



**US Army Corps
of Engineers®**
New England District
696 Virginia Road
Concord, MA 01742-2751

PUBLIC NOTICE

Comment Period Begins: October 16, 2012
Comment Period Ends: November 16, 2012
File Number: NAE-2008-1671
In Reply Refer To: Susan Lee
Phone: (978) 318-8494
E-mail: susan.k.lee@usace.army.mil

The District Engineer has received a permit application from the applicant below to **conduct work in waters of the United States** as described below.

APPLICANT: Joint application by The Connecticut Light and Power Company (CL&P), 107 Selden Street, Berlin, CT 06037 and The Narragansett Electric Company (TNEC) and the New England Power Company (NEP) (collectively, "National Grid"), 40 Sylvan Road, Waltham, MA 02451.

ACTIVITY: CL&P and National Grid (collectively, "the Companies") propose to fill (temporary and permanent) inland wetlands/waters in association with the construction, operation, and maintenance of the Interstate Reliability Project ("the Project"). The Project consists of approximately 75 miles of new overhead 345-kilovolt (kV) electric transmission lines, and related modifications and improvements to existing 345-kV and 115-kV transmission lines and substation and switching facilities in northeast Connecticut, northwest Rhode Island, and south-central Massachusetts. The new 345-kV transmission lines will be aligned adjacent to existing overhead 345-kV and other transmission lines and, for 98% of the 75-mile route, will be located within the Companies' existing utility rights-of-way (ROWs). The Project is designed to address various electric reliability issues in southern New England.

Of the 75 miles of new 345-kV transmission lines, approximately 36.8 miles will be located in Connecticut; 22.5 miles will be located in Rhode Island; and 15.4 miles will be located in Massachusetts. The new transmission lines will extend across portions of 11 Connecticut towns (Lebanon, Columbia, Coventry, Mansfield, Chaplin, Hampton, Brooklyn, Pomfret, Killingly, Putnam, and Thompson); two Rhode Island towns (Burrillville and North Smithfield); and five Massachusetts towns (Millville, Uxbridge, Northbridge, Sutton, and Millbury). In Rhode Island, National Grid also will reconstruct and reconductor a 9.2-mile segment of existing 345-kV transmission line. In Rhode Island and Massachusetts, National Grid will remove existing steel lattice towers along an approximately 19-mile segment of ROW; these activities will occur primarily within the same ROWs as the new 345-kV transmission line.

As part of the Project, CL&P will modify the existing Card Street Substation (in the Town of Lebanon) and the Lake Road Switching Station (in the Town of Killingly); these modifications will be located within the existing station fence lines and no water resources will be affected. In Rhode Island, National Grid will reconstruct the Sherman Road Switching Station (in the Town of Burrillville) on company property adjacent to the existing switching station site and will modify the West Farnum Substation (in the Town of North Smithfield). The new Sherman Road Switching Station will involve dredge and fill activities in wetlands. In Massachusetts, National Grid will perform modifications to the existing Millbury No. 3 Switching Station (in the Town of Millbury), all within or adjacent to the existing station fence line; no water resources will be affected.

The Project will be located entirely in inland areas: no coastal waters or navigable waterways will be traversed or otherwise affected. A detailed description and plans of the activity are attached.

WATERWAY AND LOCATION OF THE PROPOSED WORK:

The Project begins at Latitude 41.70226 N and Longitude -72.23544 W on the Willimantic, Connecticut 7.5 minute United States Geological Survey (USGS) topographic quadrangle sheet and extends generally north-northeast to Latitude 42.18793 N and Longitude -71.73747 W on the Worcester South, Massachusetts USGS quadrangle sheet.

AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
- Section 404 of the Clean Water Act
- Section 103 of the Marine Protection, Research and Sanctuaries Act)

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The New England District, U.S. Army Corps of Engineers (Corps) is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Because the activity involves the discharge of dredged or fill material into waters of the United States, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act.

NATIONAL HISTORIC PRESERVATION ACT

Based on his initial review of information provided by the Companies, the District Engineer has determined that the proposed work may impact properties potentially eligible for listing in the National Register of Historic Places and has initiated consultation with the State and Tribal Historic Preservation Officers in Connecticut, Rhode Island and Massachusetts under Section 106 of the National Historic Preservation Act of 1966, as amended. Those consultations, including final identification of potentially eligible properties, completion of ongoing investigations of potential effects and timely development of avoidance and protection measures to prevent adverse effects on potentially eligible properties will continue as part of the permit review process.

ENDANGERED SPECIES CONSULTATION

The Corps has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur in the vicinity of the Project. No federally-listed species are reported to occur in the Project area. It is the Corps' preliminary determination that the proposed Project activity for which authorization is being sought is designed, situated, or will be operated / used in such a manner that it is not likely to adversely affect any federally-listed endangered or threatened species or their critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our determination.

COASTAL ZONE CONSISTENCY

The States of Connecticut, Rhode Island, and Massachusetts have approved **Coastal Zone Management Programs**. The Companies state that no Project activities will be located in the designated coastal boundaries and that no coastal resources will be affected by Project activities. By this Public Notice, we are requesting that each State provide its concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained by the Companies:

- (X) Permit, License or Assent from States.
- (X) Permit from Local Wetland Agency or Conservation Commissions (Massachusetts)
- (X) Water Quality Certifications in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. **Comments should be submitted in writing by the date specified above.** If you have any questions, please contact Susan Lee at (978) 318-8494 or (800) 343-4789, ((800) 362-4367, if calling from within Massachusetts).

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

In accordance with 33 CFR 325.2(a)(8), we publish monthly a list of permits issued or denied during the previous month at www.nae.usace.army.mil/reg, under the heading "Monthly General and Individual Permit Authorizations." Relevant environmental documents and the SOFs or RODs are available upon written request and, where applicable, upon the payment of administrative fees. Also visit www.nae.usace.army.mil for more information on the New England District Corps of Engineers programs.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.



Robert J. DeSista
Chief, Permits and Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____

PROPOSED WORK AND PURPOSE

The Project work includes the discharge of dredged or fill material into waters of the U.S. for the construction, operation, and maintenance of approximately 75 miles of new overhead 345-kV electric transmission lines, as well as for the reconstruction of the Sherman Road Switching Station in Rhode Island.

The new 345-kV transmission lines will connect CL&P's Card Street Substation (in the Town of Lebanon, Connecticut), CL&P's Lake Road Switching Station (in the Town of Killingly, Connecticut), National Grid's West Farnum Substation (in the Town of North Smithfield, Rhode Island), and National Grid's Millbury No. 3 Switching Station (in the Town of Millbury, Massachusetts). The new 345-kV transmission lines will extend through, but will electrically bypass, CL&P's Killingly Substation (Town of Killingly, Connecticut). Similarly, the new 345-kV line will bypass National Grid's Sherman Road Switching Station (in the Town of Burrillville, Rhode Island).

The Project will include equipment additions and upgrades, all within the existing fence lines of the aforementioned Card Street Substation, Lake Road Switching Station, West Farnum Substation, and Millbury No. 3 Switching Station.¹ In addition, National Grid will reconstruct the Sherman Road Switching Station, located in the Town of Burrillville, Rhode Island, and will reconstruct and reconductor its existing 345-kV transmission line within the presently managed portion of its existing ROW between the Sherman Road Switching Station and the West Farnum Substation. As part of the Sherman Road Switching Station work, certain structures associated with two of National Grid's existing 345-kV lines will be realigned to tie into the reconstructed switching station.

The new 345-kV transmission lines will be routed along the Companies' existing long-established utility ROWs, which are presently occupied in part by other 345-kV, 115-kV, and 69-kV transmission lines and/or distribution lines. Along 98% of the 75-mile 345-kV transmission line route, the new 345-kV transmission lines will be located entirely within the Companies' existing utility easements, which are wide enough to accommodate the new transmission lines. However, along approximately 1.4 miles of the transmission line route in Connecticut (approximately 0.9 mile in the Town of Mansfield and 0.5 mile in the Town of Chaplin; referred to collectively as the "Mansfield Hollow area"), the existing CL&P ROW (easement) traverses property owned by the federal government (Corps of Engineers Mansfield Hollow Dam and Lake Flood Control Project property).

Across the 1.4 miles of federally-owned lands, the existing CL&P ROW is only 150 feet wide and the existing 345-kV transmission line is centered within this ROW, leaving insufficient width to install and properly separate the new 345-kV line adjacent to the existing line. Accordingly, CL&P proposes to acquire from the Corps approximately 5 additional acres of easement to expand the ROW to the north by 25 feet in Mansfield and 35 feet in Chaplin to allow the installation of the new 345-kV line adjacent to the existing 345-kV line. CL&P has requested this expanded easement from the Corp's Real Estate Division, and that request is currently under review. The environmental effects of the Project within the new easement area will be taken into account during the 404 permit review process.

Related Project Modifications

In Connecticut, except for six existing 345-kV structures along a 0.6-mile segment of the ROW in the Town of Putnam and four distribution poles that will be relocated within an upland area also in Putnam, none of the existing transmission and distribution lines that occupy CL&P's ROWs will be affected by the Project. Along the 0.6-mile ROW segment in Putnam, six existing 345-kV H-frame transmission line structures will be removed and rebuilt with taller, steel-pole structures with a delta configuration. In this area, the new 345-kV transmission line also will be installed on six steel-pole structures with a delta configuration. This structure configuration, which provides an option for minimizing electric and magnetic fields (EMF) near a residential subdivision, is currently under consideration by the Connecticut Siting Council.

¹ Although all equipment upgrades at the Millbury No. 3 Switching Station will be located within the existing fence line, improvements to the station's stormwater management system will be developed outside the fence. These improvements include a bio-retention area, which will be used to collect runoff from the station driveway, parking areas, and control building, as well as from nearby upland areas.

In addition, along CL&P's existing 69-kV 800/900 Line in the Town of Columbia, one new structure will be installed to eliminate a long conductor span that presently exists between 69-kV pole numbers 6538 and 6539. The new pole will be installed to address conductor clearance issues, which could occur under certain conditions, with respect to alignment of the new 345-kV transmission line adjacent to the existing 345-kV line. The new pole will be located in an upland area, but a portion of a wetland will be affected by the work pad required to install the pole.

In Rhode Island, along the 9.2-mile segment of ROW between the Sherman Road Switching Station and the West Farnum Substation, National Grid also proposes to reconstruct and reconductor the 345-kV transmission line (designated as the 328 Line) that currently occupies the ROW. Additionally, along approximately 0.25 mile of this ROW, National Grid proposes to reconstruct and realign the 345-kV transmission line (designated as the 347 Line) to accommodate construction of the 341 Line. Similarly, along approximately 3.7 miles of the 4.8-mile ROW segment that extends from the West Farnum Substation to the Rhode Island / Massachusetts border, National Grid will remove steel lattice towers that previously supported two 69-kV lines.

Also in Rhode Island, National Grid proposes to reconstruct the Sherman Road Switching Station as a 345-kV air-insulated facility and the existing switching station facility will be retired. The new switching station will be developed on a 40.8-acre parcel of mostly undeveloped, National Grid-owned land. The existing Sherman Road Switching Station occupies a portion of this parcel. Certain structures associated with two of National Grid's existing 345-kV lines (the 333 Line and 3361 Line) will be reconstructed and realigned in order to tie into the reconstructed switching station.

In Massachusetts, the approximately 15.4 miles of ROW extending from the Rhode Island / Massachusetts border north to the Millbury No. 3 Switching Station is presently occupied by two 115-kV overhead transmission lines, short sections of low-voltage distribution lines, and by transmission towers that formerly supported a 69-kV overhead transmission line that is no longer in service. To accommodate the new 345-kV transmission line within this ROW, approximately 114 double circuit steel towers, which previously supported a 69-kV line, will be removed. The existing 115-kV transmission lines will not be affected by the Project.

The purpose of the Project is to improve the bulk power electric supply system in Southern New England and to achieve compliance with national and regional reliability standards and criteria. Further, the Project is needed to fully integrate electric generation with load (demand) throughout Southern New England by eliminating transmission constraints on the transfer of power from east-to-west and from west-to-east as needed across the region. With the development of the Project, the bulk-power transmission system in Southern New England will be capable of carrying sufficient power to meet peak customer demands in the event that one of the 345-kV transmission lines that transfer power east-west (or vice versa) is lost suddenly, or other design contingencies occur.

The Project is particularly important for the New England bulk power electric system, which serves 14 million people living in a 68,000 square-mile area. Southern New England accounts for approximately 80% of the total New England electric load. Because electric demand in Southern New England exceeds available local generation capacity, power must routinely be transmitted to Southern New England from generators in Northern New England and Canada. By reinforcing the electrical connections between key substations and switching stations in Connecticut, Rhode Island, and Massachusetts, the proposed improvements not only will address reliability violations that would otherwise occur within the 10-year period for which the system must be planned, but also will provide long-term flexibility to maintain and operate the transmission system serving all three states and to dispatch existing and potential future generation resources efficiently within the New England region.

New 345-kV transmission structures, temporary and permanent access roads, and temporary work sites will traverse or be located within water resources. Discharges and fill to waters of the U.S. will result from the following types of Project activities:

- The temporary use of access routes (typically using timber or “swamp” mats or equivalent) across wetlands and streams by vegetation clearing equipment.
- The installation, maintenance, improvement, or extension of existing and / or temporary and permanent access roads across wetlands and streams, as needed to provide ingress and egress to transmission line structure sites and other work areas along the ROWs.
- The installation and removal of “work pads” (e.g., crane pads, pulling pads, guard pads) in wetlands or near streams (where no upland areas can practicably be used). Such “work pads” are required to support and stage the construction equipment needed to install the new transmission line structures, remove existing transmission line structures, install and remove guard structures, perform conductor stringing and pulling, and similar activities.
- The removal and relocation of existing guy wires and, in some cases, guy anchors located in wetlands. At certain guyed transmission line structures, the guy wires will interfere with the Project construction and must be temporarily relocated. For guy anchors located in wetlands, temporary construction work will be required in the wetland to remove the guy wires from the anchors (anchors may be left in place to minimize adverse impacts on wetlands).
- The installation of some new transmission line structures (foundations), guy anchors, and counterpoise (grounding systems) in wetlands.
- The reconductoring and reconstruction of the new Sherman Road Switching Station, which will require permanent fill in wetlands.

The following tables summarize the estimated temporary, permanent and secondary impacts of the Project that cannot be avoided by the efforts described in the next section. These estimates from the Companies are based on typical construction methods, and may change somewhat up or down during the permit processing due to comments, minor project redesigns on account of avoidance measures and constructability reviews that lead to site-specific construction measures different than typical, requirements of transmission siting authorities, avoidance of adverse effects on potentially eligible historic properties or endangered species habitat, and activities associated with compensatory mitigation projects, and other minor project changes.

Estimated Surface Areas of Waters of the United States to be Temporarily or Permanently Filled
 (Total Project, by State)

Project Activity / State	Estimated Temporary Fill (Acres)				Estimated Permanent Fill (Acres)			
	CT	RI	MA	Total	CT	RI	MA	Total
Work Pads and Staging Areas	15.80	20.87	2.80	39.47				
Access Roads (Temporary)	6.30	4.38	0.98	11.66				
Vegetation Clearing Access Routes	7.50	5.13	0.35	12.98				
Guy Anchors ¹		0.07		0.07				
Access Roads (Permanent)					0.96	1.09	0	2.05
Structures		<0.01		<0.01	0.029	0.06	0.005	0.094
Sherman Road Switching Station		0.10		0.10		0.25		0.25
TOTAL	29.60	30.55	4.13	64.28	0.989	1.40	0.005	2.39

Notes:

Guy anchors will result in a temporary wetland impact. Typically, guy anchors will be located within the limits of the Project work pads. Where guy anchors extend beyond these limits, the estimated temporary fill has been included in this table.

Summary of Temporary and Permanent Impacts: Federal Wetlands

State / Municipality	Temporary Impacts				Permanent Impacts	
	Work Pads/ Other Staging areas (e.g., Pulling Pads) (acres)	Guy Anchors (acres)	Temporary Access Roads (acres)	Vegetation Clearing Access Routes (acres)	Permanent Access Roads (acres)	New Structures (acres)
Connecticut						
Brooklyn	3.0	0	2.6	1.6	0.29	0.0011
Chaplin	1.2	0	0.4	0.4	0.21	0.0055
Columbia	1.7	0	<.1	0.4	0	0.002
Coventry	<.1	0	<.1	<.1	0	0
Hampton	2.5	0	0.7	1.1	0.32	0.004
Killingly	0.5	0	<.1	0.2	0	0
Lebanon	0.4	0	0.1	0.5	0	0
Mansfield	0.7	0	0.5	1.3	0.14	0
Pomfret	0.3	0	<.1	0.2	0	0.0011
Putnam	4.7	0	1.2	1.3	0	0.0147
Thompson	0.7	0	0.3	0.4	0	0
Connecticut Total	15.80	0	6.3	7.5	0.96	0.029
Rhode Island						
Burrillville	5.94 (includes Switching Station Expansion)	<0.01	1.82	2.85	0.93	0.27 (includes Switching Station Expansion)
North Smithfield	15.03	0.06	2.56	2.28	0.16	0.04
Rhode Island Total	20.97	0.07	4.38	5.13	1.09	0.31
Massachusetts						
Millville	0.123	0	0	0.055	0	0.0005
Uxbridge	1.334	0	0.821	0.033	0	0.0016
Northbridge	0.120	0	0	0.124	0	0
Sutton	0.997	0	0.101	0.069	0	0.003
Millbury	0.223	0	0.058	0.069	0	0.0003
Massachusetts Total	2.797	0	0.980	0.350	0	0.0051
Project Total*	39.57	0.07	11.66	12.98	2.05	0.34
	64.28				2.39	

Notes: * Impact area totals include only federal wetlands. Assumptions used to estimate impacts (e.g., typical dimensions of access roads, work pads, structure foundations) are included in Appendix D of Volume 1 of the 404 Permit Application.

AVOIDANCE, MINIMIZATION, AND MITIGATION

Throughout the Project planning, siting, and design processes, the Companies have incorporated significant and extensive measures to avoid and, if avoidance is not practicable, to minimize adverse impacts to wetlands and waters of the U.S. The Project design and planned construction measures reflect the following avoidance and mitigation measures:

- Proposed transmission line structures, footings, and foundations are sited outside of wetlands where practicable.
- No new transmission line structures are proposed for location in waterbodies.
- Proposed transmission line structures are sited to avoid sensitive environmental resources (e.g., vernal pools, amphibian breeding habitat, threatened and endangered species habitat) and to minimize adverse impacts on such resources if avoidance is not practicable.
- Proposed work pads will be located in upland areas where practicable; where work pads must be located entirely or in part in wetlands, Best Management Practices will be implemented to avoid or minimize direct impacts on vernal pools and amphibian breeding habitats.
- All work pads in wetlands will be temporary and will be removed during ROW restoration.
- Where access roads must extend across wetlands, the lengths of the crossings will be minimized to the extent practicable.
- No new temporary or permanent access roads will be installed across large water bodies or rivers, such as the Willimantic River, Mansfield Hollow Lake, Natchaug River, Quinebaug River (Connecticut), and the Blackstone River (Massachusetts).
- Temporary access roads that must traverse streams will be installed to minimize disturbance to stream beds and banks, and will include culverts as needed to maintain flow; temporary access roads will be removed and stream banks returned to approximate pre-construction conditions during ROW restoration.
- Permanent access roads across wetlands and streams will be limited to those needed to minimize environmental impacts during construction and subsequent safe operation and maintenance of the transmission lines.
- During construction, measures will be implemented to minimize the potential for construction equipment and vehicles to spread wetland invasive species among wetlands along the ROWs.

To compensate for the Project's unavoidable impacts to water resources summarized on the tables above, CL&P and National Grid also propose compensatory mitigation programs that will result in over 206 acres of wetland preservation, 15.8 acres of wetland enhancement, and approximately 12.3 acres of wetland restoration. The compensatory mitigation programs, which will be implemented in each state are summarized as follows:

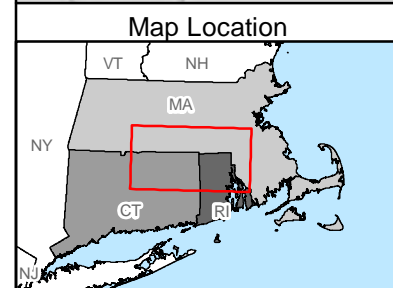
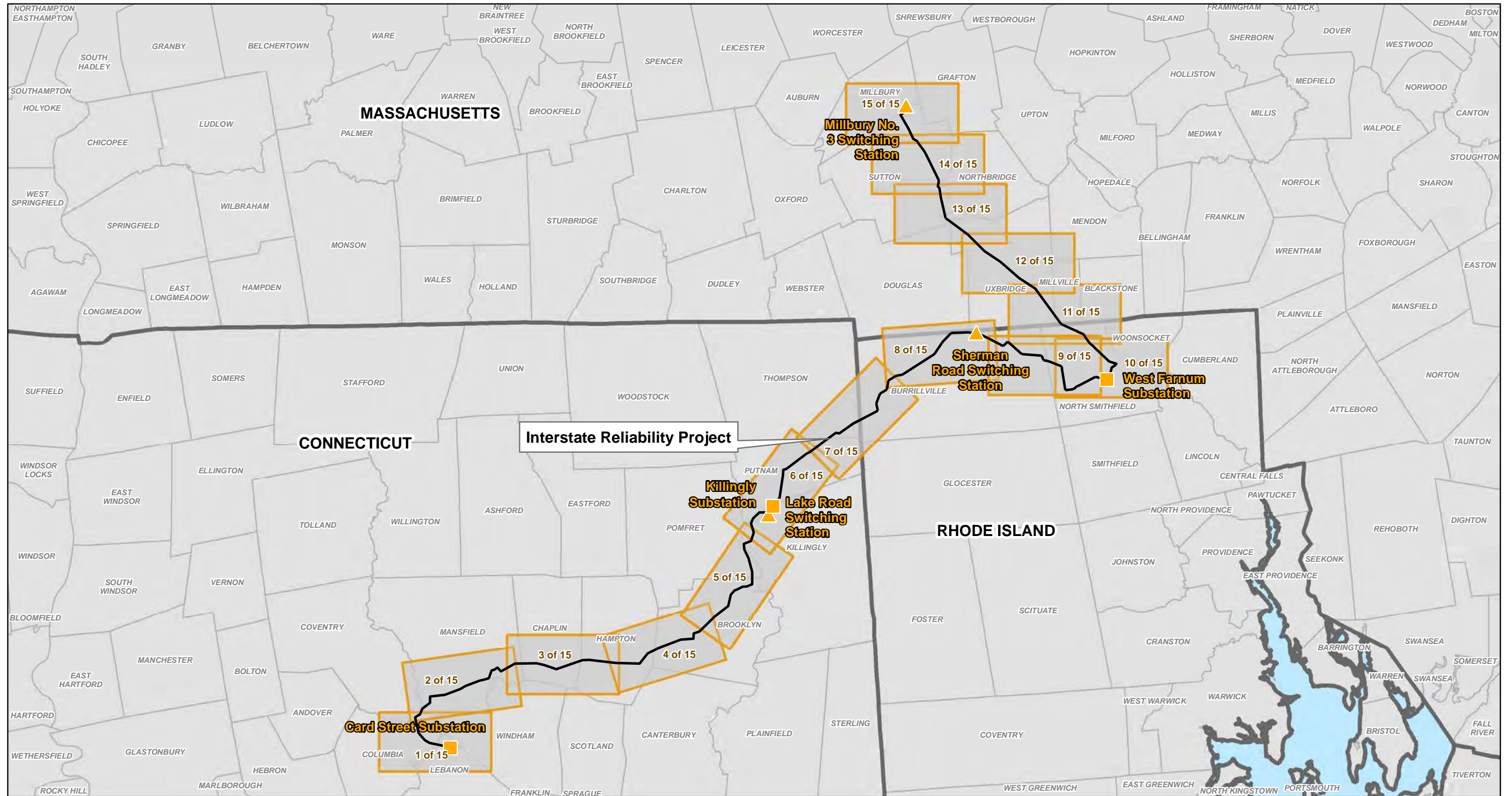
- **Connecticut.** CL&P proposes to preserve approximately 93 acres, consisting of wetland, vernal pool, riparian, and upland habitat along the Quinebaug River in the Town of Pomfret (Latitude 41.815528 N, Longitude -71.915139 W). As part of the habitat enhancement in this area CL&P will implement an invasive species removal project and develop a grassland management plan for approximately 12 acres of the property. In addition, pursuant to an agreement with CT DEEP, CL&P will implement a long-term invasive wetland species monitoring and control program as part of its routine ROW vegetation management efforts; this is expected to result in approximately 12 acres of wetland enhancement.

- **Rhode Island.** The compensatory wetland mitigation package for the Rhode Island portion of the Project involves several mitigation types, including permanent land preservation, wetland restoration, and wetland enhancement. National Grid proposes to preserve more than 107 acres, comprised of several parcels. The parcels are largely forested and consist of wetland, vernal pool, riparian, and upland habitats all within the Blackstone River watershed. National Grid currently has preliminary agreements to purchase two privately-owned properties, a 22-acre parcel located at Rocky Hill Road in North Smithfield and a 53-acre parcel located at Jackson Schoolhouse Road, in the vicinity of Olney Keech Road, in Burrillville. National Grid is also seeking to purchase a third privately-owned parcel for preservation and has had discussion with owners of properties in both Burrillville and North Smithfield. Additionally, National Grid is completing an internal review of two company owned properties to include as land preservation in the mitigation package. One property consists of approximately 12 acres on two tracts of land located on either side of National Grid's existing transmission line ROW at the Providence Pike (Route 5) crossing in North Smithfield (the RI Audubon Fort Nature Wildlife Refuge Parcels). The second National Grid owned property is a 20-acre parcel, which is part of a larger property owned by National Grid. The 20 acre parcel is located south of the existing transmission line ROW crossing of the Clear River (located between East Wallum Lake Road and Wallum Lake Road) in Burrillville. Both National Grid owned parcels are within and adjacent to the proposed 341 line ROW. The mitigation portion of these parcels is outside the Project area. The wetland restoration and wetland enhancement components of the mitigation project include: 3 acres wetland and stream enhancement along and adjacent to the Clear River; 0.29 acres of wetland restoration near Round Top Brook; 0.31 acres of stream enhancement along a stream tributary to Chockalog Brook; and 0.39 acres of wetland enhancement within the vernal pool adjacent to the Sherman Road Switching Station. All of the restoration and enhancement acreages are approximate.
- **Massachusetts.** National Grid proposes to preserve more than 6 acres of company owned property, consisting of forested wetland and upland areas, potential vernal pools, and state-listed species habitat, along the Blackstone River (a regionally significant river corridor) in the Town of Uxbridge (Latitude 42.07670 N, Longitude -71.61939 W). This property is located within the John H. Chaffee Blackstone River Valley National Heritage Corridor and it contains a canoe access site installed by the Department of Conservation and Recreation (DCR) in cooperation with the Blackstone River Watershed Association and John H. Chaffee Blackstone River Valley National Heritage Corridor Commission. The amount and locations of compensatory mitigation may change somewhat during the permit processing on account of comments and minor project changes.

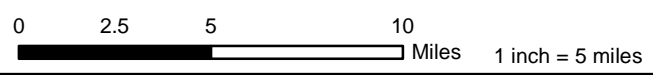
PROJECT MAPS AND FIGURES

The Project location is depicted on the attached overview map and U.S. Geological Survey maps. Typical construction drawings and details regarding the proposed overhead structure types are illustrated on the attached figures.

To obtain copies of mapping of specific project areas, please submit a request to the Applicants' Project team by calling 1-866-99NEEWS (1-866-996-3397) or sending an e-mail to NEEWS@nu.com <<mailto:NEEWS@nu.com>>



- Substation
- ▲ Switching Station
- Proposed 345 kV Transmission Line Centerline
- USGS Mapsheets

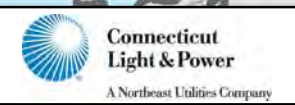


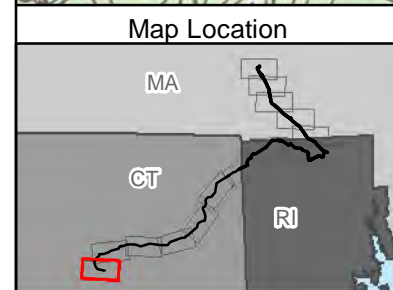
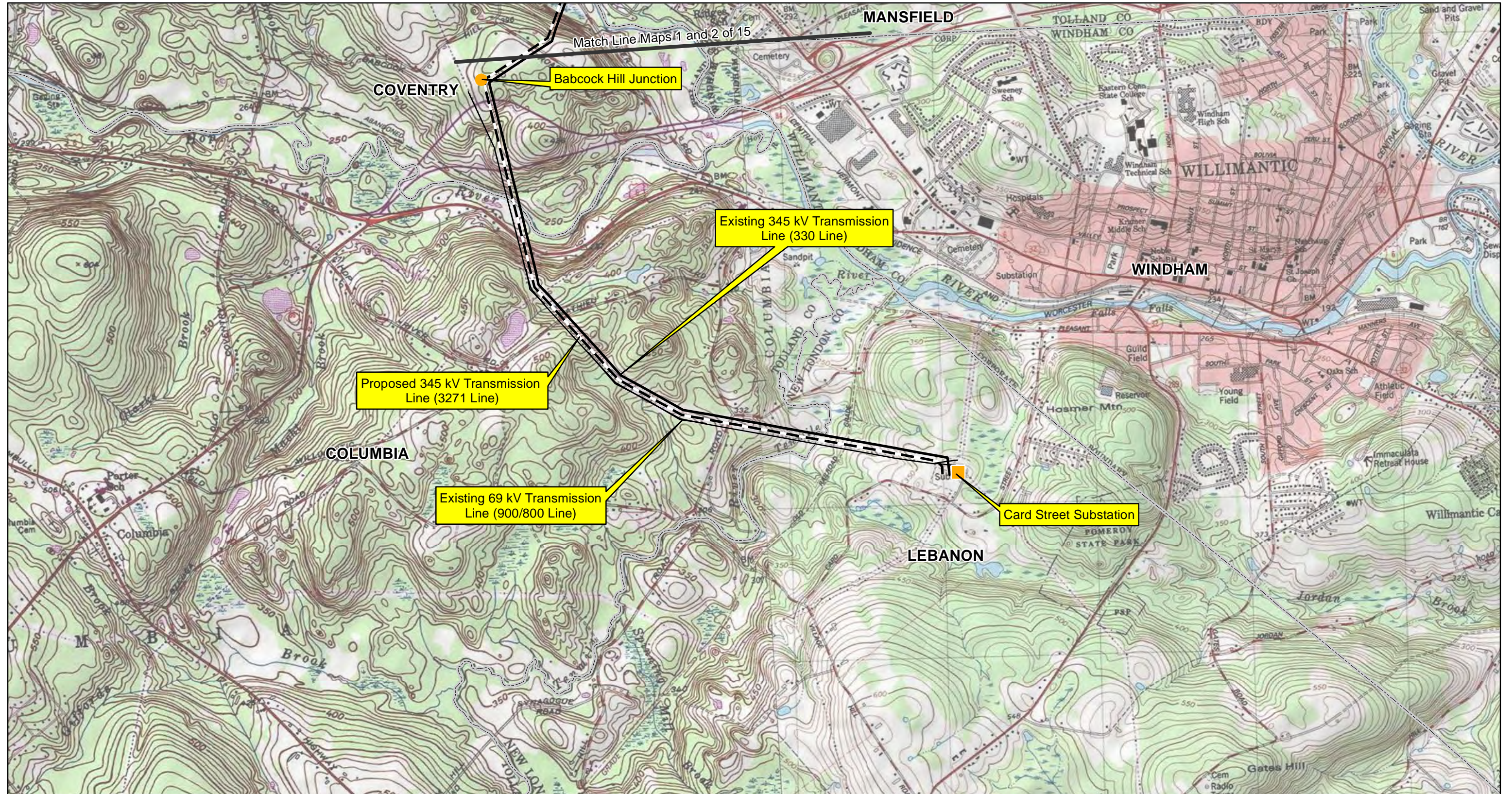
Data Source: B&McD 2010, ESRI State Boundaries



**Project Location Map
Interstate Reliability Project
USGS Map Index**

Date: 5/11/2012





●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

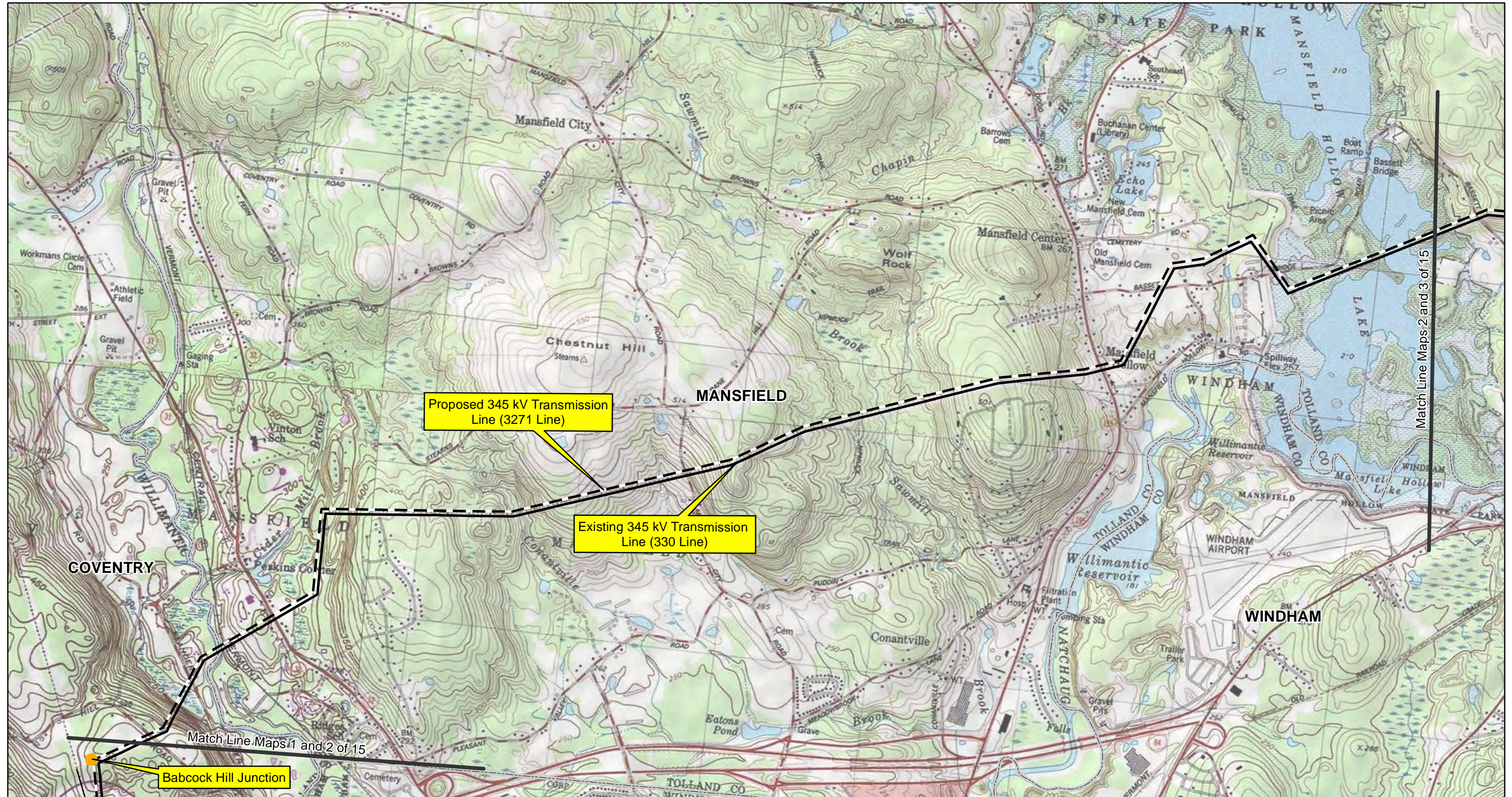
Data Source: B&McD 2010, USGS Topo 24K

**Interstate Reliability Project
Project Location Map**

Sheet 1 of 15

Date: 5/16/2012

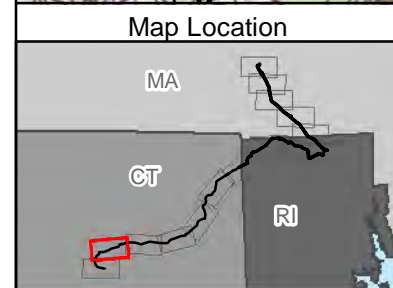
Connecticut Light & Power
A Northeast Utilities Company



Match Line Maps 2 and 3 of 15

Match Line Maps 1 and 2 of 15

Babcock Hill Junction



	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

Data Source: B&McD 2010, USGS Topo 24K

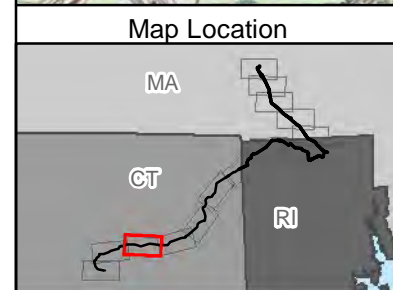
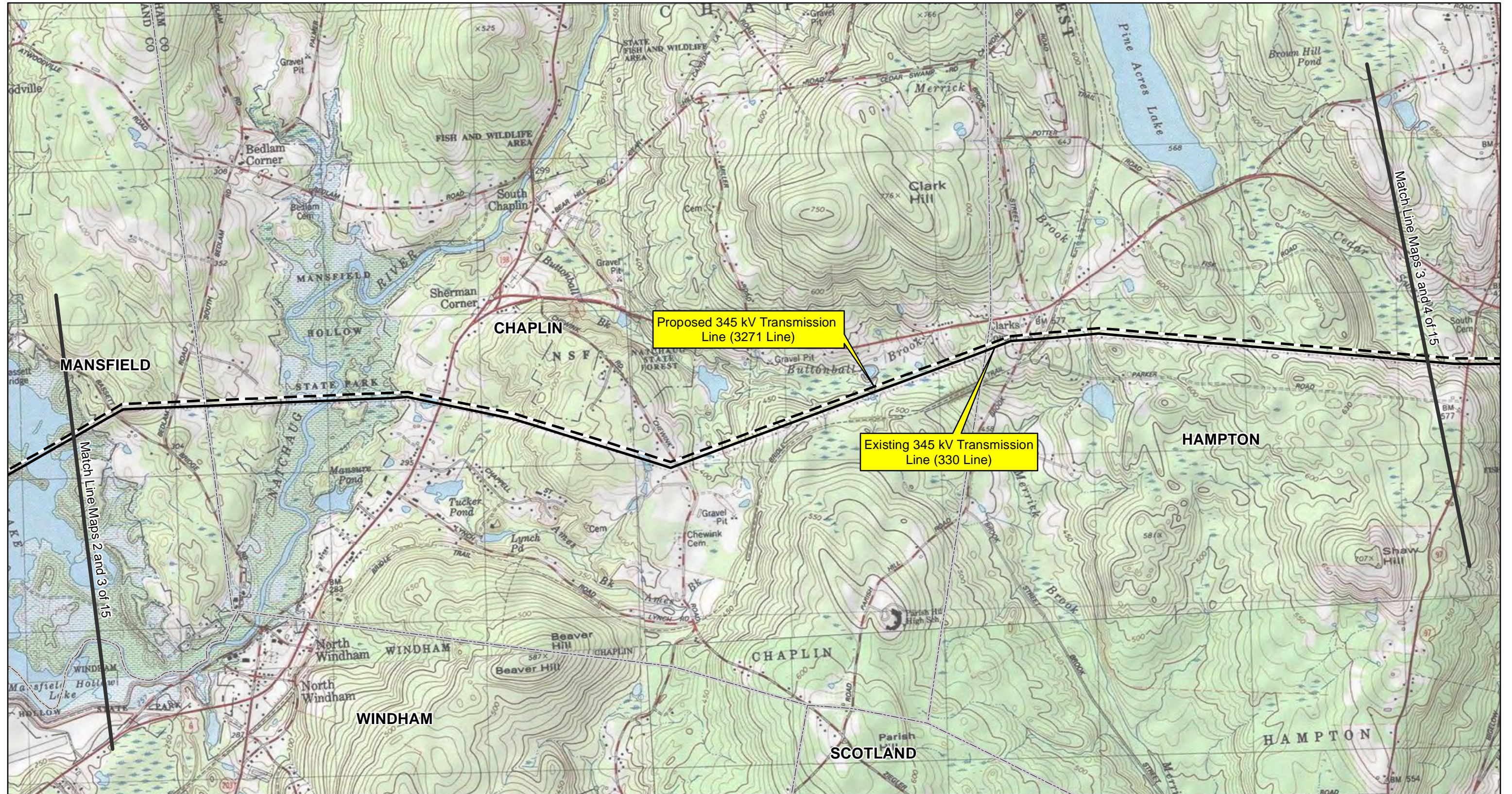


**Interstate Reliability Project
Project Location Map**

Sheet 2 of 15

Date: 5/16/2012





●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

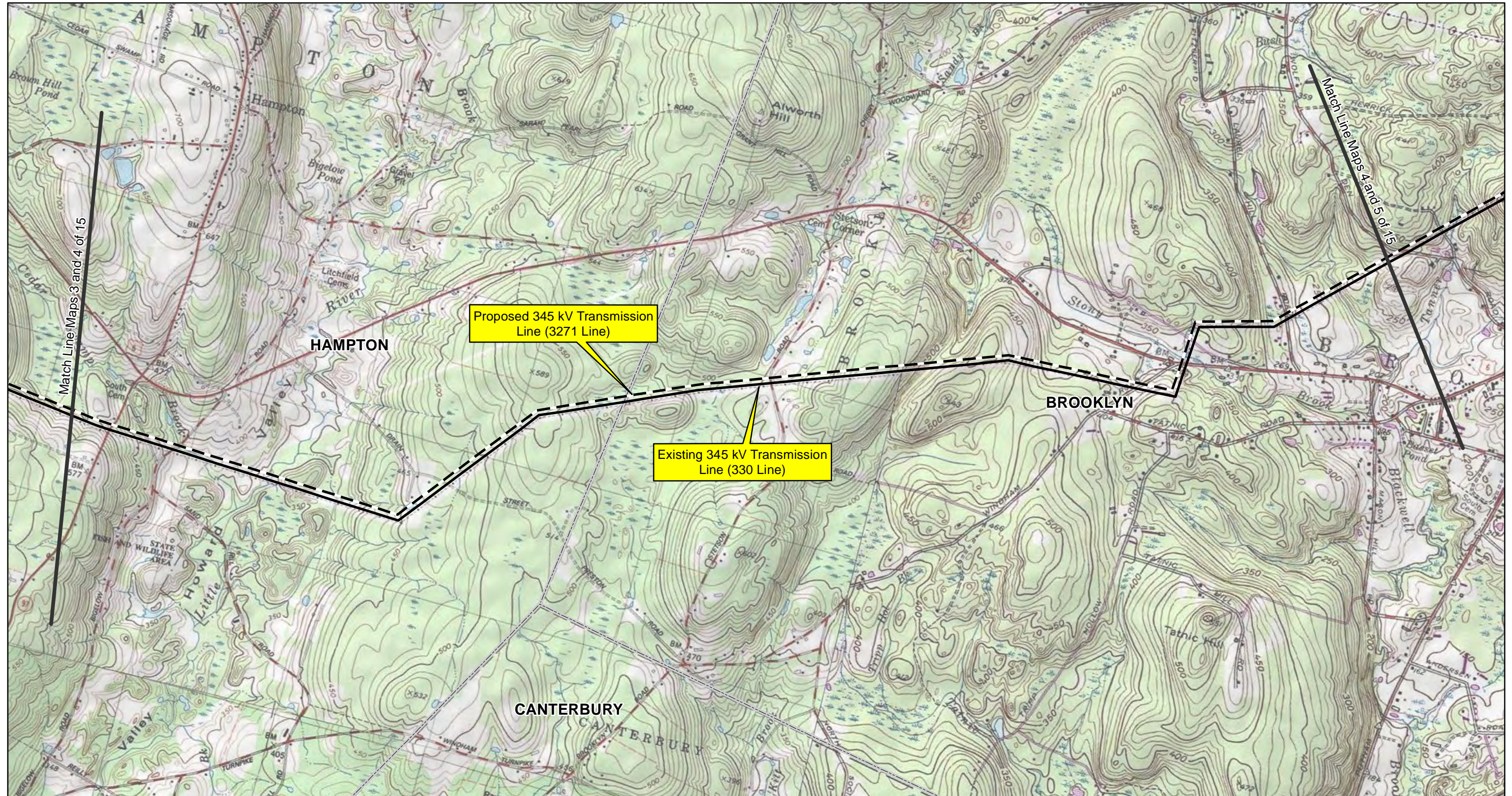
Data Source: B&McD 2010, USGS Topo 24K

**Interstate Reliability Project
Project Location Map**

Sheet 3 of 15

Date: 5/16/2012

Connecticut Light & Power
A Northeast Utilities Company



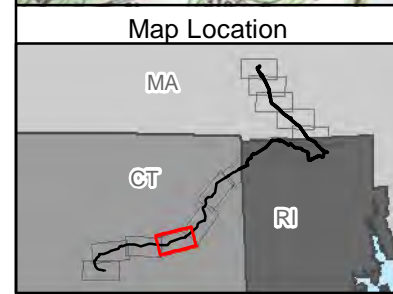
Proposed 345 kV Transmission Line (3271 Line)

