provide the switching equipment, relaying and control equipment as well as the battery and charger associated with the distribution equipment. In addition to the switchgear enclosures, a metal control enclosure, approximately 48 feet long by 14 feet wide by 14 feet high, would be installed at the east end of the Substation. This enclosure is designed to house the protective relaying and control equipment as well as the battery and charger associated with the transmission equipment. An approximately 15-foot wide access drive from New Creek Road to the Substation would be established and pavement associated with the existing driveway removed. The existing residence located on the Property would also be removed as part of the Project.

The Substation includes the installation of two 60-MVA transformers that would contain insulating (mineral) oil. The transformer equipment would each have secondary containment designed to hold 110% of a transformer's fluid capacity, and accidental spill prevention measures in place. CL&P proposes to install Imbiber Bead® Containment Systems for the sumps, similar to containment systems installed at other CL&P substations, to assist in preventing oil discharges from the containment sumps. Further, a low oil level alarm that is integral to the system would be monitored remotely and would notify CL&P in the event of abnormal conditions. Periodic inspections of the sumps are performed by CL&P personnel to promote proper functioning of the systems. Based on these design considerations, the Project would have no adverse environmental effect.

The Substation would be covered with a trap rock surface and secured by a seven-foot high chain link fence topped with one foot of barbed wire (three strands). CL&P would provide extensive landscaping around the Substation perimeter, resulting in the fencing and lower portions of internal equipment being largely out of view. Lighting would be available within the Substation yard to facilitate work at night under emergency conditions and during inclement weather. The Substation would have low-level lighting for safety and security purposes. However, these lights would be recessed or activated manually to minimize visual effects at night. Lighting would not extend beyond the limit of the fenced area.

Figure 3, *Existing and Proposed Conditions*, depicts the proposed activity on the Property. Location Review Site Plans are provided in Appendix A.

Construction is expected to occur over a period of 12 to 18 months with the Substation in service by January 2012. The general construction sequence for the Substation and line interconnection would include:

- Installation of erosion and sedimentation control measures
- Construction of the access drive
- Removal of the existing residential dwelling
- Removal of trees and shrubs within the areas to be graded
- Preparation of the Site (cut, fill, grading)
- Installation of Substation foundations, conduits and grounding grid
- Spreading trap rock
- Installation of steel structures and Substation equipment
- Building transmission line interconnections
- Commissioning the Substation
- Completion of Site restoration activities
- Removal of erosion and sedimentation control measures

Mapped Soil Types

Digitally available updated soil survey information was obtained from the Natural Resources Conservation Service. Soil classifications present on the Site are as follows:

Disturbed upland soils:

- Udorthents-Urban land complex (306)

Glaciofluvial (stratified sand and gravel) deposited upland soils:

- Agawam fine sandy loam (29-not mapped)

Glaciofluvial (stratified sand and gravel) deposited wetland soils:

- Raypol silt loam (12-not mapped)
- Walpole sandy loam (13-not mapped)

These soil types were confirmed in a wetland investigation and delineation conducted by a registered soil scientist with CL&P's environmental consultant, Vanasse Hangen Brustlin, Inc. ("VHB"). Regulated Connecticut and Federal (U.S. Army Corps of Engineers) wetland and watercourse boundaries on the Site were identified and delineated by VHB on February 6, 2009. Details of the wetland delineation as well as detailed published soils information including a soil map and soil description report are documented within the *Wetland Delineation Report* provided in Appendix B.

Rare Species Habitat

CL&P reviewed the CTDEP's Natural Diversity Database (NDDB; updated December 2007), which identifies general areas of concern with regard to state and federally listed Endangered, Threatened, and Special Concern species and significant natural communities. No areas of concern with regard to threatened or endangered species and/or significant natural communities were identified at or in the vicinity of the Site as depicted on the *Environmental Resources Screen* provided as Figure 4. Further, CL&P submitted a letter request on May 19, 2008 to the CTDEP for concurrence. CL&P received confirmation in writing on June 19, 2008 that no known extant populations of federal or state Endangered, Threatened, and Special Concern species occur at the Property. The *CTDEP NDDB Response Letter* is provided in Appendix C.

Wetland Description

A palustrine forested/emergent wetland system (VHB WF 1-01 to 27) transects the Property from north to south. This wetland is seasonally inundated with diffuse surface water flows conveyed from north to south. The northern portion is ponded, likely resulting from a historic, man-made earthen impoundment located centrally within this system. This system originates in the vicinity of the northern Site boundary at the base of a large fill slope associated with the MetroNorth rail line; however, no inlet structure or other source of inputs was visibly evident. The hydrology for this system likely originates from surface flows and groundwater interception. At its southern extent, flows become channelized within a watercourse feature before outletting into a 15-inch reinforced concrete pipe (RCP) located on the southern Site boundary. Flows are then conveyed from this freshwater system beneath New Creek Road to a tidal salt marsh associated with Greens Farms Brook to the south. The on-site freshwater wetland is not subject to tidal influence due to its elevation and separation from the tidal wetland by a partially clogged culvert (see *Photo Documentation* photo 2). Dominant vegetation within this system includes red maple (*Acer rubrum*), white ash (*Fraxinus Americana*), cattail (*Typha latifolia*), silky dogwood (*Cornus amomum*), sensitive fern (*Onoclea sensibilis*) and tussock sedge (*Carex stricta*).

Proposed Activities Relative to Nearby Wetlands and Impact Analysis

The Substation would be located within an irregularly shaped fenced compound which would encompass a 20,610± square foot (0.47 acre) area in the eastern portion of CL&P's 2.56-acre Property, just south of the existing transmission line corridor and

MetroNorth commuter rail line. Construction of the Substation would not result in any temporary or permanent effects on wetlands or watercourses.

Approximately 20,458 square feet (0.46 acre) within 75 feet of the on-site wetland resource would be disturbed as a result of the proposed construction activities. These activities include grading, construction of a portion of the fenced Substation compound (2,132 square feet or 0.05 acre), installation of an infiltration trench, and level spreader to treat stormwater, landscaping and establishment of the Wetland Buffer Enhancement Area.

All of the 20,458± square feet of disturbance within 75 feet of the on-site wetland resource would be pervious to stormwater following Site construction activities. This represents a net gain of 4,012± square feet (0.09 acre) of pervious surfaces within this area from existing conditions, due to the conversion of the on-site residence and paved driveway to landscape and Wetland Buffer Enhancement Area.

Best Management Practices would be utilized in accordance with the *2002 Connecticut Guidelines for Erosion and Sediment Control* throughout the course of construction activities at the Site and maintained until disturbed areas have been stabilized. Silt fencing and hay bales would generally be installed around the perimeter of construction activities protecting nearby resources, including the nearby wetlands. Conservation seed mix containing native grasses and forbs would be used post construction to stabilize those exposed areas not included in the landscape plan or Wetland Buffer Enhancement Area.

Mitigation

Select areas within 75 feet of the wetland resource on the Property would be disturbed by grading activities, a small (northwest) corner of the Substation (which would include a breaker arrangement), and installation of an infiltration trench and a level spreader.

Mitigation would consist of enhancements to the buffer area between the Substation and the adjacent wetland resource (described below) and CL&P's Best Management Practices for erosion and sediment control (see typical details on enclosed drawing CP-3 in Appendix A). Geotextile fabric sediment barriers would be placed between the development footprint and wetland resource areas during construction and maintained until the Site is stabilized and rehabilitated. Cut and fill slopes would not exceed 2 to 1 grades, and would be loamed and seeded where not incorporated into a landscape plan or Wetland Buffer Enhancement Area.

Proposed Wetland Buffer Enhancement Area

The Wetland Buffer Enhancement Area encompasses approximately 9,120 square feet (0.21 acre) along the east side of the on-site wetland resource. This area is currently occupied by a portion of an existing driveway, lawn and landscaped areas. Non-native plant species (excluding mature trees) and lawn would be removed within this area and shrubs and herbaceous species native to the region would be planted. See Appendix D, *Wetland Buffer Enhancement Area Plan*, for additional details. The proposed construction sequence and planting schedule for this enhancement area is outlined below.