Existing 345 kV Transmission Line (330 Line)

HAMPTON

BROOKLYN

CANTERBURY



●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

Data Source: B&McD 2010, USGS Topo 24K

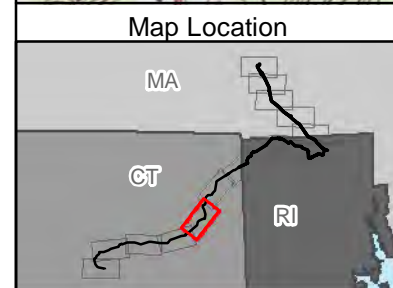
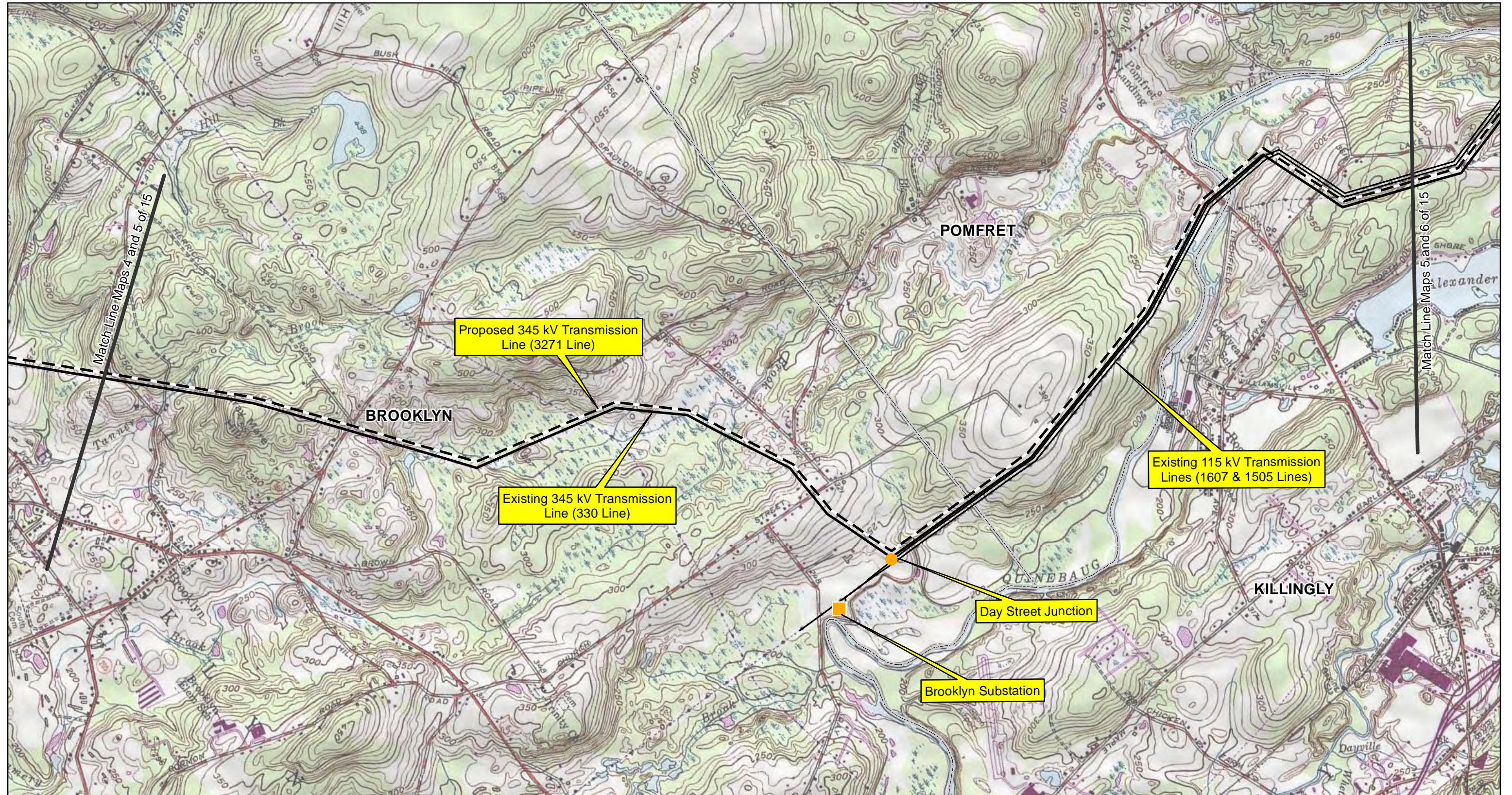


**Interstate Reliability Project
Project Location Map**

Sheet 4 of 15

Date: 5/16/2012





●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

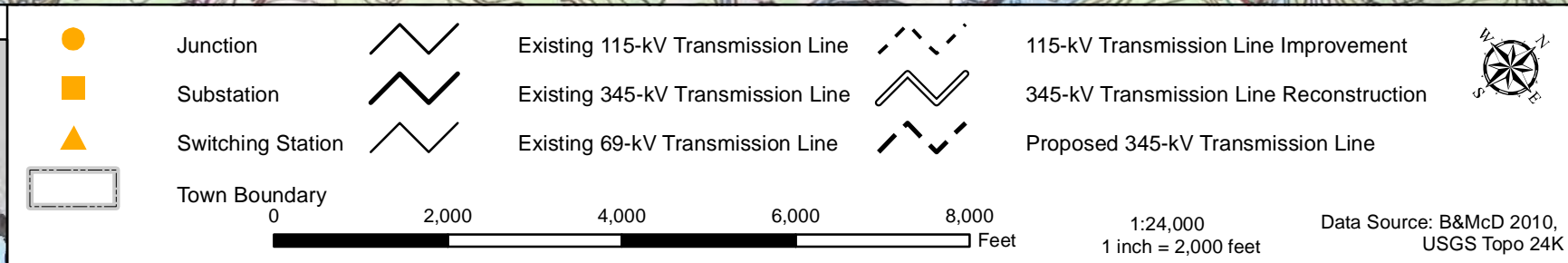
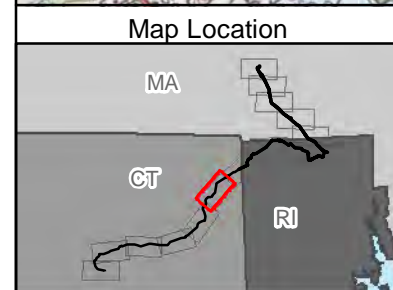
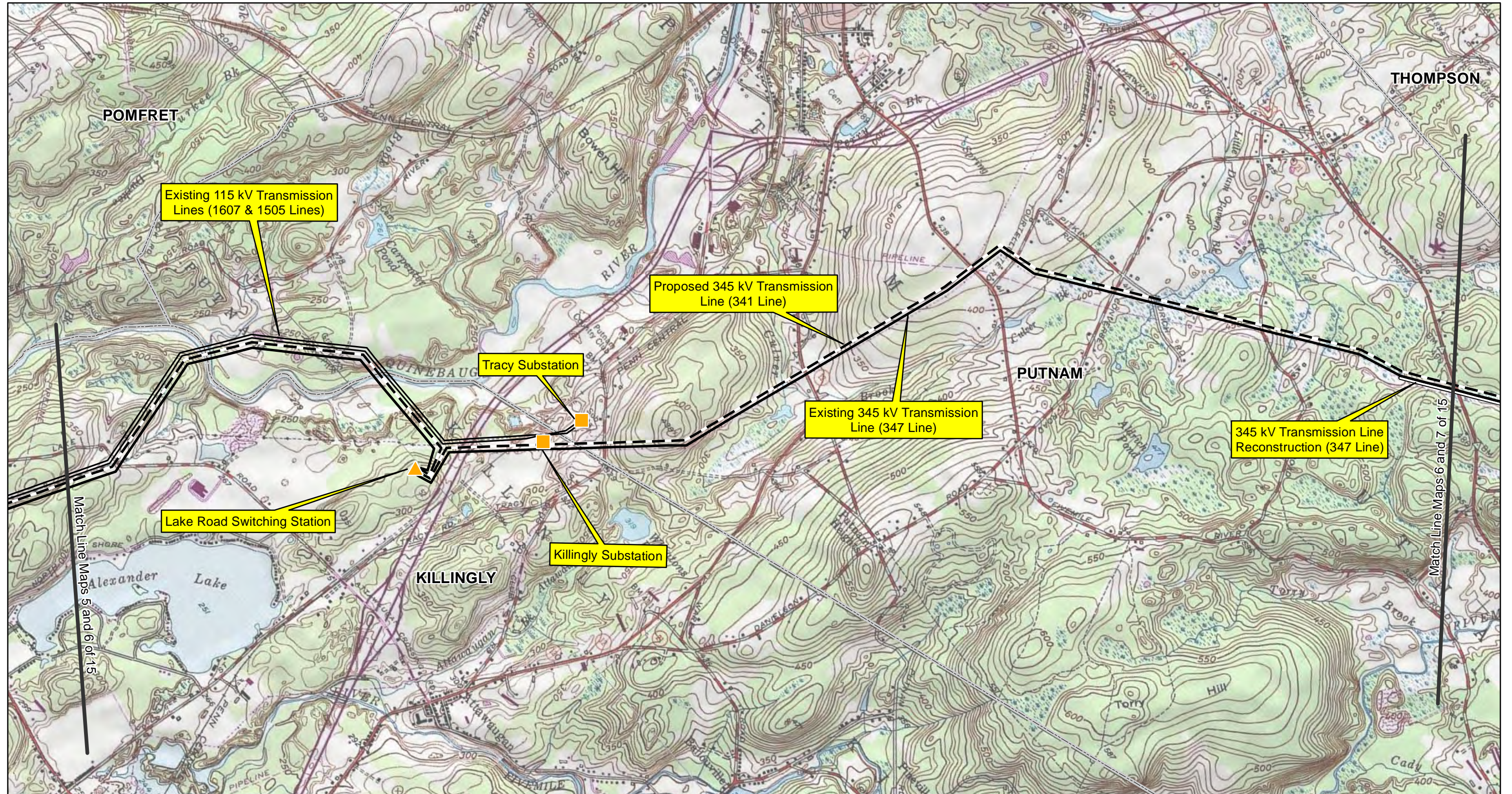
Data Source: B&McD 2010, USGS Topo 24K

**Interstate Reliability Project
Project Location Map**

Sheet 5 of 15

Date: 5/16/2012

Connecticut Light & Power
A Northeast Utilities Company



**Interstate Reliability Project
Project Location Map**

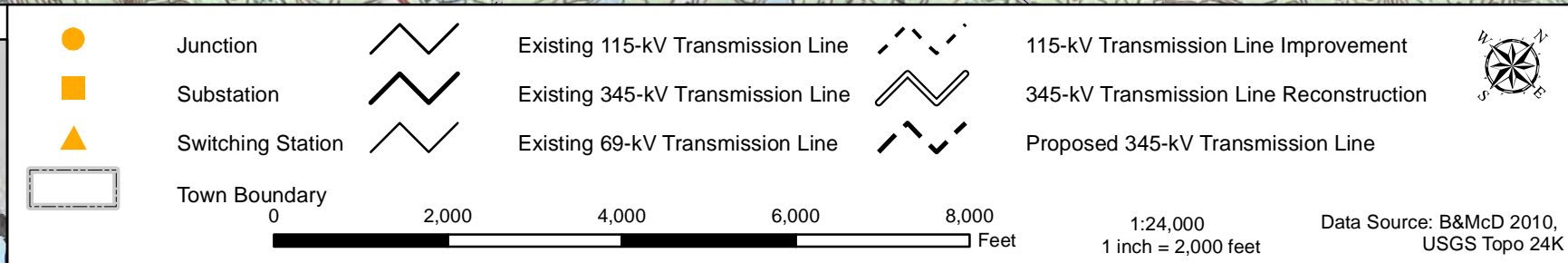
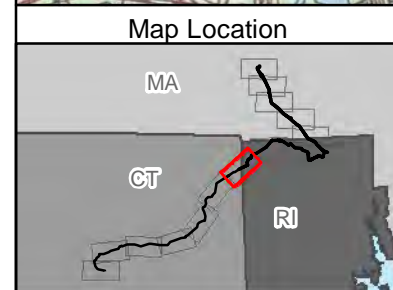
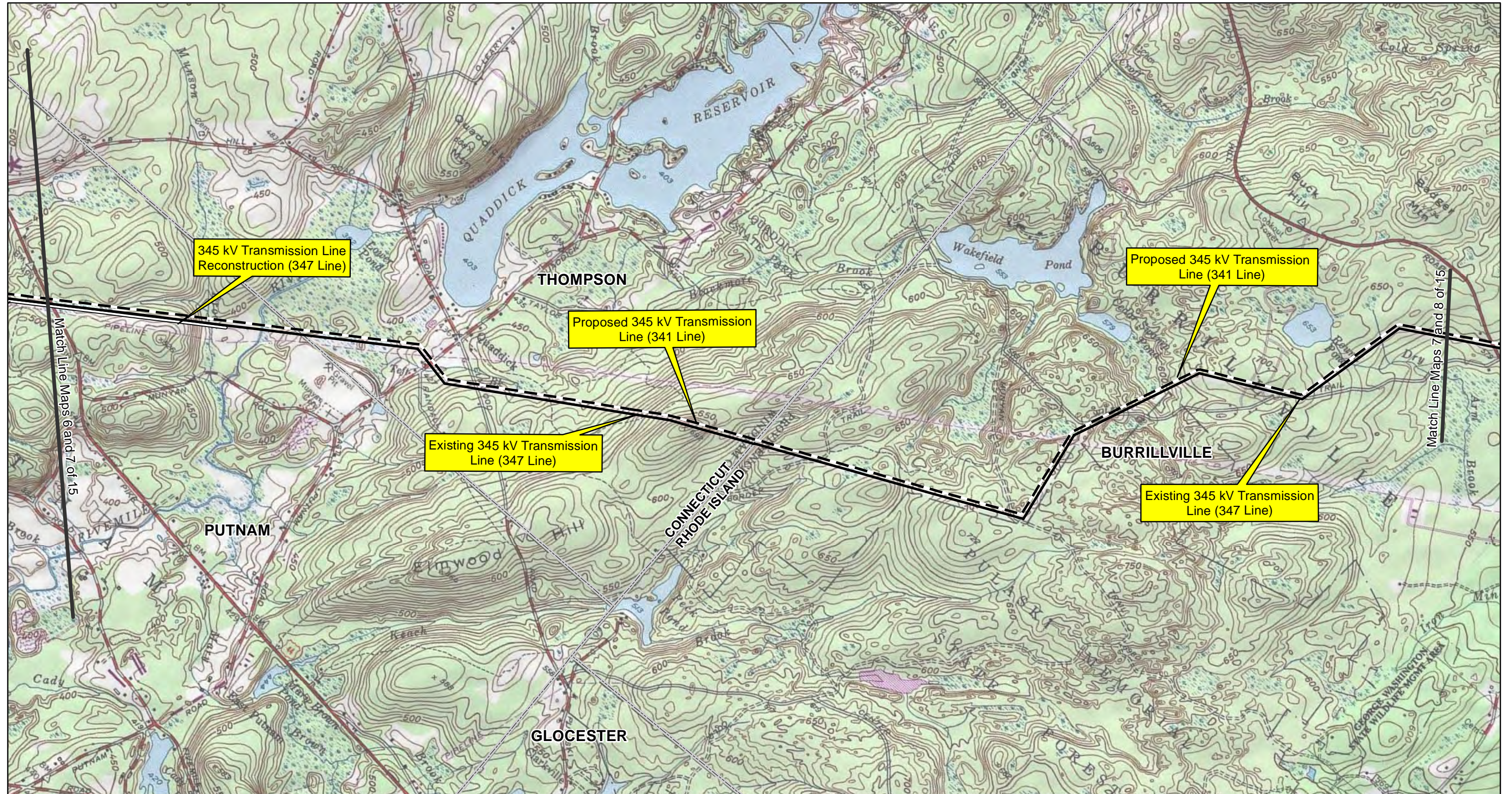
Sheet 6 of 15

Date: 5/16/2012

Connecticut Light & Power
A Northeast Utilities Company

nationalgrid

AECOM



**Interstate Reliability Project
Project Location Map**

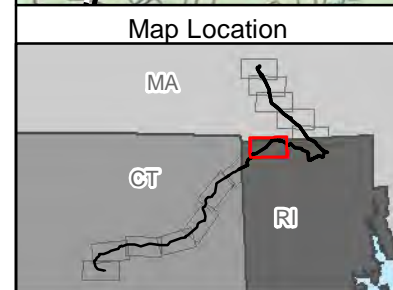
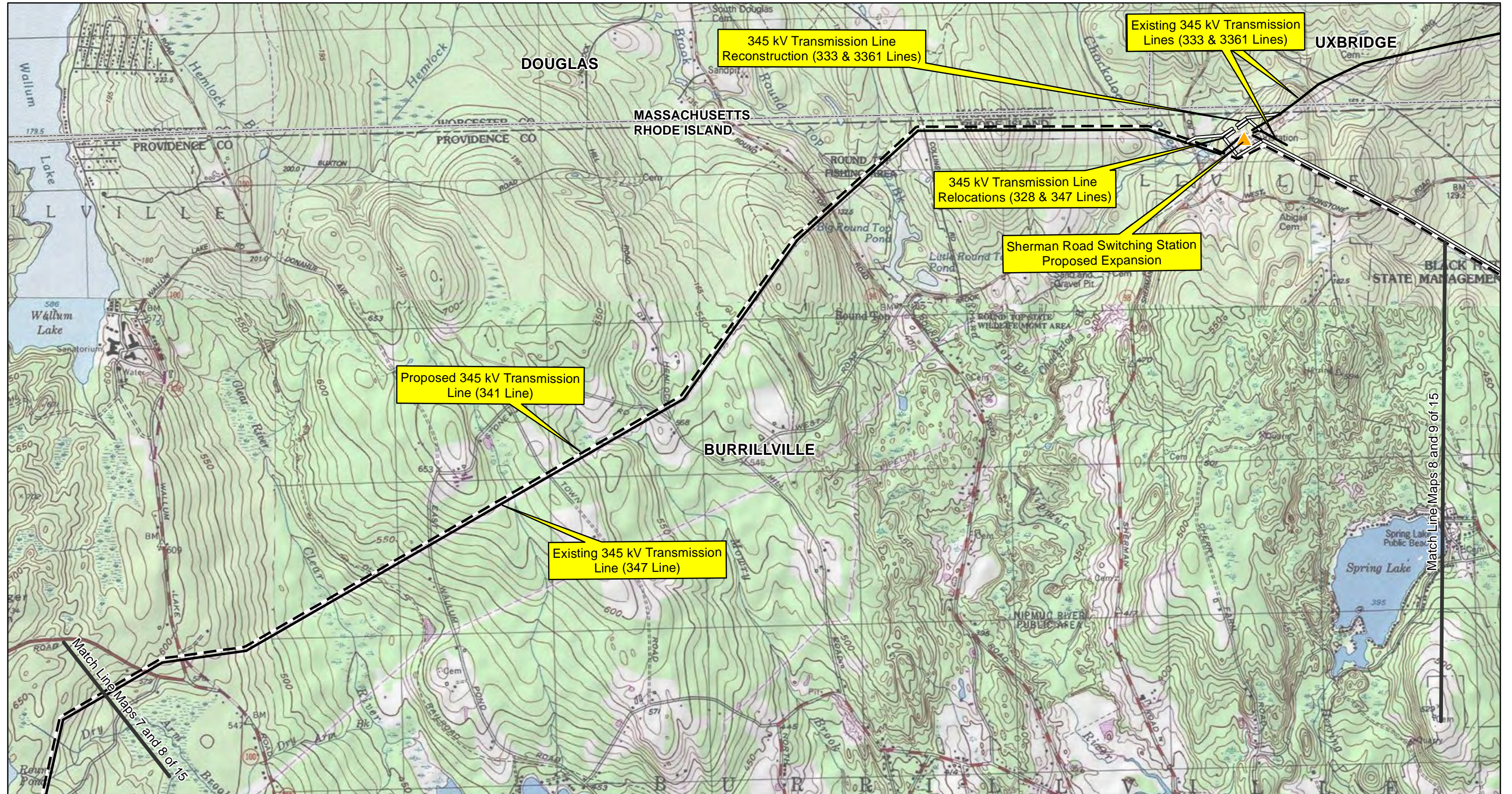
Sheet 7 of 15

Date: 5/16/2012

Connecticut Light & Power
A Northeast Utilities Company

nationalgrid

AECOM



●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

Data Source: B&McD 2010, USGS Topo 24K

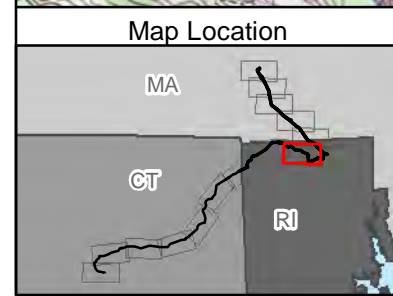
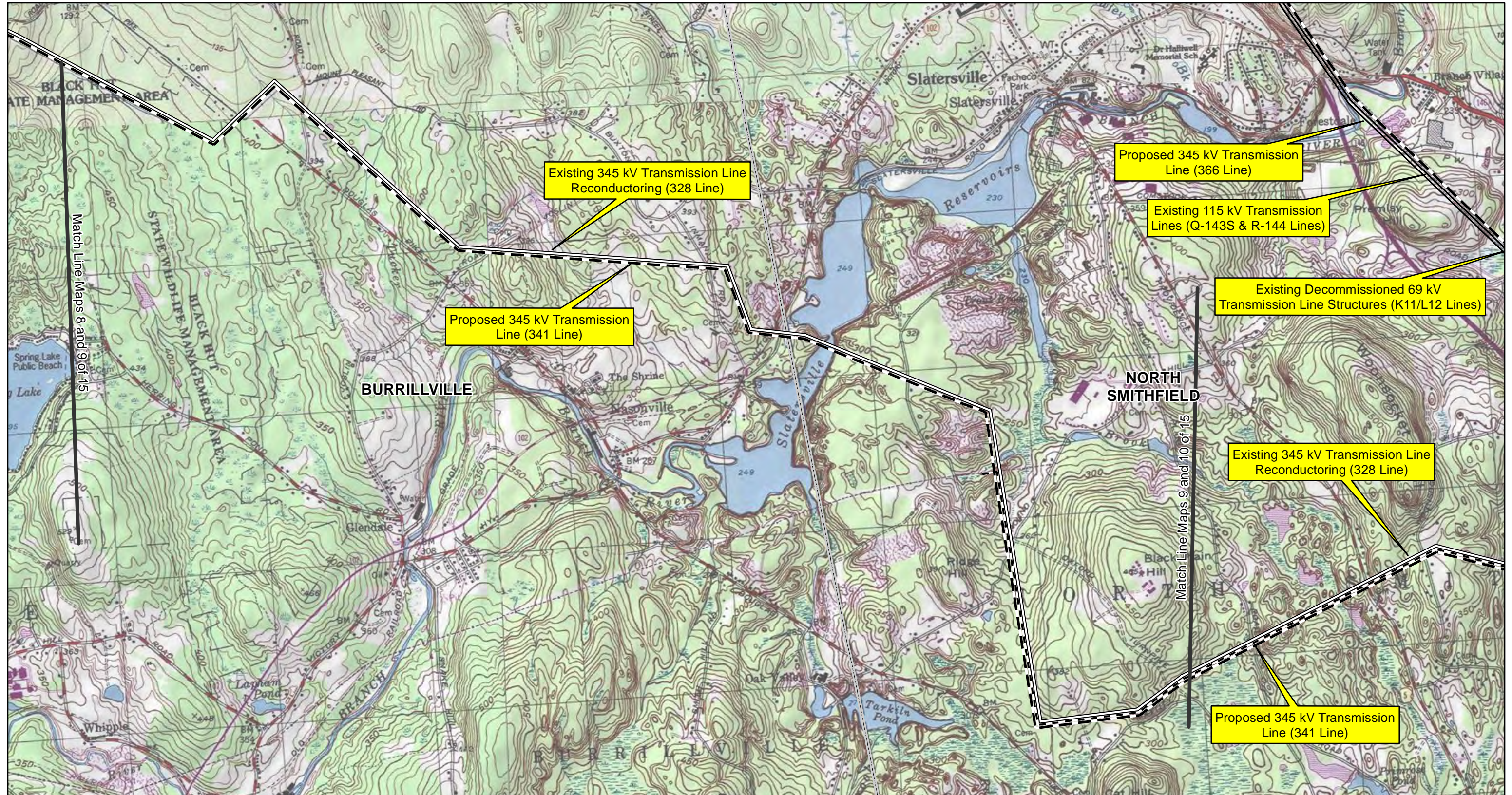
**Interstate Reliability Project
Project Location Map**

Sheet 8 of 15

Date: 5/16/2012

Connecticut Light & Power
A Northeast Utilities Company

Match Line Maps 8 and 9 of 15



●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

Data Source: B&McD 2010, USGS Topo 24K

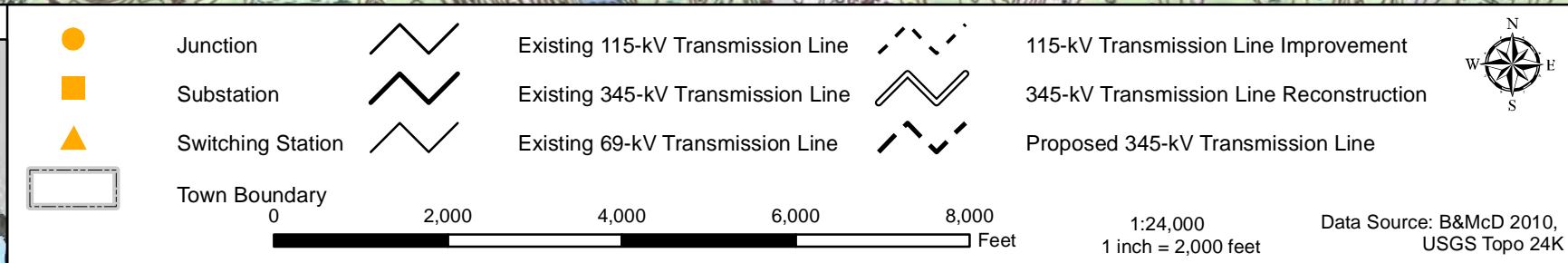
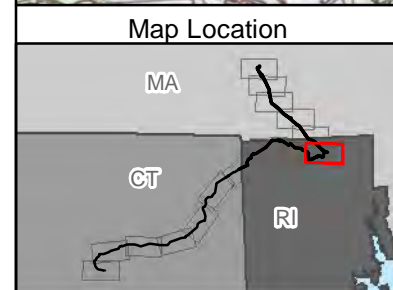
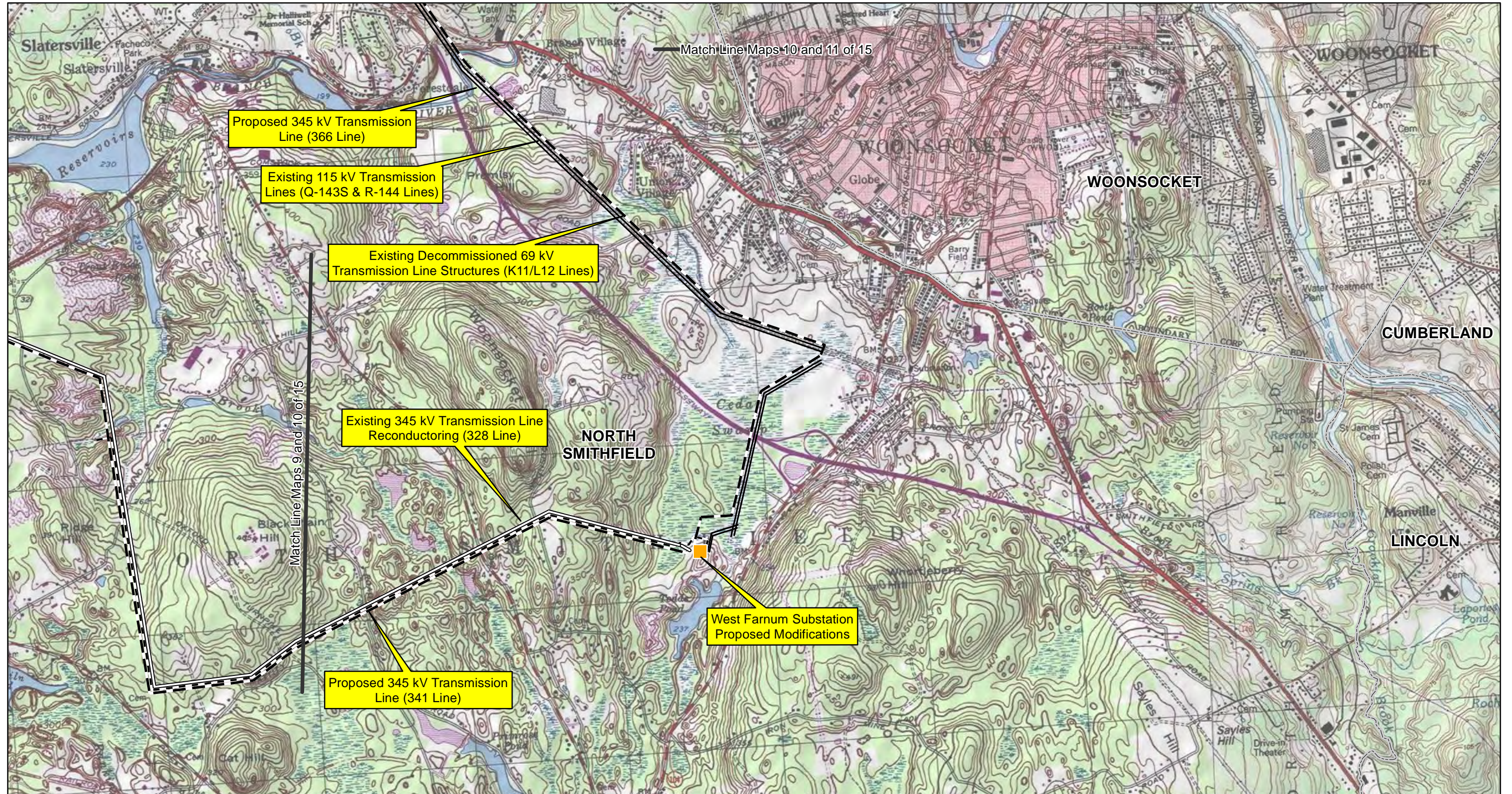
**Interstate Reliability Project
Project Location Map**

Sheet 9 of 15

Connecticut Light & Power
A Northeast Utilities Company

nationalgrid

AECOM



**Interstate Reliability Project
Project Location Map**

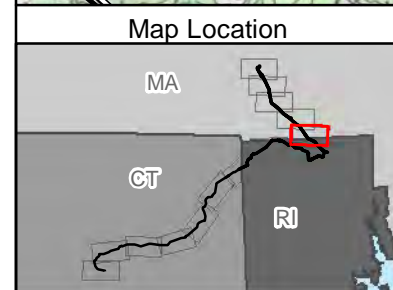
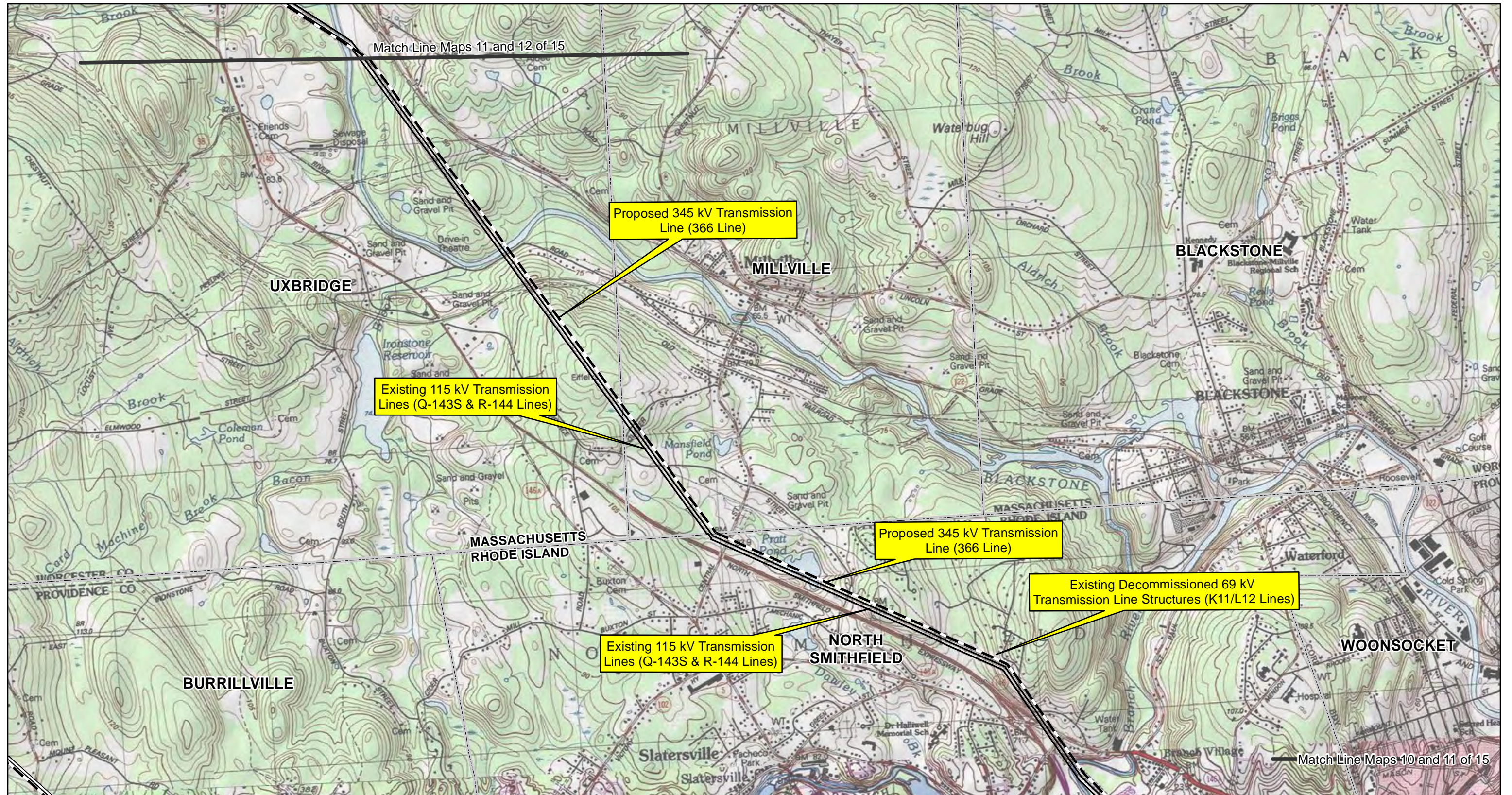
Sheet 10 of 15

Date: 5/16/2012

Connecticut Light & Power
A Northeast Utilities Company

nationalgrid

AECOM



●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

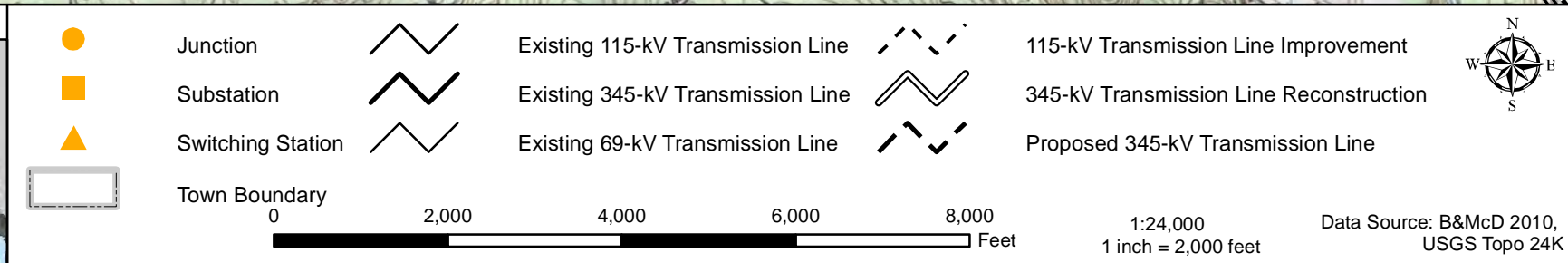
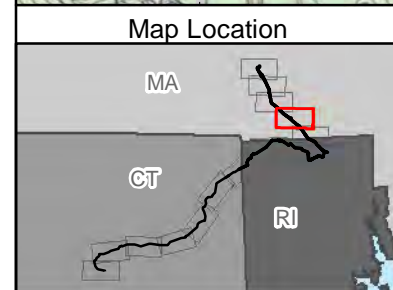
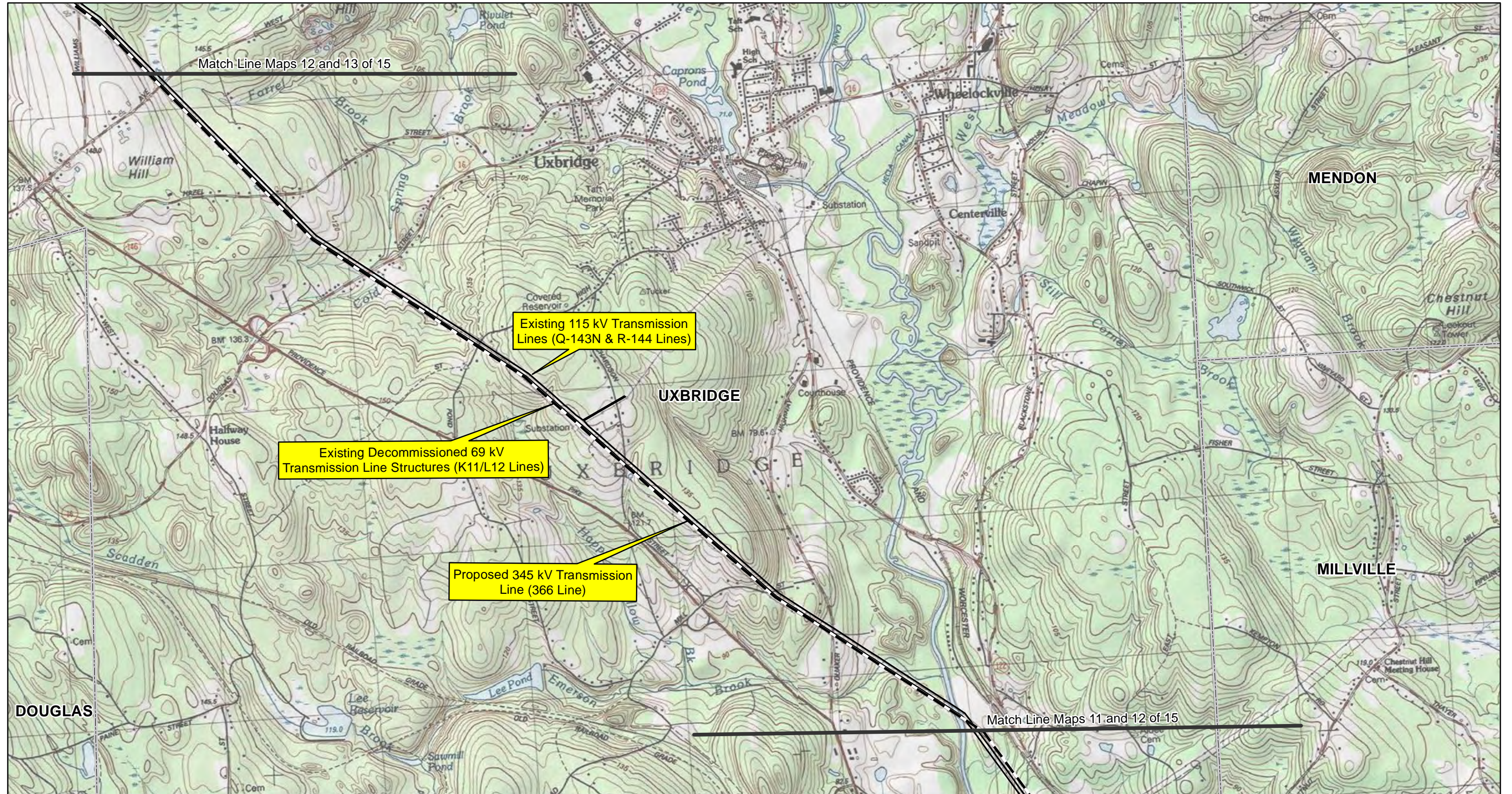
Data Source: B&McD 2010, USGS Topo 24K

**Interstate Reliability Project
Project Location Map**

Sheet 11 of 15

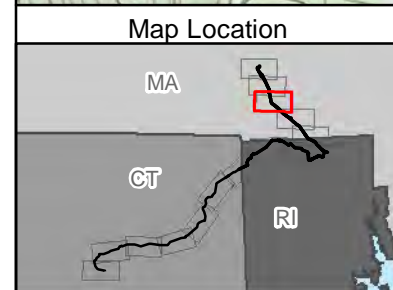
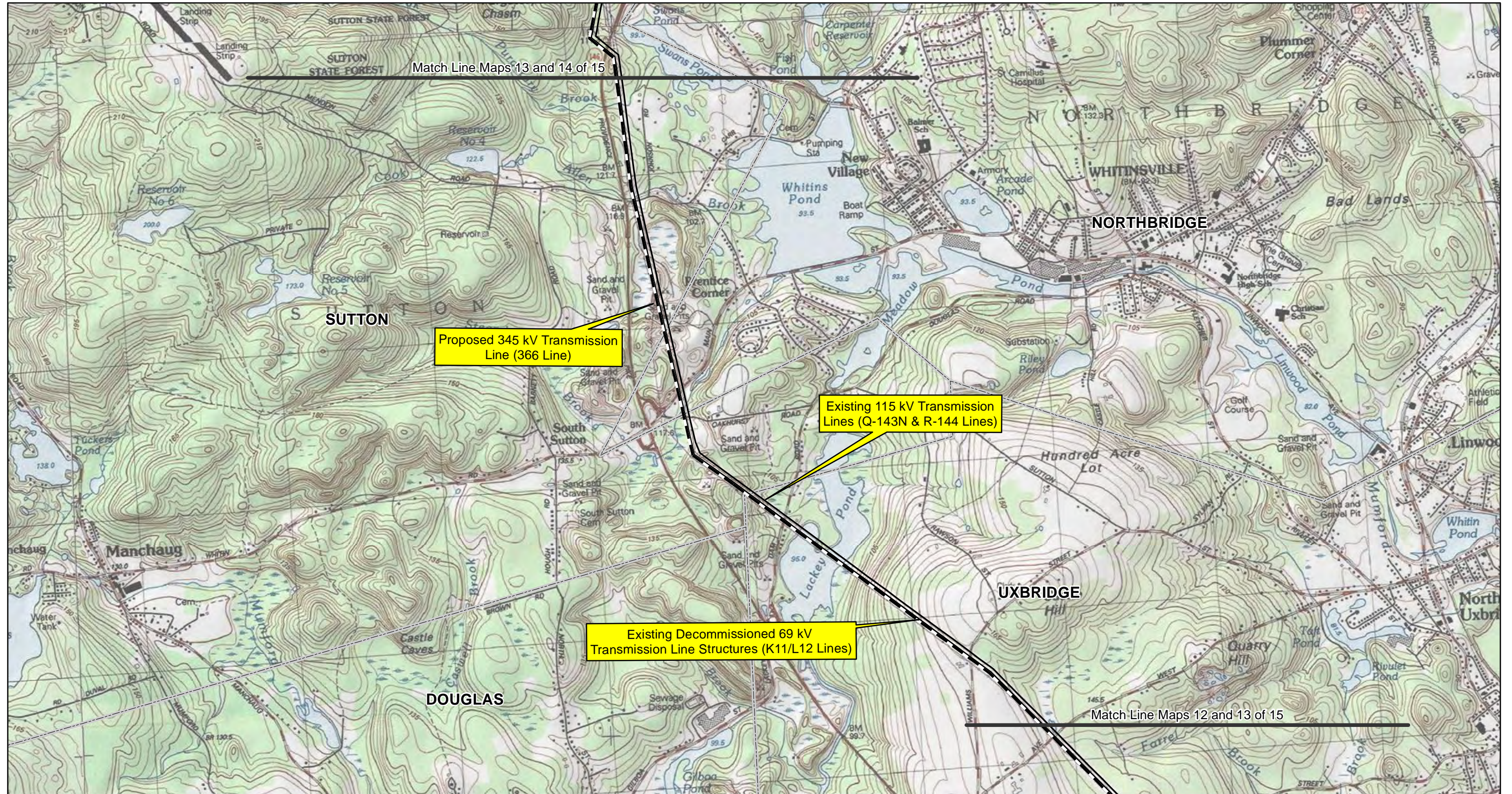
Date: 5/16/2012

Connecticut Light & Power
A Northeast Utilities Company



**Interstate Reliability Project
Project Location Map**

Sheet 12 of 15



●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

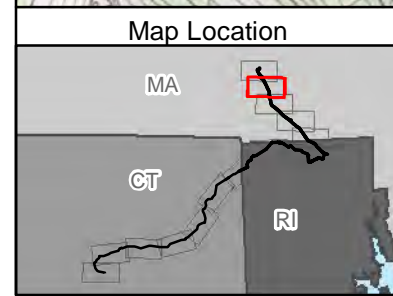
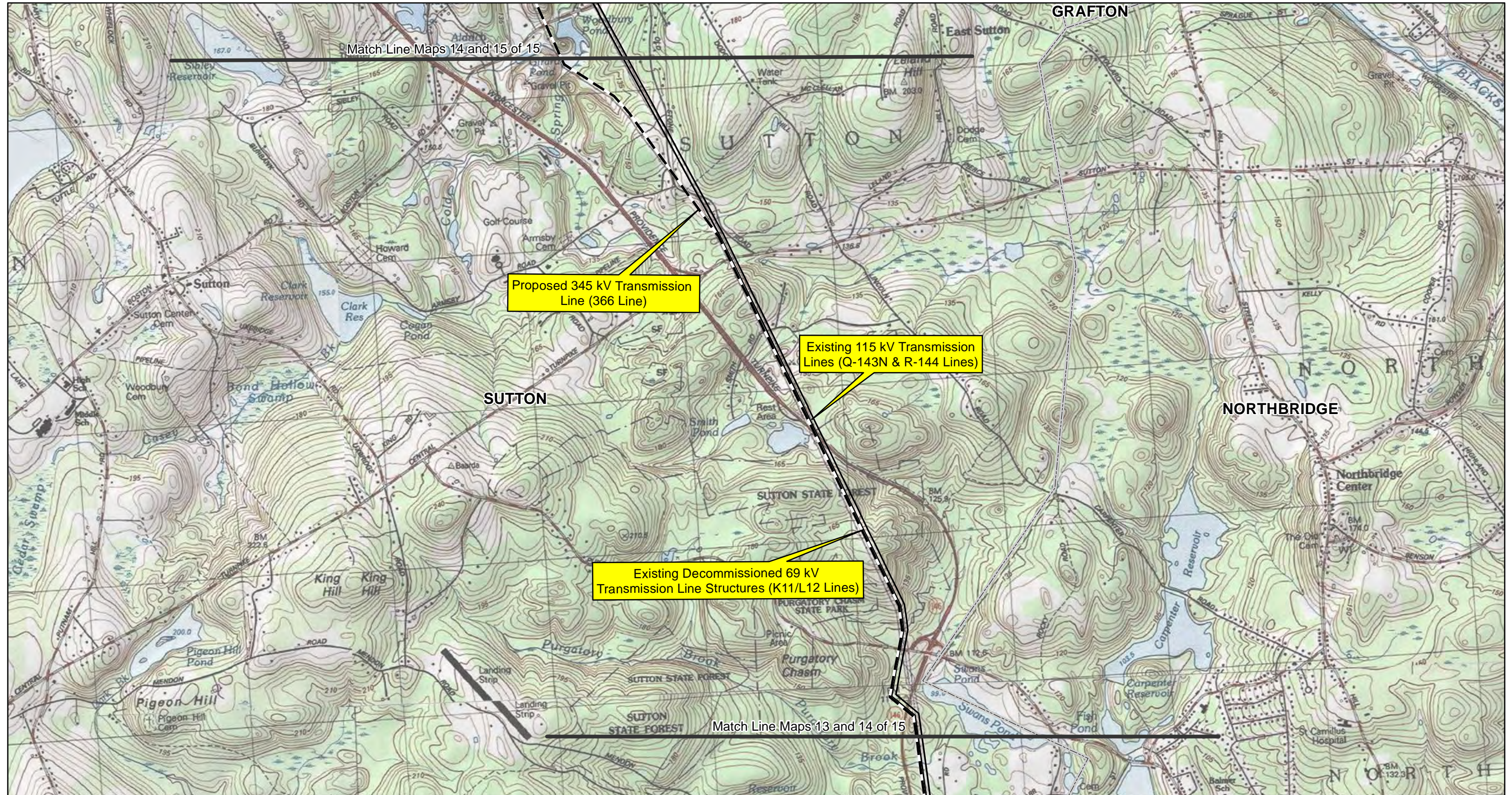
1:24,000
1 inch = 2,000 feet

Data Source: B&McD 2010, USGS Topo 24K

**Interstate Reliability Project
Project Location Map**

Sheet 13 of 15

Connecticut Light & Power
A Northeast Utilities Company



●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

Data Source: B&McD 2010, USGS Topo 24K

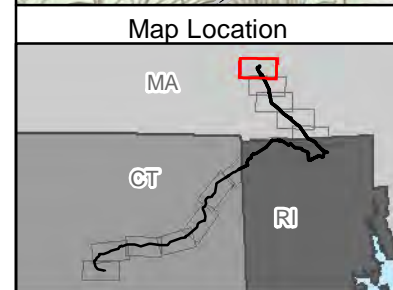
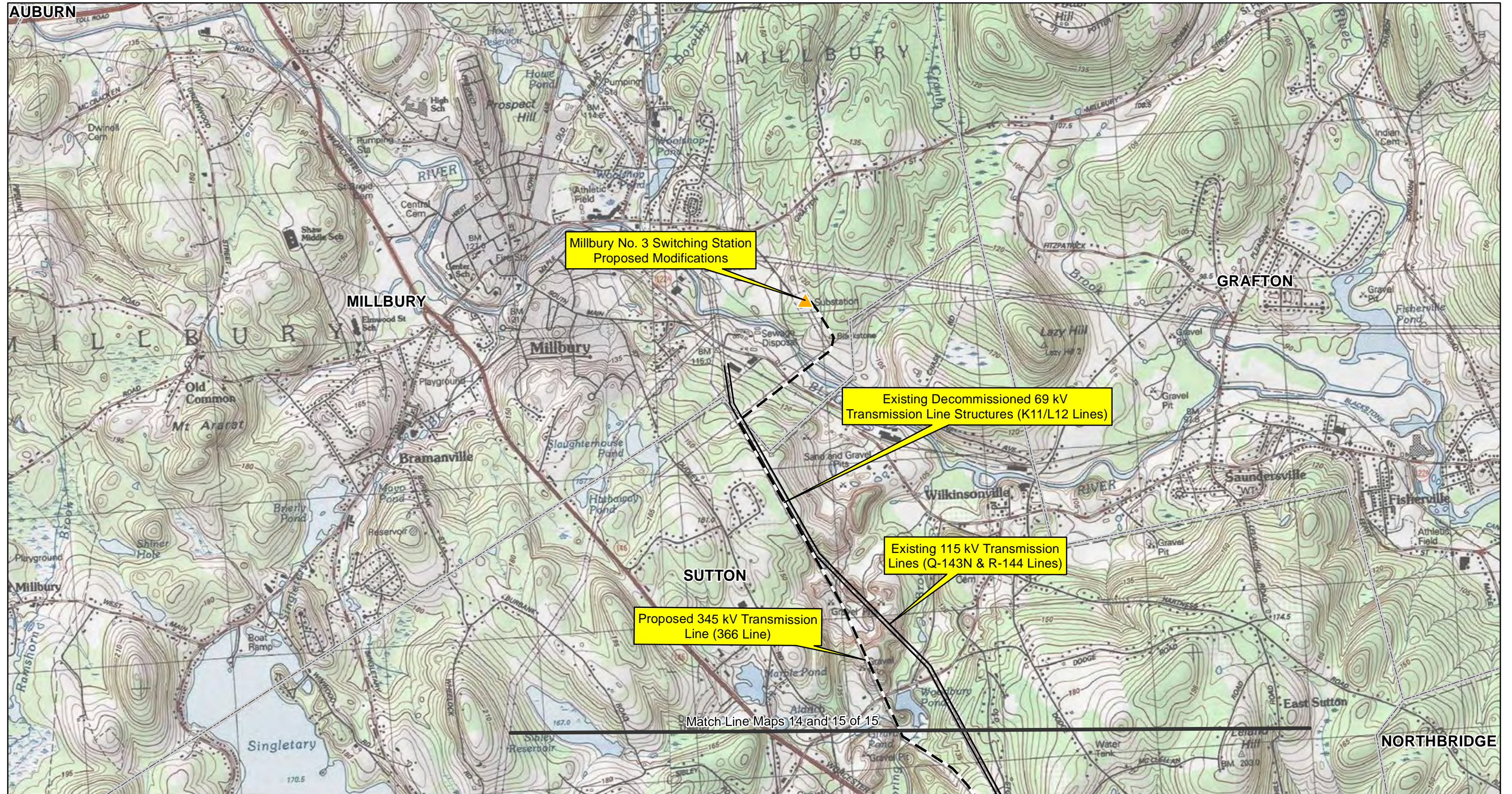


**Interstate Reliability Project
Project Location Map**

Sheet 14 of 15

Date: 5/16/2012





●	Junction		Existing 115-kV Transmission Line		115-kV Transmission Line Improvement
■	Substation		Existing 345-kV Transmission Line		345-kV Transmission Line Reconstruction
▲	Switching Station		Existing 69-kV Transmission Line		Proposed 345-kV Transmission Line
	Town Boundary				

0 2,000 4,000 6,000 8,000 Feet

1:24,000
1 inch = 2,000 feet

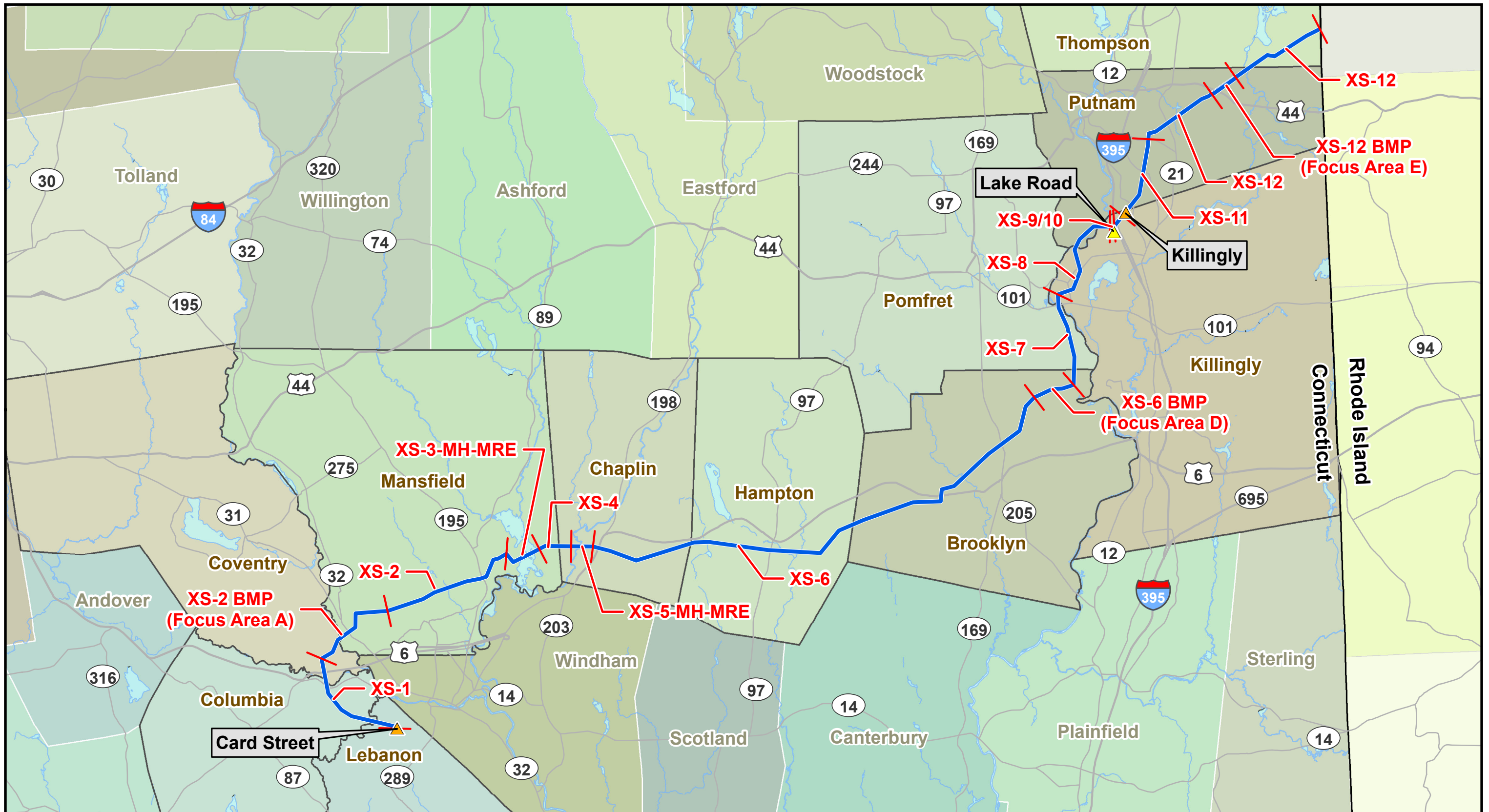
Data Source: B&McD 2010, USGS Topo 24K

**Interstate Reliability Project
Project Location Map**

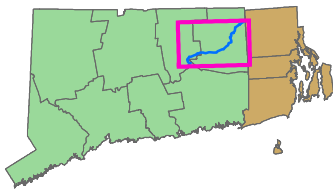
Sheet 15 of 15

Connecticut Light & Power
A Northeast Utilities Company

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Key Map



- Proposed Route (in existing ROW)
- ▲ Switching Station
- ▲ Substation

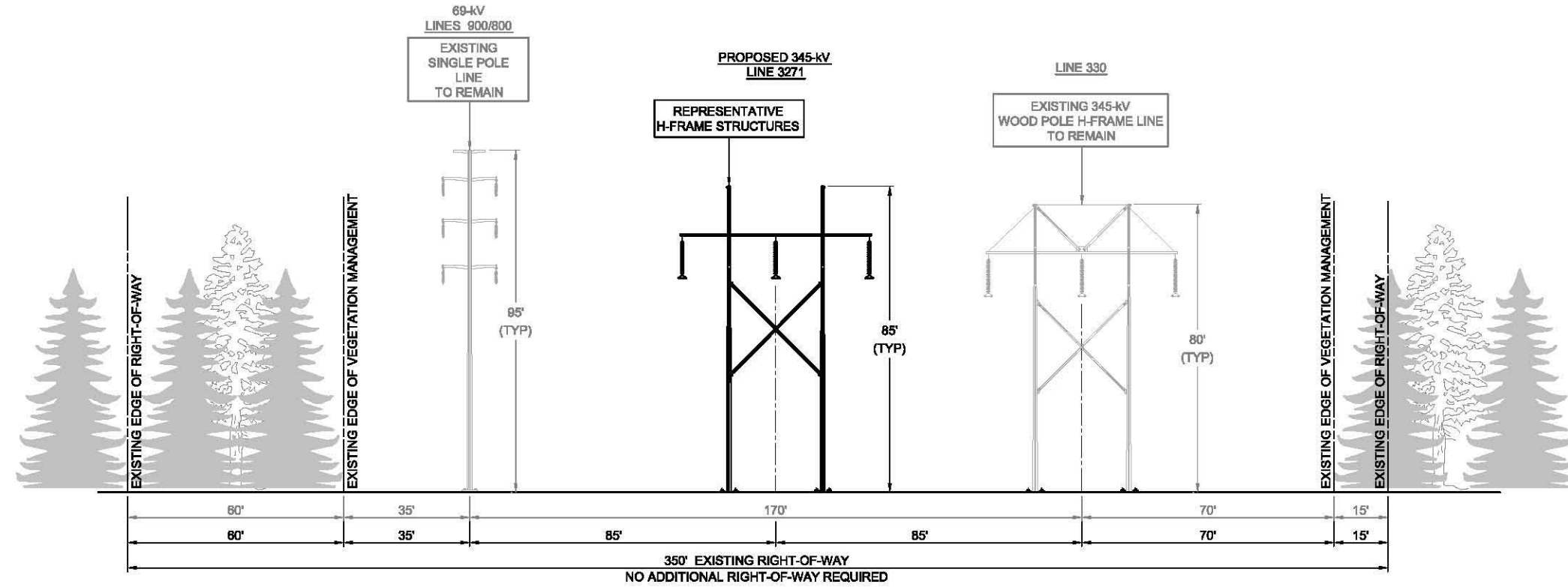
— Cross-Section Begin/End Location

Source: ESRI, CT DEEP, and Burns & McDonnell Engineering.



Connecticut Light & Power
A Northeast Utilities Company

Cross-Section Key Map
Interstate Reliability Project



**PROPOSED CONFIGURATION
H-FRAME DESIGN**

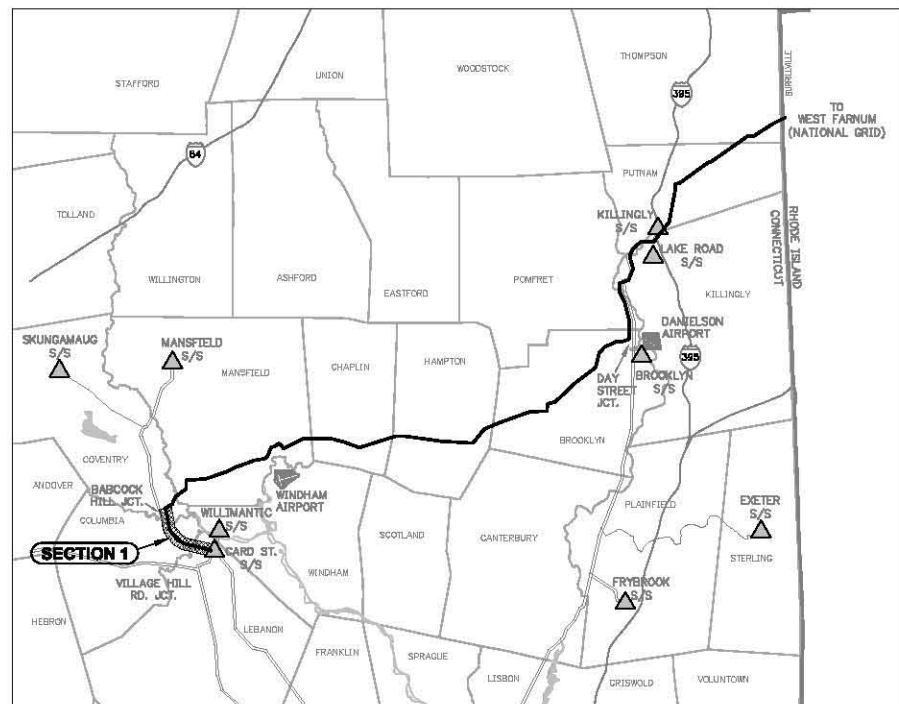
CARD STREET SUBSTATION
TO
BABCOCK HILL JUNCTION

IN THE TOWNS OF LEBANON,
COLUMBIA & COVENTRY

EXISTING STRUCTURES 9001-9027

LOOKING
NORTHWESTERLY
(2.8 MILES)

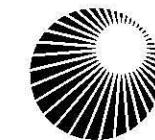
**PRELIMINARY DESIGN
SUBJECT TO CHANGE**



KEY MAP
NOT TO SCALE

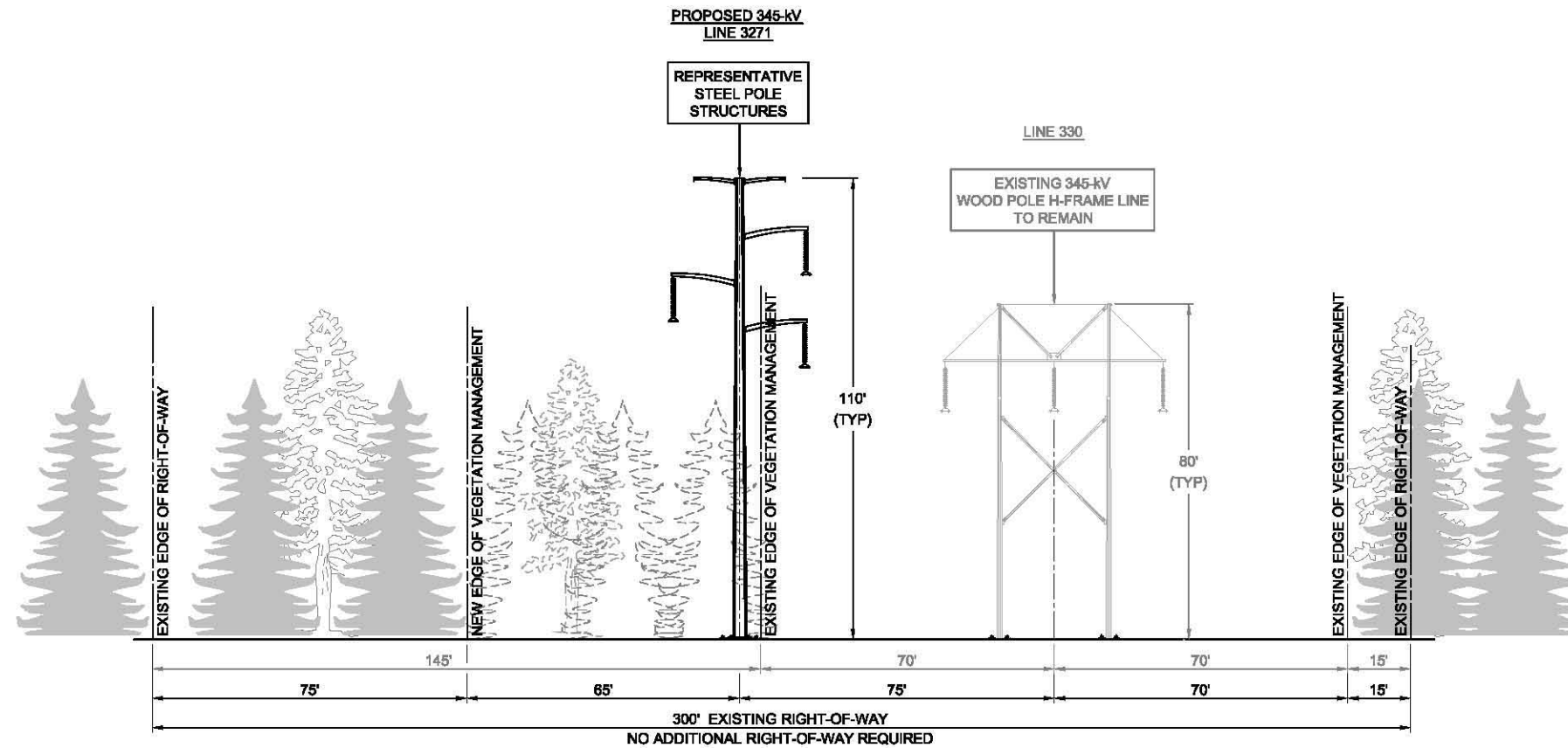
NOTES:

- EXISTING LINES TO REMAIN.
- PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
- LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
- STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
- EXISTING VEGETATION MANAGEMENT EDGES ARE TYPICAL.
- AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
- DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.
- VEGETATION WITHIN R.O.W. BETWEEN THE EXISTING 330 LINE AND THE EXISTING 900/800 LINE WILL BE REMOVED.



**Northeast
Utilities System**

TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION CARD STREET SUBSTATION TO BABCOCK HILL JUNCTION			
BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-1
P.A. #			



PROPOSED CONFIGURATION
DELTA STEEL POLE DESIGN
EMF BMP - FOCUS AREA A
(BABCOCK HILL JUNCTION TO VICINITY OF HIGHLAND ROAD)

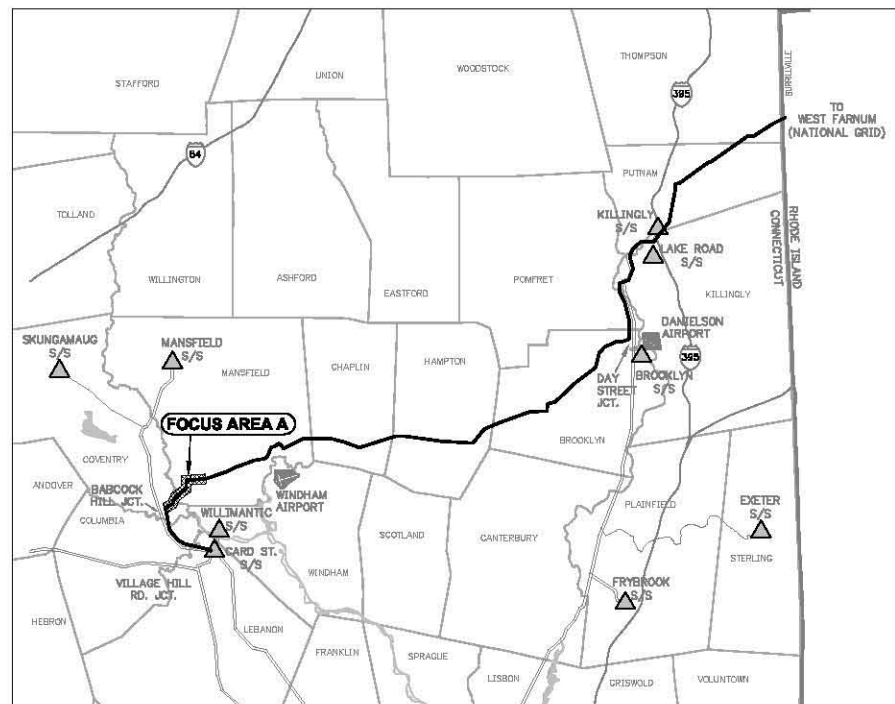
IN THE TOWNS OF
COVENTRY & MANSFIELD

EXISTING STRUCTURES 9028-9048

LOOKING
 NORTHEASTERLY

(2.3 MILES)

PRELIMINARY DESIGN
SUBJECT TO CHANGE



KEY MAP
 NOT TO SCALE

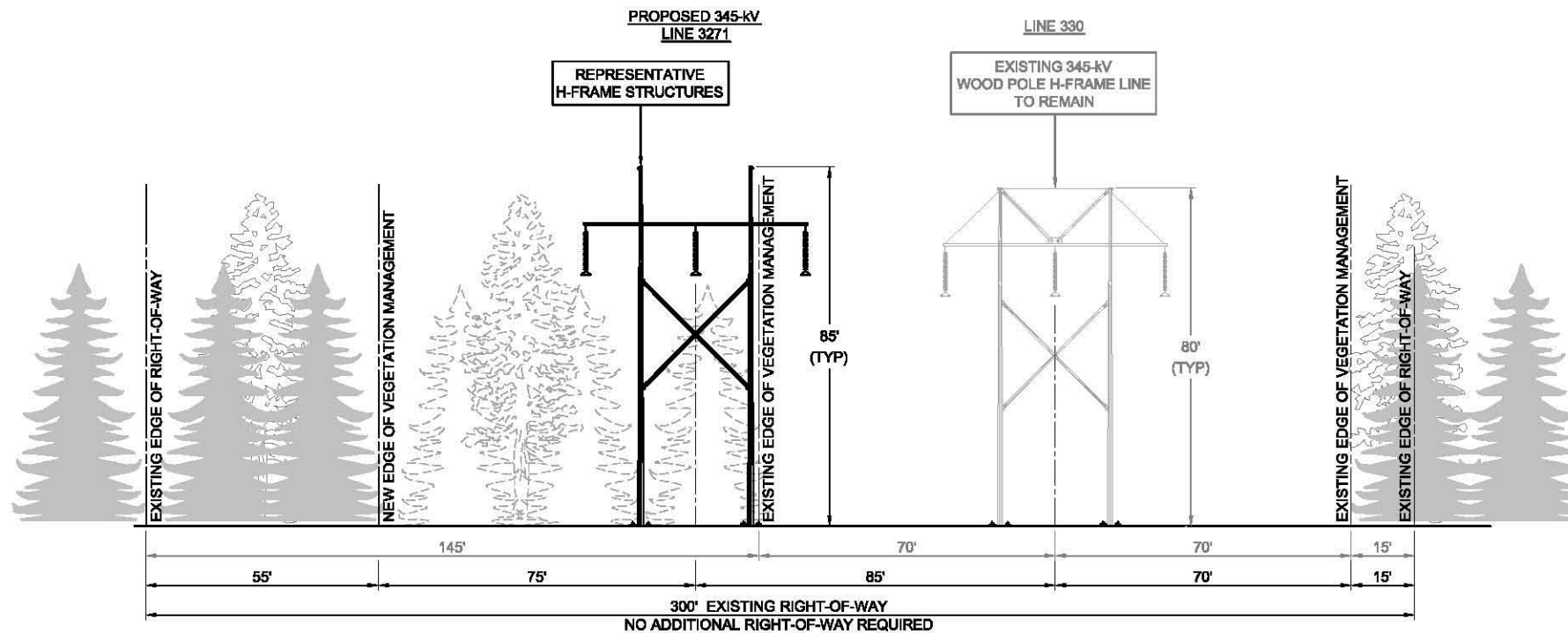
NOTES:

- EXISTING LINE TO REMAIN.
- PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
- LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
- STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
- EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
- AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
- DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



TITLE
INTERSTATE RELIABILITY PROJECT
PROPOSED CONFIGURATION
EMF BMP - FOCUS AREA A
(BABCOCK HILL JUNCTION TO VICINITY OF HIGHLAND ROAD)

BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-2 BMP
P.A. #			

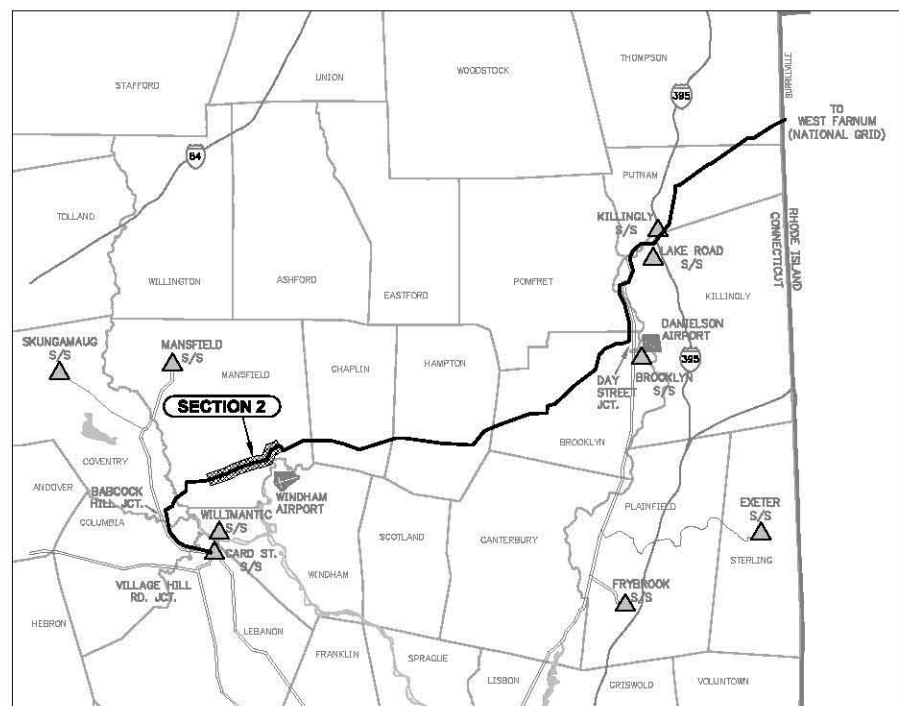


**PROPOSED CONFIGURATION
H-FRAME DESIGN**

VICINITY OF HIGHLAND ROAD (MANSFIELD)
TO
MANSFIELD HOLLOW STATE PARK
IN THE TOWN OF MANSFIELD
EXISTING STRUCTURES 9049-9080

LOOKING
NORTHEASTERLY
(3.3 MILES)

**PRELIMINARY DESIGN
SUBJECT TO CHANGE**



KEY MAP
NOT TO SCALE



NOTES:

1. EXISTING LINE TO REMAIN.
2. PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
3. LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
4. STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
5. EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
6. AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
7. REFER TO XS-2 BMP FOR EMF REDUCTION CONFIGURATION.
8. DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.

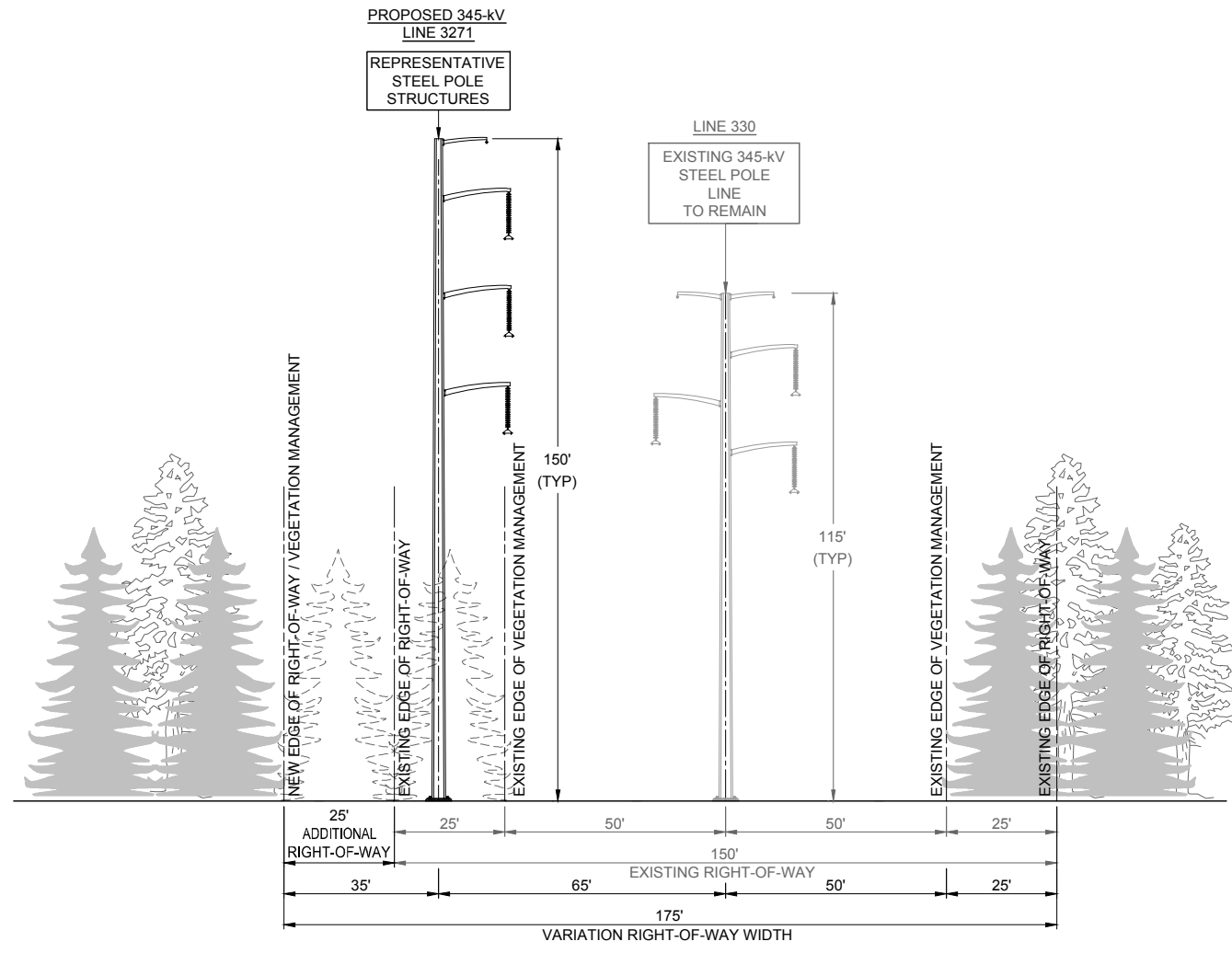


**Northeast
Utilities System**

TITLE
INTERSTATE RELIABILITY PROJECT
PROPOSED CONFIGURATION
VICINITY OF HIGHLAND ROAD (MANSFIELD)
TO
MANSFIELD HOLLOW STATE PARK

BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-2
P.A. #			

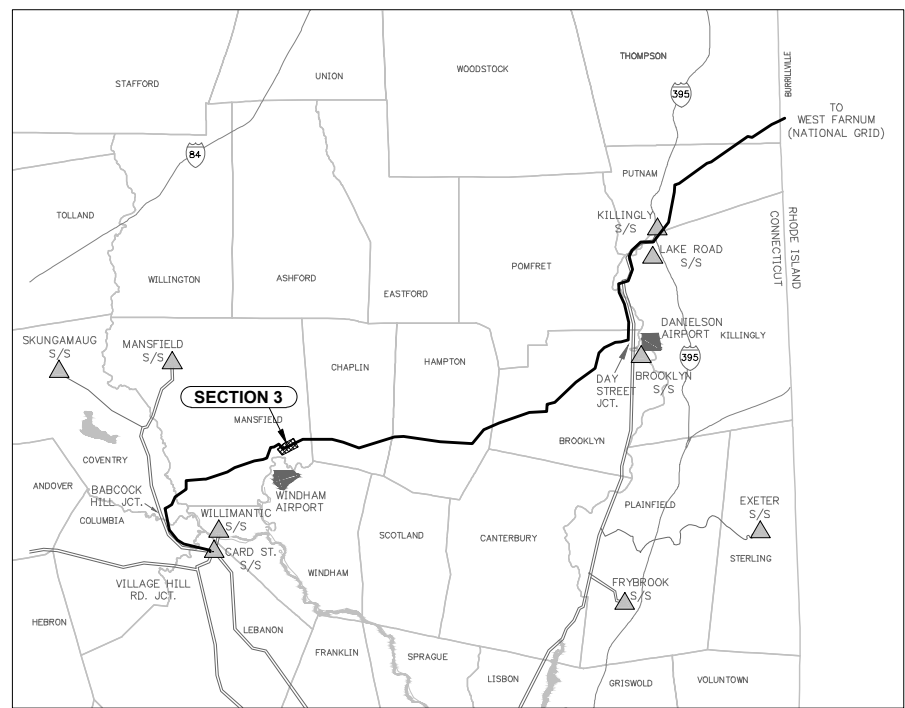
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PROPOSED ACTION: 4.8-ACRE R.O.W. EXPANSION
VERTICAL STEEL POLE DESIGN

USACE PROPERTIES, SEGMENT 1
 MANSFIELD HOLLOW STATE PARK
 TO
 BASSETTS BRIDGE ROAD
 IN THE TOWN OF
 MANSFIELD
 EXISTING STRUCTURES 9081-9086
 LOOKING
 NORTHEASTERLY
 (1.0 MILE)

**PRELIMINARY DESIGN
 SUBJECT TO CHANGE**

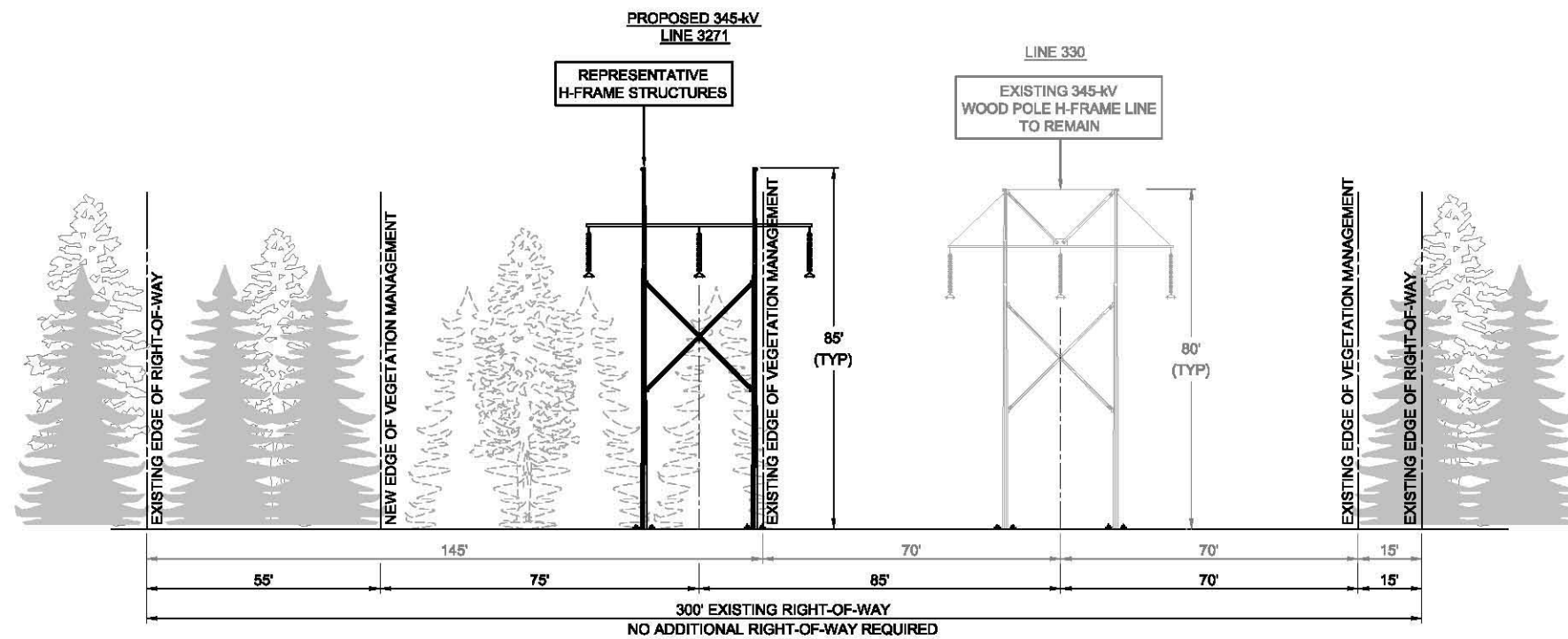


KEY MAP
 NOT TO SCALE

- NOTES:**
- EXISTING LINE TO REMAIN.
 - PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
 - ALL TALL-GROWING VEGETATION WITHIN THE 25-FOOT-WIDE EXPANDED R.O.W. AREA AND THE EXISTING 25-FOOT-WIDE AREA ALONG THE NORTHERN EDGE OF THE EXISTING R.O.W. (TOTAL OF 50-FOOT-WIDTH) WOULD BE CLEARED DURING LINE CONSTRUCTION ACTIVITIES. THIS AREA WOULD SUBSEQUENTLY BE MANAGED IN LOW-MATURING VEGETATIVE SPECIES.
 - DEPICTED STRUCTURE HEIGHTS REPRESENT THE MOST TYPICAL STRUCTURE HEIGHT FOR EACH TYPE OF LINE IN THIS R.O.W. SEGMENT. THE ACTUAL HEIGHTS OF EXISTING STRUCTURES, AND THE POTENTIAL HEIGHTS OF NEW STRUCTURES THAT WOULD BE USED FOR THIS CONFIGURATION OPTION, MAY DIFFER. FOR SPECIFIC STRUCTURE HEIGHTS, REFER TO THE TABLE OF INDIVIDUAL STRUCTURE HEIGHTS IN SECTION 10, WHICH REFLECTS A PRELIMINARY LINE DESIGN. FURTHER, IF THIS CONFIGURATION OPTION WAS SELECTED, THOSE STRUCTURE HEIGHTS COULD CHANGE DURING FINAL DESIGN.
 - EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
 - AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
 - DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED ACTION: 4.8-ACRE R.O.W. EXPANSION MANSFIELD HOLLOW STATE PARK TO BASSETTS BRIDGE ROAD			
BY D. LAURSEN	CHKD M. HATFIELD	APP	APP
DATE 04/12	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-3-MH-MRE
P.A. #			



PROPOSED CONFIGURATION
H-FRAME DESIGN

BASSETTS BRIDGE ROAD
TO
SHUBA LANE

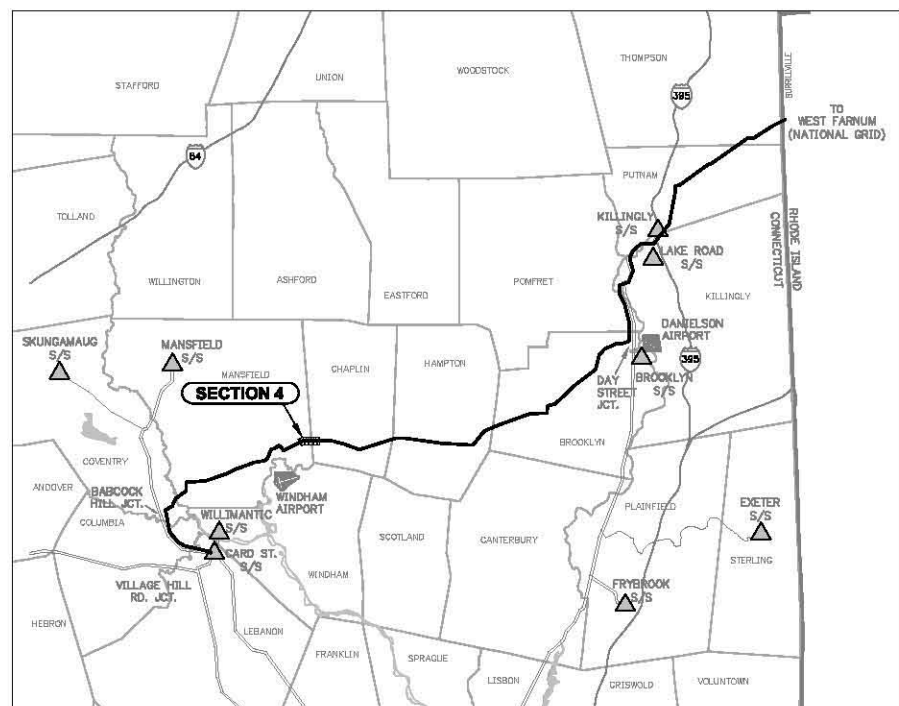
IN THE TOWNS OF
MANSFIELD & CHAPLIN

EXISTING STRUCTURES 9087-9094

LOOKING
EAST

(0.8 MILE)