Wetland Buffer Enhancement Area Construction Sequence

1. A qualified wetland scientist responsible for this mitigation design would be notified 48 hours prior to any phase of the mitigation project including planting of shrubs native to the region, to monitor and oversee implementation of the mitigation plan.
2. Non-native species and lawn areas within the Wetland Buffer Enhancement Area would be removed as directed by the qualified wetland scientist and backfilled to a minimum depth of 8 inches with clean topsoil where needed. Once final topsoil is in place, it would be graded to achieve a relatively smooth surface with slight undulations, similar to that of a natural upland forest.
3. The species, size, and quantity of the plantings would follow the Wetland Buffer Enhancement Area Planting Schedule (refer to table below). Prior to delivery to the Site, the supervising wetland scientist may visit the nursery providing the planting stock to ensure that the specimens are healthy, free from pests, and suitable for use within the enhancement area. Unsuitable specimens would be rejected and replaced with suitable specimens. The wetland scientist would approve any planting substitutions. All woody plant stock would be container-grown. Planting within the enhancement area would conform to the plans or would be completed in accordance with directions provided in the field by the wetland scientist. Only plant materials native and indigenous to the region would be used.

Proposed Wetland Buffer Enhancement Area Planting Schedule

Botanical Name	Common Name	Size	Spacing
<i>Amelanchier Canadensis/arborea</i>	Shadblow/Serviceberry	3-4 ft.	5 feet
<i>Aronia melanocarpa</i>	Black Chokeberry	3-4 ft.	5 feet
<i>Cornus racemosa</i>	Gray Dogwood	3-4 ft.	5 feet
<i>Myrica pensylvanica</i>	Bayberry	3-4 ft.	5 feet
<i>Viburnum lentago</i>	Nannyberry	3-4 ft.	5 feet

4. All plantings would be spaced randomly at the direction of the wetland scientist to simulate natural growth patterns.
5. The contractor would be responsible for the careful installation, maintenance (including watering), and establishment of native shrub plant material in the enhancement area. All plants would be guaranteed by the contractor to remain alive and healthy for a full twelve (12) month period.
6. The enhancement area would be under sown with New England Erosion Conservation/Wildlife Mix supplied by New England Wetland Plants, Inc. (413.548.8000) or appropriate substitute. The seed mix would be applied at a rate of 1 lb/1,500 square feet. The New England Conservation/Wildlife Mix provides a permanent cover of grasses, forbs, wildflowers, legumes and grasses to provide both good erosion control and wildlife habitat value and

includes the following species: Big Bluestem (*Andropogon gerardii*), Switchgrass (*Panicum virgatum*), Little Bluestem (*Schizachyrium scoparium*), Virginia Wild Rye (*Elymus virginicus*), Partridge Pea (*Chamaecrista fasciculata*), Common Milkweed (*Asclepias syriaca*), Showy Tick-Trefoil (*Desmodium canadense*), New England Aster (*Aster novae-angliae*), Spotted Joe Pye Weed (*Eupatorium maculatum*), Grass Leaved Goldenrod (*Euthamia graminifolia*) Creeping Red Fescue (*Festuca rubra*), Ox Eye Sunflower (*Heliopsis helianthoides*), Deer Tongue (*Panicum clandestinum*), Tall/Green Headed Coneflower (*Rudbeckia laciniata*), Early Goldenrod (*Solidago juncea*), Indian Grass (*Sorghastrum nutans*). Soil conditioning activities, including raking, would be combined with the seed application process.

3

Project Contacts

Correspondence and other communications regarding the Project should be addressed

to:

Mr. Chris Swan
Director, Transmission Municipal Relation, Siting and Permitting
Northeast Utilities Service Company
9 Tindall Avenue
Norwalk, CT 06851
Telephone: (203) 845-3421
E-mail address: swancc@nu.com

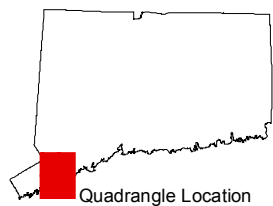
Mr. Kris Aberg
Project Manager
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Berlin, CT 06037
Telephone: (860) 665-6733
E-mail address: abergk@nu.com

Mr. John R. Morissette
Manager, Transmission Siting and Permitting
Northeast Utilities Service Company
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Telephone: (860) 665-2036
E-mail address: morisjr@nu.com

Figures



Source: U.S.G.S. Quad Maps: Sherwood Point (1971), Westport (1971), Norwalk North (1971) and Norwalk South (1984), CT



2,000 1,000 0 2,000 Feet

Vanasse Hangen Brustlin, Inc.

Figure 1
Site Location Map, USGS
6 New Creek Road
Westport, Connecticut



Vanasse Hangen Brustlin, Inc.

Figure 2
Site Location Map, Aerial Photograph
6 New Creek Road
Westport, Connecticut

**GREEN'S FARMS
METRO-NORTH
STATION**



RAILROAD

EXISTING TRANSMISSION LINES

PROPOSED
SUBSTATION
LAYOUT

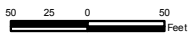
MAPLE LANE

BEACHSIDE
COMMON

NEW CREEK ROAD







Base Map Source: 2006 color aerial photograph with 1-foot resolution.

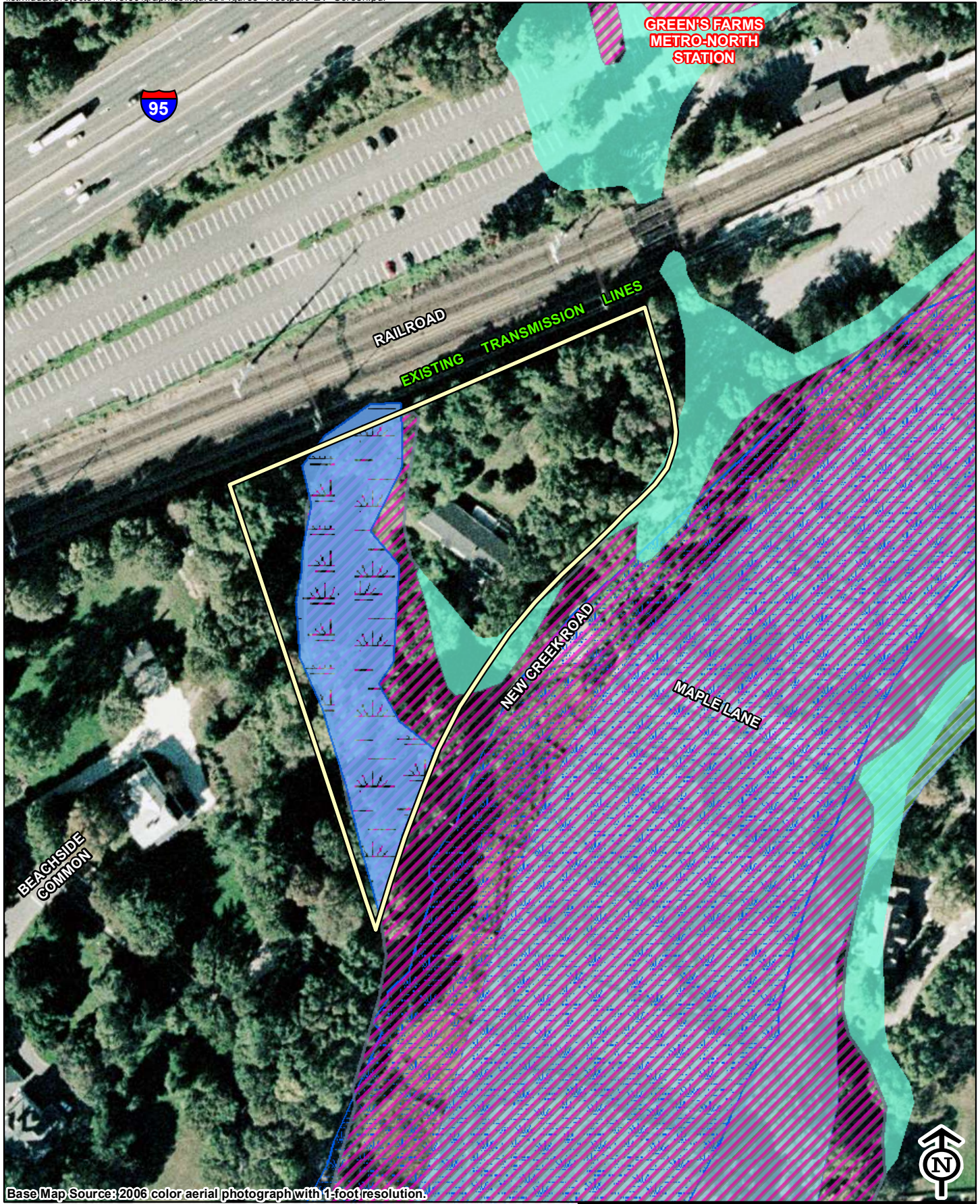


Vanasse Hangen Brustlin, Inc.

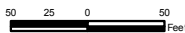
Legend

-  Proposed Substation Layout
-  Existing Paved Road
-  Site Property
-  Field Delineated Freshwater Wetland



**Figure 3
Existing and Proposed Conditions
6 New Creek Road
Westport, Connecticut**



Base Map Source: 2006 color aerial photograph with 1-foot resolution.