**PRELIMINARY DESIGN
SUBJECT TO CHANGE**



KEY MAP
NOT TO SCALE



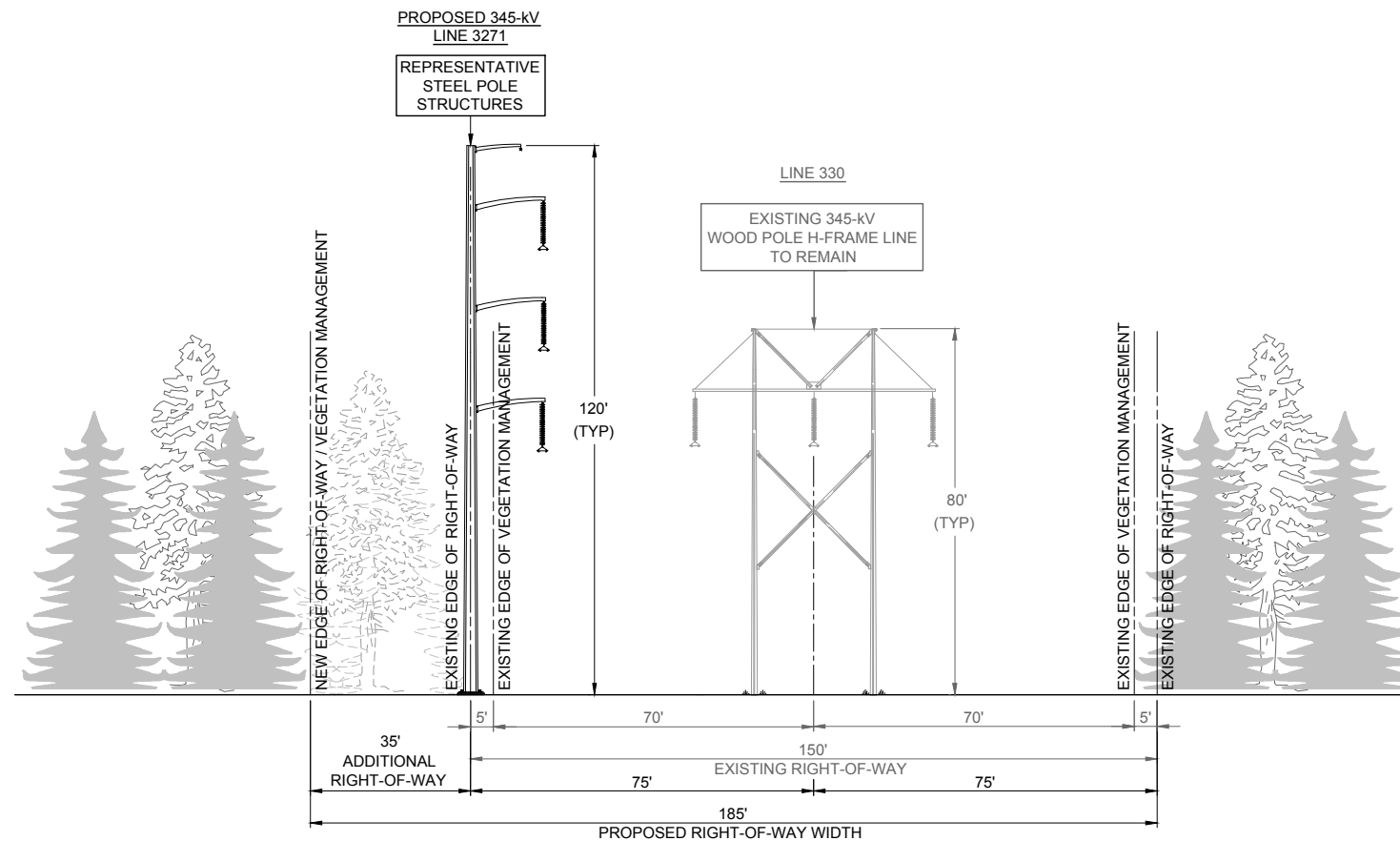
NOTES:

- EXISTING LINE TO REMAIN.
- PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
- LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
- STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
- EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
- AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
- DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



**Northeast
Utilities System**

TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION BASSETTS BRIDGE ROAD TO SHUBA LANE			
BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-4
P.A. #			



PROPOSED ACTION: 4.8-ACRE R.O.W. EXPANSION
VERTICAL STEEL POLE DESIGN

USACE PROPERTIES, SEGMENT 2

VICINITY OF SHUBA LANE THROUGH MANSFIELD HOLLOW WILDLIFE MANAGEMENT AREA (WMA)
 TO
 VICINITY OF WILLIMANTIC ROAD (U.S. ROUTE 6)

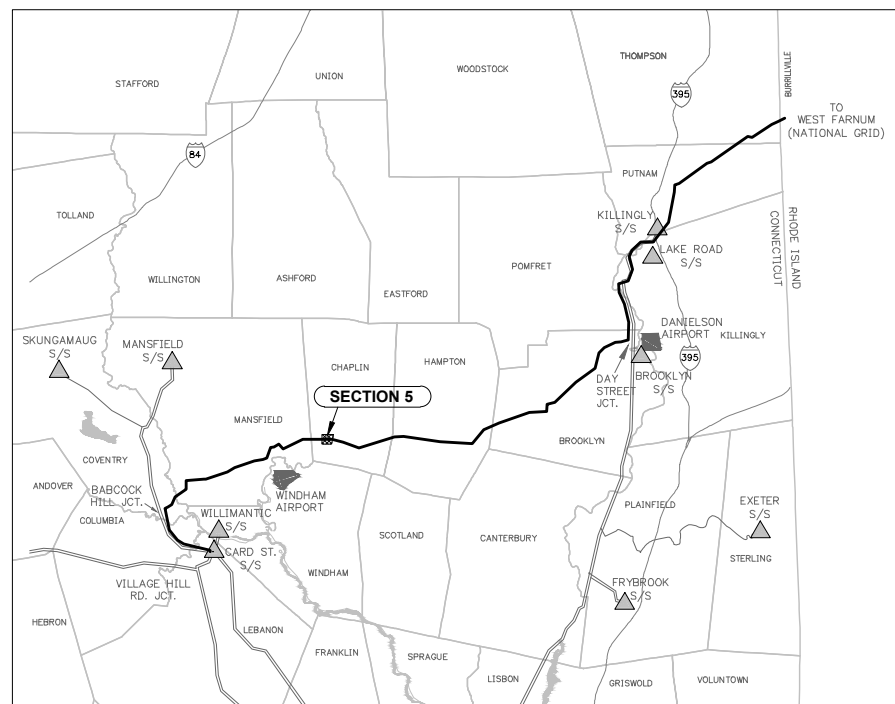
IN THE TOWN OF
 CHAPLIN

EXISTING STRUCTURES 9095-9099

LOOKING
 EAST

(0.5 MILE)

**PRELIMINARY DESIGN
 SUBJECT TO CHANGE**



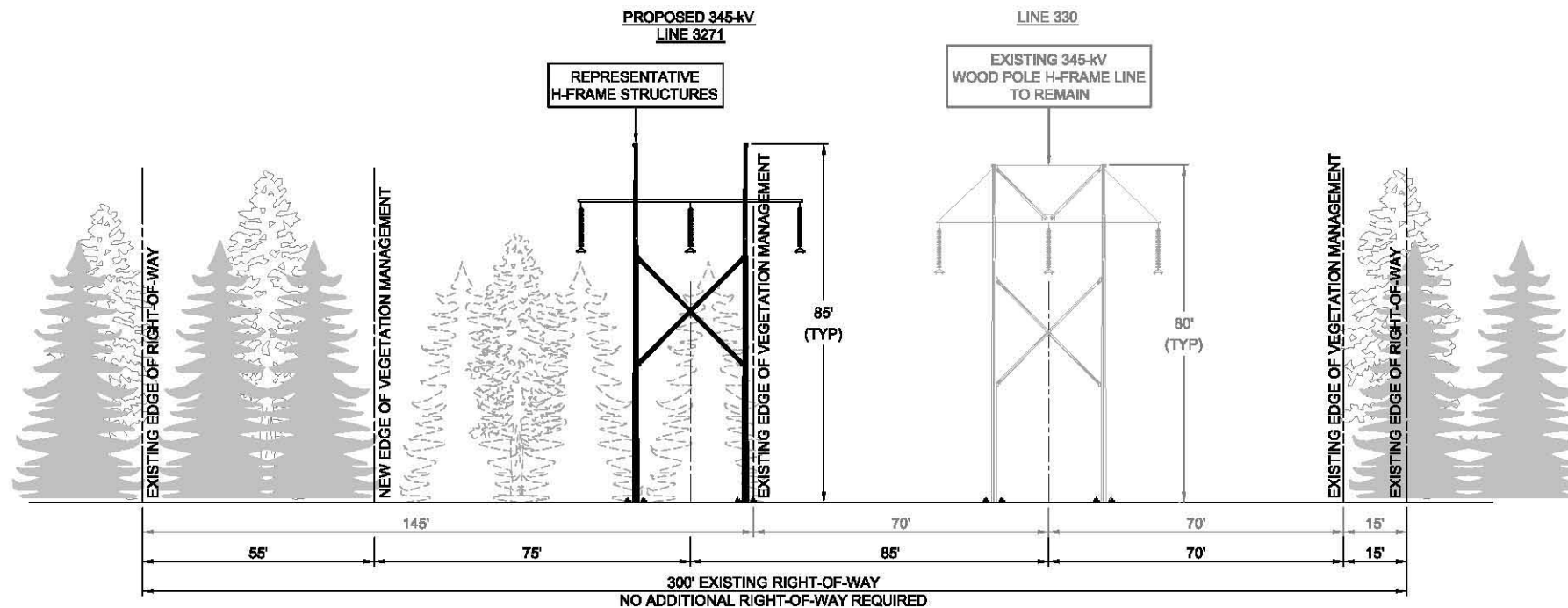
**KEY MAP
 NOT TO SCALE**

NOTES:

- EXISTING LINE TO REMAIN.
- PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
- ALL TALL-GROWING VEGETATION WITHIN THE 35-FOOT-WIDE EXPANDED R.O.W. AREA AND THE EXISTING 5-FOOT-WIDE AREA ALONG THE NORTHERN EDGE OF THE EXISTING R.O.W. (TOTAL OF 40-FOOT-WIDTH) WOULD BE CLEARED DURING LINE CONSTRUCTION ACTIVITIES. THIS AREA WOULD SUBSEQUENTLY BE MANAGED IN LOW-MATURING VEGETATIVE SPECIES.
- DEPICTED STRUCTURE HEIGHTS REPRESENT THE MOST TYPICAL STRUCTURE HEIGHT FOR EACH TYPE OF LINE IN THIS R.O.W. SEGMENT. THE ACTUAL HEIGHTS OF EXISTING STRUCTURES, AND THE POTENTIAL HEIGHTS OF NEW STRUCTURES THAT WOULD BE USED FOR THIS CONFIGURATION OPTION, MAY DIFFER. FOR SPECIFIC STRUCTURE HEIGHTS, REFER TO THE TABLE OF INDIVIDUAL STRUCTURE HEIGHTS IN SECTION 10, WHICH REFLECTS A PRELIMINARY LINE DESIGN. FURTHER, IF THIS CONFIGURATION OPTION WAS SELECTED, THOSE STRUCTURE HEIGHTS COULD CHANGE DURING FINAL DESIGN.
- EXISTING VEGETATION MANAGEMENT EDGES ARE TYPICAL.
- AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
- DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED ACTION: 4.8-ACRE R.O.W. EXPANSION VICINITY OF SHUBA LANE THROUGH MANSFIELD HOLLOW WMA TO VICINITY OF WILLIMANTIC ROAD			
BY D. LAURSEN	CHKD M. HATFIELD	APP	APP
DATE 04/12	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-5-MH-MRE
P.A. #			



PROPOSED CONFIGURATION
H-FRAME DESIGN

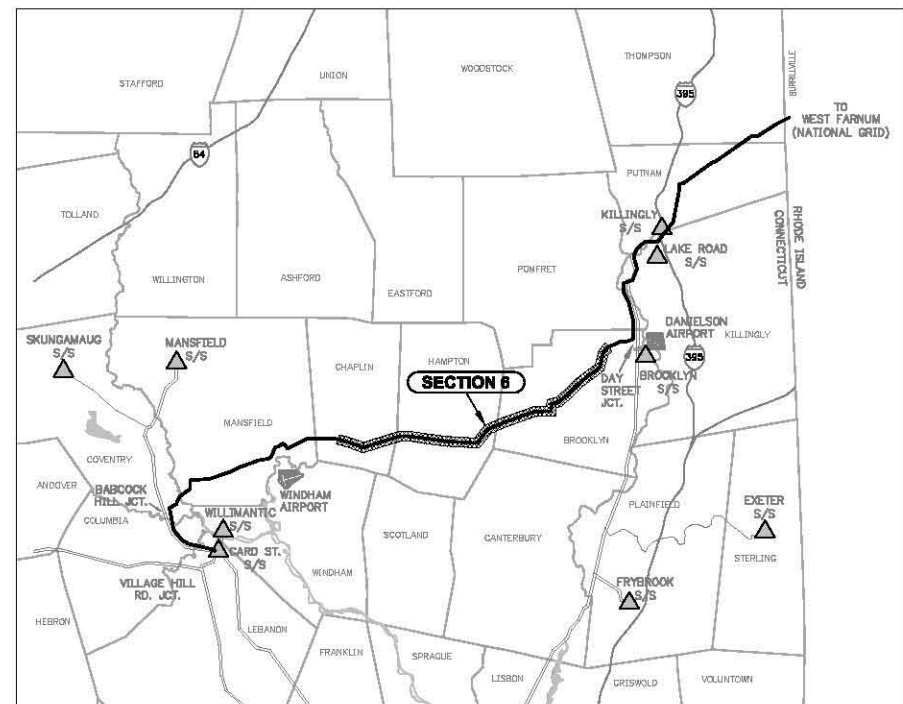
WILLIMANTIC ROAD (U.S. ROUTE 6)
TO
VICINITY OF DAY STREET JUNCTION

IN THE TOWNS OF
CHAPLIN, HAMPTON & BROOKLYN

EXISTING STRUCTURES 9100-9209

LOOKING
NORTHEASTERLY

(12.6 MILES)

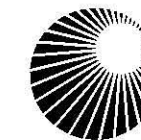


KEY MAP
NOT TO SCALE

PRELIMINARY DESIGN
SUBJECT TO CHANGE

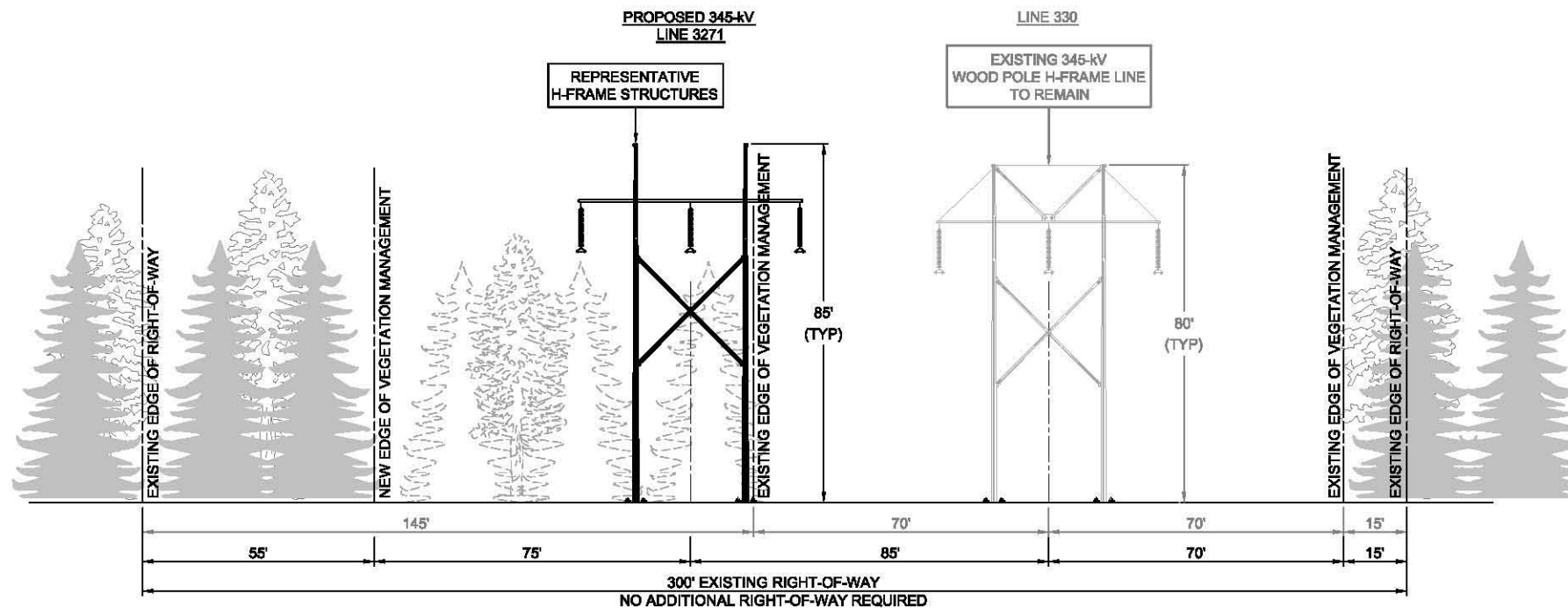
NOTES:

- EXISTING LINE TO REMAIN.
- PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
- LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
- STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
- EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
- AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
- REFER TO XS-6 BMP FOR EMF REDUCTION CONFIGURATION.
- DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



Northeast
Utilities System

TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION WILLIMANTIC ROAD TO VICINITY OF DAY STREET JUNCTION			
BY D. LAURSEN	CHKD M. HATFIELD	APP	APP
DATE 07/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-6
P.A. #			



PROPOSED CONFIGURATION
H-FRAME DESIGN

WILLIMANTIC ROAD (U.S. ROUTE 6)
TO
VICINITY OF DAY STREET JUNCTION

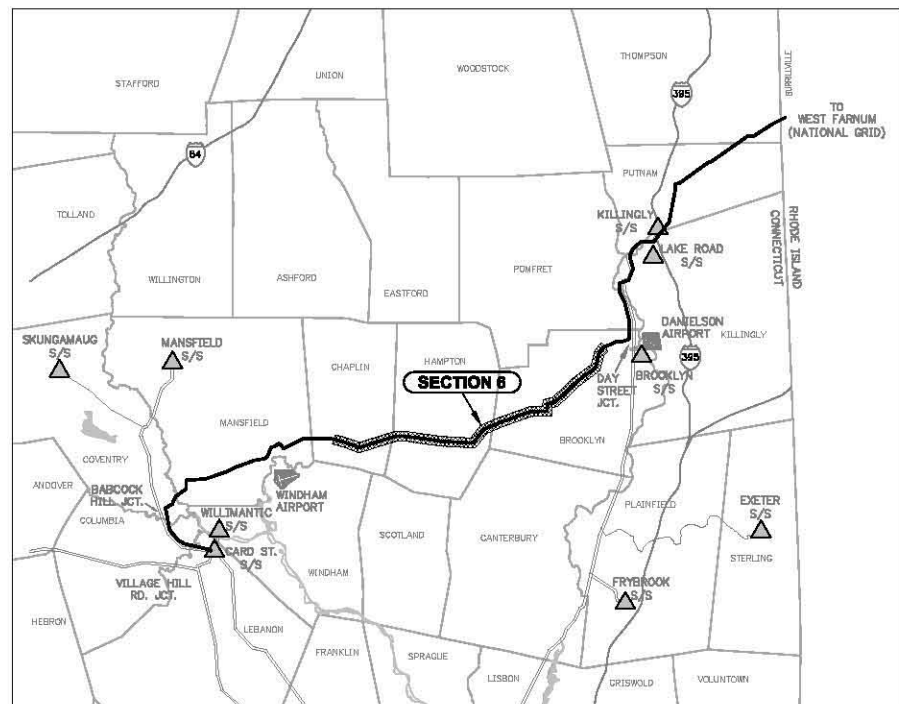
IN THE TOWNS OF
CHAPLIN, HAMPTON & BROOKLYN

EXISTING STRUCTURES 9100-9209

LOOKING
NORTHEASTERLY

(12.6 MILES)

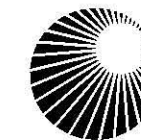
**PRELIMINARY DESIGN
SUBJECT TO CHANGE**



KEY MAP
NOT TO SCALE

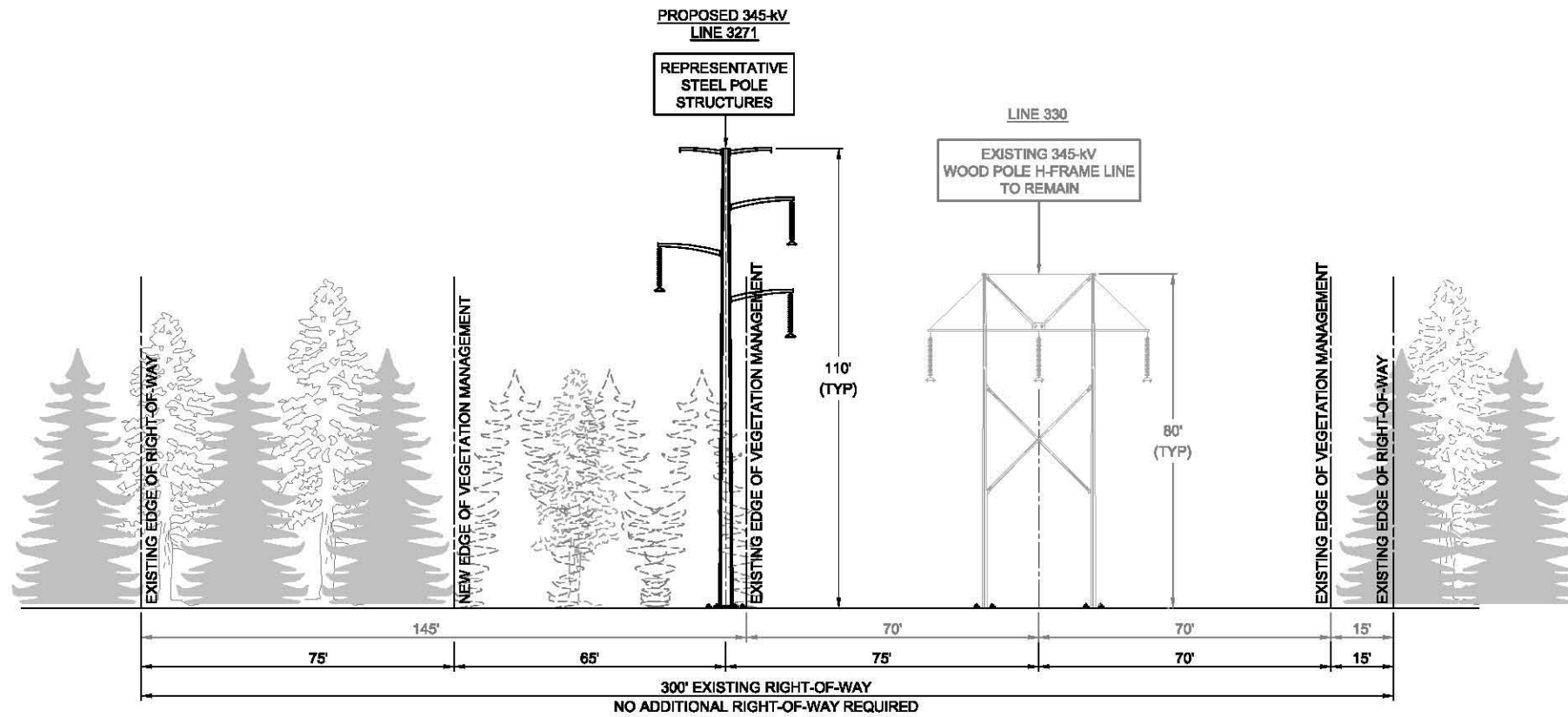
NOTES:

- EXISTING LINE TO REMAIN.
- PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
- LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
- STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
- EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
- AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
- REFER TO XS-6 BMP FOR EMF REDUCTION CONFIGURATION.
- DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



**Northeast
Utilities System**

TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION WILLIMANTIC ROAD TO VICINITY OF DAY STREET JUNCTION			
BY D. LAURSEN	CHKD M. HATFIELD	APP	APP
DATE 07/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-6
P.A. #			



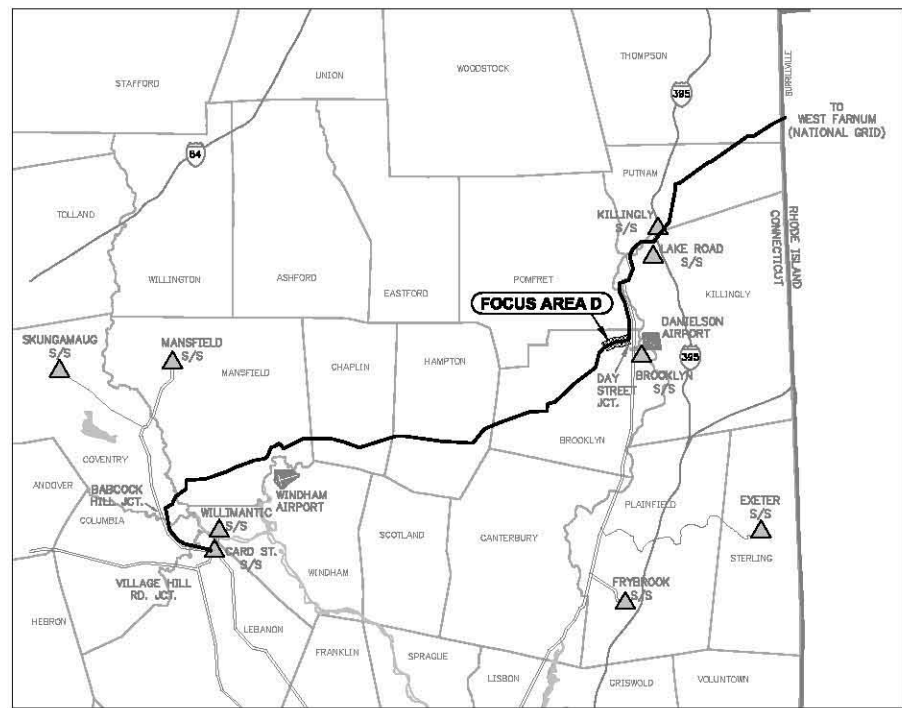
PROPOSED CONFIGURATION
DELTA STEEL POLE DESIGN
EMF BMP - FOCUS AREA D
(VICINITY OF DAY STREET JUNCTION)

IN THE TOWN OF
 BROOKLYN

EXISTING STRUCTURES 9210-9219

LOOKING
 NORTHEASTERLY
 (1.0 MILE)

PRELIMINARY DESIGN
SUBJECT TO CHANGE



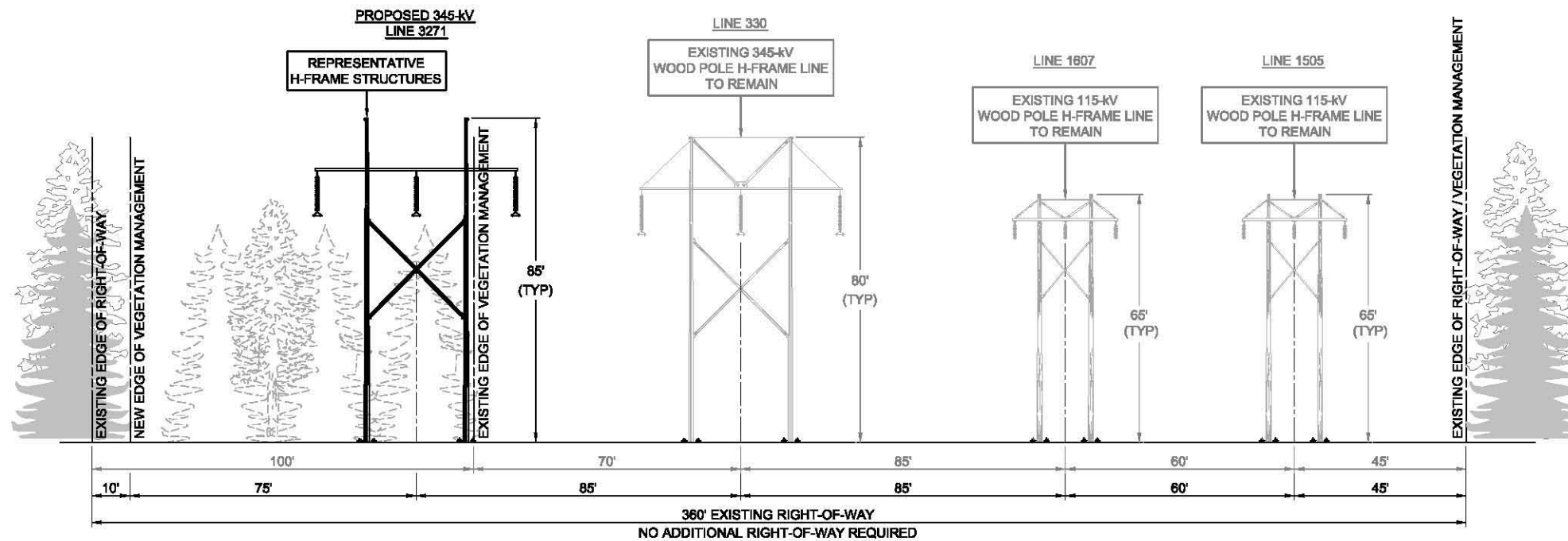
KEY MAP
 NOT TO SCALE

NOTES:

- EXISTING LINE TO REMAIN.
- PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
- LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
- STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
- EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
- AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
- DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION EMF BMP - FOCUS AREA D (VICINITY OF DAY STREET JUNCTION)			
BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-6 BMP
P.A. #			



**PROPOSED CONFIGURATION
H-FRAME DESIGN**

**DAY STREET JUNCTION
TO
HARTFORD TURNPIKE**

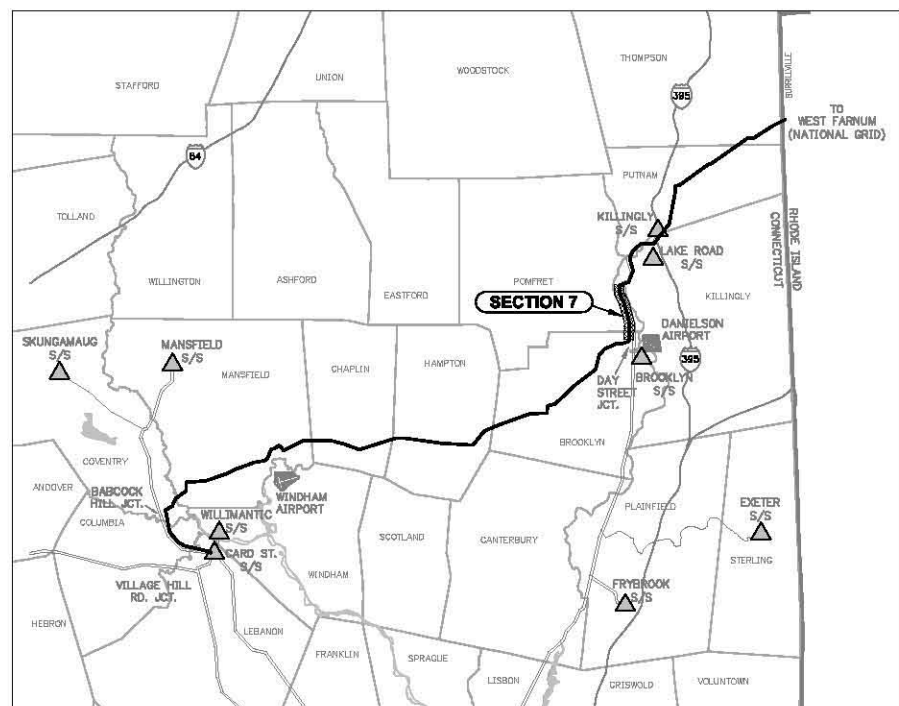
**IN THE TOWNS OF BROOKLYN,
POMFRET & KILLINGLY**

EXISTING STRUCTURES 9220-9240

**LOOKING
NORTH**

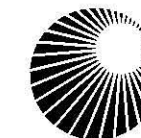
(2.3 MILES)

**PRELIMINARY DESIGN
SUBJECT TO CHANGE**



NOTES:

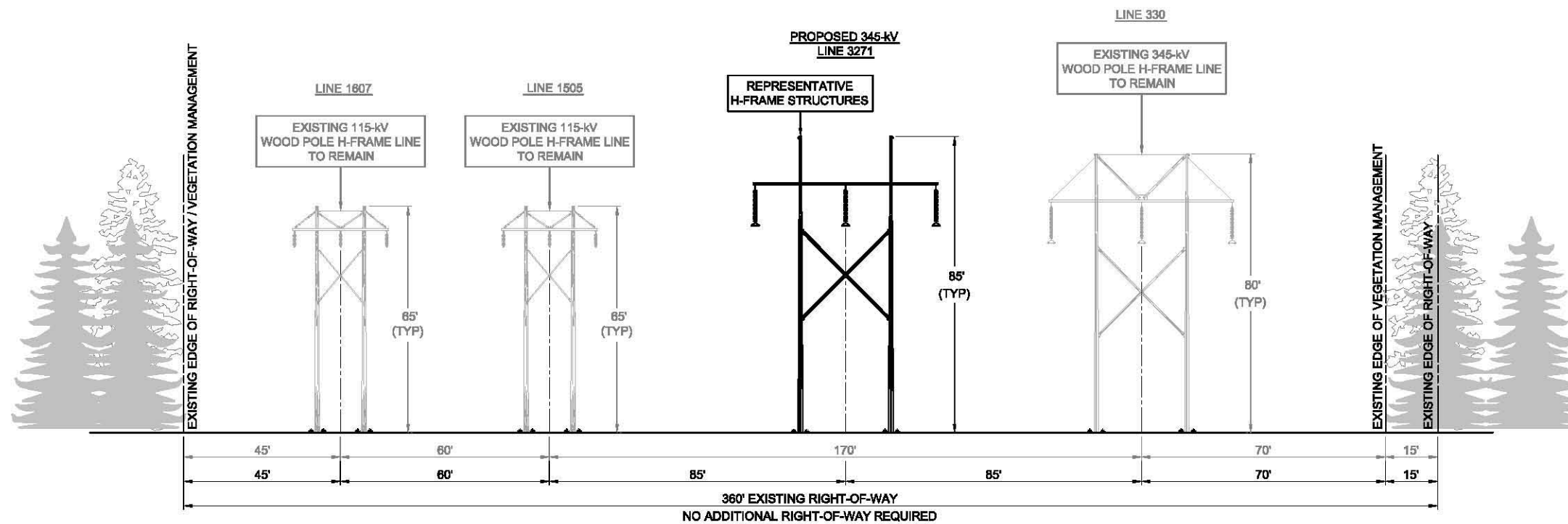
1. EXISTING LINES TO REMAIN.
2. PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
3. LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
4. STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
5. EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
6. AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
7. DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



**Northeast
Utilities System**

TITLE
**INTERSTATE RELIABILITY PROJECT
PROPOSED CONFIGURATION
DAY STREET JUNCTION
TO
HARTFORD TURNPIKE**

BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-7
P.A. #			



PROPOSED CONFIGURATION
H-FRAME DESIGN

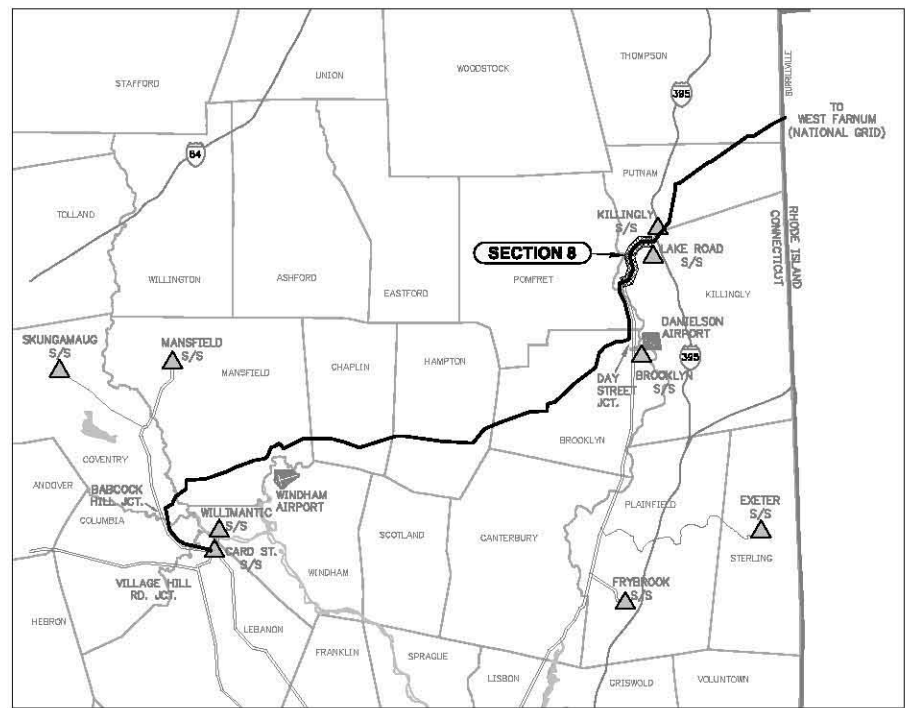
HARTFORD TURNPIKE
TO
LAKE ROAD JUNCTION

IN THE TOWNS OF
KILLINGLY & PUTNAM

EXISTING STRUCTURES 9241-9262

LOOKING
NORTHEASTERLY
(2.6 MILES)

PRELIMINARY DESIGN
SUBJECT TO CHANGE



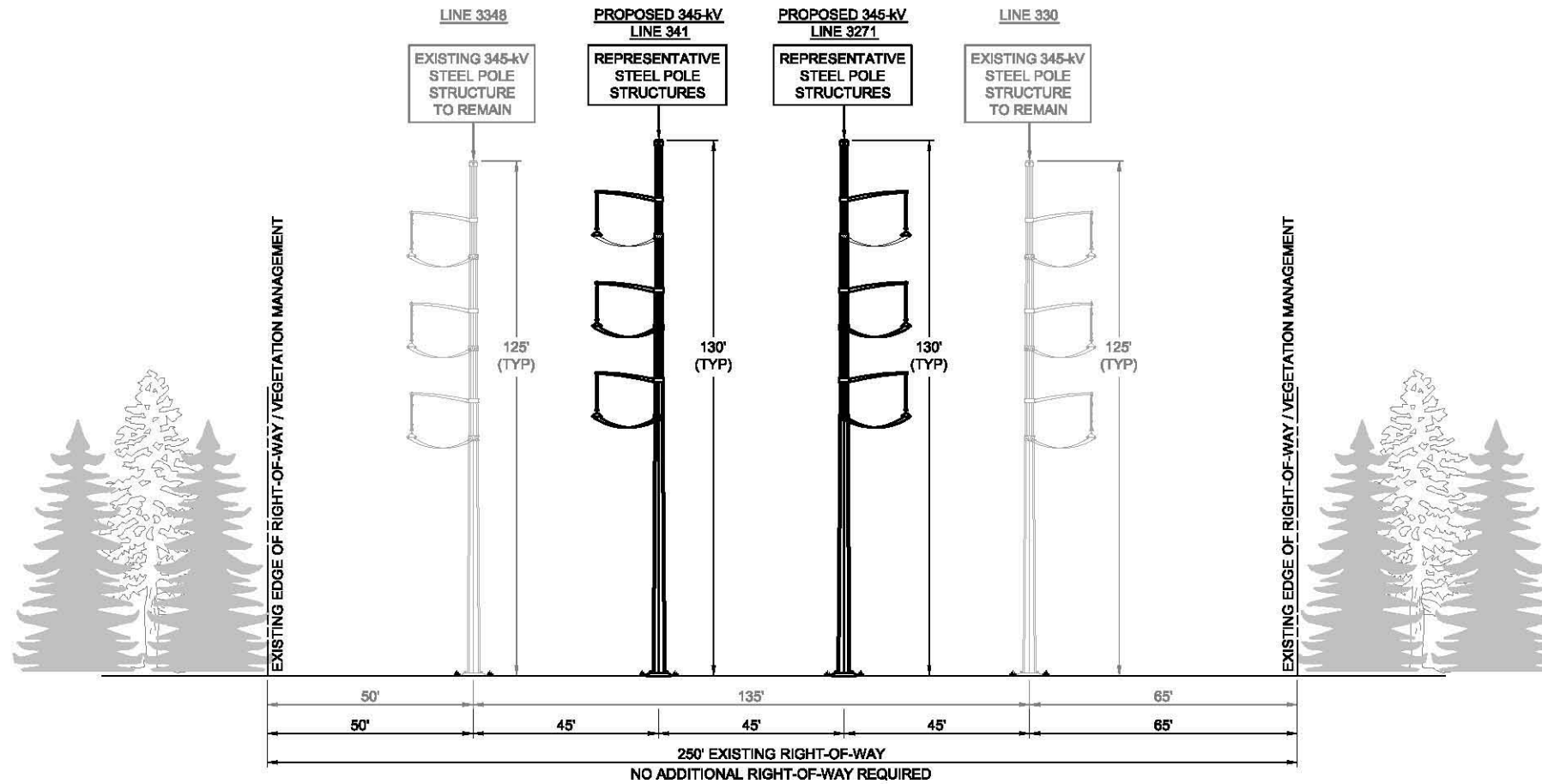
KEY MAP
 NOT TO SCALE

- NOTES:**
- EXISTING LINES TO REMAIN.
 - PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
 - LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
 - STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
 - EXISTING VEGETATION MANAGEMENT EDGES ARE TYPICAL.
 - AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
 - DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



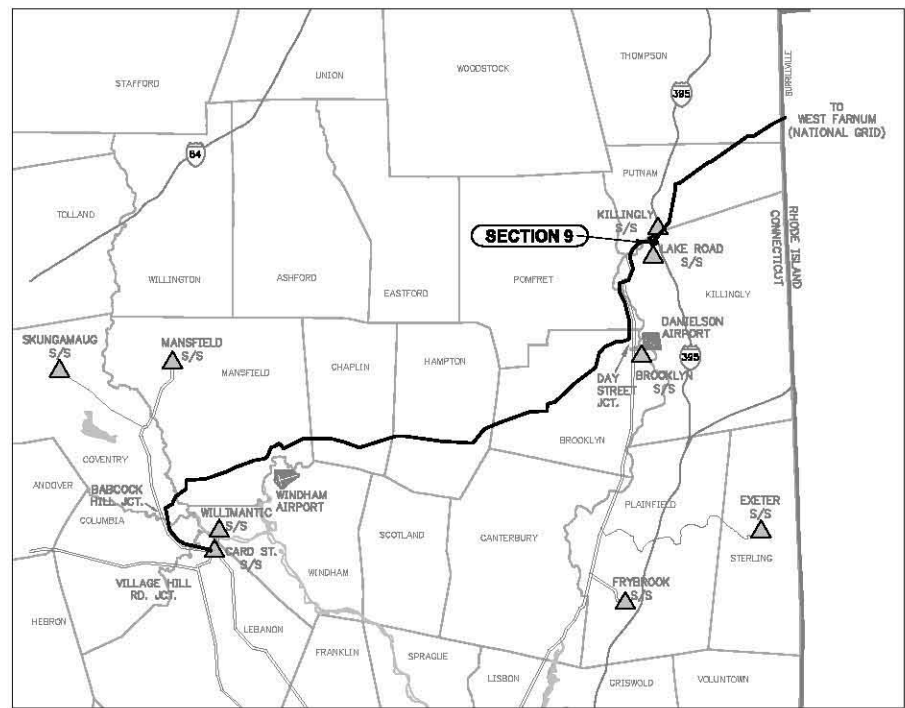
TITLE INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION HARTFORD TURNPIKE TO LAKE ROAD JUNCTION			
BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-8
P.A. #			

M:\JUSCO\46187 - Interstate\Grids\04\Cross Section Drawings\Cross-Sections.dwg (XS-B) 05-24-2011 16:49 DDL BMM/d



PROPOSED CONFIGURATION
VERTICAL STEEL POLE DESIGN
LAKE ROAD JUNCTION
TO
LAKE ROAD SWITCHING STATION
IN THE TOWN OF KILLINGLY
EXISTING STRUCTURES 9263-9264
LOOKING
SOUTH
(0.2 MILE)

PRELIMINARY DESIGN
SUBJECT TO CHANGE

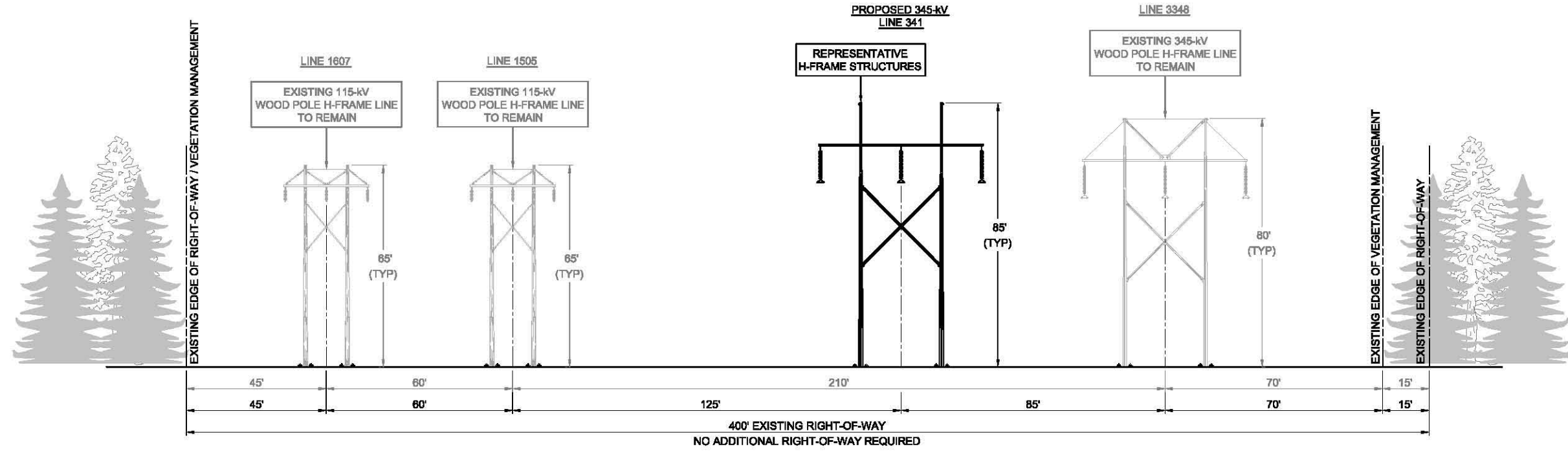


- NOTES:**
- EXISTING LINES TO REMAIN.
 - PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
 - LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
 - STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
 - EXISTING VEGETATION MANAGEMENT EDGES ARE TYPICAL.
 - AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.



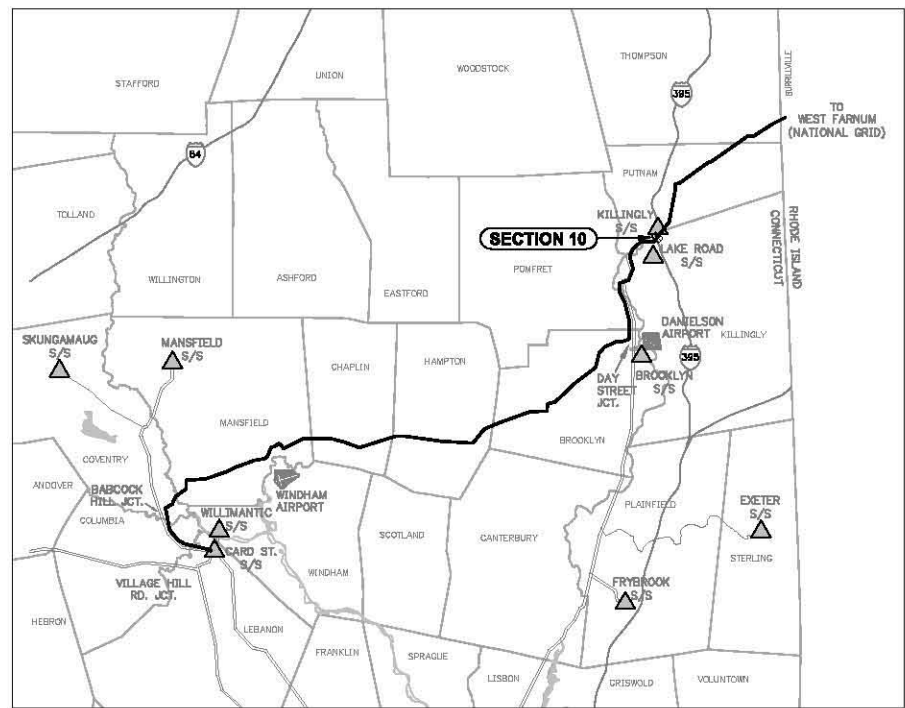
TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION LAKE ROAD JUNCTION TO LAKE ROAD SWITCHING STATION			
BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-9
P.A. #			

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PROPOSED CONFIGURATION
H-FRAME DESIGN
 LAKE ROAD JUNCTION
 TO
 KILLINGLY SUBSTATION
 IN THE TOWN OF
 KILLINGLY
 EXISTING STRUCTURES 9265-9267
 LOOKING
 NORTHEASTERLY
 (0.7 MILE)

PRELIMINARY DESIGN
SUBJECT TO CHANGE



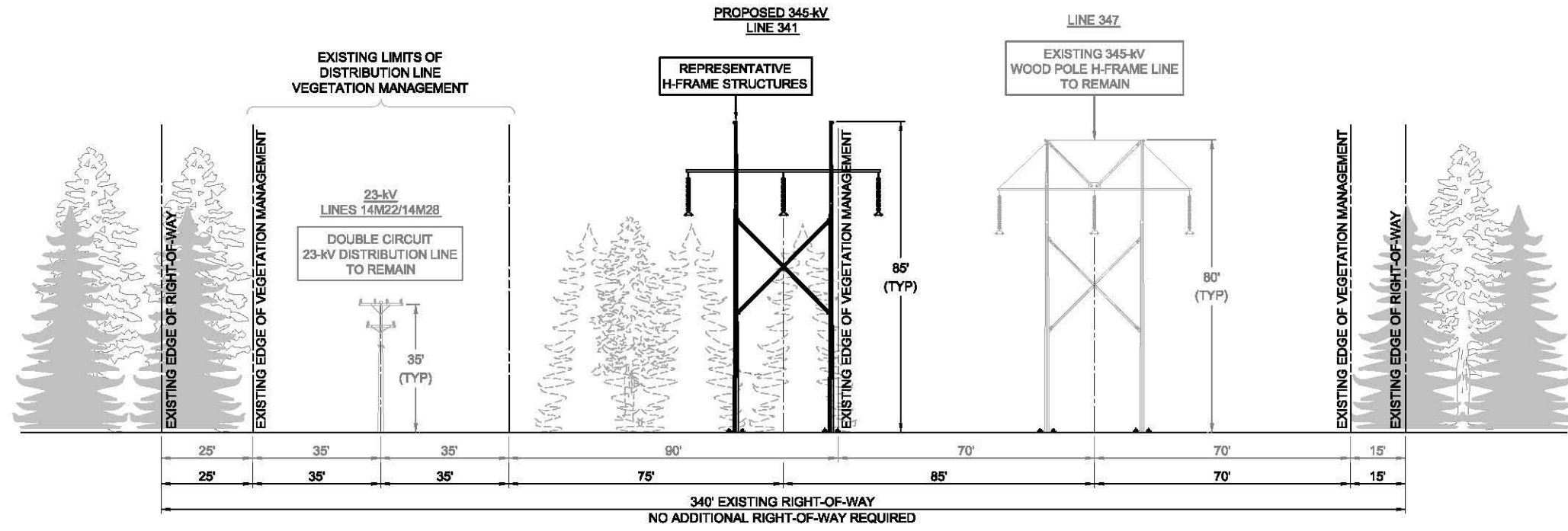
KEY MAP
 NOT TO SCALE

- NOTES:**
- EXISTING LINES TO REMAIN.
 - PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
 - LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
 - STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
 - EXISTING VEGETATION MANAGEMENT EDGES ARE TYPICAL.
 - AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
 - DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.
 - VEGETATION WITHIN R.O.W. BETWEEN THE EXISTING 3348 LINE AND THE EXISTING 1605 LINE WILL BE REMOVED.



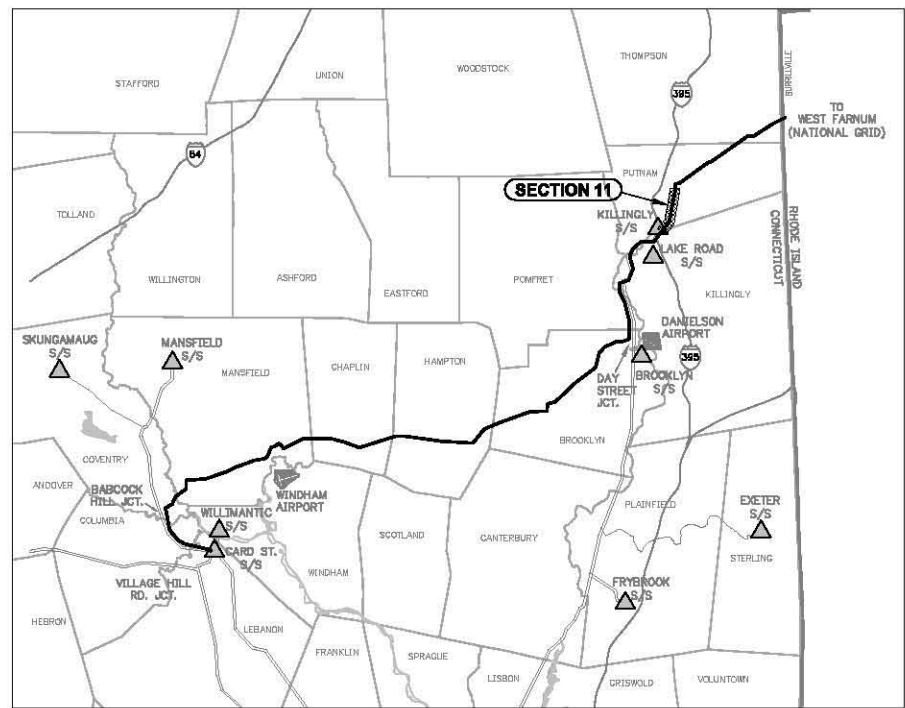
TITLE INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION LAKE ROAD JUNCTION TO KILLINGLY SUBSTATION			
BY D. LAURSEN	CHKD M. HATFIELD	APP	APP
DATE 07/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-10
P.A. #			

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PROPOSED CONFIGURATION
H-FRAME DESIGN
KILLINGLY SUBSTATION
TO
HERITAGE ROAD
IN THE TOWNS OF
KILLINGLY & PUTNAM
EXISTING STRUCTURES 9268-9285
LOOKING
NORTHEASTERLY
(1.7 MILES)

PRELIMINARY DESIGN
SUBJECT TO CHANGE



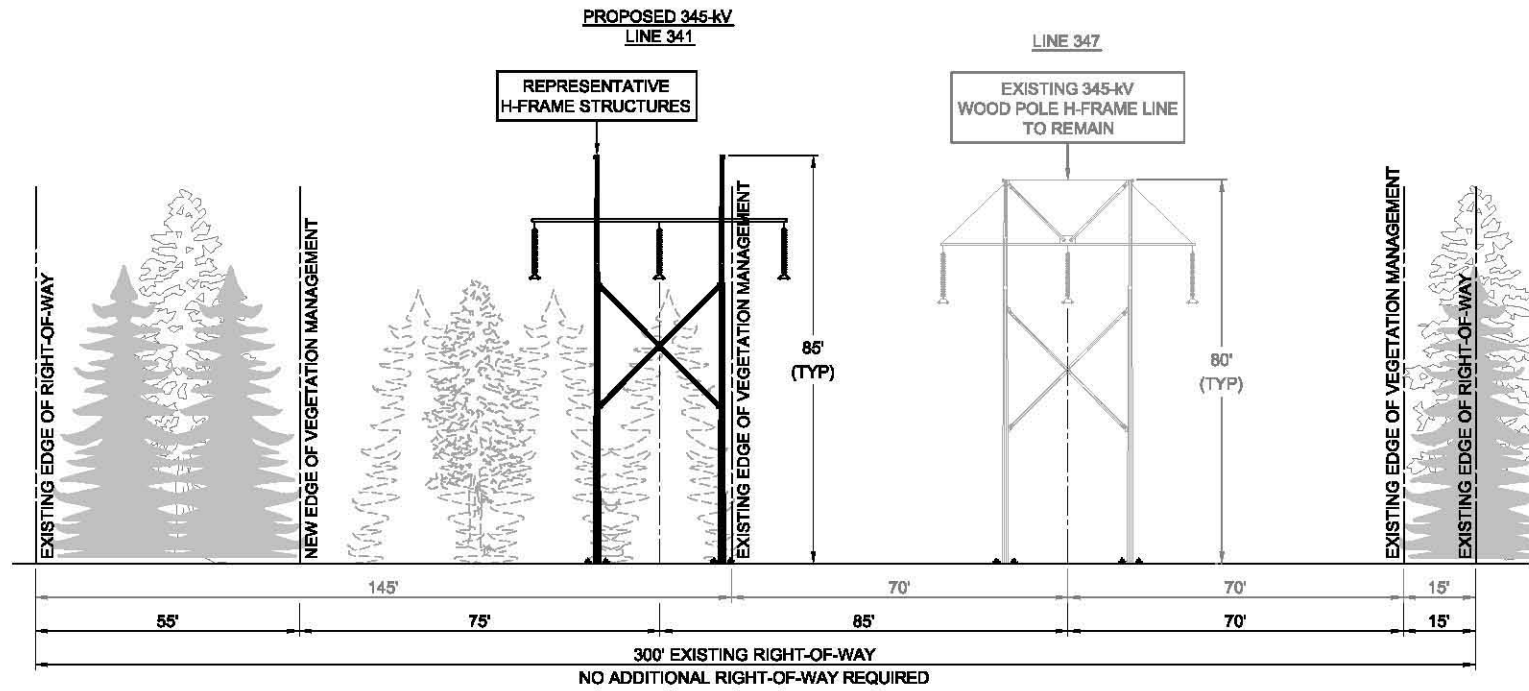
KEY MAP
 NOT TO SCALE

- NOTES:**
- EXISTING LINES TO REMAIN.
 - PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
 - LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
 - STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
 - EXISTING VEGETATION MANAGEMENT DIMENSIONS ARE TYPICAL.
 - AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
 - VEGETATION WITHIN R.O.W. BETWEEN THE EXISTING 347 LINE AND THE 23-KV DISTRIBUTION LINE WILL BE REMOVED.
 - DISTRIBUTION LINE LOCATION WITHIN R.O.W. VARIES. TWO DISTRIBUTION STRUCTURES WILL NEED TO BE RELOCATED ADJACENT TO EXISTING STRUCTURE 9286 AT HERITAGE ROAD.
 - DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



TITLE INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION KILLINGLY SUBSTATION TO HERITAGE ROAD			
BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-11
P.A. #			

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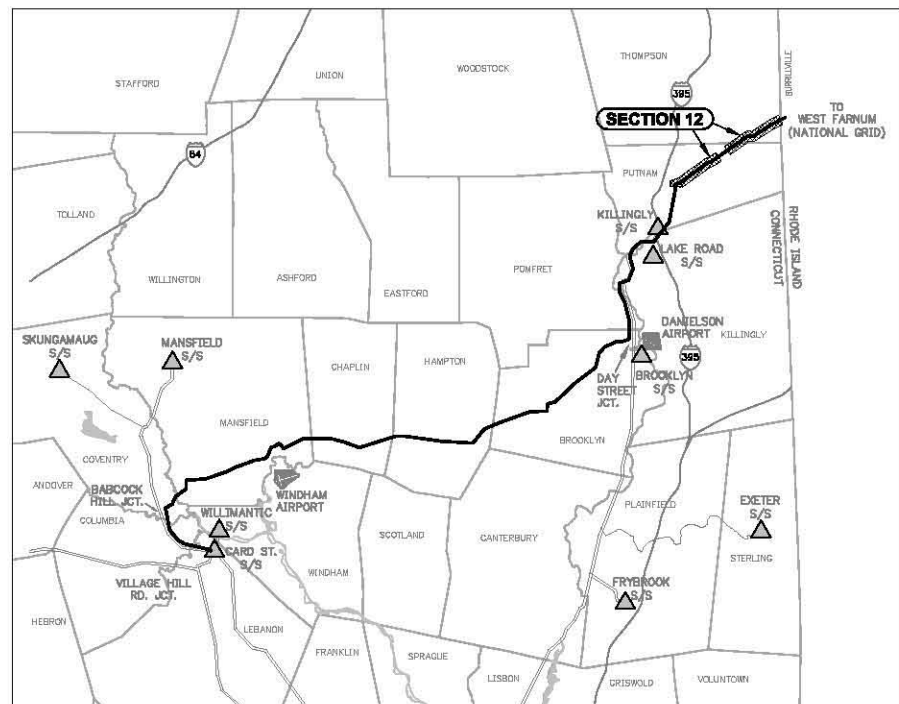
PROPOSED CONFIGURATION
H-FRAME DESIGN
HERITAGE ROAD
TO
CONNECTICUT / RHODE ISLAND STATE BORDER
(EXCLUDING ELVIRA HEIGHTS)

IN THE TOWNS OF
PUTNAM & THOMPSON

EXISTING STRUCTURES 9286-9304
AND
EXISTING STRUCTURES 9311-9333

LOOKING
NORTHEASTERLY
(4.5 MILES)

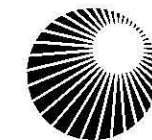
PRELIMINARY DESIGN
SUBJECT TO CHANGE



KEY MAP
NOT TO SCALE

NOTES:

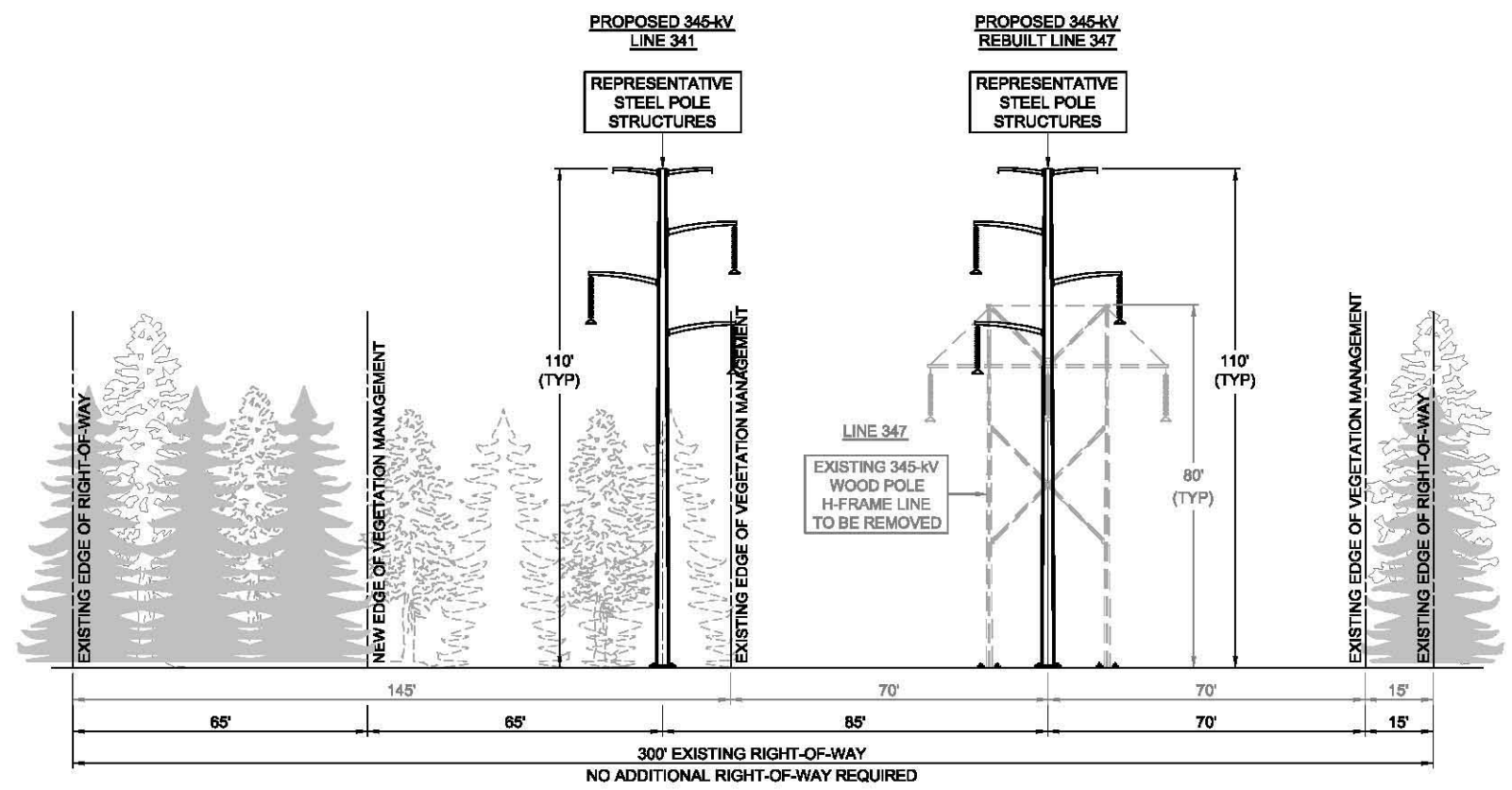
1. EXISTING LINE TO REMAIN.
2. PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
3. LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
4. STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
5. EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
6. AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
7. DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.



Northeast
Utilities System

TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION HERITAGE ROAD TO CONNECTICUT/RHODE ISLAND STATE BORDER (EXCLUDING ELVIRA HEIGHTS)			
BY D. LAURSEN	CHKD S. CASTEEL	APP	APP
DATE 05/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-12
P.A. #			

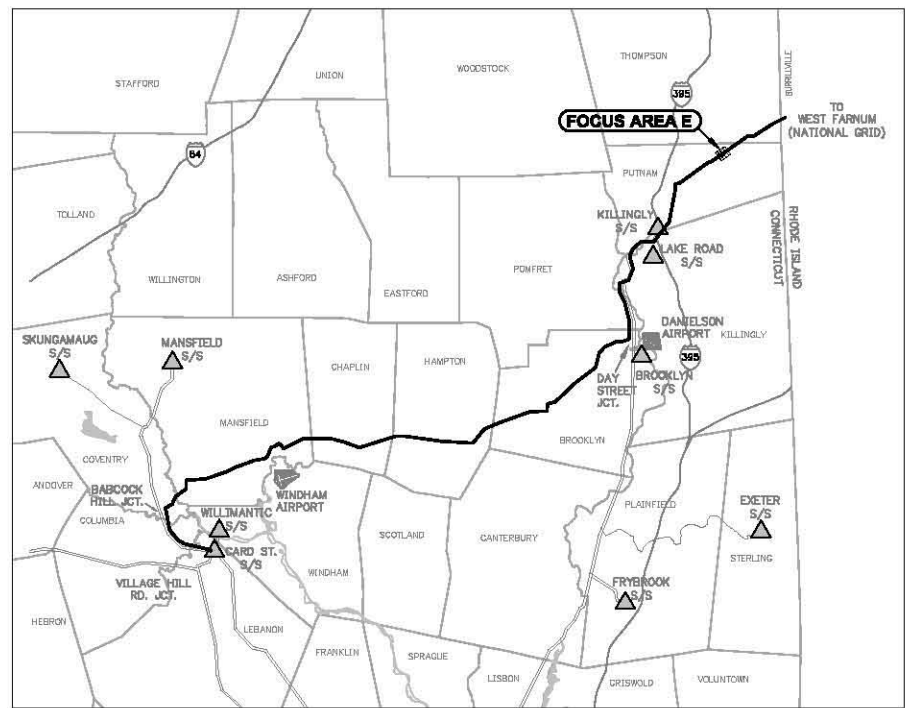
M:\JUSCO\46187 - Interstate\Grids\Grids Section Drawings\Cross-Sections.dwg (XS-12 BMP) 07-01-2011 14:42 DDL B&W



PROPOSED CONFIGURATION
DELTA STEEL POLE DESIGN
EMF BMP - FOCUS AREA E
ELVIRA HEIGHTS
IN THE TOWN OF PUTNAM
EXISTING STRUCTURES 9305-9310

LOOKING
NORTHEASTERLY
(0.6 MILE)

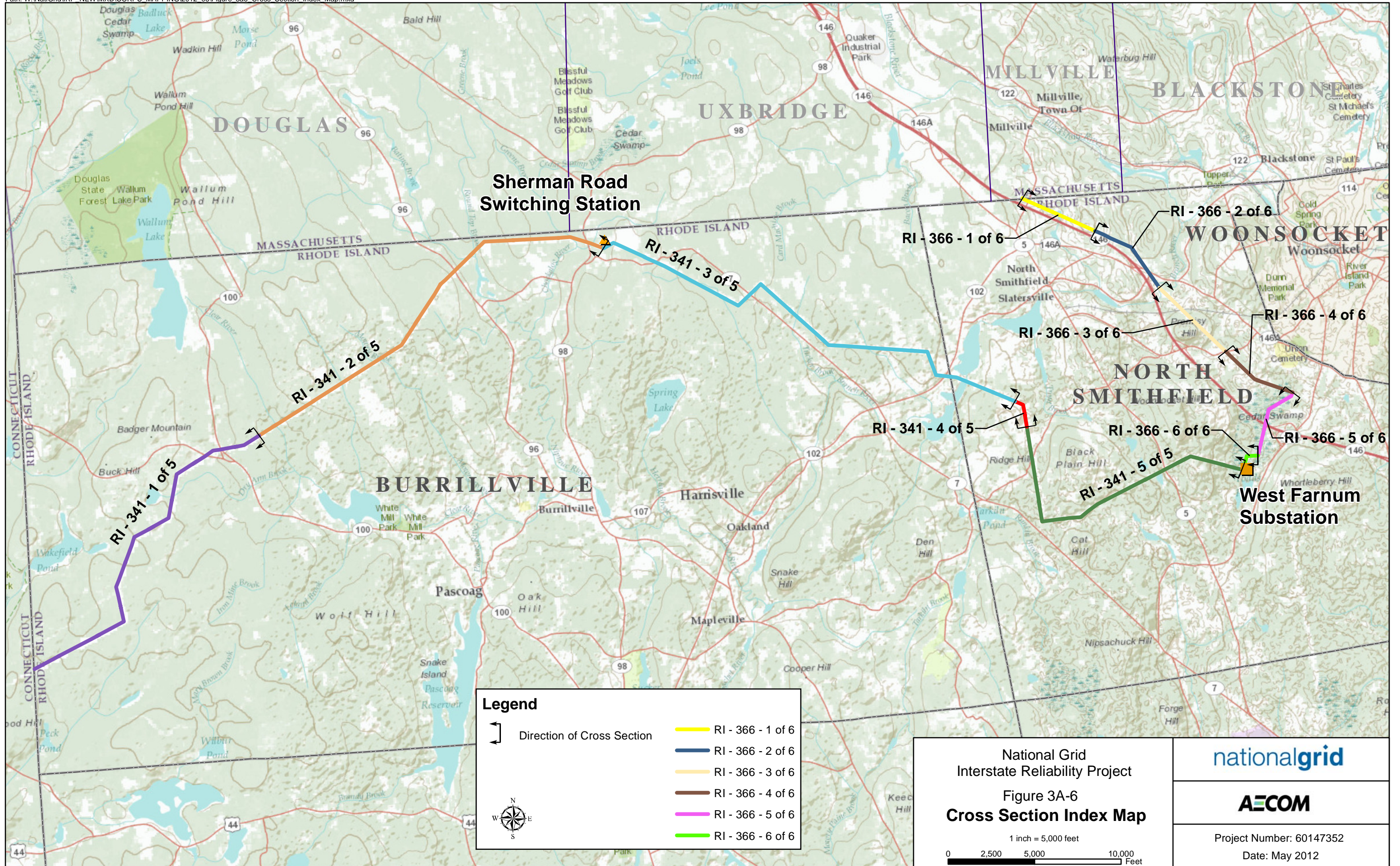
PRELIMINARY DESIGN
SUBJECT TO CHANGE



- NOTES:**
- EXISTING LINE TO BE REMOVED.
 - PRELIMINARY STRUCTURE SPOTTING IS BASED ON STRUCTURE-FOR-STRUCTURE INSTALLATION.
 - LOW-MATURING WOODY SHRUB SPECIES ARE TYPICALLY NOT REMOVED.
 - STRUCTURE HEIGHTS WERE DETERMINED FROM TYPICAL EXPECTED SPANS. STRUCTURE HEIGHTS ARE SUBJECT TO CHANGE WITH THE COMPLETION OF FINAL DESIGN.
 - EXISTING AND NEW VEGETATION MANAGEMENT EDGES ARE TYPICAL.
 - AFTER THE CONDUCTORS HAVE BEEN INSTALLED, A REFERENCE IS ESTABLISHED THAT MAY IDENTIFY ADDITIONAL DANGER TREES OUTSIDE THE INITIALLY CLEARED AREA THAT MIGHT NEED TO BE REMOVED.
 - DEPICTED STRUCTURES ARE STEEL TANGENT STRUCTURES. ANGLE AND DEADEND STRUCTURES WILL DIFFER.

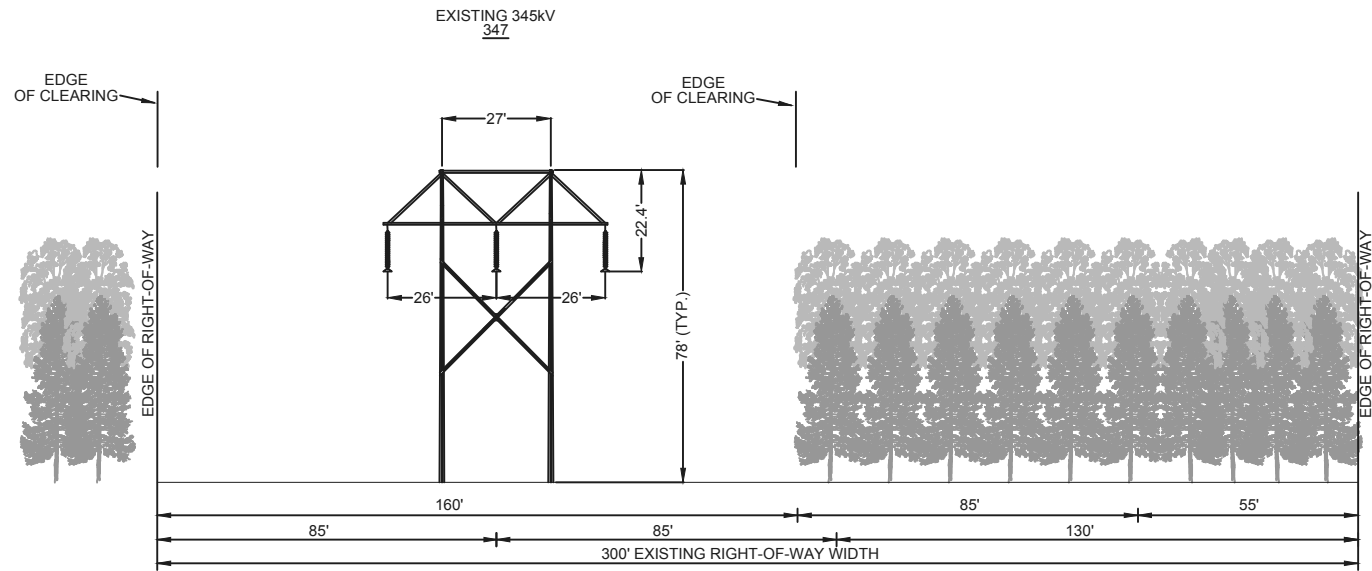


TITLE			
INTERSTATE RELIABILITY PROJECT PROPOSED CONFIGURATION EMF BMP - FOCUS AREA E ELVIRA HEIGHTS			
BY D. LAURSEN	CHKD M. HATFIELD	APP	APP
DATE 07/11	DATE	DATE	DATE
SCALE NONE	MICROFILM DATE	DWG. NO.	XS-12 BMP
P.A. #			

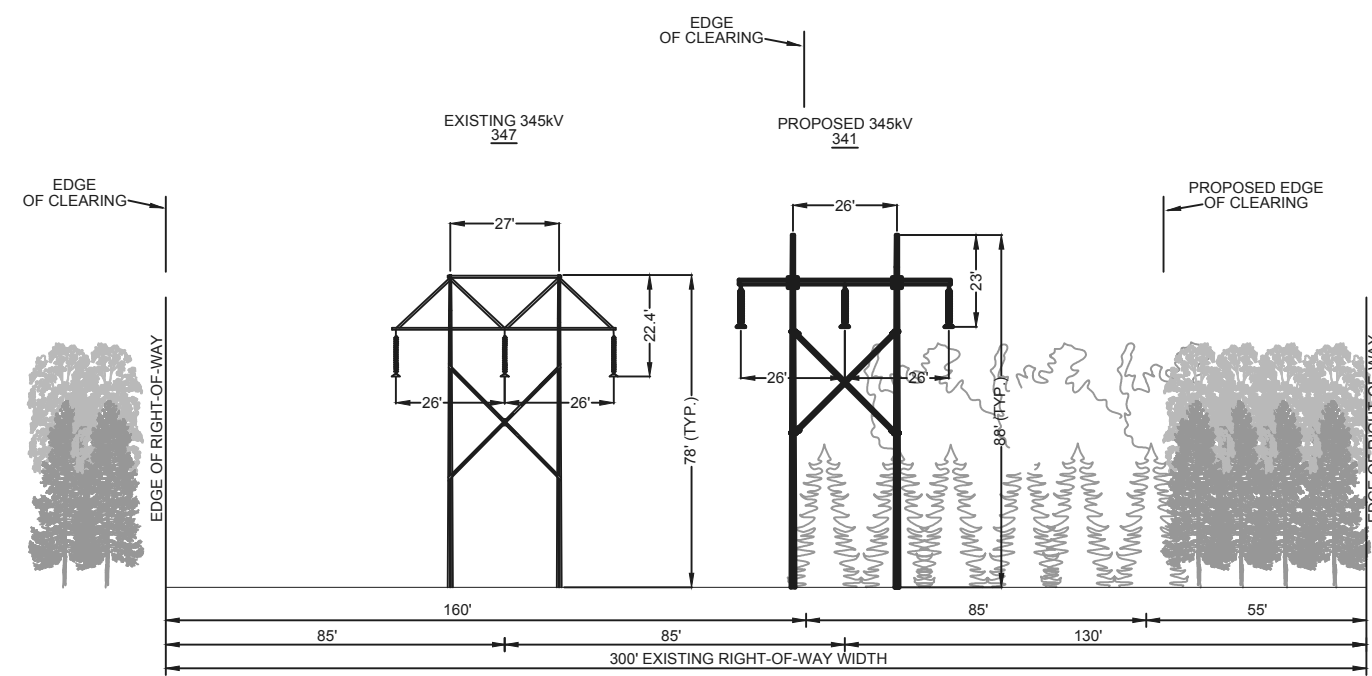


File: Y:\Projects\NatGrid\RP_NEW\MD\CORPS_MAPPING\2012_05\Figure_3A-7_Cross_Sections.dwg Layout: SHEET 01 User: mayerh Plotted: May 21, 2012 - 12:58pm Xref's:

- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
 3. EXISTING RIGHT-OF-WAY WIDTH VARIES.
 4. EDGE OF CLEARING (EXISTING AND PROPOSED WIDTHS) VARY.
 5. PRESENCE OF PIPELINES WITHIN ROW IS INTERMITTENT ALONG LENGTH OF ROW. LOCATIONS OF PIPELINES ALONG ROW ARE DEPICTED ON THE PLANIMETRIC AND AERIAL-BASED DRAWINGS.



EXISTING LAYOUT
(NOT TO SCALE)



PROPOSED LAYOUT
(NOT TO SCALE)

VIEW LOOKING SOUTH FROM
WEST OF THE CLEAR RIVER TO RHODE ISLAND AND
CONNECTICUT STATE LINE
BURRILLVILLE, RI

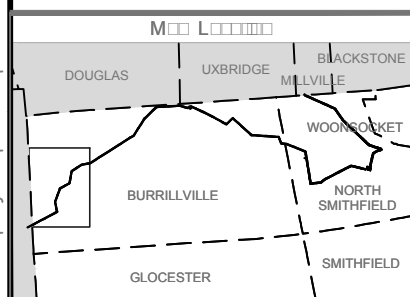


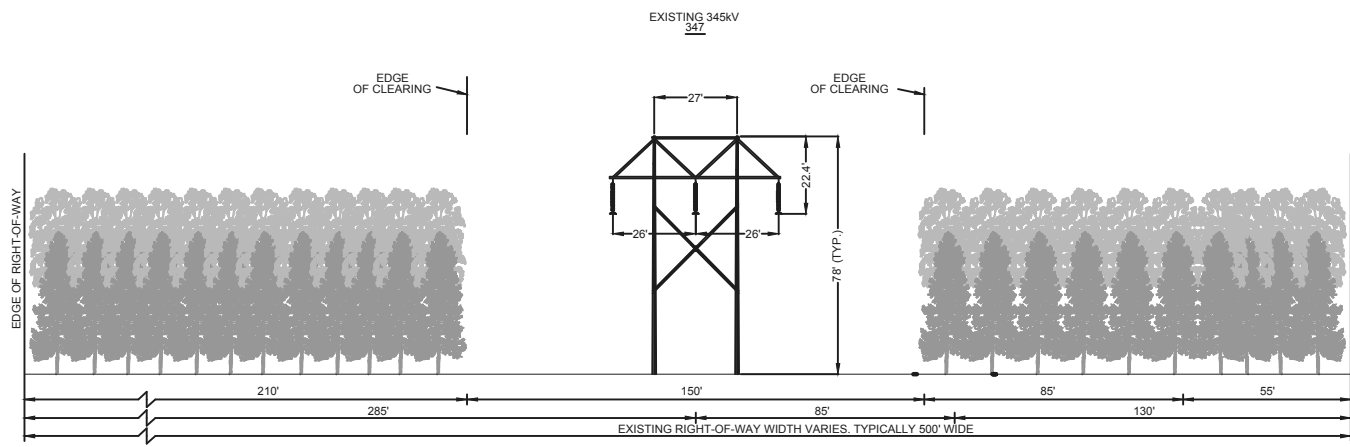
FIGURE A
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

nationalgrid

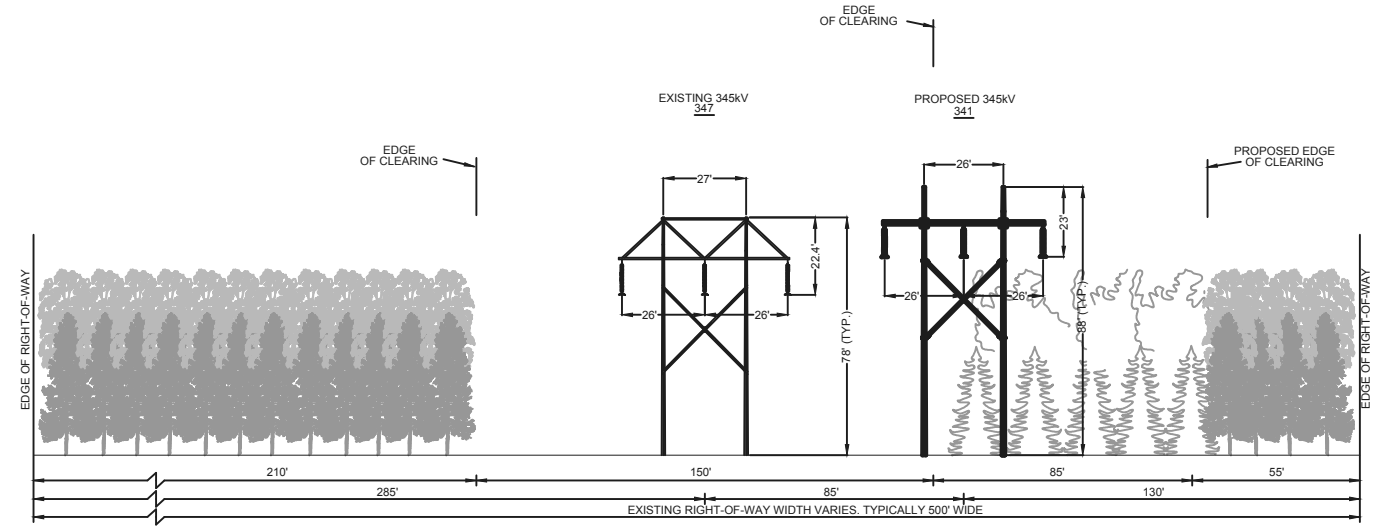
AECOM

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- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
 3. EXISTING RIGHT-OF-WAY WIDTH VARIES.
 4. EDGE OF CLEARING (EXISTING AND PROPOSED WIDTHS) VARY.
 5. PRESENCE OF PIPELINES WITHIN ROW IS INTERMITTENT ALONG LENGTH OF ROW. LOCATIONS OF PIPELINES ALONG ROW ARE DEPICTED ON THE PLANIMETRIC AND AERIAL-BASED DRAWINGS.



EXISTING LAYOUT
(NOT TO SCALE)



PROPOSED LAYOUT
(NOT TO SCALE)

VIEW LOOKING SOUTH FROM
SHERMAN ROAD SWITCHING STATION TO WEST OF THE CLEAR RIVER
BURRILLVILLE, RI

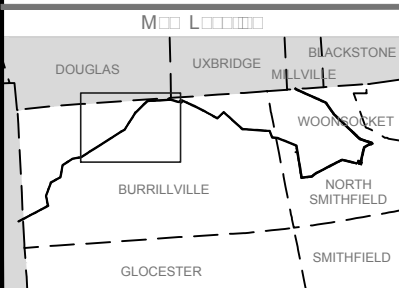


FIGURE 3A
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

Map Sheet: RI - 341 - 2 of 5

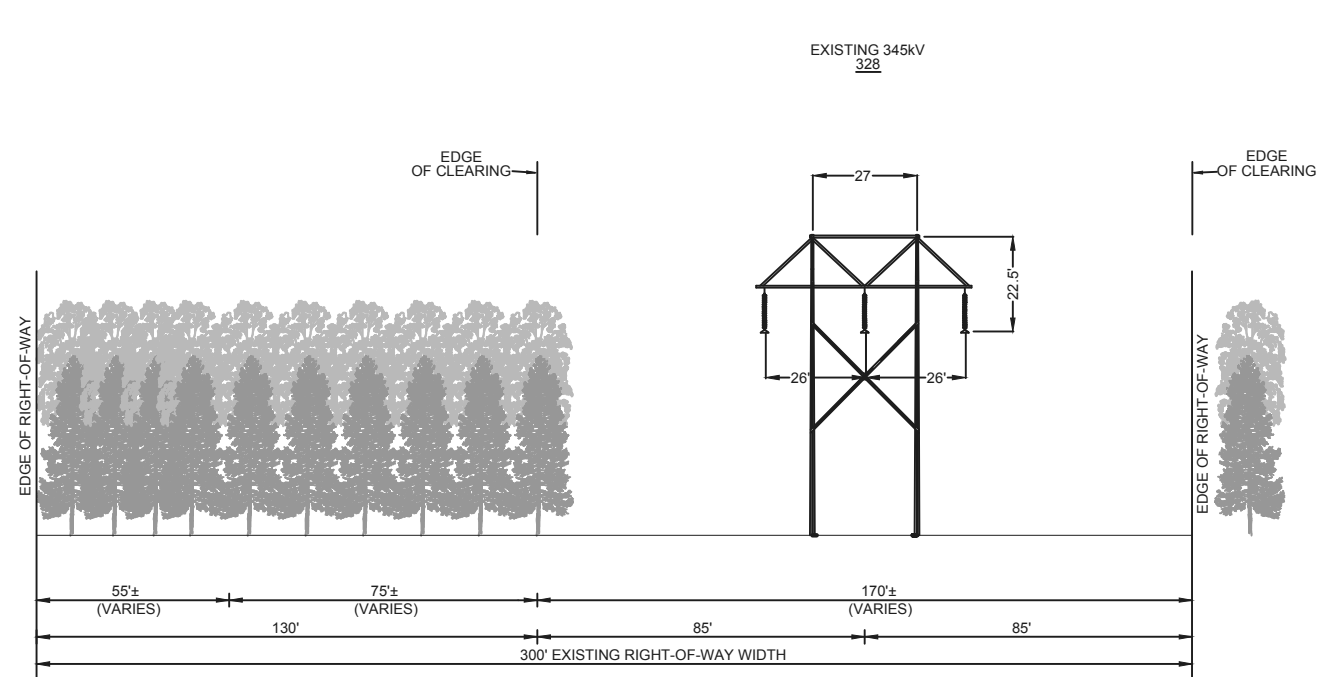
nationalgrid

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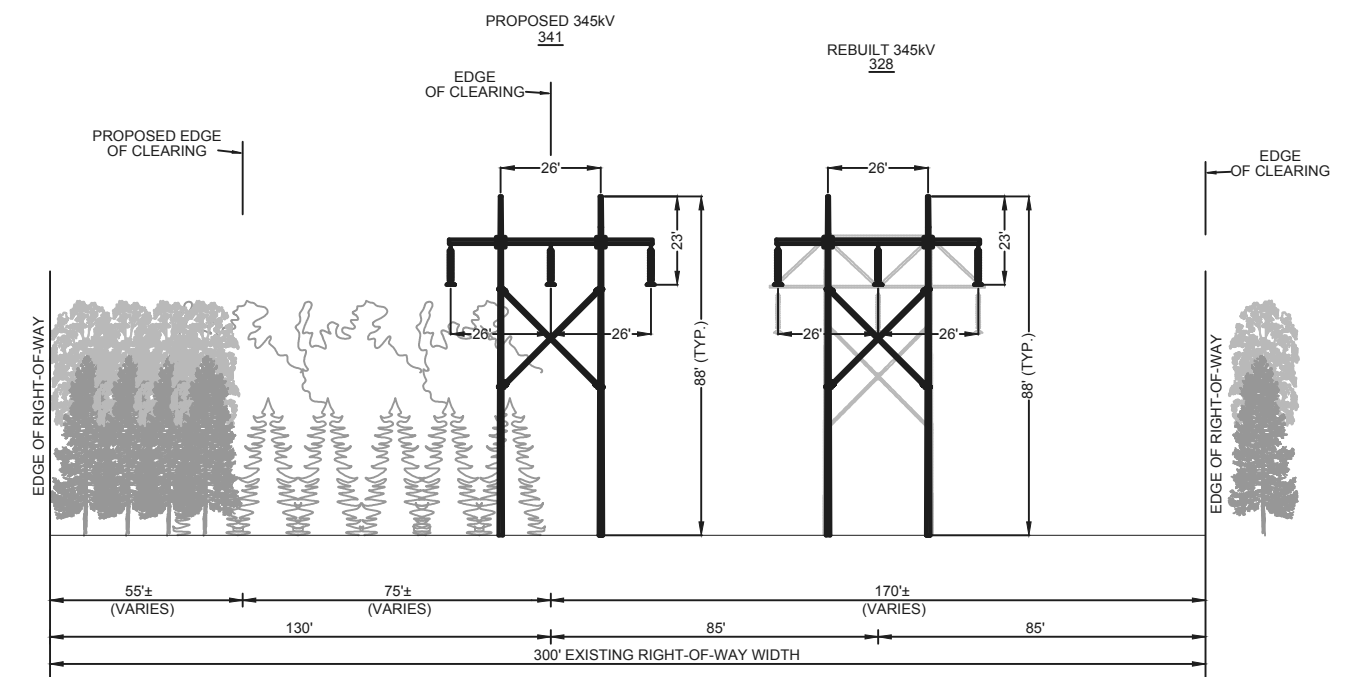
Date: May 2012
Project #: 60147352

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- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
 3. EXISTING RIGHT-OF-WAY WIDTH VARIES.
 4. EDGE OF CLEARING (EXISTING AND PROPOSED WIDTHS) VARY.
 5. PRESENCE OF PIPELINES WITHIN ROW IS INTERMITTENT ALONG LENGTH OF ROW. LOCATIONS OF PIPELINES ALONG ROW ARE DEPICTED ON THE PLANIMETRIC AND AERIAL-BASED DRAWINGS.