Legend

-  Site Property
-  Field Delineated Freshwater Wetland
-  CT DEP Wetlands
-  National Wetland Inventory Wetlands
-  FEMA Flood Zone 100 Year Flood Zone
-  FEMA Flood Zone 500 Year Flood Zone

Vanasse Hangen Brustlin, Inc.

Figure 4
Environmental Resources Screen
6 New Creek Road
Westport, Connecticut

Appendix A

Location Review Concept Plans

Concept Plans

Issued for: **Location Review**

Date Issued: May 14, 2009

Latest Issue: May 14, 2009

Index

No.	Drawing Title	Latest Issue
C-1	Overall Site Plan	05/14/09
C-2	Layout and Materials Plan	05/14/09
C-2	Site Development Plan	05/14/09
Reference Drawings		
SV-1	Boundary and Topographic Survey	04/08

Sherwood Substation

6 New Creek Road
Westport, Connecticut



Site Location Map ↑ 0 1000 2000 Feet

Property Information

Owner:
The Connecticut Light and Power Company
P.O. Box 270
Hartford, Connecticut 06141-0270
(860) 605-5000

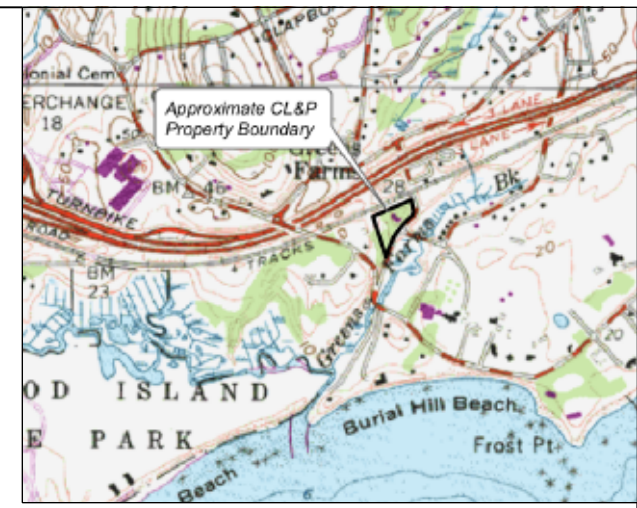
Applicant:
The Connecticut Light and Power Company
P.O. Box 270
Hartford, Connecticut 06141-0270
(860) 605-5000

Assessor's Plat- Map: G06
Lot: 005

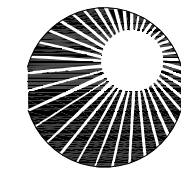


Vanasse Hangen Brustlin, Inc.
Transportation
Land Development
Environmental Services





LOCUS MAP
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 SCALE IN FEET



**Connecticut
 Light & Power**

The Northeast Utilities System

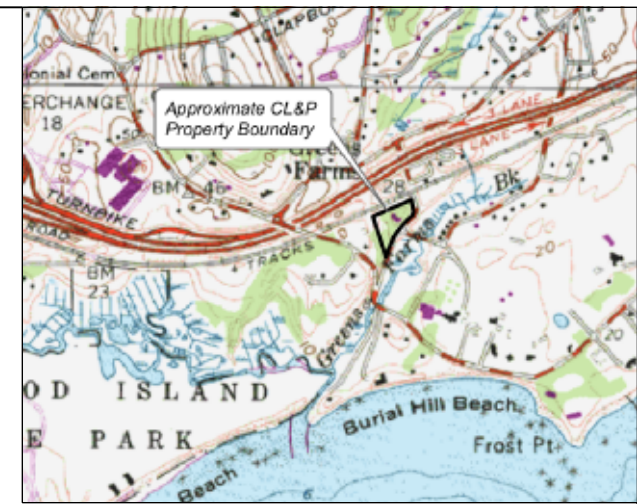
VHB Vanasse Hangen Brustlin, Inc.
 Transportation • Land Development • Environmental Services
 54 Tullie Place, Middletown, Connecticut 06457-1847
 Tel: 860 632-1500 • Fax: 860 632-7879

PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL

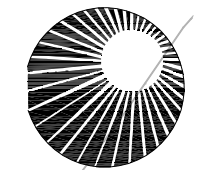
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Northeast Utilities Service Co. FOR CONNECTICUT LIGHT & POWER COMPANY						
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V-SCALE	NA	V.S.				R.E.DWG.
NO.	DATE	AS BUILT REVISIONS		BY	CHK	APP
R.E. PROJ. NUMBER: 41448				NUSCO		C-1

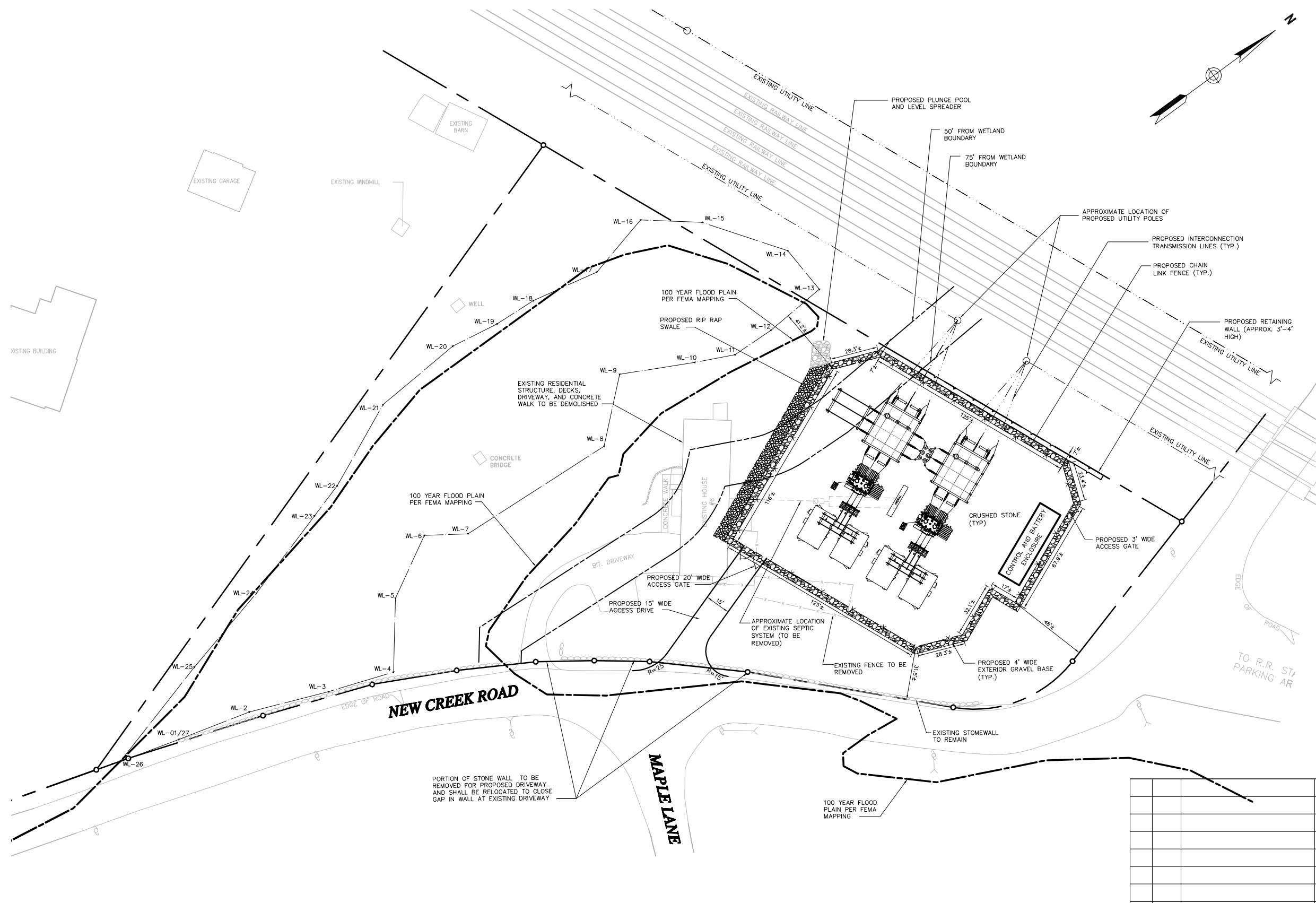
PRELIMINARY



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SCALE IN FEET



**Connecticut
Light & Power**
The Northeast Utilities System



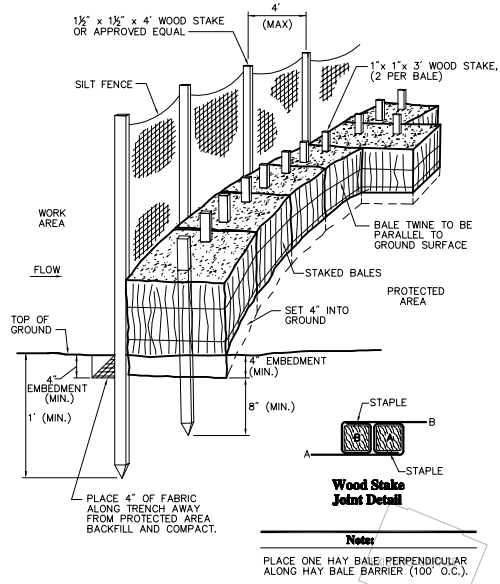
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SCALE IN FEET

VHB Vanasse Hangen Brustlin, Inc.
Transportation • Land Development • Environmental Services
54 Tule Place, Middletown, Connecticut 06457-1847
Tel: 860 632-1500 • Fax: 860 632-7879

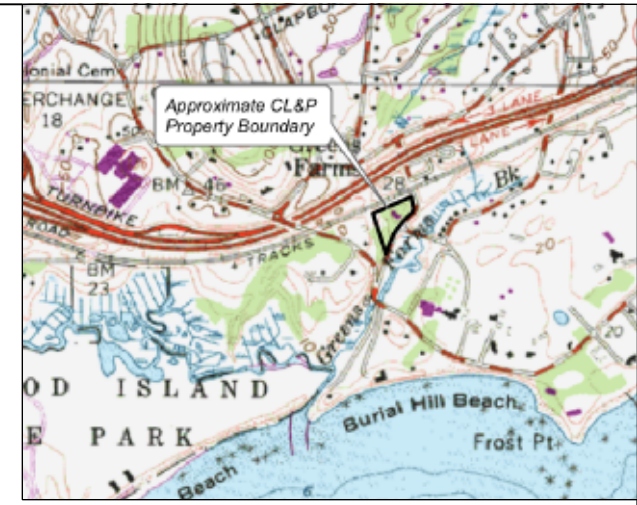
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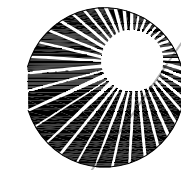
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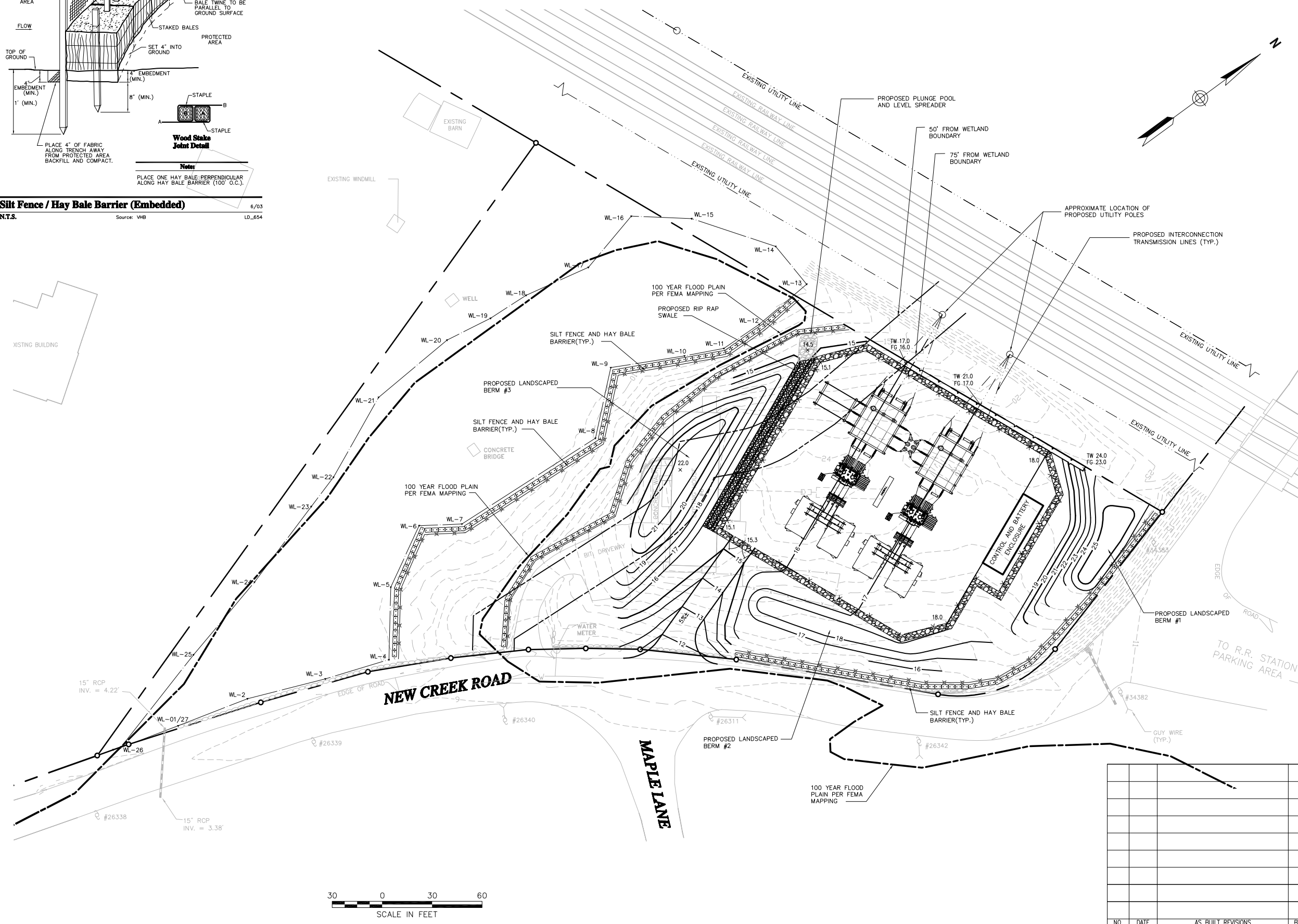
Silt Fence / Hay Bale Barrier (Embedded)
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LOCUS MAP
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 SCALE IN FEET



Connecticut Light & Power
 The Northeast Utilities System



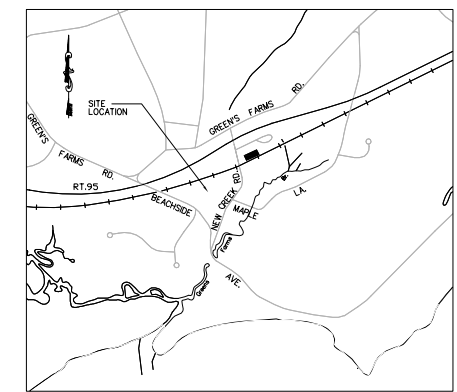
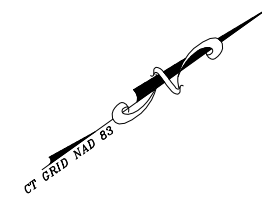
30 0 30 60
 SCALE IN FEET

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PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL

NO.		DATE		AS BUILT REVISIONS		BY		CHK		APP		R.E. PROJ. NUMBER: 41448	
												NUSCO C-3	

Northeast Utilities Service Co.			
FOR CONNECTICUT LIGHT & POWER COMPANY			
TITLE: SHERWOOD SUBSTATION PROPOSED LAYOUT SITE DEVELOPMENT PLAN WESTPORT, CONNECTICUT			
BY: SDK	CHKD: PV	APP: MPL	APP: APP
DATE: MAY 14, 2009	DATE: MAY 14, 2009	DATE: MAY 14, 2009	DATE: DATE
H-SCALE: 1"=30'	SIZE: FIELD BOOK & PAGES		
V-SCALE: NA	V.S.: R.E.DWG.		



LOCUS MAP
N.T.S.