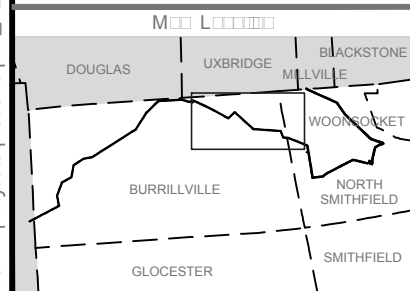


EXISTING LAYOUT
(NOT TO SCALE)



PROPOSED LAYOUT
(NOT TO SCALE)

VIEW LOOKING NORTH FROM
WEST OF THE LORR SUPERFUND SITE TO THE SHERMAN ROAD SWITCHING STATION
NORTH SMITHFIELD □ BURRILLVILLE, RI



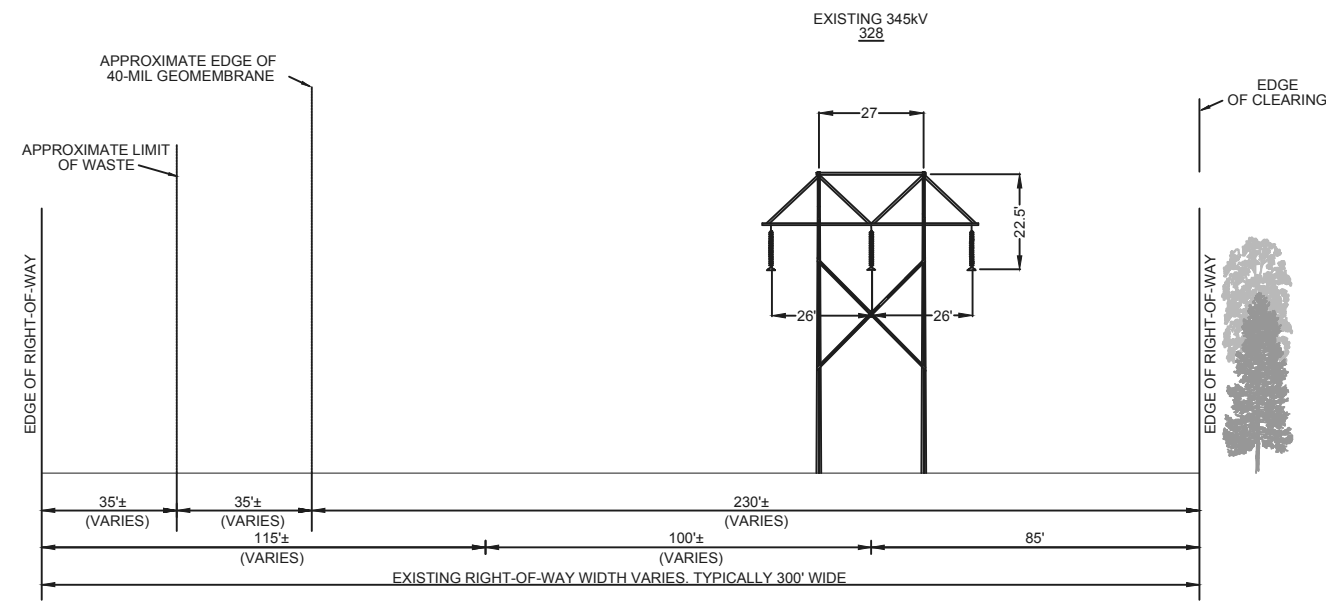
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FIGURE A
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

nationalgrid

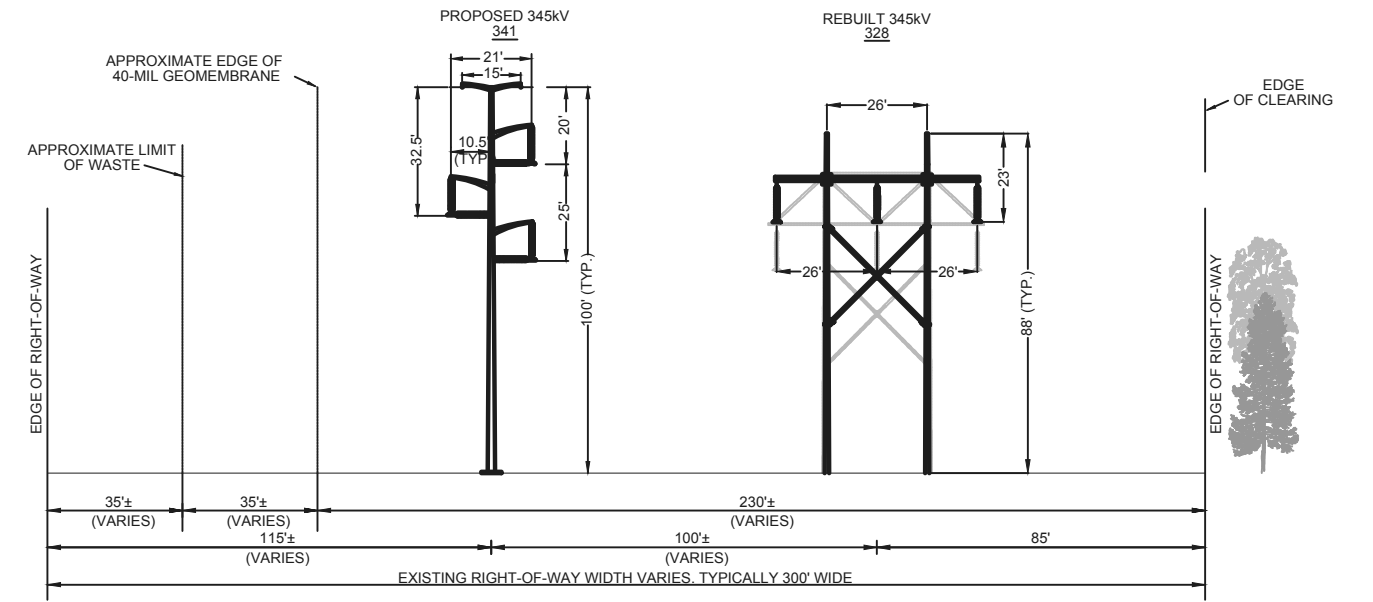
AECOM

File: Y:\Projects\WatGrid\RP_NEW\MXD\CORPS_MAPPING\2012_05\Figure_3A-7_Cross_Sections.dwg Layout: SHEET 04 User: mayerh Plotted: May 21, 2012 - 1:01pm Xref's:

- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
 3. EXISTING RIGHT-OF-WAY WIDTH VARIES.
 4. EDGE OF CLEARING (EXISTING AND PROPOSED WIDTHS) VARY.
 5. PRESENCE OF PIPELINES WITHIN ROW IS INTERMITTENT ALONG LENGTH OF ROW. LOCATIONS OF PIPELINES ALONG ROW ARE DEPICTED ON THE PLANIMETRIC AND AERIAL-BASED DRAWINGS.

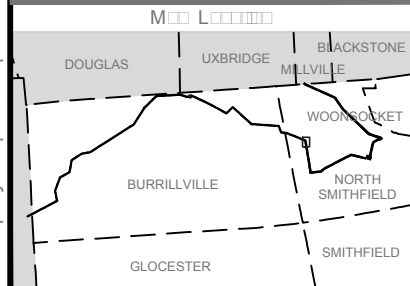


EXISTING LAYOUT
(NOT TO SCALE)



PROPOSED LAYOUT
(NOT TO SCALE)

VIEW LOOKING NORTH AT THE
LORR SUPERFUND SITE
NORTH SMITHFIELD, RI



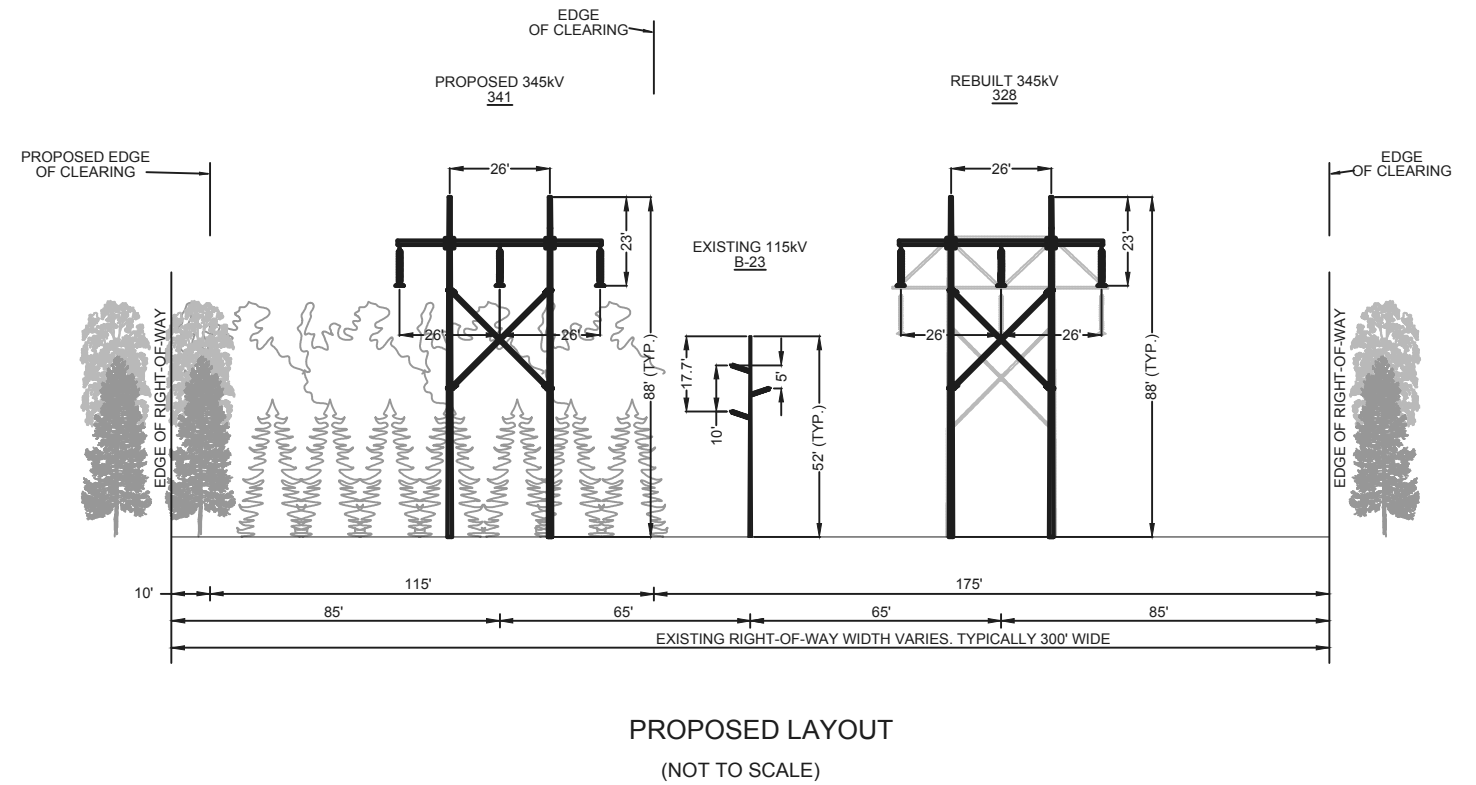
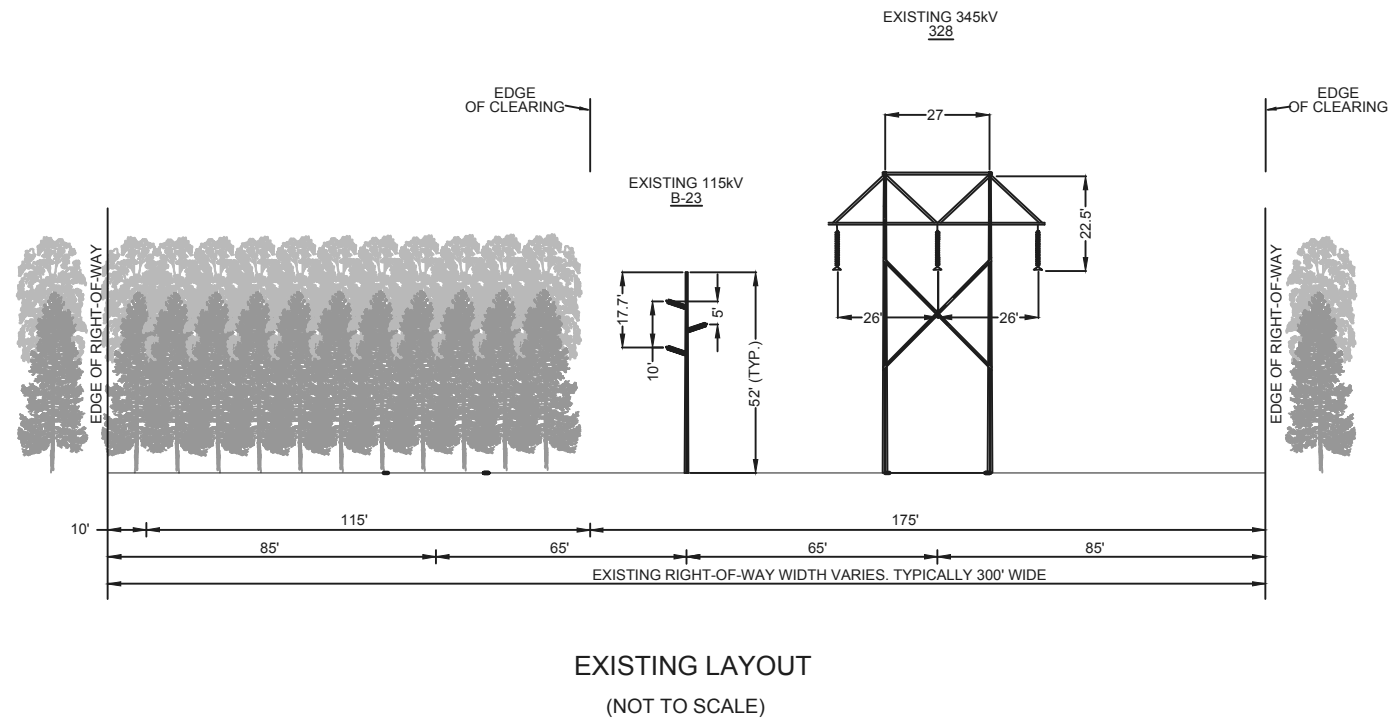
NATIONAL GRID
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

nationalgrid

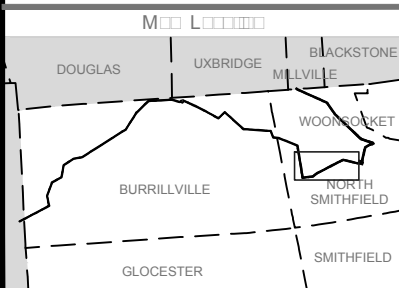
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- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
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 4. EDGE OF CLEARING (EXISTING AND PROPOSED WIDTHS) VARY.
 5. PRESENCE OF PIPELINES WITHIN ROW IS INTERMITTENT ALONG LENGTH OF ROW. LOCATIONS OF PIPELINES ALONG ROW ARE DEPICTED ON THE PLANIMETRIC AND AERIAL-BASED DRAWINGS.



VIEW LOOKING NORTH FROM
THE WEST FARNUM SUBSTATION TO THE LORR SUPERFUND SITE
NORTH SMITHFIELD, RI



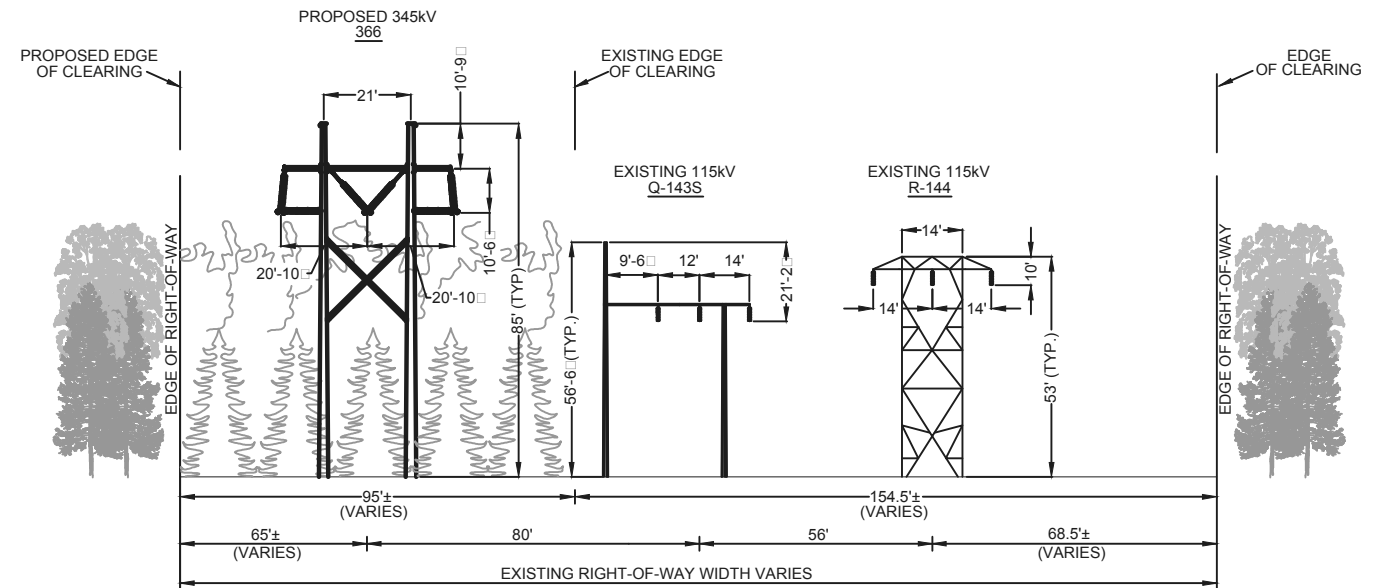
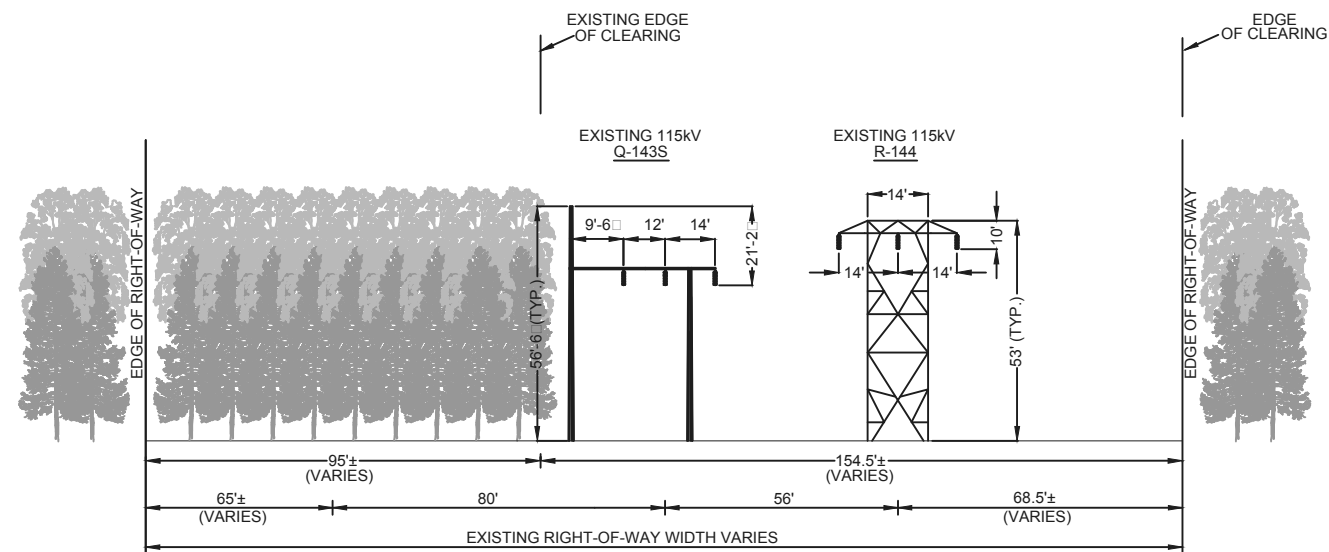
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FIGURE A
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

nationalgrid

AECOM

File: Y:\Projects\WatGrid\RP_NEW\MXD\CORPS_MAPPING\2012_05\Figure_3A-7_Cross_Sections.dwg Layout: SHEET 06 User: mayerh Plotted: May 21, 2012 - 1:02pm Xref's:

- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
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VIEW LOOKING SOUTH FROM
THE MASS/RI STATE LINE TO SOUTHEAST OF OLD GREAT ROAD
NORTH SMITHFIELD, RI

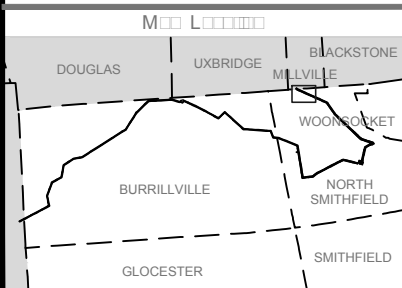


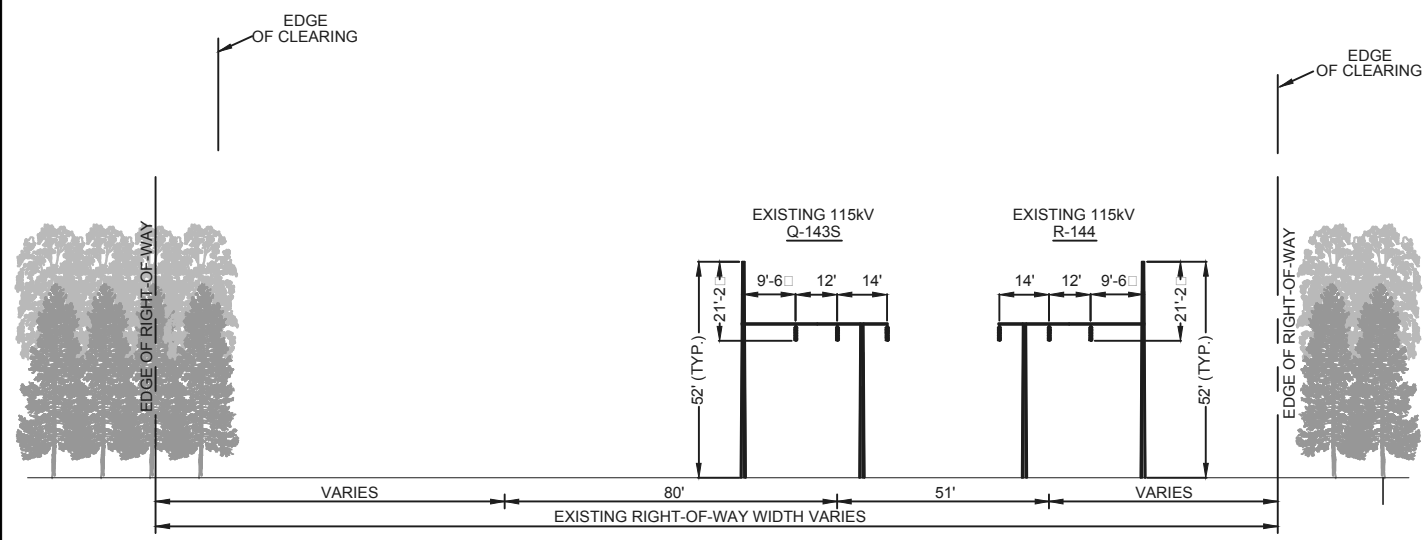
FIGURE 3A
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

nationalgrid

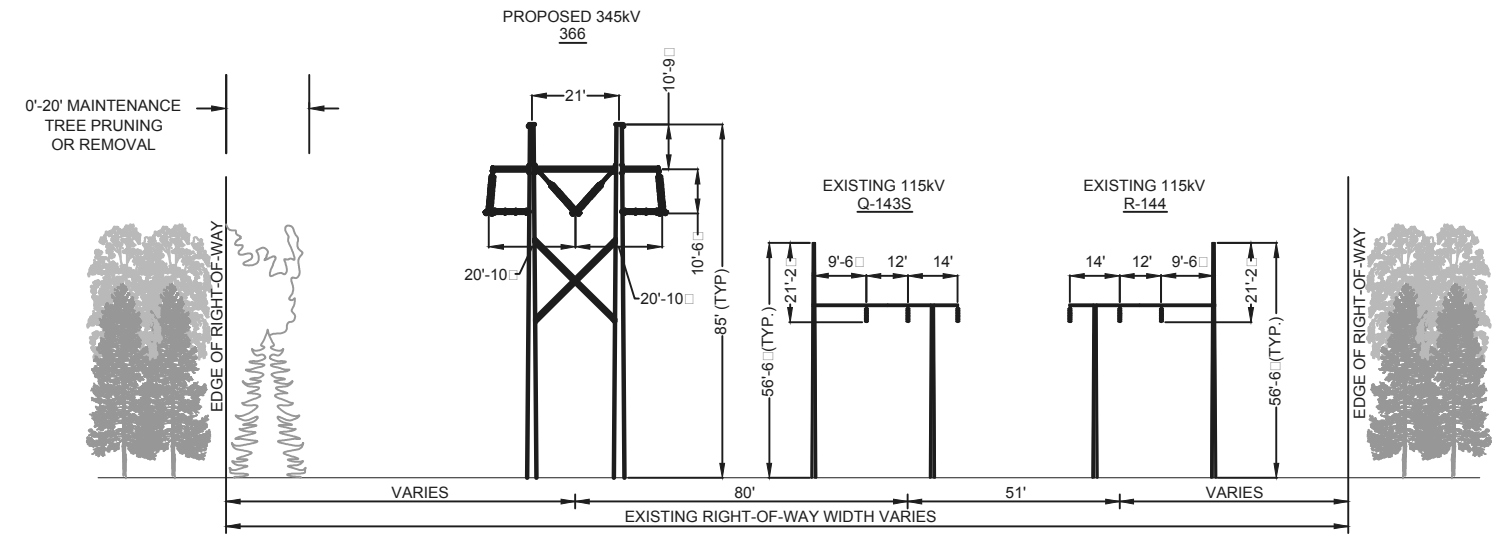
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- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
 3. EXISTING RIGHT-OF-WAY WIDTH VARIES.
 4. EDGE OF CLEARING (EXISTING AND PROPOSED WIDTHS) VARY.
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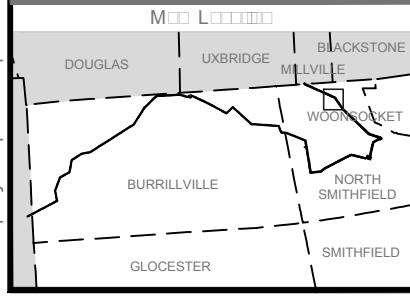


EXISTING LAYOUT
(NOT TO SCALE)



PROPOSED LAYOUT
(NOT TO SCALE)

VIEW LOOKING SOUTH FROM
SOUTHEAST OF OLD GREAT ROAD TO SOUTH OF SHOOL ST. (N)/MAIN STREET
NORTH SMITHFIELD, RI



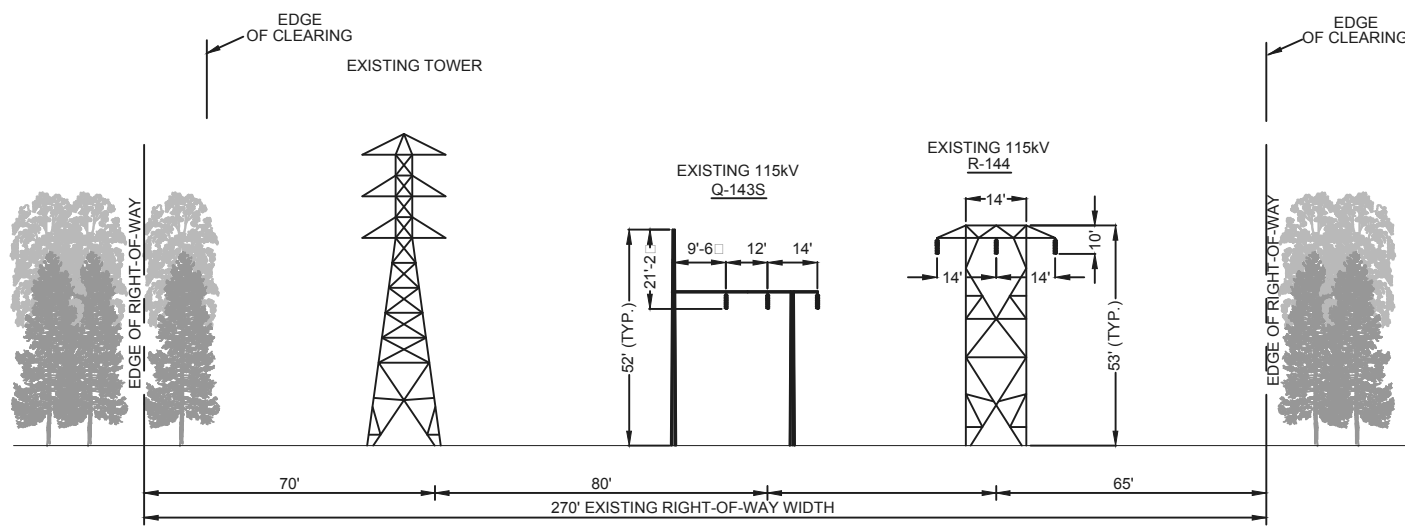
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FIGURE 3A
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

Map Sheet: RI - 366 - 2 of 6

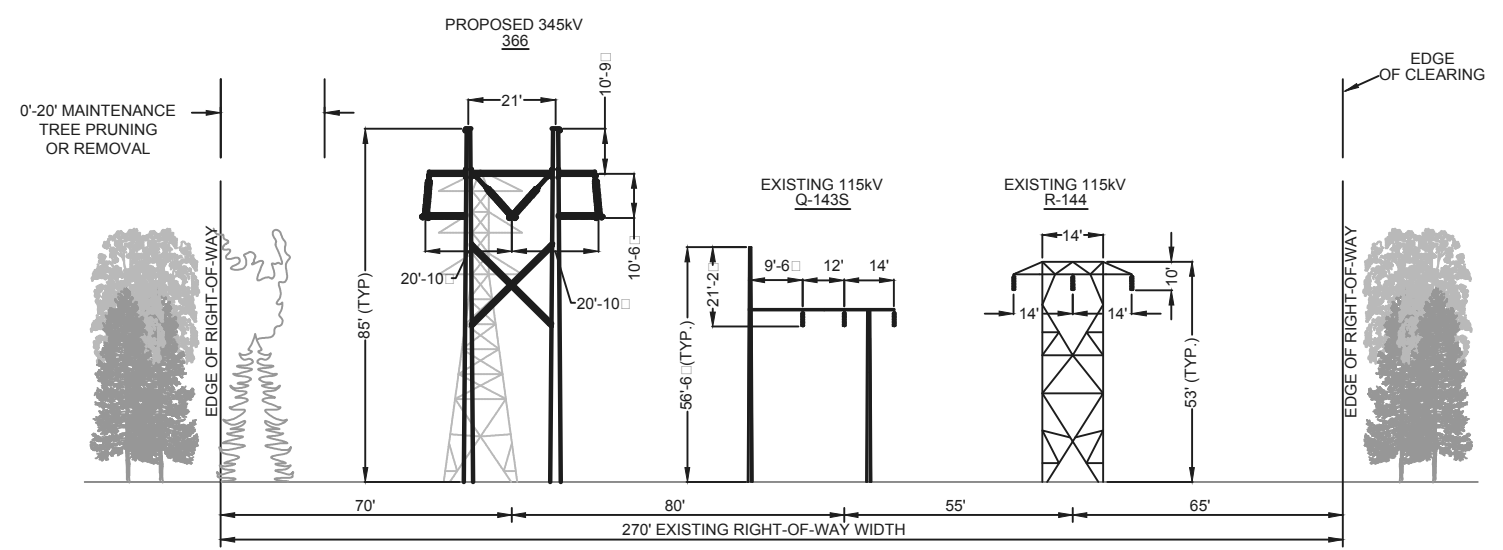
Date: May 2012
 Project #: 60147352

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- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
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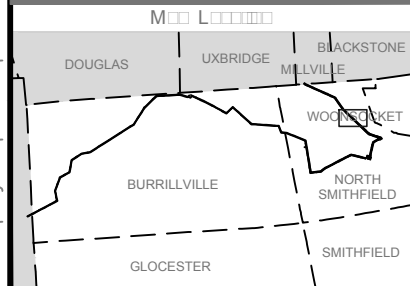


EXISTING LAYOUT
(NOT TO SCALE)



PROPOSED LAYOUT
(NOT TO SCALE)

VIEW LOOKING SOUTH FROM
SOUTH OF SCHOOL ST.(N)/MAIN STREET TO POUND HILL ROAD
NORTH SMITHFIELD, RI

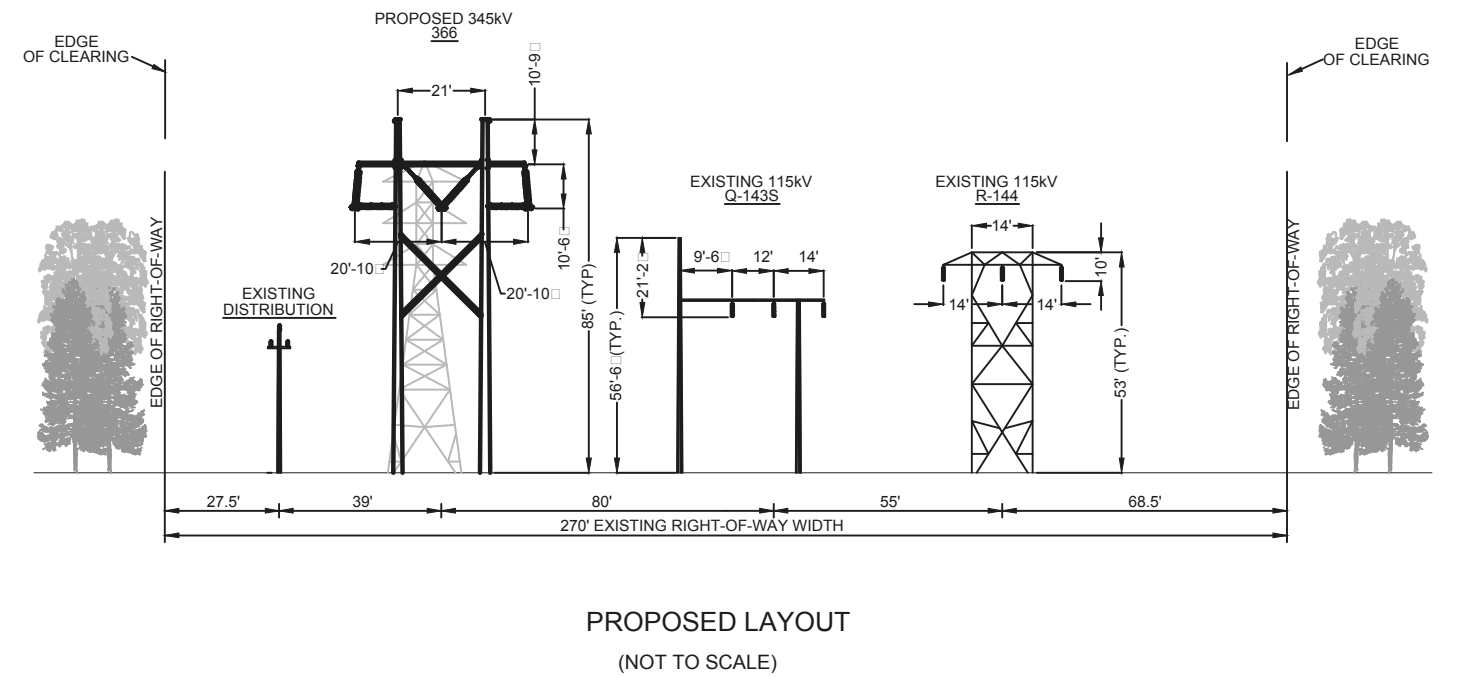
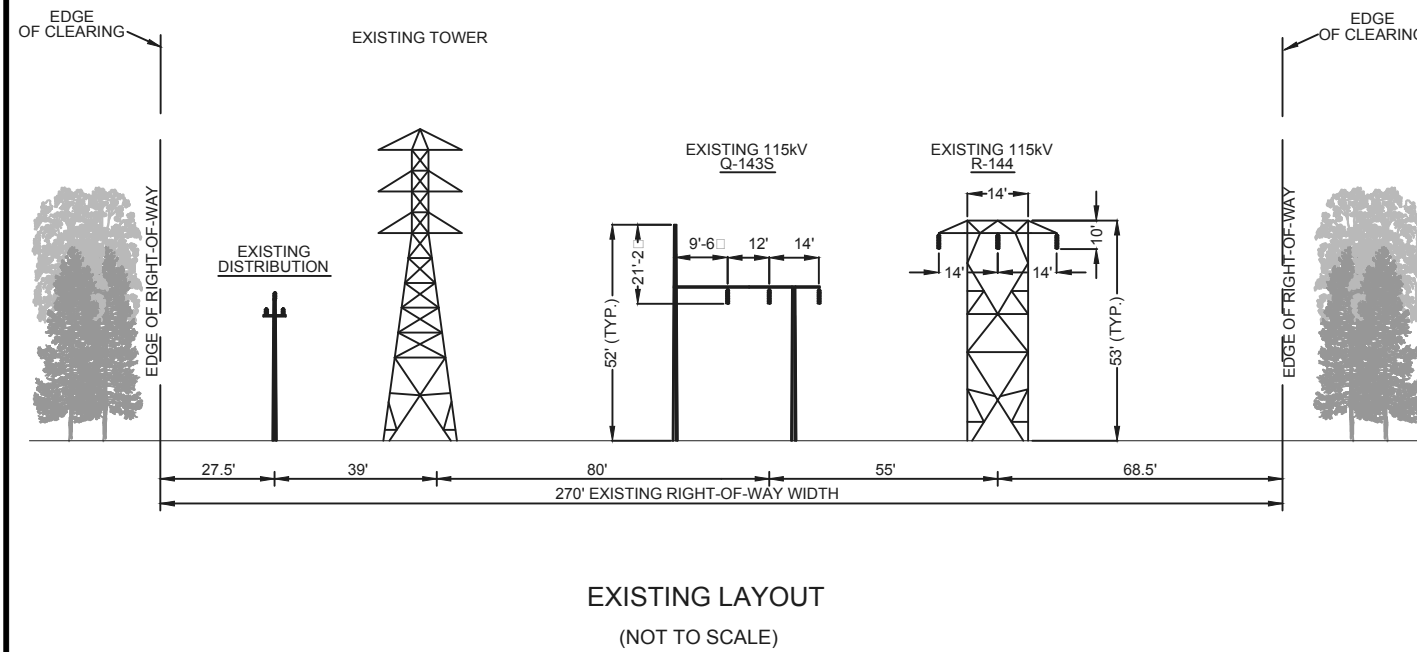


NATIONAL GRID
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

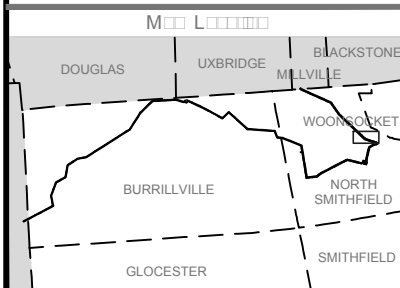


File: Y:\Projects\NatGrid\RP_NEW\MXD\CORPS_MAPPING\2012_05\Figure_3A-7_Cross_Sections.dwg Layout: SHEET 09 User: mayerh Plotted: May 21, 2012 - 1:04pm Xref's:

- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
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VIEW LOOKING SOUTH FROM
POUND HILL ROAD TO NORTHWEST OF GREENVILLE ROAD
NORTH SMITHFIELD, RI