N/F
NEW YORK, NEW HAVEN, &
HARTFORD RAILROAD COMPANY

N/F
MICHAEL JOHNSON

PARCEL AREA:
112031 SQ.FT.
2.57 ACRES

FLOOD ZONE "A6"
SEE NOTE 6

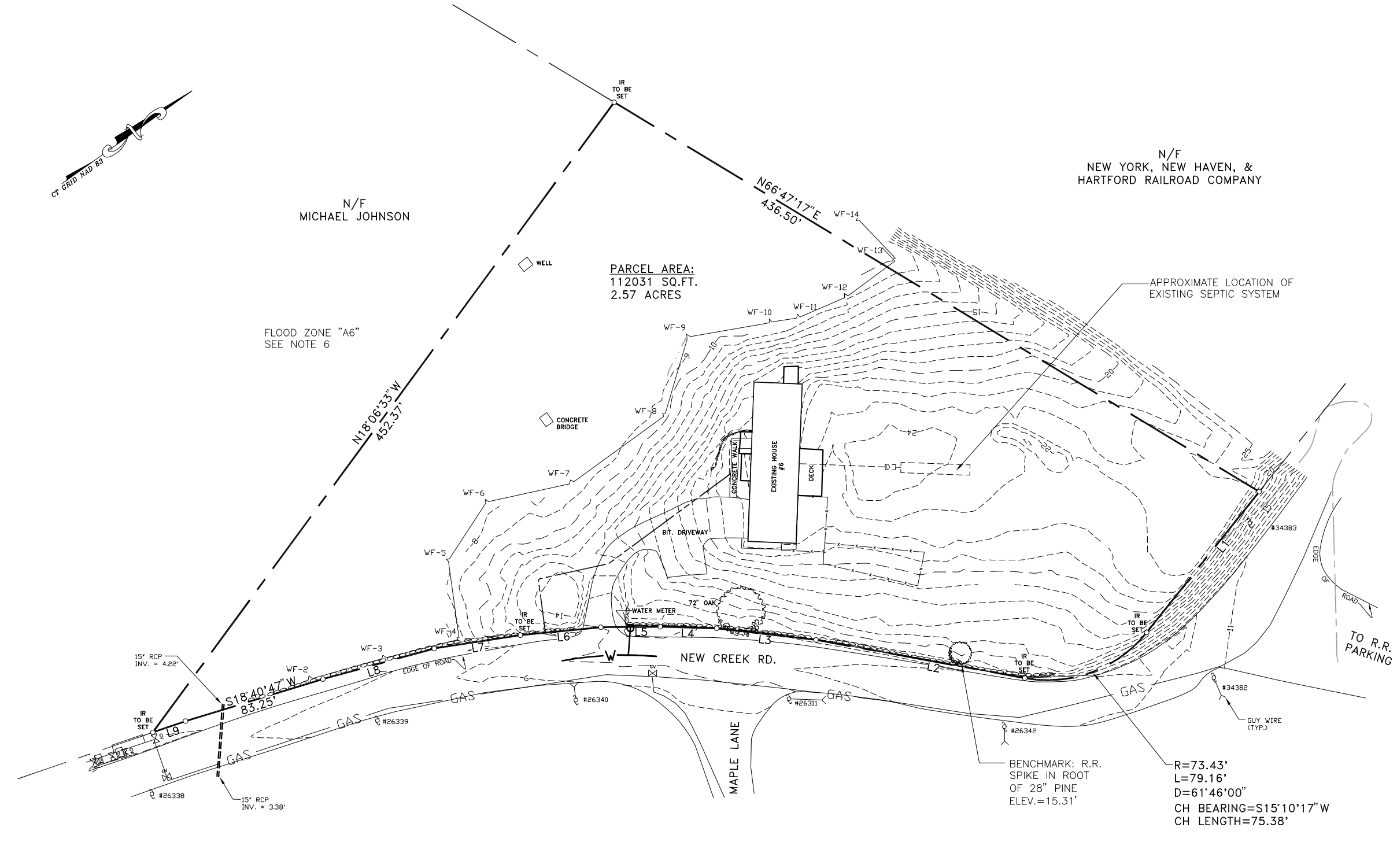
APPROXIMATE LOCATION OF
EXISTING SEPTIC SYSTEM

NOTES:

1. BEARINGS AND ELEVATIONS SHOWN ARE NAD 83 AND NAVD 88 RESPECTIVELY. COORDINATE INFORMATION DERIVED FROM GPS DATA COLLECTED BY NORTHEAST UTILITY SURVEY DEPARTMENT AND INFORMATION PROVIDED BY THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION.
2. THE FIELD SURVEY SHOWN WAS PERFORMED ON THE GROUND BY NORTHEAST UTILITIES SURVEY DEPARTMENT IN APRIL 2008.
3. WETLAND FLAGS SHOWN WERE FIELD DELINEATED BY COLLIN DUNCAN, CERTIFIED SOIL SCIENTIST, IN APRIL 2008.
4. SUBJECT PARCEL SHOWN IS LOCATED IN "ZONE AAA" AS SHOWN ON THE TOWN OF WESTPORT ZONING MAP. TAX MAP G6, LOT 5.
5. PARCEL SHOWN SUBJECT TO POSSIBLE "RIGHTS OF OTHERS IN AND TO THE STREAM TRAVERSING THE PREMISES".
6. SUBJECT PARCEL SHOWN IS LOCATED PARTLY IN FLOOD ZONE "B" AREAS BETWEEN LIMITS OF THE 100-YEAR AND 500-YEAR FLOOD AND PARTLY IN FLOOD ZONE "A6" AREAS OF 100-YEAR FLOOD (FLOOD ELEVATION 11), AS SHOWN ON FLOOD INSURANCE RATE MAP "FIRM" TOWN OF WESTPORT, CONNECTICUT, FAIRFIELD COUNTY, COMMUNITY PANEL NUMBER 090019 00028, REVISED DATE: DECEMBER 4, 1984.
7. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO NORTHEAST UTILITIES SURVEY DEPARTMENT. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATED AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG: 1.800.922.4455.

MAP REFERENCES:

1. SURVEY PREPARED FOR THOMAS F. HUGHES ET ALS, WESTPORT, CONN. SCALE: 1" = 60', DATE: DEC. 30, 1965. BY CHARLES S. LYMAN.
2. SURVEY PREPARED FOR ALBERT V. T. DAY, WESTPORT, CONN. SCALE: 1" = 60', DATE: MARCH 1957.
3. PROPERTY OF NICHOLAS S. HILL JR. GREENS FARMS, WESTPORT CONN. SCALE: 1" = 40', DATE: JAN. 31, 1926. BY ALFRED H. TERRY.
4. SURVEY OF PREMISES LOCATED AT 1 BEACHSIDE AVENUE, WESTPORT, CT. SCALE: 1" = 50', DATE: DECEMBER 16, 2003 REVISED THROUGH MARCH 9, 2004. BY AIDAN C. MCCANN.
5. RIGHT OF WAY AND TRACK MAP THE NEW YORK NEW HAVEN AND HARTFORD R.R. CO. OPERATED BY THE NEW YORK NEW HAVEN AND HARTFORD R.R. CO. FROM WOODLAWN TO NEW HAVEN STATION 1815+20 TO STATION 1868+00, TOWN OF WESTPORT, STATE OF CONN. SCALE: 1" = 100', DATE: JUNE 30, 1915



LINE TABLE

	BEARING	DISTANCE
L1	S15°-42'-43"E	104.47'
L2	S46°-03'-27"W	122.94'
L3	S42°-19'-47"W	58.03'
L4	S37°-18'-07"W	32.66'
L5	S35°-08'-47"W	34.43'
L6	S30°-01'-57"W	46.85'
L7	S26°-53'-37"W	50.52'
L8	S20°-19'-17"W	66.86'
L9	S16°-40'-27"W	20.00'

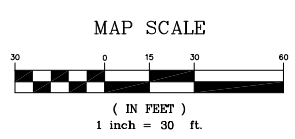
LEGEND:

- PROPERTY LINE
- BUILDING LINE
- WETLANDS
- WETLANDS 50' SETBACK
- CHAINLINK FENCE
- ZONE A-6 FLOOD ZONE
- ZONE B FLOOD ZONE
- MAJOR CONTOUR
- MINOR CONTOUR
- GAS MAIN
- WATER MAIN
- STONE WALL
- UTILITY POLE
- GAS VALVE

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES—MINIMUM STANDARD FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT, AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. IT IS A ZONING LOCATION SURVEY, BOUNDARY DETERMINATION CATEGORY DEPENDANT RESURVEY, CONFORMING TO HORIZONTAL ACCURACY CLASS A-2 AND A TOPOGRAPHIC SURVEY CONFORMING TO TOPOGRAPHIC ACCURACY CLASS 1-2. THE PURPOSE OF THIS SURVEY AND MAP IS TO ENABLE DETERMINATION OF COMPLIANCE OR NON-COMPLIANCE WITH APPLICABLE MUNICIPAL OR STATUTORY REQUIREMENTS.

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

SHAWN A. SOUTHWORTH, LS #70288
ANY ORIGINAL OR DUPLICATE OF THIS MAP IS NOT VALID UNLESS IT BEARS THE EMBOSSED SEAL OF THE SURVEYOR WHOSE REGISTRATION NUMBER APPEARS ABOVE. NO OTHER CERTIFICATION OR WARRANTY IS EXPRESSED OR IMPLIED.



Northeast Utilities Service Co
FOR
THE CONNECTICUT LIGHT & POWER COMPANY

TITLE
**SHERWOOD 18P SUBSTATION
BOUNDRY & TOPOGRAPHIC SURVEY**

6 NEW CREEK RD, WESTPORT, CONNECTICUT

BY	HMZ	CHKD	SAS	APP	APP
DATE	4/08	DATE	4/08	DATE	DATE

H-SCALE 1" = 30' SIZE ARCH D FIELD BOOK & PAGES
V-SCALE V.S. R.E.DWG. 22632

R.E. PROJ. NUMBER 150-03.169 NUSCO

Appendix B Wetland Delineation Report



WETLANDS DELINEATION REPORT

Vanasse Hangen Brustlin, Inc.

Date: February 18, 2009
Project No.: 41448.00
Prepared For: The Connecticut Light and Power Company
Site Location: 6 New Creek Road
Westport, Connecticut
Site Map: Wetland Flag Survey Map, Dated February 9, 2009
Inspection Date: February 6, 2009
Field Conditions: Weather: partly sunny, 30's General Soil Moisture: moist
Snow Depth: 2 inches Frost Depth: 0-3 inches

Type of Wetlands Identified and Delineated:

Connecticut Inland Wetlands and Watercourses
Tidal Wetlands
U.S. Army Corps of Engineers

Local Regulated Upland Review Areas: Wetlands: 75 feet Watercourses: 75 feet

Field Numbering Sequence of Wetlands Boundary: VHB WF 1-01/27 (closed loop)

[as depicted on attached wetland sketch map]

The classification systems of the National Cooperative Soil Survey, the U.S. Department of Agriculture, Natural Resources Conservation Service, County Soil Survey Identification Legend, Connecticut Department of Environmental Protection and United States Army Corps of Engineers New England District were used in this investigation.

All established wetlands boundary lines are subject to change until officially adopted by local, state, or federal regulatory agencies.

The wetlands delineation was conducted and reviewed by:


Matthew Davison
Registered Soil Scientist

Enclosures

Attachments



-
- Wetland Delineation Field Form
 - Soil Map
 - Soil Report
 - Wetland Flag Survey Map

Wetland Delineation Field Form

Project Address:	6 New Creek Road Westport, Connecticut	Project Number:	41448.00
Inspection Date:	February 6, 2009	Inspector:	Matthew Davison
Wetland I.D.:	Wetland 1		

Field Conditions:	Weather: partly sunny, 30s	Snow Depth: variable (0-2 inches)
	General Soil Moisture: moist	Frost Depth: variable (0-3 inches)
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input checked="" type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Field Numbering Sequence: VHB WF 1-01 to 1-27 (closed loop)		

WETLAND HYDROLOGY:

NONTIDAL

Regularly Flooded <input type="checkbox"/>	Irregularly Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input type="checkbox"/>	Seasonally Flooded <input checked="" type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input type="checkbox"/>	Seasonally Saturated - perched <input type="checkbox"/>
Comments: Portions of this system are seasonally flooded.		

TIDAL

Subtidal <input type="checkbox"/>	Regularly Flooded <input type="checkbox"/>	Irregularly Flooded <input type="checkbox"/>
Seasonally Flooded <input type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>	
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine <input type="checkbox"/>	Riverine <input type="checkbox"/>	Palustrine <input checked="" type="checkbox"/>
Lacustrine <input type="checkbox"/>	Marine <input type="checkbox"/>	
Comments:		

CLASS:

Emergent <input checked="" type="checkbox"/>	Scrub-shrub <input type="checkbox"/>	Forested <input checked="" type="checkbox"/>
Open Water <input type="checkbox"/>	Disturbed <input type="checkbox"/>	Wet Meadow <input type="checkbox"/>
Comments: This system is predominantly forested, with emergent vegetation present within seasonally ponded areas.		

WATERCOURSE TYPE:

Perennial <input type="checkbox"/>	Intermittent <input checked="" type="checkbox"/>	Tidal <input type="checkbox"/>
Comments: An intermittent watercourse feature flows through the wetland interior.		

SPECIAL AQUATIC HABITAT:

Vernal Pool <input type="checkbox"/>	Other <input type="checkbox"/>	
Comments: N/A		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Raypol silt loam (12)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Walpole sandy loam (13)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Udorthents-Urban land complex (306)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

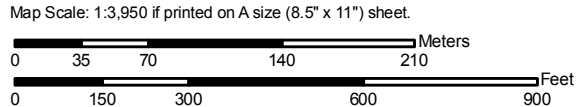
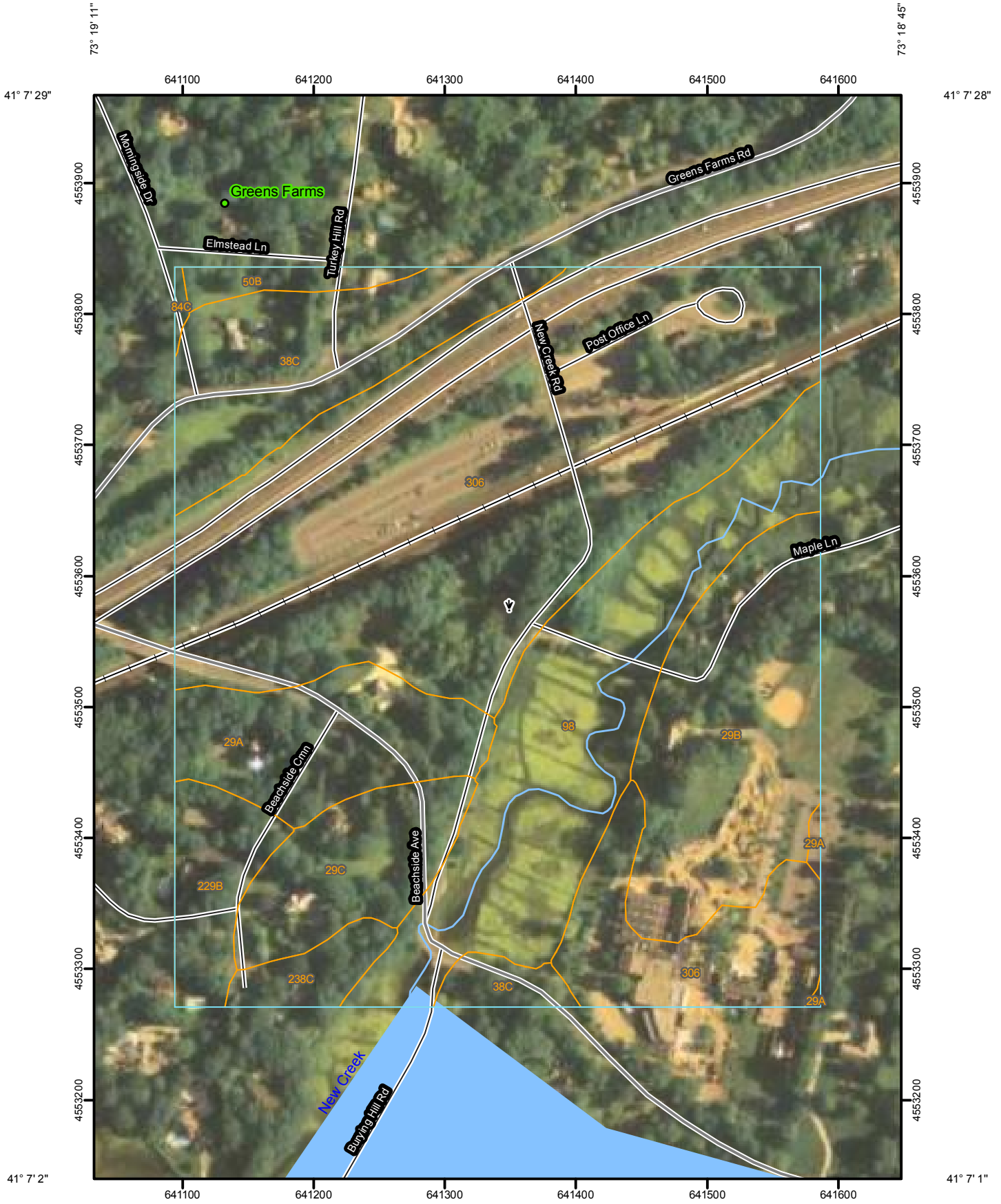
DOMINANT PLANTS:

red maple	tussock sedge
white ash	
cattail	
silky dogwood	
sensitive fern	

WETLAND NARRATIVE:

Wetland is a palustrine forested/emergent wetland system bordering a small intermittent watercourse feature which transects the Site from north to south. The watercourse feature is characterized by diffuse flows and generally lacks a well defined bank and channel. This system originates in the vicinity of the north Site boundary at the base of a large fill slope associated with the Metro North rail line; however, no outlet structure was evident. The hydrology for this system likely originates from surface flows and groundwater interception. A 15 inch reinforced concrete pipe (RCP) located on the southern Site boundary outlets flows from this freshwater system beneath New Creek Road to a tidal salt marsh associated with Green Farms Brook to the south.