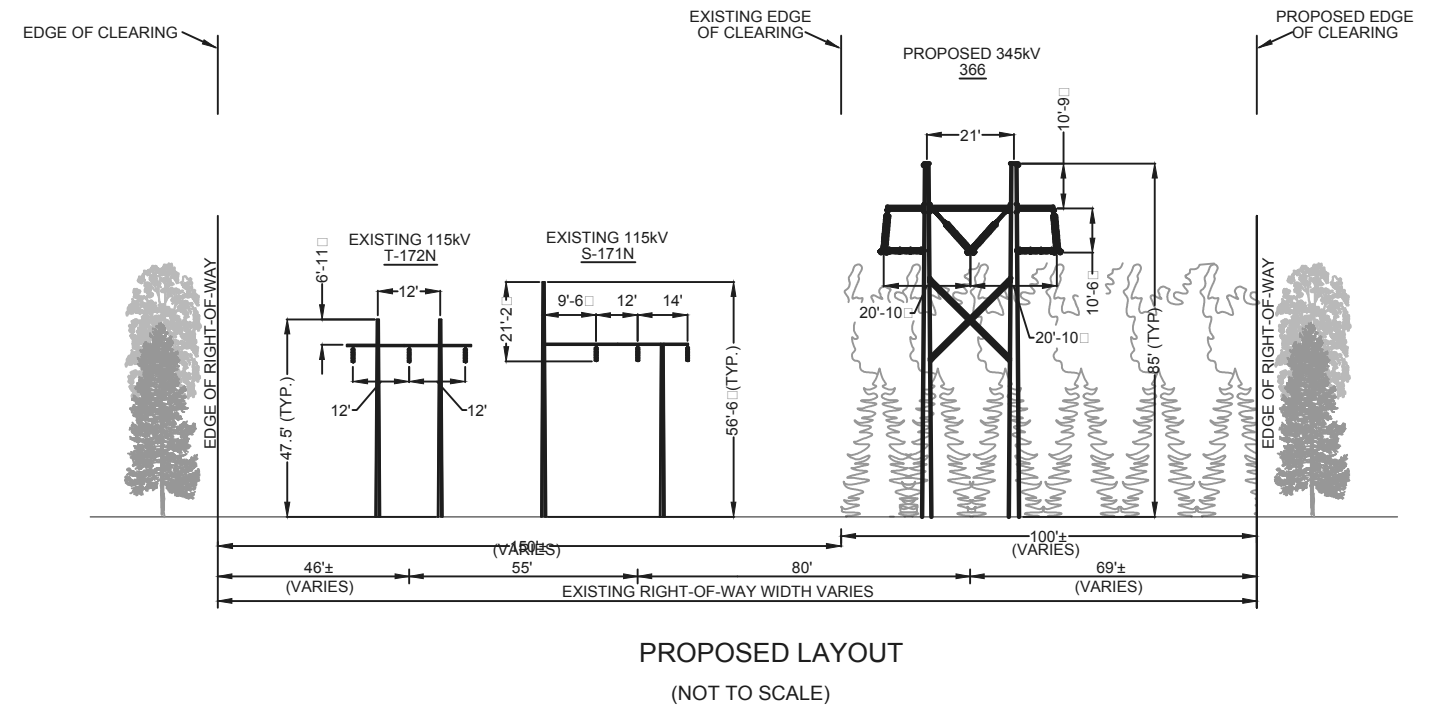
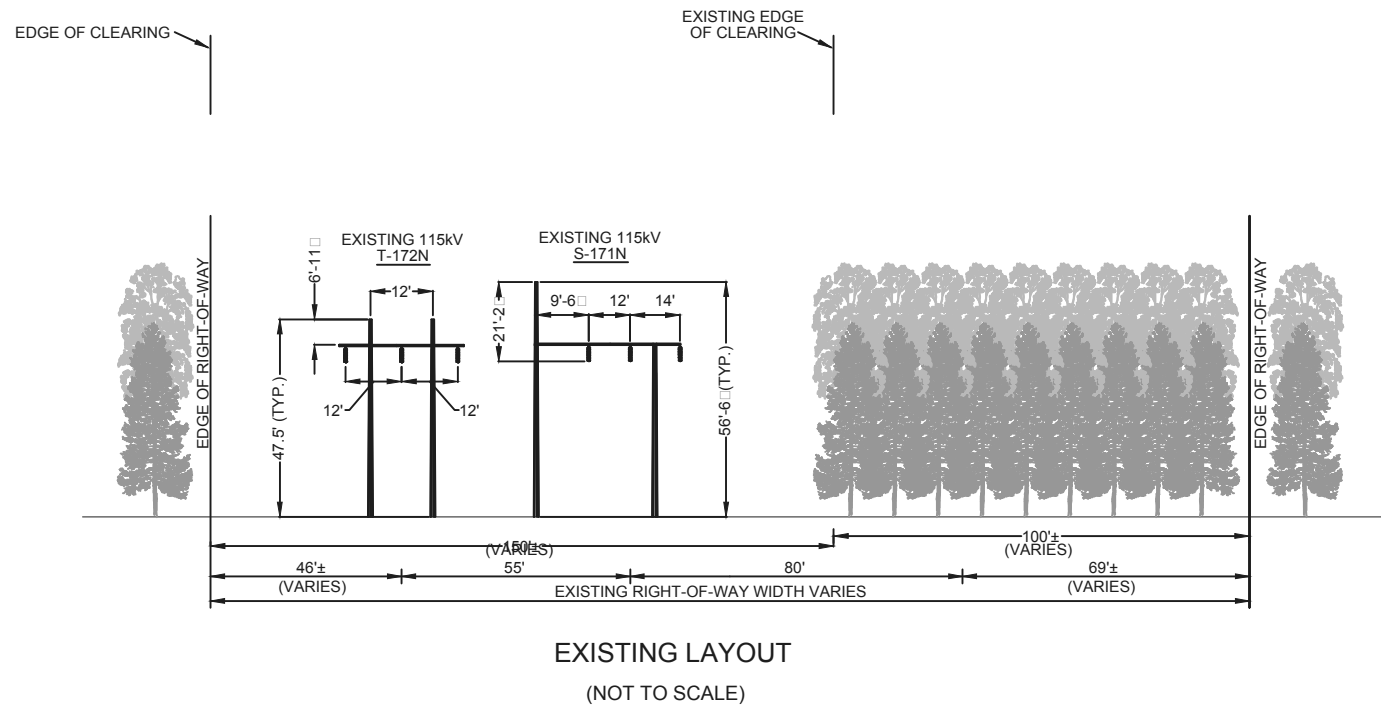
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FIGURE 3A
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

nationalgrid

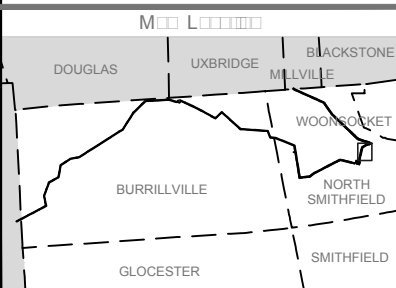
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- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
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VIEW LOOKING SOUTHWEST FROM
NORTHWEST OF GREENVILLE ROAD PARALLEL TO GREENVILLE ROAD
NORTH SMITHFIELD, RI



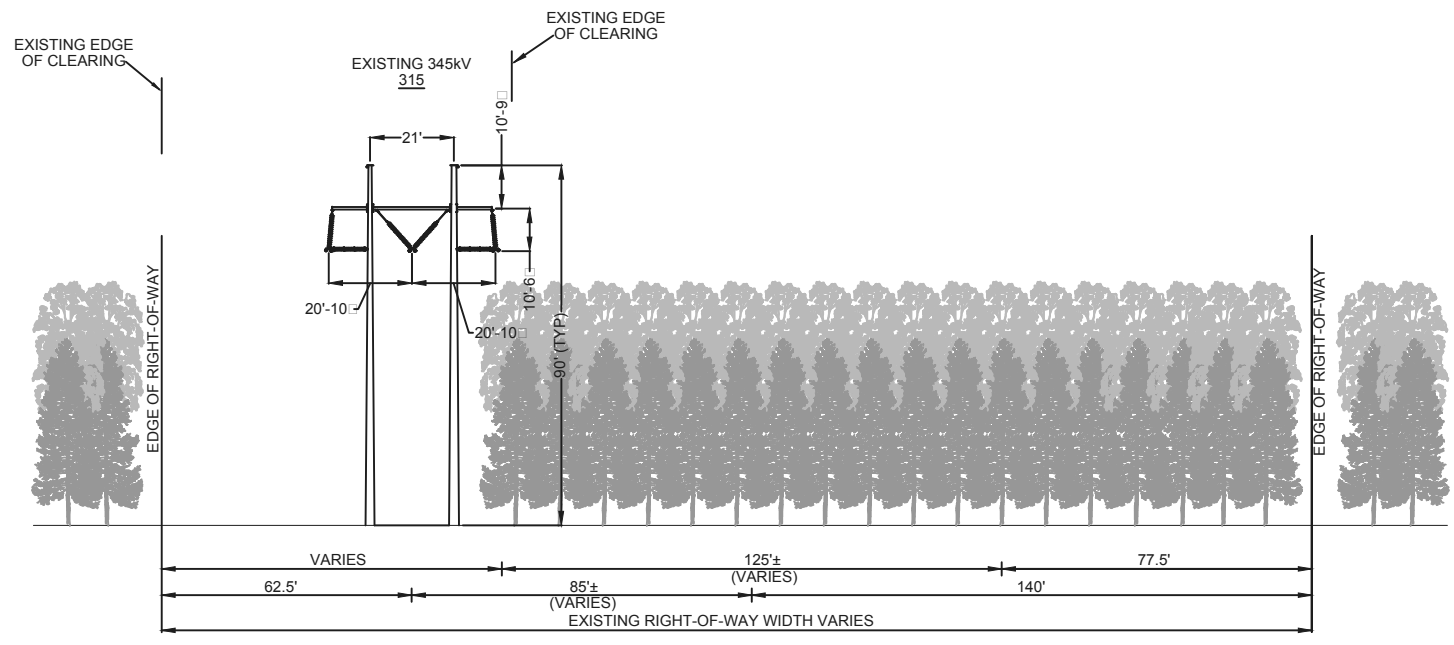
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FIGURE 3A
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS

nationalgrid

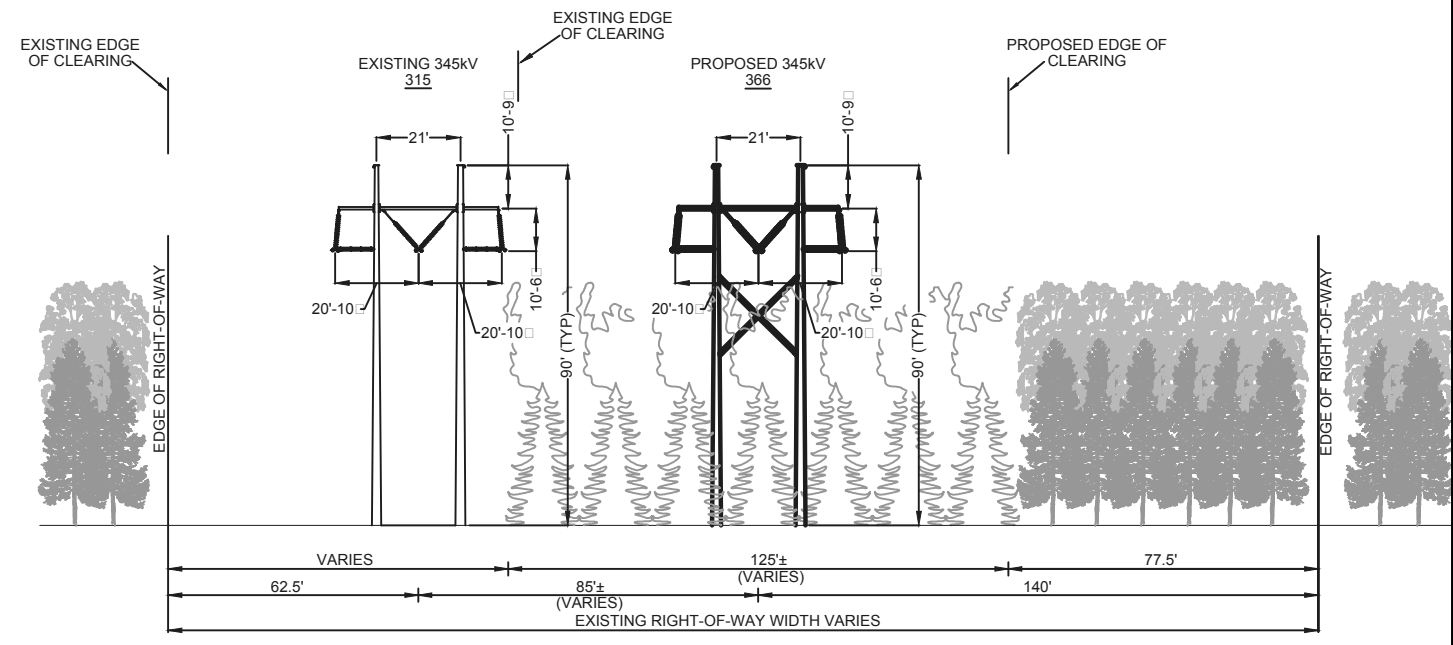
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- NOTES:
1. THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING AND PROPOSED FACILITIES.
 2. THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
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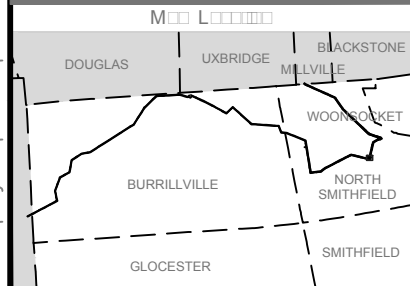


EXISTING LAYOUT
(NOT TO SCALE)



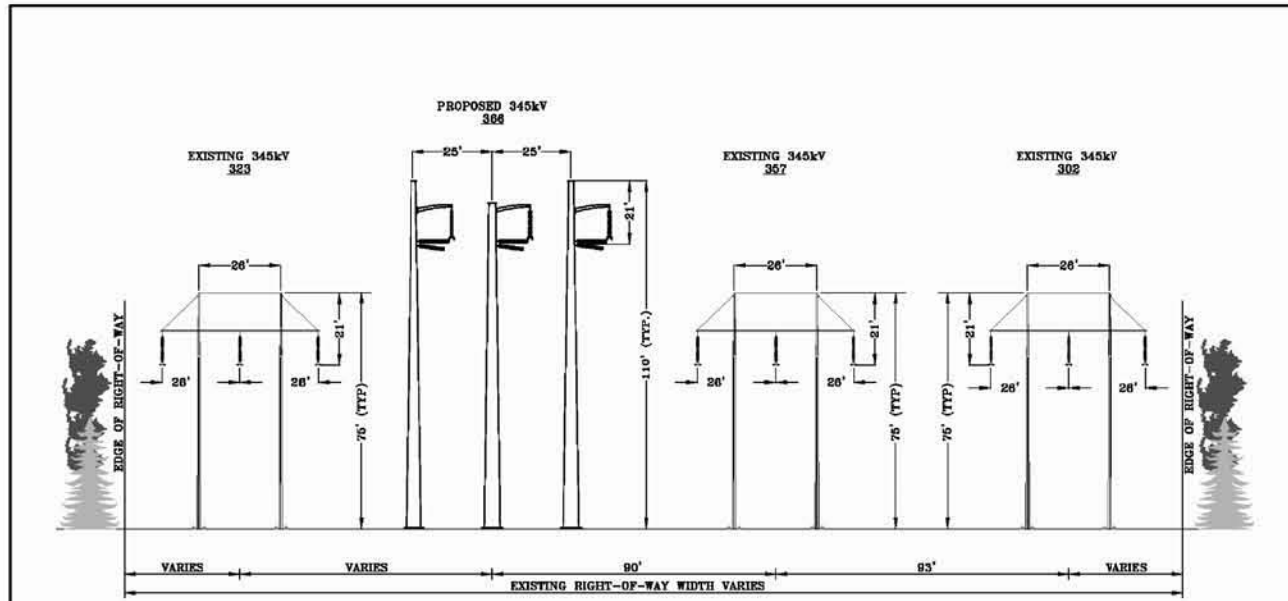
PROPOSED LAYOUT
(NOT TO SCALE)

VIEW LOOKING SOUTHWEST FROM
GREENVILLE ROAD TO WEST FARNUM SUBSTATION
NORTH SMITHFIELD, RI



NATIONAL GRID
INTERSTATE TRANSMISSION LINES PLAN
TYPICAL CROSS SECTIONS
EXISTING AND PROPOSED CONDITIONS





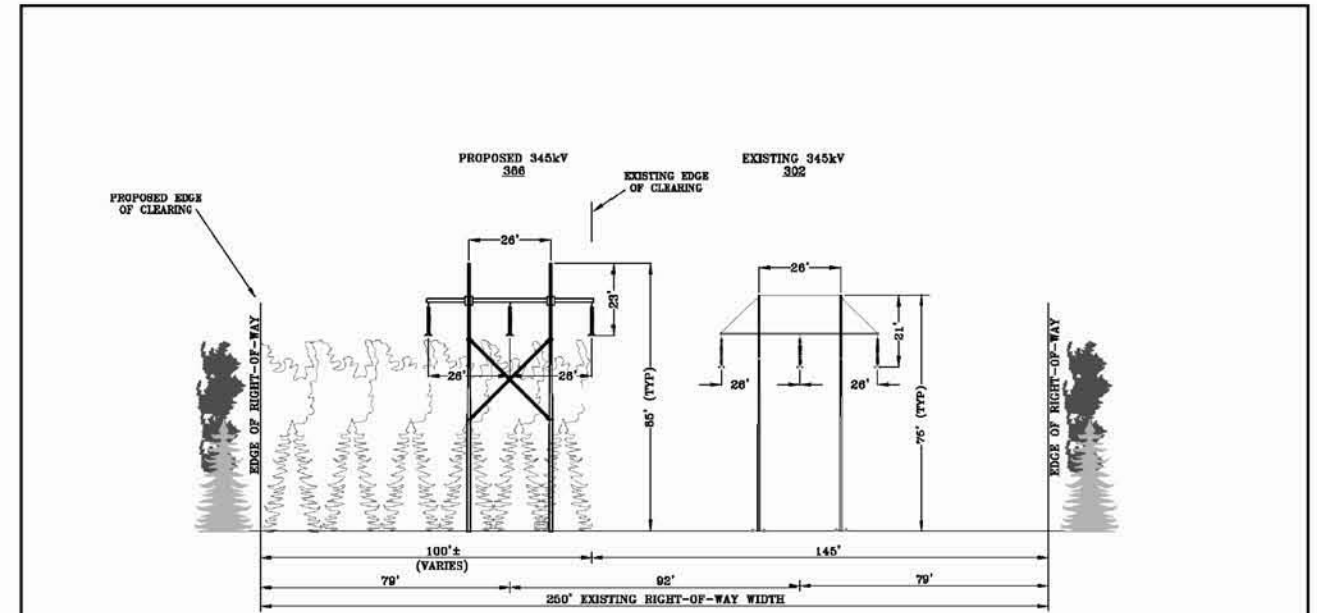
LOOKING SOUTH
MILLBURY NO.3 SUB TO 0.2 MILES SOUTH OF MILLBURY NO.3 SUB
MILLBURY & SUTTON, MA

NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

nationalgrid

INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 0.00 TO MILE 0.23
CROSS-SECTION M3-WF #1 OF 23

SCALE: NONE REV: K DATE: 04-25-12



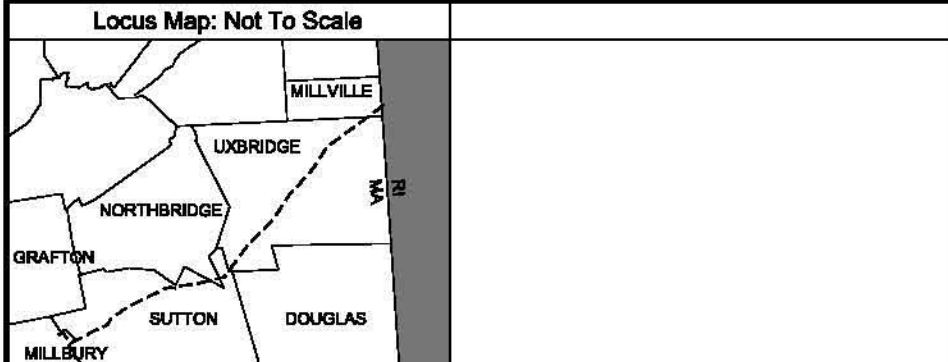
LOOKING WEST
0.2 MILES SOUTH OF MILLBURY NO.3 SUB TO 302, Q143 & R144 INTERSECTION
MILLBURY & SUTTON, MA

NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

nationalgrid

INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 0.23 TO MILE 0.71
CROSS-SECTION M3-WF #2 OF 23

SCALE: NONE REV: K DATE: 04-25-12

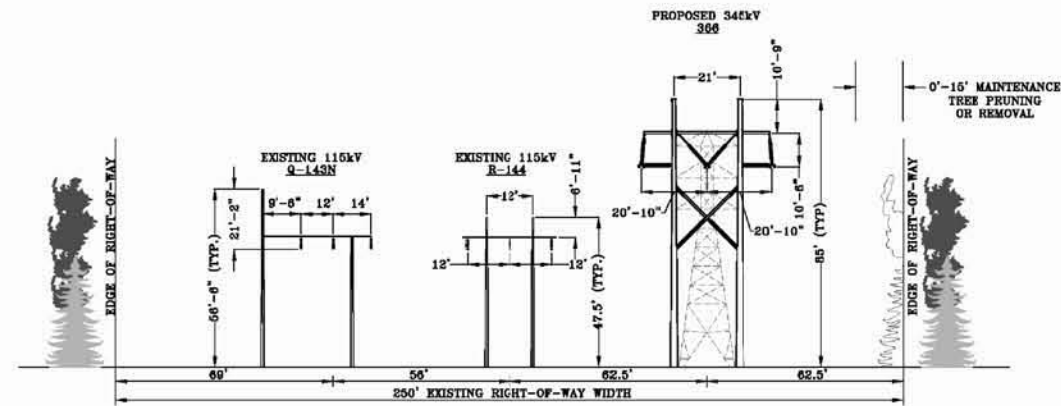


PREPARED BY:
BSC GROUP
15 Elisha Street
Boston, Massachusetts
02127
617 896 4300

APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02451-112
DATE: 05/17/2012 DRWN: JHR 89449.00

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS
DETAILED CROSS SECTIONS **SHEET 100**

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
302, Q143 & R144 INTERSECTION TO 0.5 MILES NORTH OF BOSTON ROAD
SUTTON, MA

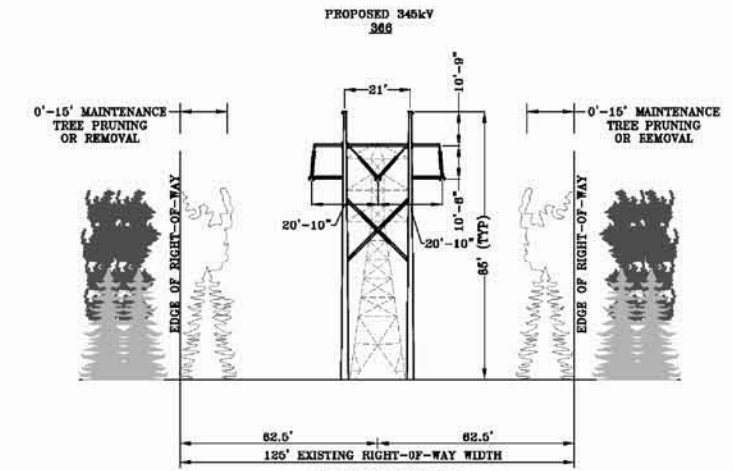
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

nationalgrid

INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 0.71 TO MILE 1.33
CROSS-SECTION M3-WF #3 OF 23

SCALE: NONE REV: K DATE: 04-25-12

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



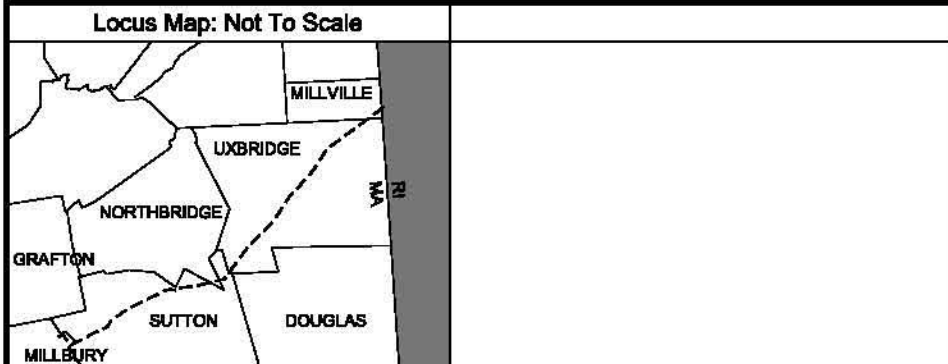
LOOKING SOUTH
0.5 MILES NORTH OF BOSTON ROAD TO 0.1 MILES NORTH OF CENTRAL TURNPIKE
SUTTON, MA

NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.
EXISTING BURIED PIPELINE CO-LOCATED WITHIN THE RIGHT-OF-WAY ALONG SOME PORTIONS OF THIS CROSS SECTION.

nationalgrid

INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 1.33 TO MILE 3.09
CROSS-SECTION M3-WF #4 OF 23

SCALE: NONE REV: K DATE: 04-25-12

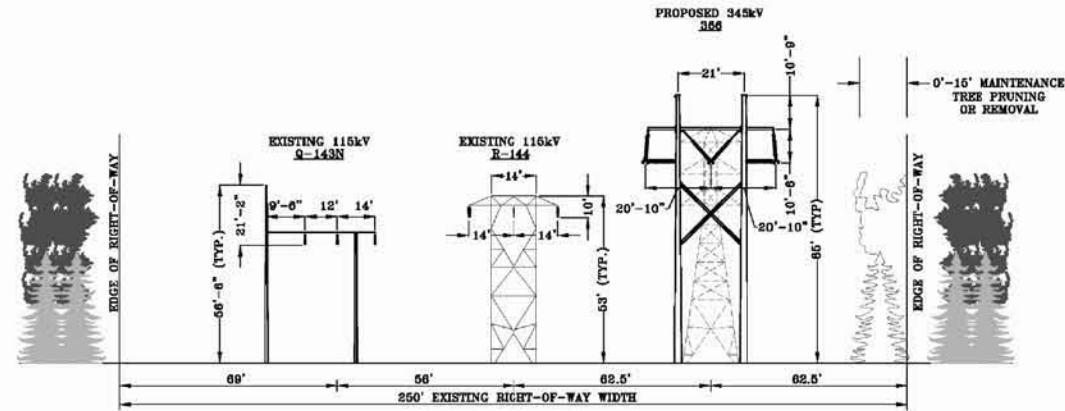


PREPARED BY:
BSC GROUP
15 Elisha Street
Boston, Massachusetts
02127
617 896 4300

APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02451-112
DATE: 05/17/2012 DRWN: JHR 89449.00

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS
DETAILED CROSS SECTIONS **SHEET 101**

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
0.1 MILES NORTH OF CENTRAL TURNPIKE TO STATE HIGHWAY ROUTE 146 (FIRST CROSSING)
SUTTON, MA

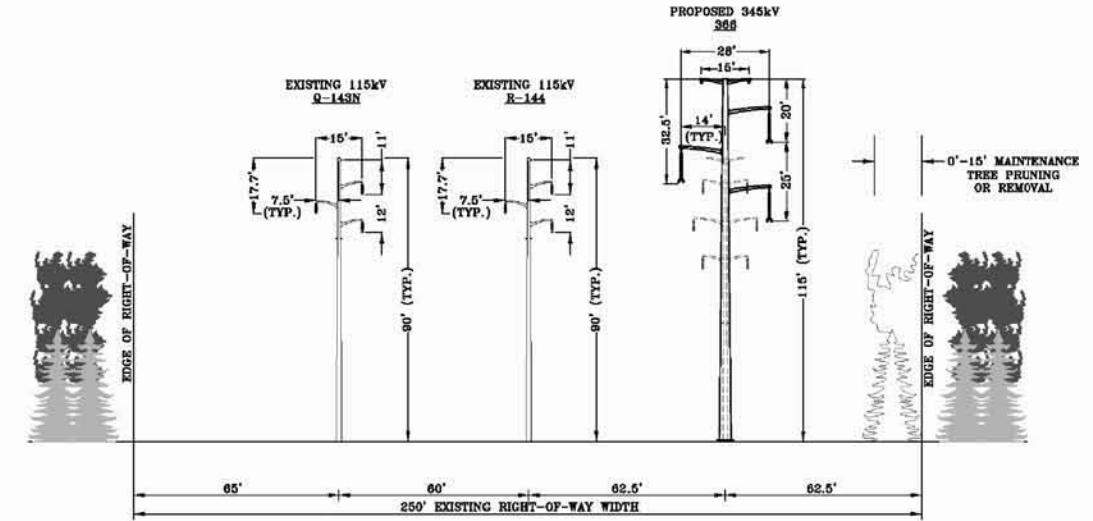
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.
EXISTING BURIED PIPELINE CO-LOCATED WITHIN THE RIGHT-OF-WAY ALONG SOME PORTIONS OF THIS CROSS SECTION.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 3.09 TO MILE 3.87
CROSS-SECTION M3-WF #5 OF 23

SCALE: NONE REV: K DATE: 04-25-12

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
STATE HIGHWAY ROUTE 146 (FIRST CROSSING)
SUTTON, MA

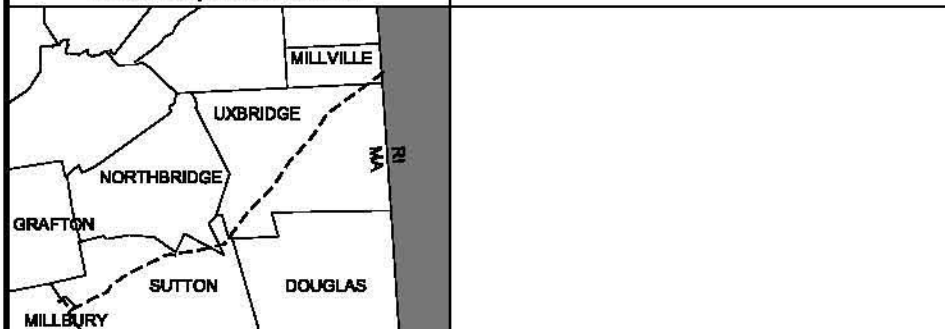
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 3.87 TO MILE 4.04
CROSS-SECTION M3-WF #6 OF 23

SCALE: NONE REV: K DATE: 04-25-12

Locus Map: Not To Scale



PREPARED BY:
BSC GROUP
15 Elisha Street
Boston, Massachusetts
02127
617 896 4300

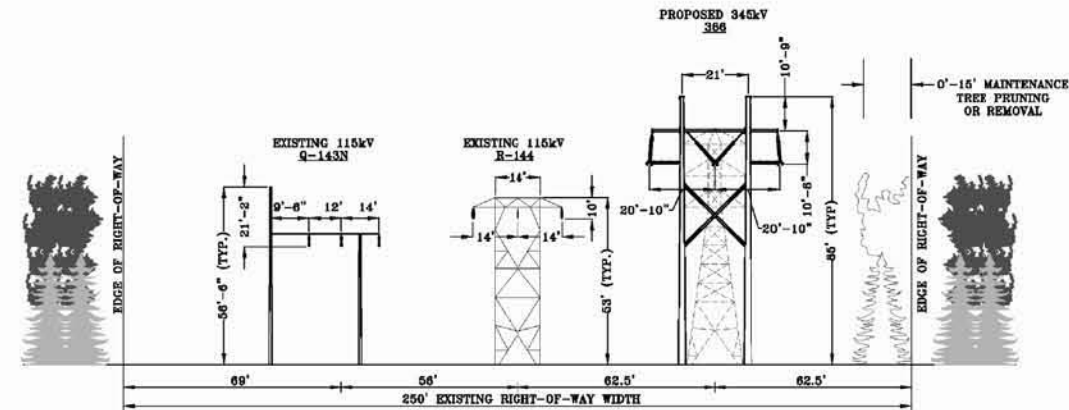
APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02461-112

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS

DATE: 05/17/2012 DRWN: JHR 89449.00

DETAILED CROSS SECTIONS SHEET 102

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
STATE HIGHWAY ROUTE 146 (FIRST CROSSING) TO PURGATORY ROAD
SUTTON, MA

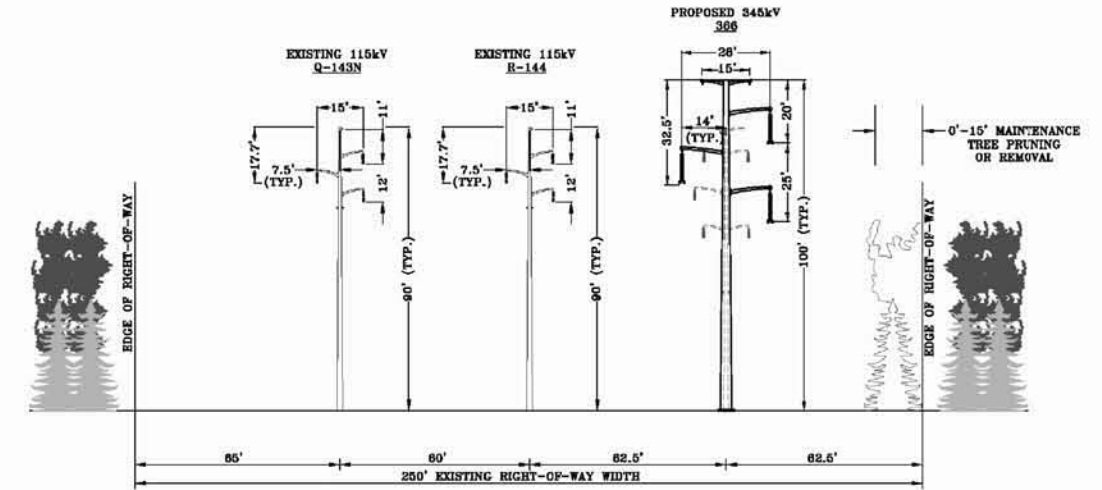
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

nationalgrid

INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 4.04 TO MILE 4.85
CROSS-SECTION M3-WF #7 OF 23

SCALE: NONE REV: K DATE: 04-25-12

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
PURGATORY ROAD TO STATE HIGHWAY ROUTE 146 (SECOND CROSSING)
SUTTON, MA

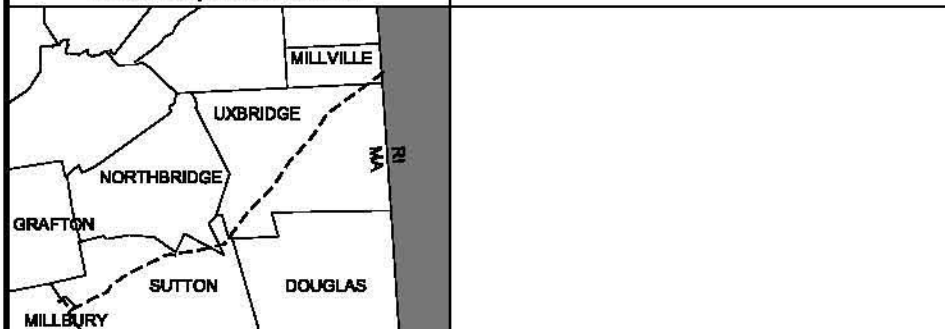
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

nationalgrid

INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 4.85 TO MILE 5.26
CROSS-SECTION M3-WF #8 OF 23

SCALE: NONE REV: K DATE: 04-25-12

Locus Map: Not To Scale



PREPARED BY:
BSC GROUP
15 Elisha Street
Boston, Massachusetts
02127
617 896 4300

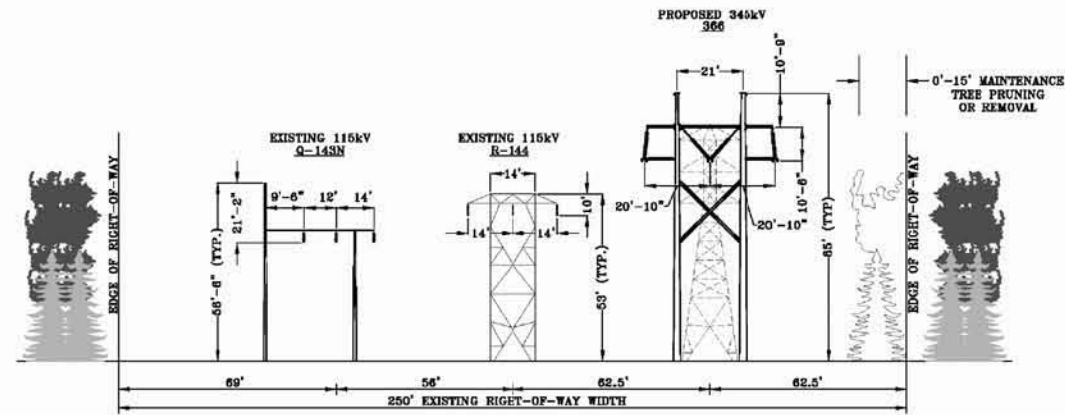
APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02451-112

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS

DATE: 05/17/2012 DRWN: JHR 89449.00

DETAILED CROSS SECTIONS SHEET 103

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
STATE HIGHWAY ROUTE 146 (SECOND CROSSING) TO MENDON ROAD
SUTTON, MA

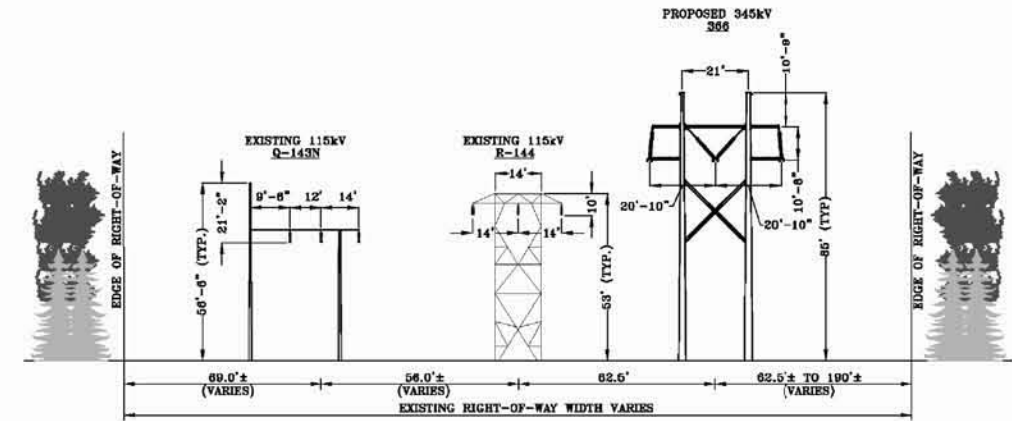
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.
EXISTING BURIED PIPELINE CO-LOCATED WITHIN THE RIGHT-OF-WAY ALONG SOME PORTIONS OF THIS CROSS SECTION.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 5.26 TO MILE 5.84
CROSS-SECTION M3-WF #9 OF 23

SCALE: NONE REV: K DATE: 04-25-12

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
MENDON ROAD TO 0.2 MILES NORTH OF SUTTON/NORTHBRIDGE TOWN LINE
SUTTON, MA

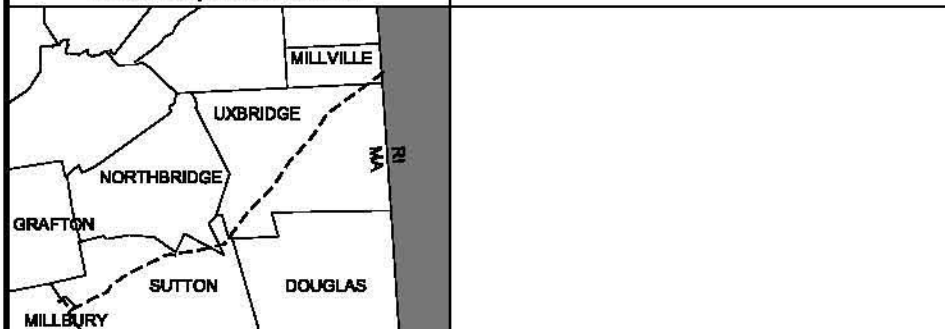
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.
EXISTING BURIED PIPELINE CO-LOCATED WITHIN THE RIGHT-OF-WAY ALONG SOME PORTIONS OF THIS CROSS SECTION.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 5.84 TO MILE 6.28
CROSS-SECTION M3-WF #10 OF 23

SCALE: NONE REV: K DATE: 04-25-12

Locus Map: Not To Scale



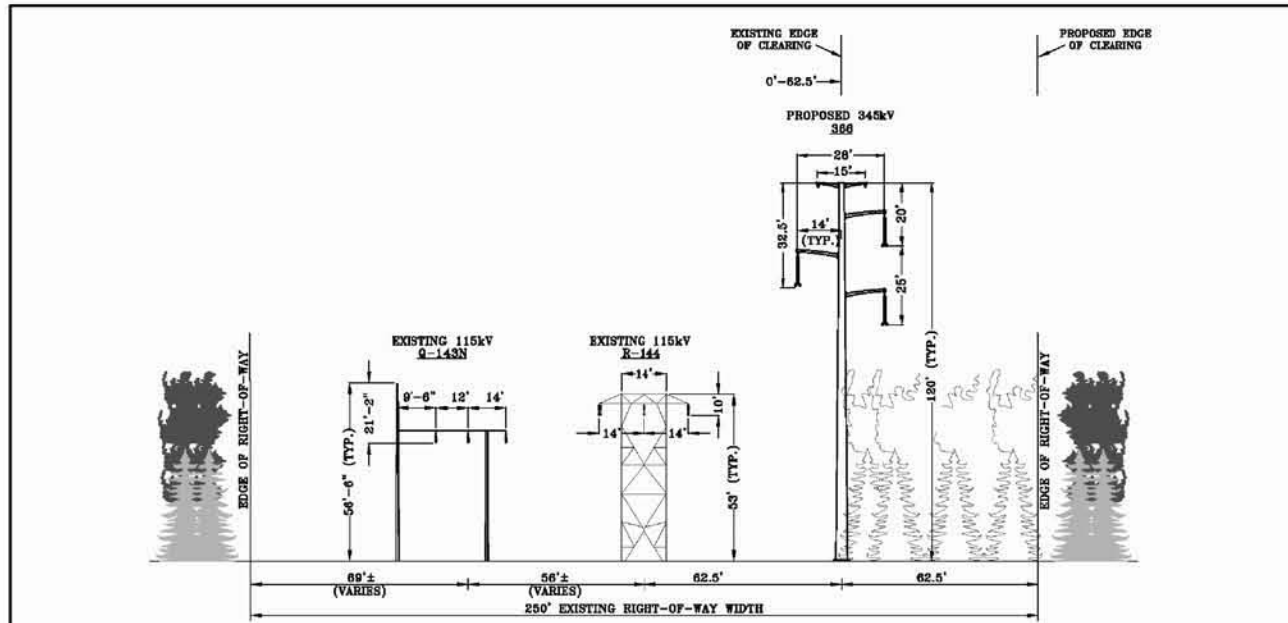
PREPARED BY:
BSC GROUP
15 Wilbur Street
Boston, Massachusetts
02127
617 896 4300

APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02451-112

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS

DATE: 05/17/2012 DRWN: JHR 89449.00

DETAILED CROSS SECTIONS SHEET 104



LOOKING SOUTH
0.2 MILES NORTH OF SUTTON/NORTHBRIDGE TOWN LINE TO 0.1 MILES SOUTH OF MAIN STREET
SUTTON & NORTHBRIDGE, MA

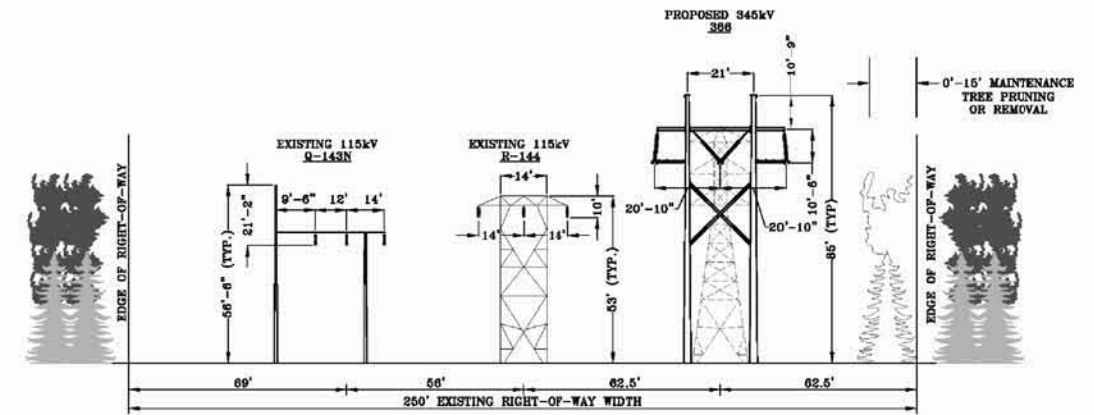
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.
EXISTING BURIED PIPELINE CO-LOCATED WITHIN THE RIGHT-OF-WAY ALONG SOME PORTIONS OF THIS CROSS SECTION.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 6.28 TO MILE 6.75
CROSS-SECTION M3-WF #11 OF 23

SCALE: NONE REV: X DATE: 04-25-12

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



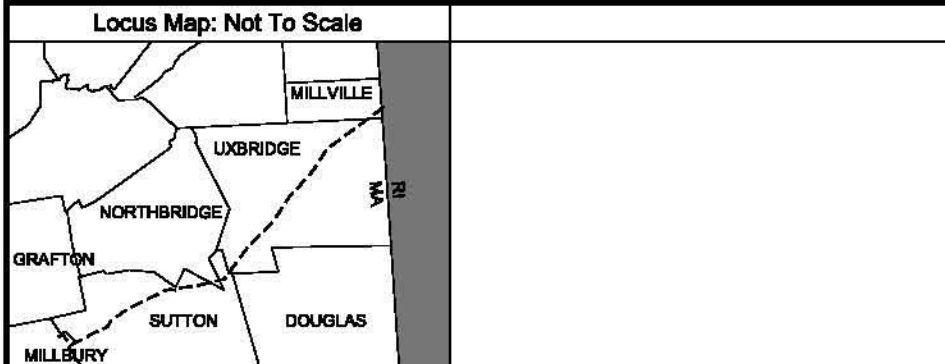
LOOKING SOUTH
0.1 MILES SOUTH OF MAIN STREET TO 0.1 MILES NORTH OF LANDRY LANE
SUTTON & UXBRIDGE, MA

NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.
EXISTING BURIED PIPELINE CO-LOCATED WITHIN THE RIGHT-OF-WAY ALONG SOME PORTIONS OF THIS CROSS SECTION.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 6.75 TO MILE 10.94
CROSS-SECTION M3-WF #12 OF 23