Soil Map—State of Connecticut
 (6 New Creek Road, Westport, Connecticut)



MAP LEGEND






















Area of Interest (AOI)




 Area of Interest (AOI)

Soils




 Soil Map Units

Special Point Features


-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot

-  Very Stony Spot
-  Wet Spot
-  Other



Special Line Features

-  Gully
-  Short Steep Slope
-  Other






Political Features

-  Cities

Water Features

-  Oceans
-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

MAP INFORMATION

Map Scale: 1:3,950 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
 Survey Area Data: Version 6, Mar 22, 2007

Date(s) aerial images were photographed: 8/5/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

State of Connecticut (CT600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
29A	Agawam fine sandy loam, 0 to 3 percent slopes	5.0	7.3%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	8.5	12.4%
29C	Agawam fine sandy loam, 8 to 15 percent slopes	3.8	5.5%
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	6.8	9.9%
50B	Sutton fine sandy loam, 3 to 8 percent slopes	0.8	1.2%
84C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	0.1	0.2%
98	Westbrook mucky peat	11.3	16.4%
229B	Agawam-Urban land complex, 0 to 8 percent slopes	2.4	3.4%
238C	Hinckley-Urban land complex, 3 to 15 percent slopes	1.2	1.7%
306	Udorthents-Urban land complex	28.8	41.9%
Totals for Area of Interest		68.7	100.0%

Map Unit Description (Brief)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the selected area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit. A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The "Map Unit Description (Brief)" report gives a brief, general description of the major soils that occur in a map unit. Descriptions of nonsoil (miscellaneous areas) and minor map unit components may or may not be included. This description is written by the local soil scientists responsible for the respective soil survey area data. A more detailed description can be generated by the "Map Unit Description" report.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief)

State of Connecticut

Description Category: SOI

Map Unit: 29A—Agawam fine sandy loam, 0 to 3 percent slopes

Agawam Fine Sandy Loam, 0 To 3 Percent Slopes This map unit is in the Connecticut Valley New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 80 percent Agawam soils. 20 percent minor components. Agawam soils This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 0 to 3 percent and the runoff class is negligible. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), with about 4.8 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 1 Typical Profile: 0 to 8 inches; fine sandy loam 8 to 14 inches; fine sandy loam 14 to 24 inches; fine sandy loam 24 to 60 inches; stratified very gravelly coarse sand to fine sand

Map Unit: 29B—Agawam fine sandy loam, 3 to 8 percent slopes

Agawam Fine Sandy Loam, 3 To 8 Percent Slopes This map unit is in the Connecticut Valley New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 80 percent Agawam soils. 20 percent minor components. Agawam soils This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 3 to 8 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), with about 4.8 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 2e Typical Profile: 0 to 8 inches; fine sandy loam 8 to 14 inches; fine sandy loam 14 to 24 inches; fine sandy loam 24 to 60 inches; stratified very gravelly coarse sand to fine sand

Map Unit: 29C—Agawam fine sandy loam, 8 to 15 percent slopes

Agawam Fine Sandy Loam, 8 To 15 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 80 percent Agawam soils. 20 percent minor components. Agawam soils This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 8 to 15 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), with about 4.8 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e Typical Profile: 0 to 8 inches; fine sandy loam 8 to 14 inches; fine sandy loam 14 to 24 inches; fine sandy loam 24 to 60 inches; stratified very gravelly coarse sand to fine sand

Map Unit: 38C—Hinckley gravelly sandy loam, 3 to 15 percent slopes

Hinckley Gravelly Sandy Loam, 3 To 15 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 80 percent Hinckley soils. 20 percent minor components. Hinckley soils This component occurs on valley outwash plain, terrace, kame, and esker landforms. The parent material consists of sandy and gravelly glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 3 to 15 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is excessively drained. The slowest permeability within 60 inches is about 5.95 in/hr (rapid), with about 2.3 inches (very low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 4e Typical Profile: 0 to 8 inches; gravelly sandy loam 8 to 20 inches; very gravelly loamy sand 20 to 27 inches; very gravelly sand 27 to 42 inches; stratified cobbly coarse sand to extremely gravelly sand 42 to 60 inches; stratified cobbly coarse sand to extremely gravelly sand

Map Unit: 50B—Sutton fine sandy loam, 3 to 8 percent slopes

Sutton Fine Sandy Loam, 3 To 8 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 37 to 49 inches (940 to 1244 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Sutton soils. 20 percent minor components. Sutton soils This component occurs on upland hill landforms. The parent material consists of melt-out till derived from granite, gneiss, and schist. The slope ranges from 3 to 8 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is moderately well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 7.5 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 24 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 2w Typical Profile: 0 to 6 inches; fine sandy loam 6 to 12 inches; fine sandy loam 12 to 24 inches; fine sandy loam 24 to 28 inches; fine sandy loam 28 to 36 inches; gravelly fine sandy loam 36 to 65 inches; gravelly sandy loam

Map Unit: 84C—Paxton and Montauk fine sandy loams, 8 to 15 percent slopes

Paxton And Montauk Fine Sandy Loams, 8 To 15 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 35 to 50 inches (889 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 55 percent Paxton soils, 30 percent Montauk soils. 15 percent minor components. Paxton soils This component occurs on upland hill and drumlin landforms. The parent material consists of lodgement till derived from granite, gneiss, and schist. The slope ranges from 8 to 15 percent and the runoff class is medium. The depth to a restrictive feature is 20 to 40 inches to densic material. The drainage class is well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 3.4 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 24 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e Typical Profile: 0 to 8 inches; fine sandy loam 8 to 15 inches; fine sandy loam 15 to 26 inches; fine sandy loam 26 to 65 inches; gravelly fine sandy loam Montauk soils This component occurs on upland hill and drumlin landforms. The parent material consists of sandy lodgement till derived from granite and gneiss. The slope ranges from 8 to 15 percent and the runoff class is low. The depth to a restrictive feature is 20 to 38 inches to densic material. The drainage class is well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 3.3 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 27 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e Typical Profile: 0 to 4 inches; fine sandy loam 4 to 14 inches; fine sandy loam 14 to 25 inches; sandy loam 25 to 39 inches; gravelly loamy coarse sand 39 to 60 inches; gravelly sandy loam

Map Unit: 98—Westbrook mucky peat

Westbrook Mucky Peat This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 48 to 52 degrees F. (9 to 11 degrees C.) This map unit is 80 percent Westbrook soils. 20 percent minor components. Westbrook soils This component occurs on coastal plain salt marsh and tidal marsh landforms. The parent material consists of herbaceous organic material over loamy drift or marine deposits. The slope ranges from 0 to 2 percent and the runoff class is negligible. The depth to a restrictive feature is 0 to 51 inches to salic. The drainage class is very poorly drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.4 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 8.4 LEP (high). The flooding frequency for this component is frequent. The ponding hazard is frequent. The minimum depth to a seasonal water table, when present, is about 6 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 60 mmhos/cm (strongly saline). The Nonirrigated Land Capability Class is 8 Typical Profile: 0 to 10 inches; mucky peat 10 to 40 inches; mucky peat 40 to 48 inches; mucky peat 48 to 64 inches; silt loam 64 to 99 inches; silt loam

Map Unit: 229B—Agawam-Urban land complex, 0 to 8 percent slopes

Agawam-Urban Land Complex, 0 To 8 Percent Slopes This map unit is in the Connecticut Valley New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 40 percent Agawam soils, 35 percent Urban Land. 25 percent minor components. Agawam soils This component occurs on valley outwash plain and terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 0 to 8 percent and the runoff class is very low. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), with about 4.8 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 2e Typical Profile: 0 to 8 inches; fine sandy loam 8 to 14 inches; fine sandy loam 14 to 24 inches; fine sandy loam 24 to 60 inches; stratified very gravelly coarse sand to fine sand Urban Land Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. The slope ranges from 0 to 8 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8

Map Unit: 238C—Hinckley-Urban land complex, 3 to 15 percent slopes

Hinckley-Urban Land Complex, 3 To 15 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 40 percent Hinckley soils, 35 percent Urban Land. 25 percent minor components. Hinckley soils This component occurs on valley outwash plain, esker, kame, and terrace landforms. The parent material consists of sandy and gravelly glaciofluvial deposits derived from granite, gneiss, and schist. The slope ranges from 3 to 15 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is excessively drained. The slowest permeability within 60 inches is about 5.95 in/hr (rapid), with about 2.3 inches (very low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 4e Typical Profile: 0 to 8 inches; gravelly sandy loam 8 to 20 inches; very gravelly loamy sand 20 to 27 inches; very gravelly sand 27 to 42 inches; stratified cobbly coarse sand to extremely gravelly sand 42 to 60 inches; stratified cobbly coarse sand to extremely gravelly sand Urban Land Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. The slope ranges from 3 to 15 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8

Map Unit: 306—Udorthents-Urban land complex

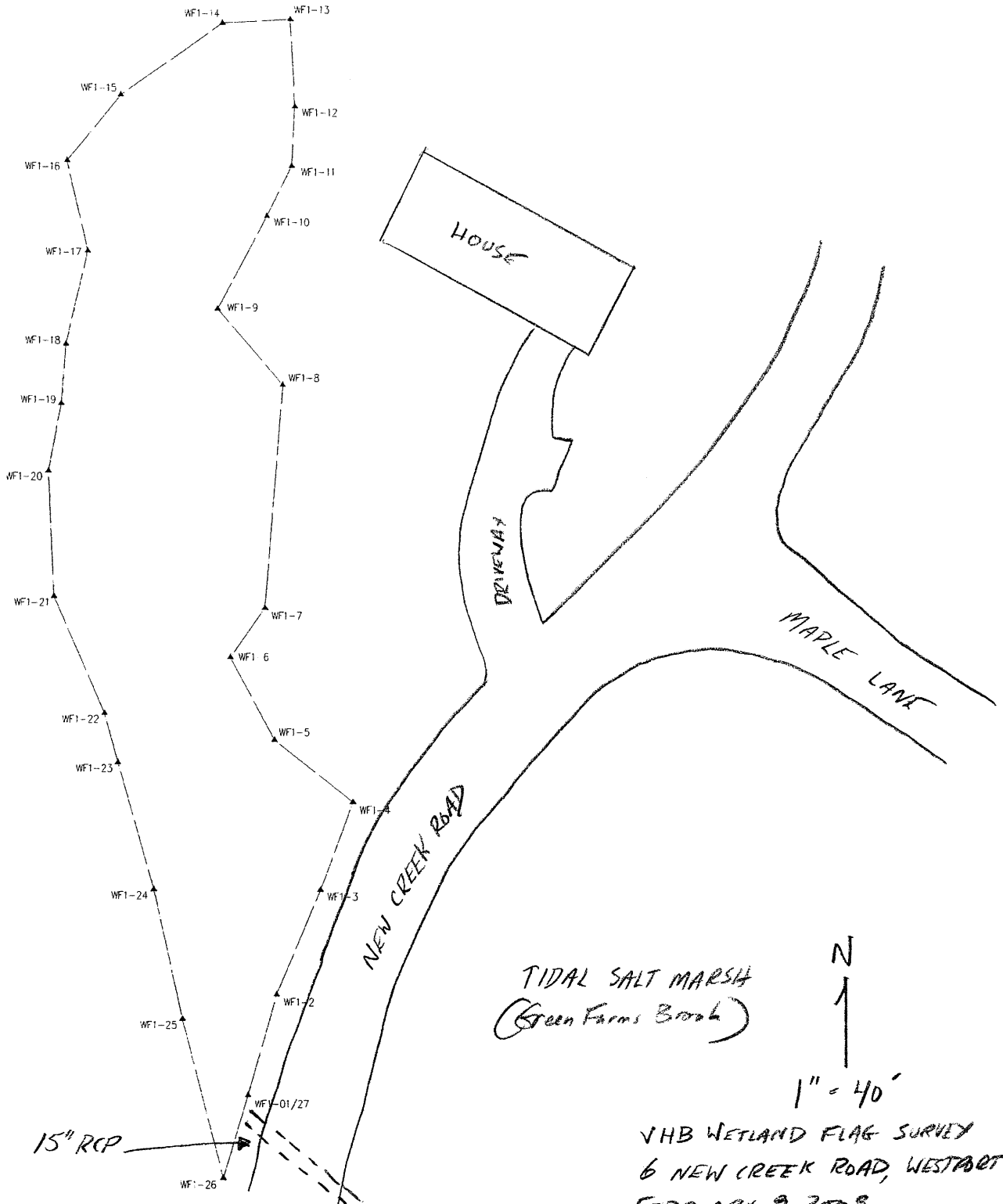
Udorthents-Urban Land Complex This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 50 percent Udorthents soils, 35 percent Urban Land. 15 percent minor components. Udorthents soils This component occurs on cut (road, railroad, etc.), railroad bed, road bed, spoil pile, urban land, fill, and spoil pile landforms. The slope ranges from 0 to 25 percent and the runoff class is medium. The depth to a restrictive feature varies, but is commonly greater than 60 inches. The drainage class is typically well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 9.0 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.4 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table is greater than 60 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e Typical Profile: 0 to 5 inches; loam 5 to 21 inches; gravelly loam 21 to 80 inches; very gravelly sandy loam Urban Land Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. The slope ranges from 0 to 35 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8

Data Source Information

Soil Survey Area: State of Connecticut

Survey Area Data: Version 6, Mar 22, 2007

METRO NORTH RAIL LINE

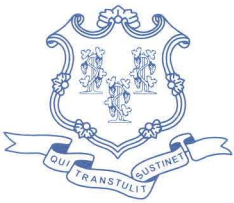


TIDAL SALT MARSH
(Green Farms Brook)

N
↑
1" = 40'

VHB WETLAND FLAG SURVEY
6 NEW CREEK ROAD, WESTPORT
FEBRUARY 9, 2009
MATTHEW DAVIDSON

Appendix C
CTDEP NDDB Response Letter



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



June 19, 2008

Scott Marotta
Northeast Utilities System
P.O. Box 270
Hartford, CT 06141-0270

Re: Proposed Substation, 6 New Creek
Road, Westport

Dear Mr. Marotta:

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided for the proposed substation at 6 New Creek Road in Westport, Connecticut. According to our information there are no known extant populations of Federal or State Endangered, Threatened or Special Concern Species that occur at the site in question.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at 424-3592. Thank you for consulting the Natural Diversity Data Base. Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

Sincerely,

Dawn M. McKay
Biologist/Environmental Analyst

DMM/blm

Appendix D

Wetland Buffer Enhancement Area Plan

PRELIMINARY

EXISTING TREE LEGEND

-  NM - NORWAY MAPLE
-  CEDAR
-  HI - HICKORY
-  RO - RED OAK
-  BL - BLACK LOCUST
-  BO - BLACK OAK
-  SP - SPRUCE
-  SW - SWAMP MAPLE
-  PO - PIN OAK
-  BC - BLACK CHERRY
-  RM - RED MAPLE
-  WP - WHITE PINE
-  SYC - SYCAMORE




PLANS AND SPECIFICATIONS ARE SUBJECT TO REVISIONS PENDING FINAL SITING COUNCIL APPROVAL

Proposed Wetland Buffer Enhancement Area Planting Schedule

Quantity	Botanical Name	Common Name	Size	Spacing
80	<i>Amelanchier Canadensis/arbores</i>	Shadblow/Serviceberry	3-4 ft.	5 feet
80	<i>Aronia melanocarpa</i>	Black Chokeberry	3-4 ft.	5 feet
80	<i>Cornus racemosa</i>	Gray Dogwood	3-4 ft.	5 feet
80	<i>Myrica pensylvanica</i>	Bayberry	3-4 ft.	5 feet
80	<i>Viburnum lentago</i>	Nannyberry	3-4 ft.	5 feet



 Northeast Utilities Service Co. FOR CONNECTICUT LIGHT & POWER COMPANY		TITLE SHERWOOD SUBSTATION WETLAND ENHANCEMENT AREA PLAN				
		WESTPORT, CONNECTICUT				
BY	SDK	CHKD	MPL	APP	MD	APP
DATE	MAY 14, 2009	DATE	MAY 14, 2009	DATE	MAY 14, 2009	DATE
H-SCALE	1"=30'	SIZE	D	FIELD BOOK & PAGES		
V-SCALE	NA	V.S.		R.E.DWG.		
NO.	DATE	AS BUILT REVISIONS	BY	CHK	APP	APP
			R.E. PROJ. NUMBER: 41448		NUSCO	