SCALE: NONE REV: X DATE: 04-25-12



PREPARED BY:
BSC GROUP
15 Elisha Street
Boston, Massachusetts
02127
617 896 4300

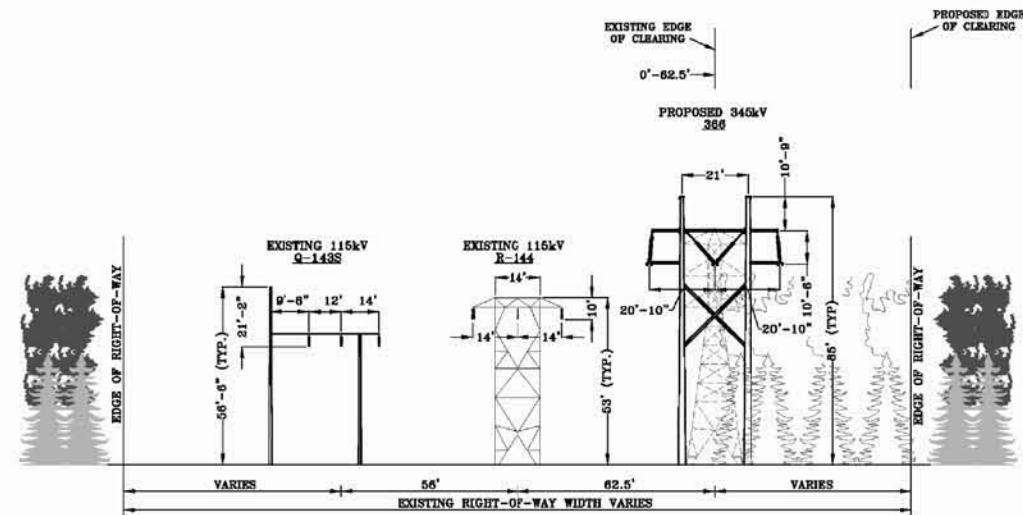
APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02451-112

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS

DATE: 05/17/2012 DRWN: JHR 89449.00

DETAILED CROSS SECTIONS SHEET 105

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
0.1 MILES NORTH OF LANDRY LANE TO 0.3 MILES SOUTH OF RICHARDSON STREET
UXBRIDGE, MA

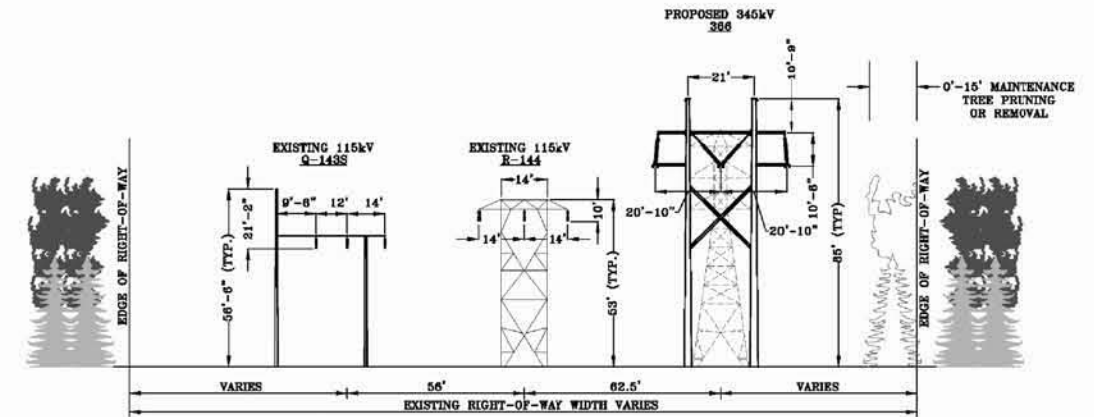
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 10.94 TO MILE 11.50
CROSS-SECTION M3-WF #13 OF 23

SCALE: NONE REV: X DATE: 04-25-12

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
0.3 MILES SOUTH OF RICHARDSON STREET TO QUAKER HIGHWAY
UXBRIDGE, MA

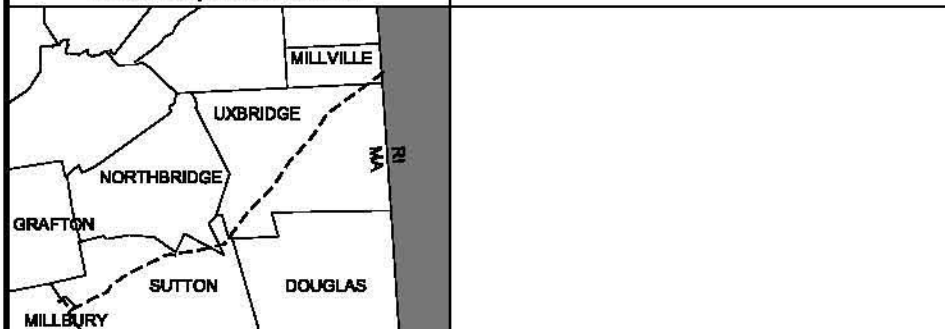
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 11.50 TO MILE 12.29
CROSS-SECTION M3-WF #14 OF 23

SCALE: NONE REV: X DATE: 04-25-12

Locus Map: Not To Scale



PREPARED BY:
BSC GROUP
15 Elisha Street
Boston, Massachusetts
02127
617 896 4300

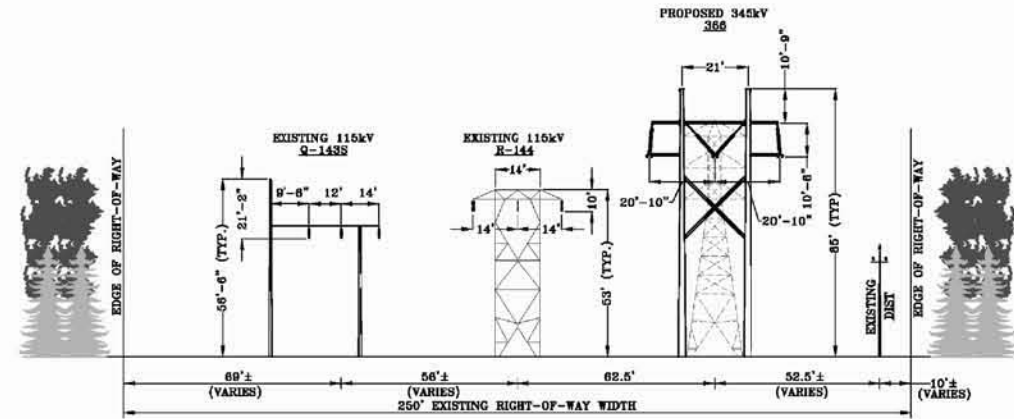
APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02451-112

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS

DATE: 05/17/2012 DRWN: JHR 89449.00

DETAILED CROSS SECTIONS SHEET 106

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
QUAKER HIGHWAY TO BLACKSTONE RIVER (FIRST CROSSING)
UXBRIDGE, MA

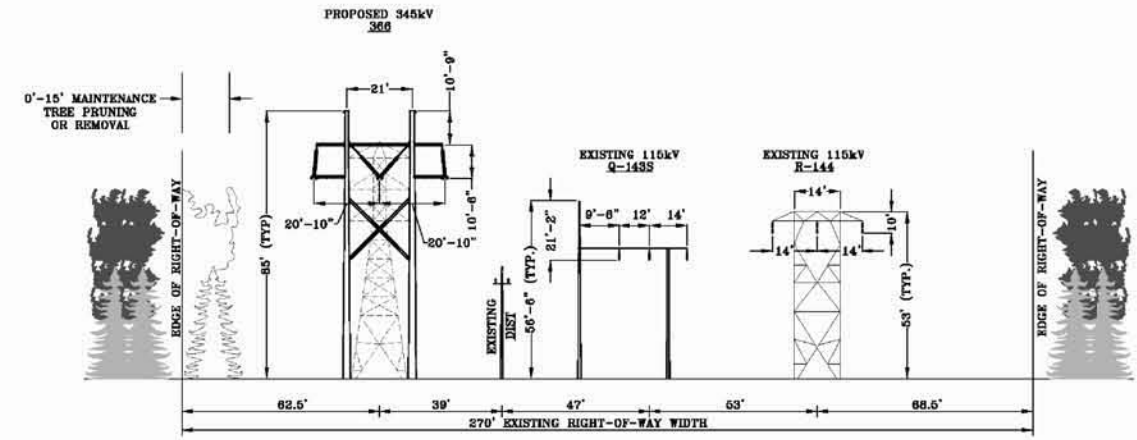
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

nationalgrid

INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 12.29 TO MILE 12.98
CROSS-SECTION M3-WF #15 OF 23

SCALE: NONE REV: K DATE: 04-25-12

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
BLACKSTONE RIVER (FIRST CROSSING) TO 0.4 MILES SOUTH OF RIVER RD
UXBRIDGE, MA

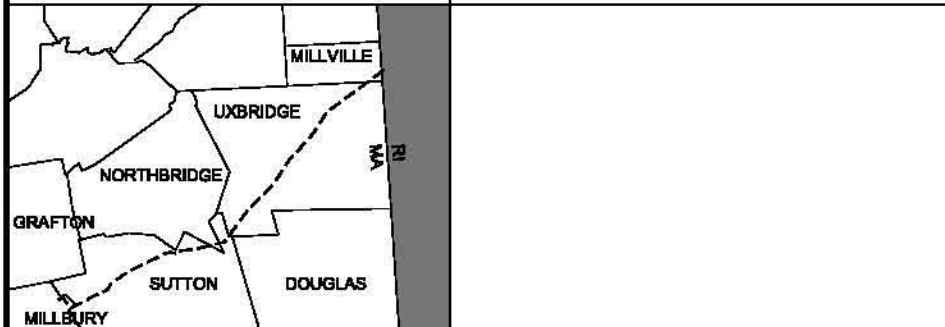
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.
EXISTING BURIED PIPELINE CO-LOCATED WITHIN THE RIGHT-OF-WAY ALONG SOME PORTIONS OF THIS CROSS SECTION.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 12.98 TO MILE 14.40
CROSS-SECTION M3-WF #16 OF 23

SCALE: NONE REV: K DATE: 04-25-12

Locus Map: Not To Scale

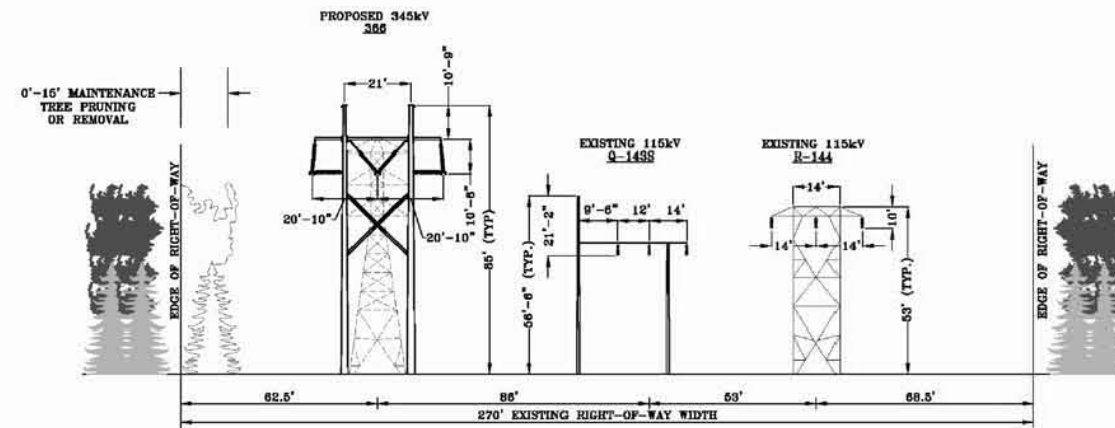


PREPARED BY:
BSC GROUP
15 Elisha Street
Boston, Massachusetts
02127
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APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02461-112
DATE: 05/17/2012 DRWN: JHR 89449.00

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS
DETAILED CROSS SECTIONS **SHEET 107**

NOTE: EXISTING STRUCTURES TO BE REMOVED SHOWN DASHED.



LOOKING SOUTH
0.4 MILES SOUTH OF RIVER RD TO 0.3 MILES NORTH OF MASS/RI STATE LINE
UXBRIDGE & MILLVILLE, MA

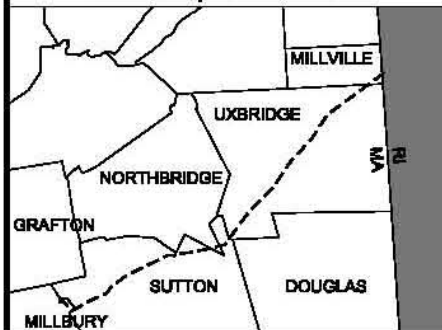
NOTE:
THERE IS CONSIDERABLE VARIATION OF STRUCTURE TYPES AND HEIGHTS IN EACH OF THE LINE SEGMENTS.
THE STRUCTURES SHOWN ON THIS CROSS-SECTION ARE A GENERAL REPRESENTATION OF EXISTING FACILITIES.

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INTERSTATE RELIABILITY PROJECT
MILLBURY NO.3 TO WEST FARNUM
MILE 14.40 TO MILE 15.11
CROSS-SECTION M3-WF #17 OF 23

SCALE: NONE REV: K DATE: 04-25-12

Locus Map: Not To Scale



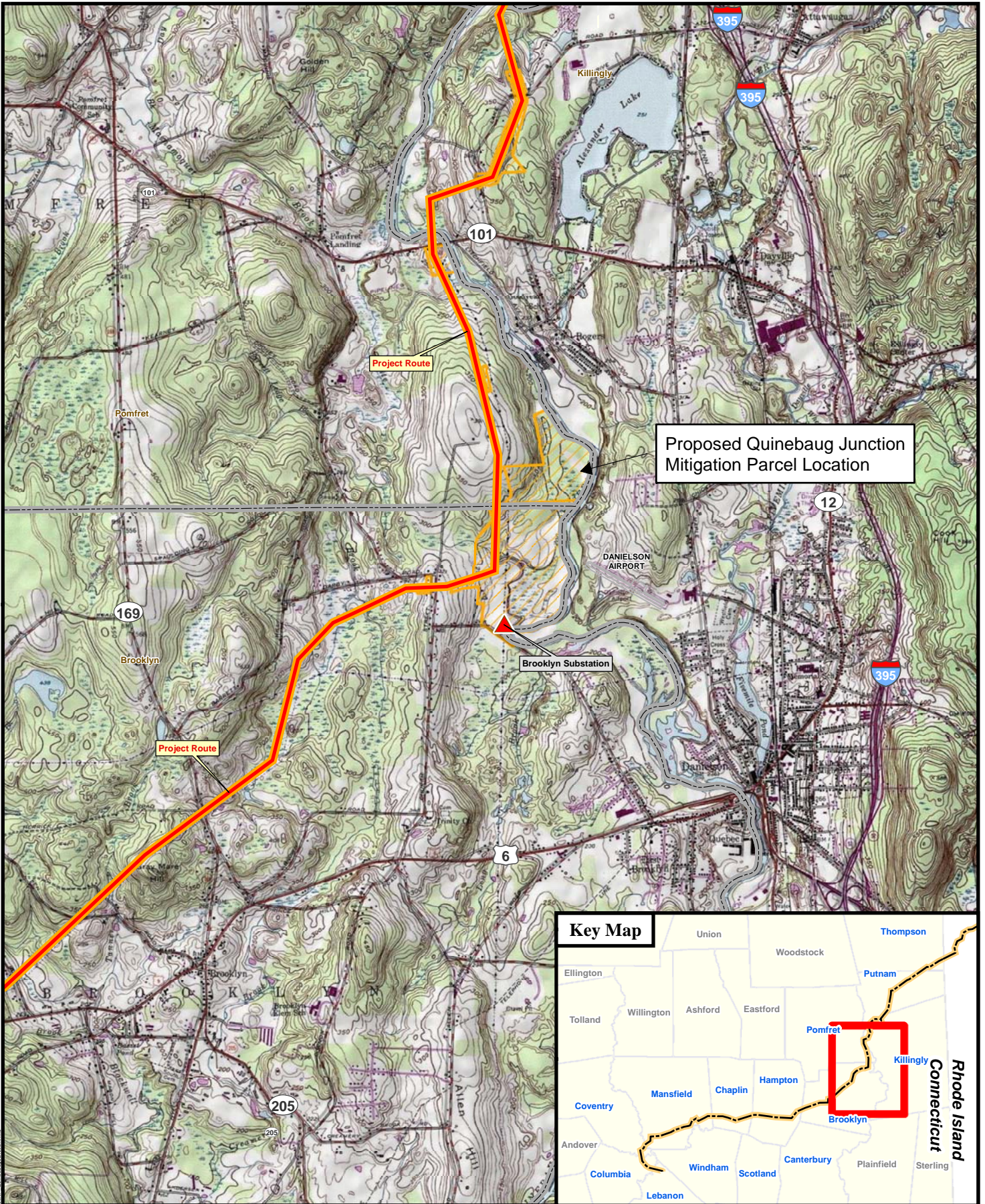
PREPARED BY:
BSC GROUP
15 Elliot Street
Boston, Massachusetts
02127
617 856 4300

APPLICANT:
NEW ENGLAND POWER COMPANY
40 SYLVAN RD
WALTHAM, MA 02461-112

INTERSTATE RELIABILITY PROJECT (IRP)
PROPOSED 366 LINE
LOCATED IN MILLBURY, SUTTON, NORTHBRIDGE,
UXBRIDGE, & MILLVILLE, MASSACHUSETTS

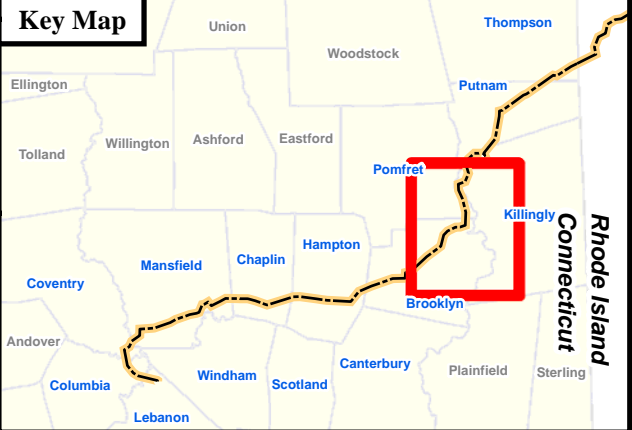
DATE: 05/17/2012 DRWN: JHR 89449.00

DETAILED CROSS SECTIONS SHEET 108



Proposed Quinebaug Junction Mitigation Parcel Location

Key Map



0 1,000 2,000 Feet

- ▲ Substation or Switching Station
- Proposed 345-kV Transmission Line
- Town Boundary
- NU Property

Source: USGS 7.5-Minute Quadrangles, CT DEEP, ESRI and Burns & McDonnell Engineering.

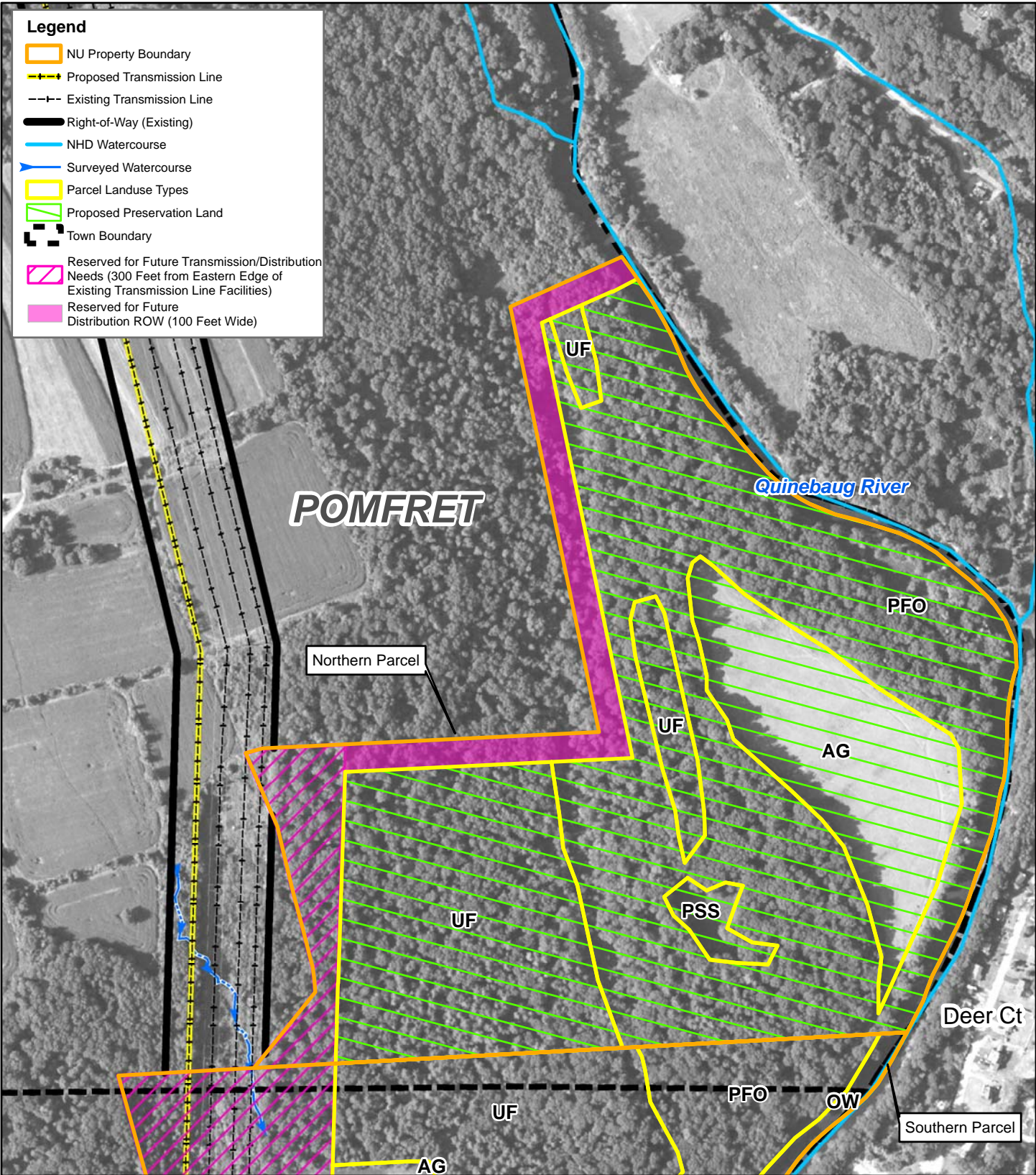
Note: Scale is 1" = 4,000' (1:48,000) when printed at 8 1/2 X 11".



Connecticut Light & Power
A Northeast Utilities Company

Interstate Reliability Project
USGS Map
Quinebaug Junction Property

Map data © 2012 Google, Imagery © 2012 Google, Map data © 2012 Google, Imagery © 2012 Google, Map data © 2012 Google, Imagery © 2012 Google



**Interstate Reliability Project
Potential Wetland Mitigation Property
Quinebaug Junction Property
Northern Parcel**

1:6,000
1 inch = 500 feet

Connecticut Light & Power
A Northeast Utilities Company

AECOM

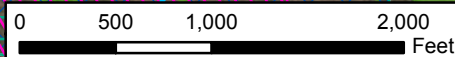
Figure 2

Date: 7/12/2012

Brown University Property Burrillville, RI
Parcel: 189-001

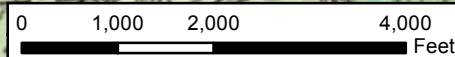


Parcel: 189-001
 53.38 ac
 6.61% Wetlands

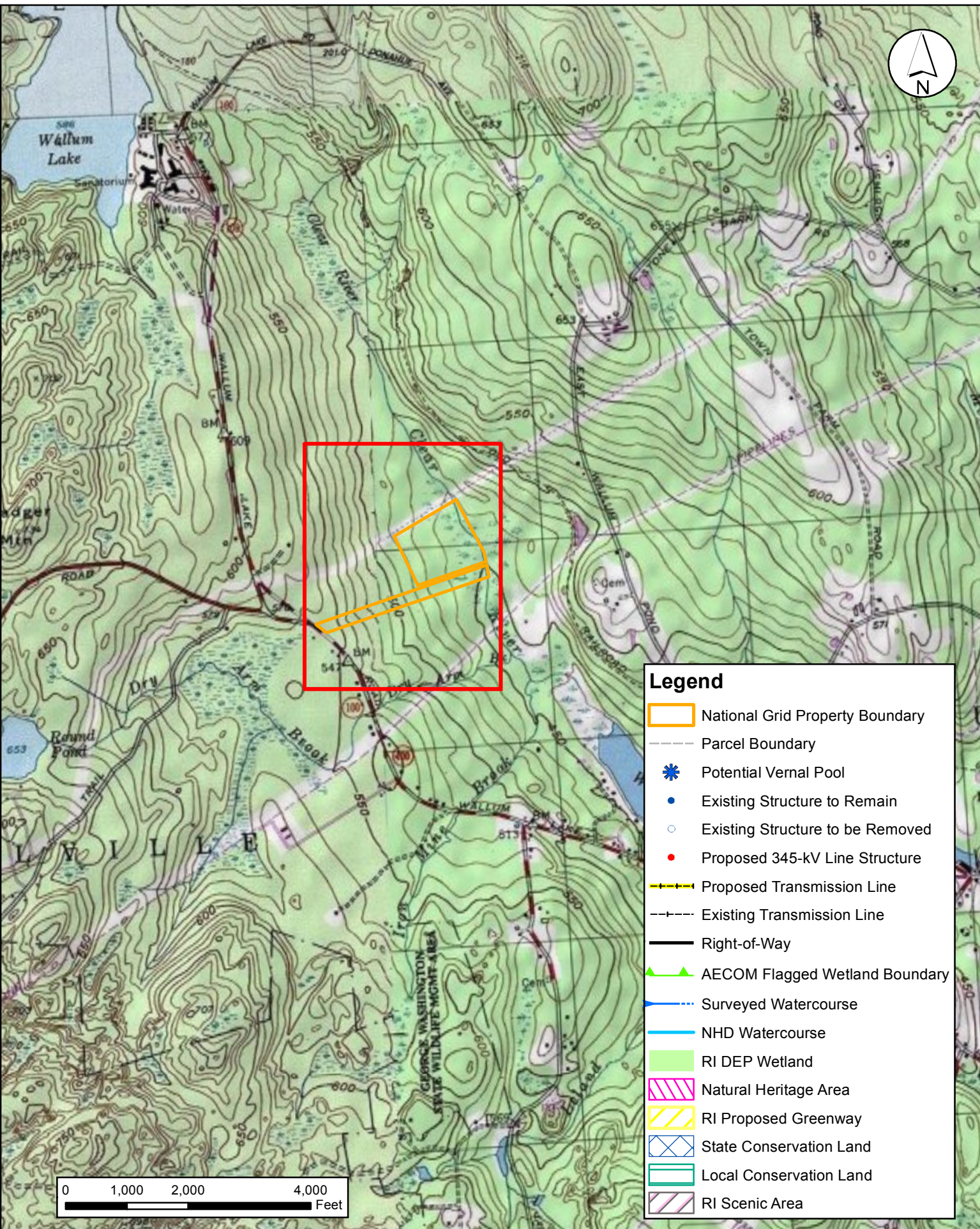


Legend

- Property Boundary
- Parcel Boundary
- Potential Vernal Pool
- Existing Structure to Remain
- Existing Structure to be Removed
- Proposed 345-kV Line Structure
- Proposed Transmission Line
- Existing Transmission Line
- AECOM Flagged Wetland Boundary
- Surveyed Watercourse
- Right-of-Way
- RI Watercourse
- RIGIS Wetland
- Natural Heritage Area
- RI Proposed Greenway
- State Conservation Land
- Local Conservation Land
- RI Scenic Area

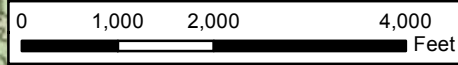
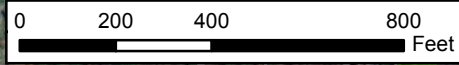


Clear River, Burrillville, RI



Legend

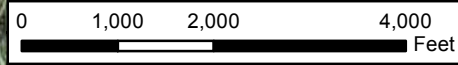
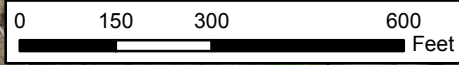
	National Grid Property Boundary
	Parcel Boundary
	Potential Vernal Pool
	Existing Structure to Remain
	Existing Structure to be Removed
	Proposed 345-kV Line Structure
	Proposed Transmission Line
	Existing Transmission Line
	Right-of-Way
	AECOM Flagged Wetland Boundary
	Surveyed Watercourse
	NHD Watercourse
	RI DEP Wetland
	Natural Heritage Area
	RI Proposed Greenway
	State Conservation Land
	Local Conservation Land
	RI Scenic Area



431 Rocky Hill Rd., North Smithfield, RI
Parcel #: 020-015



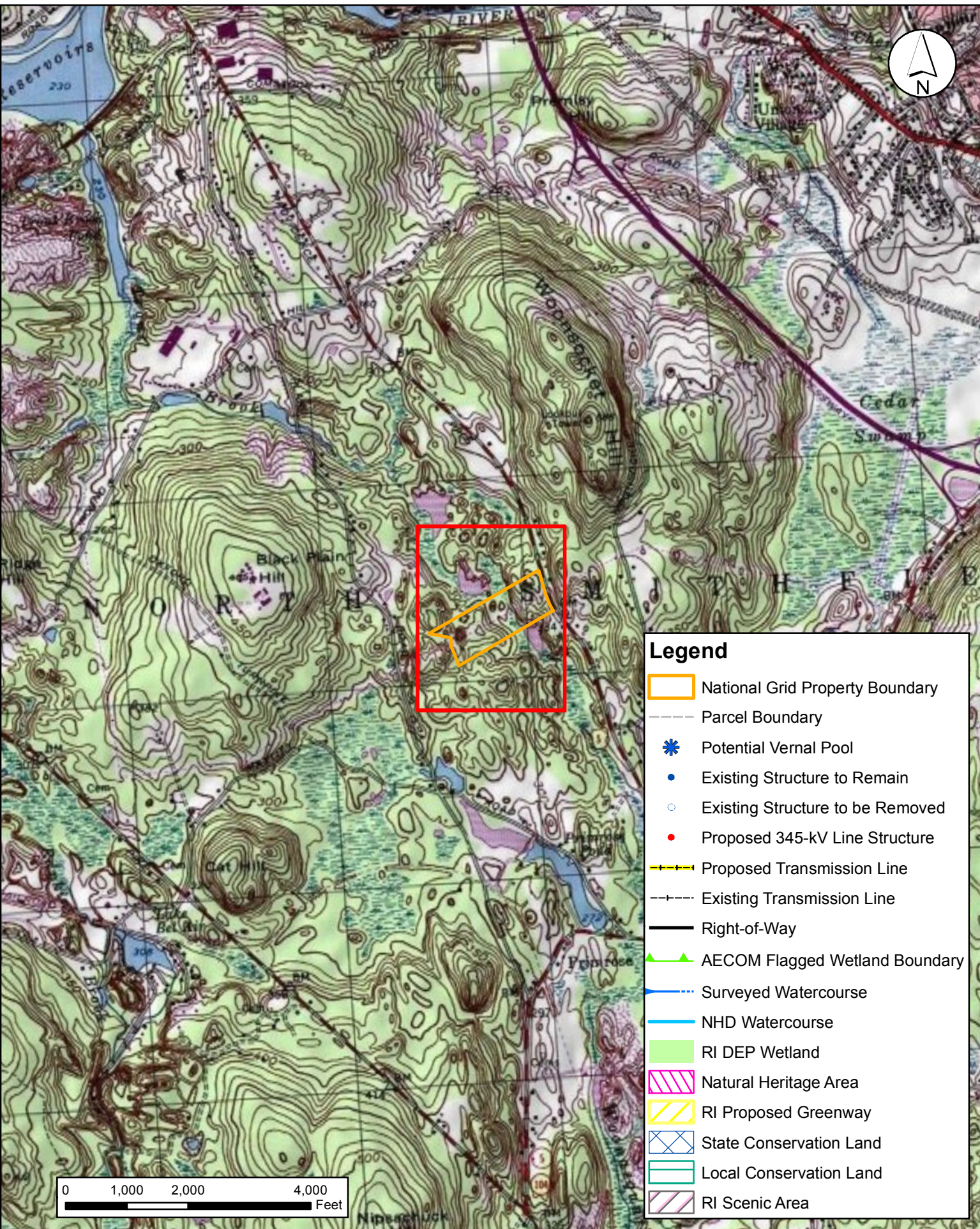
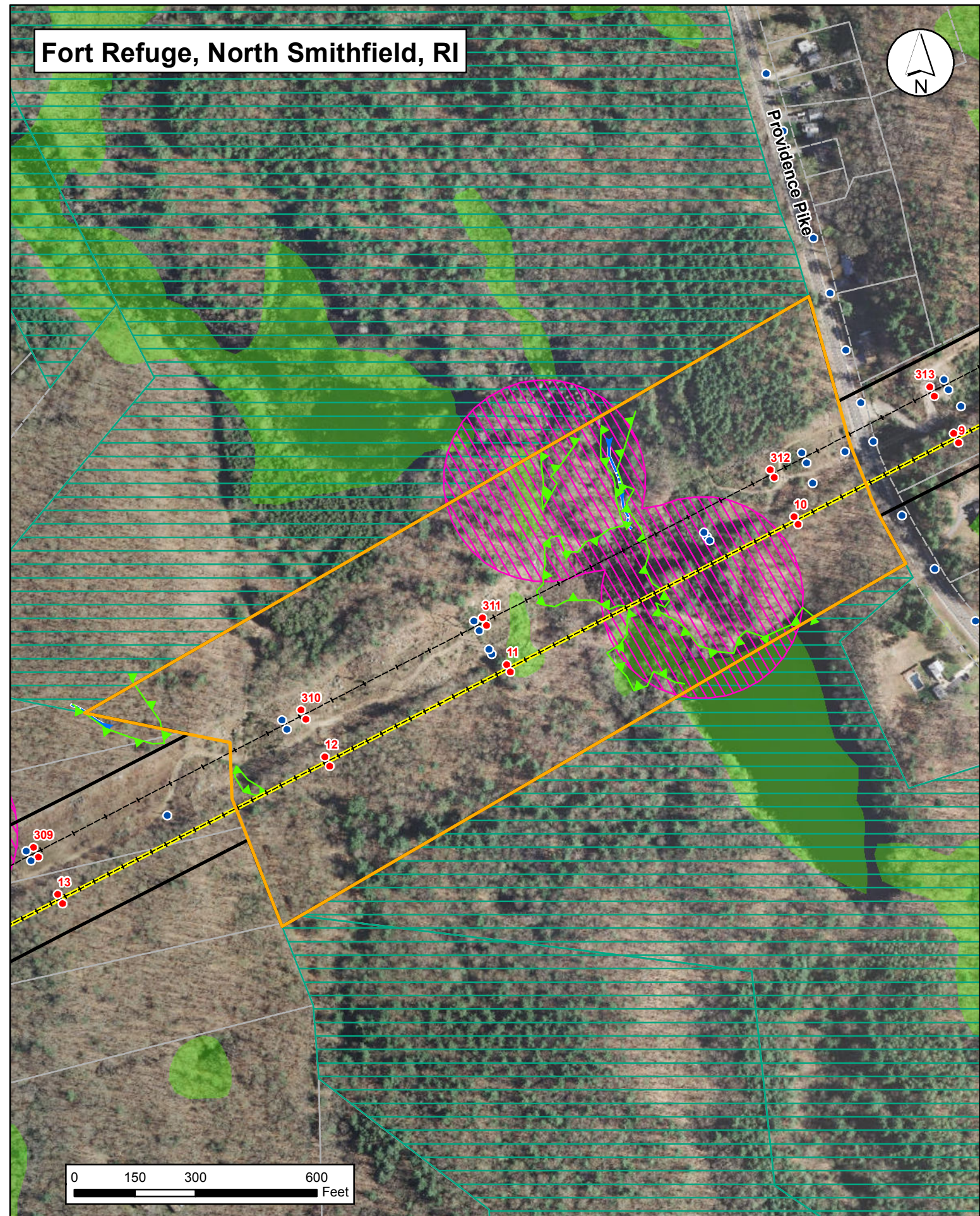
Parcel: 020-015
22.24 ac
35.75% Wetland



Legend

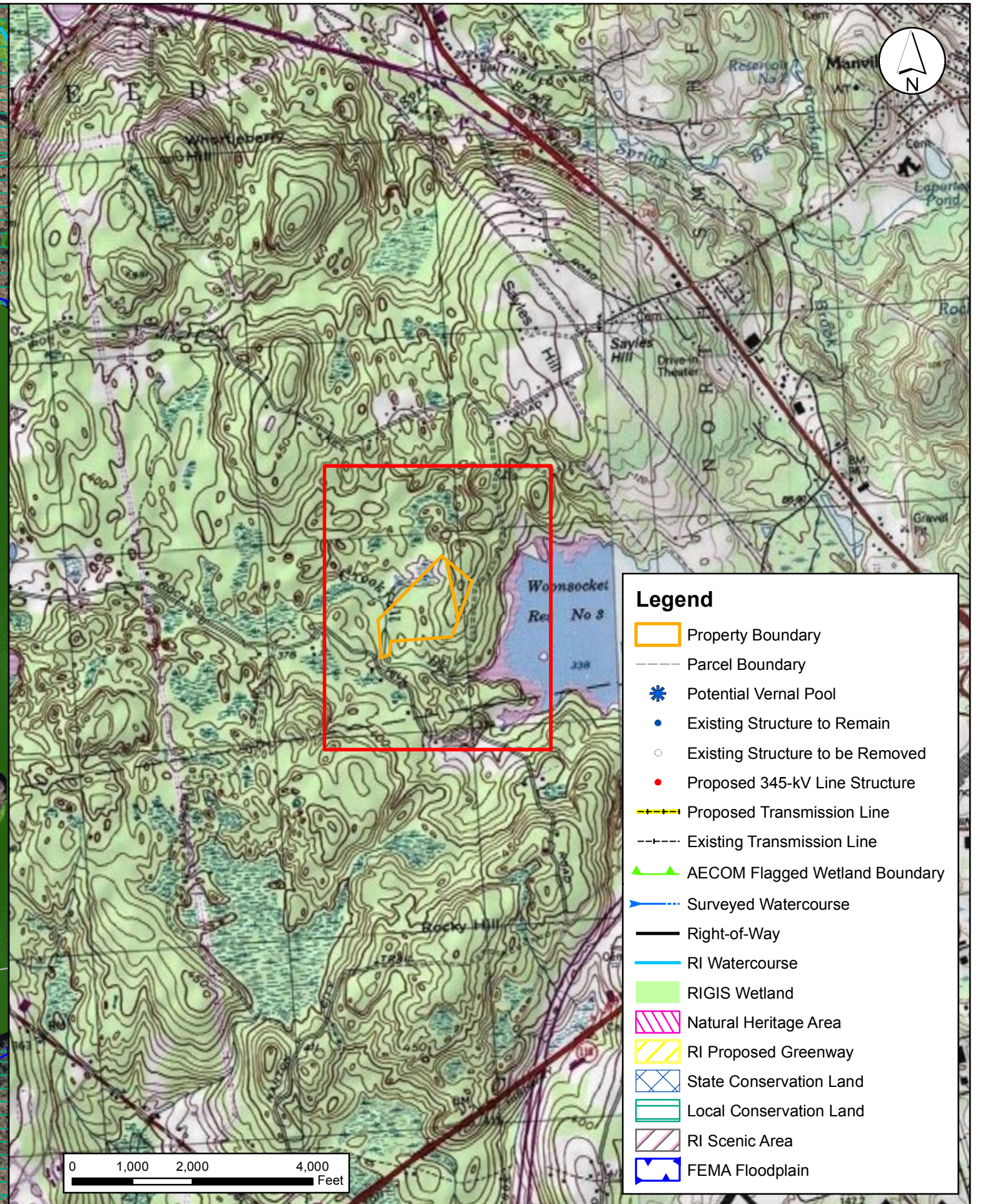
- Property Boundary
- Parcel Boundary
- Potential Vernal Pool
- Existing Structure to Remain
- Existing Structure to be Removed
- Proposed 345-kV Line Structure
- Proposed Transmission Line
- Existing Transmission Line
- AECOM Flagged Wetland Boundary
- Surveyed Watercourse
- Right-of-Way
- RI Watercourse
- RIGIS Wetland
- Natural Heritage Area
- RI Proposed Greenway
- State Conservation Land
- Local Conservation Land
- RI Scenic Area

Fort Refuge, North Smithfield, RI



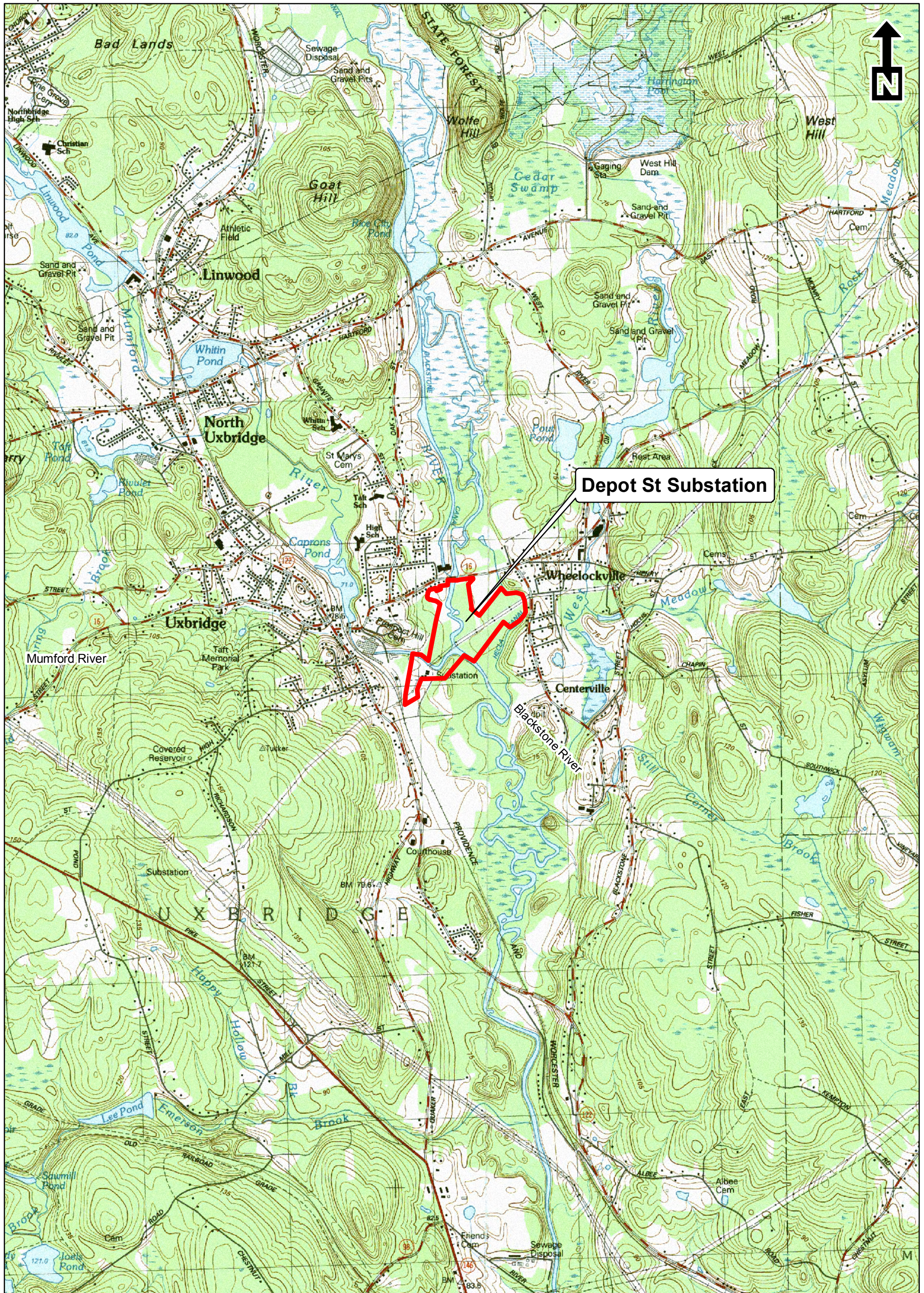
- Legend**
- National Grid Property Boundary
 - Parcel Boundary
 - Potential Vernal Pool
 - Existing Structure to Remain
 - Existing Structure to be Removed
 - Proposed 345-kV Line Structure
 - Proposed Transmission Line
 - Existing Transmission Line
 - Right-of-Way
 - AECOM Flagged Wetland Boundary
 - Surveyed Watercourse
 - NHD Watercourse
 - RI DEP Wetland
 - Natural Heritage Area
 - RI Proposed Greenway
 - State Conservation Land
 - Local Conservation Land
 - RI Scenic Area

29 Rocky Hill Rd., North Smithfield, RI
Parcel #: 020-02, 021-00



Legend

- Property Boundary
- Parcel Boundary
- Potential Vernal Pool
- Existing Structure to Remain
- Existing Structure to be Removed
- Proposed 345-kV Line Structure
- Proposed Transmission Line
- Existing Transmission Line
- AECOM Flagged Wetland Boundary
- Surveyed Watercourse
- Right-of-Way
- RI Watercourse
- RIGIS Wetland
- Natural Heritage Area
- RI Proposed Greenway
- State Conservation Land
- Local Conservation Land
- RI Scenic Area
- FEMA Floodplain



Scale:

1 inch = 2,000 feet

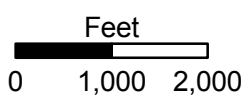
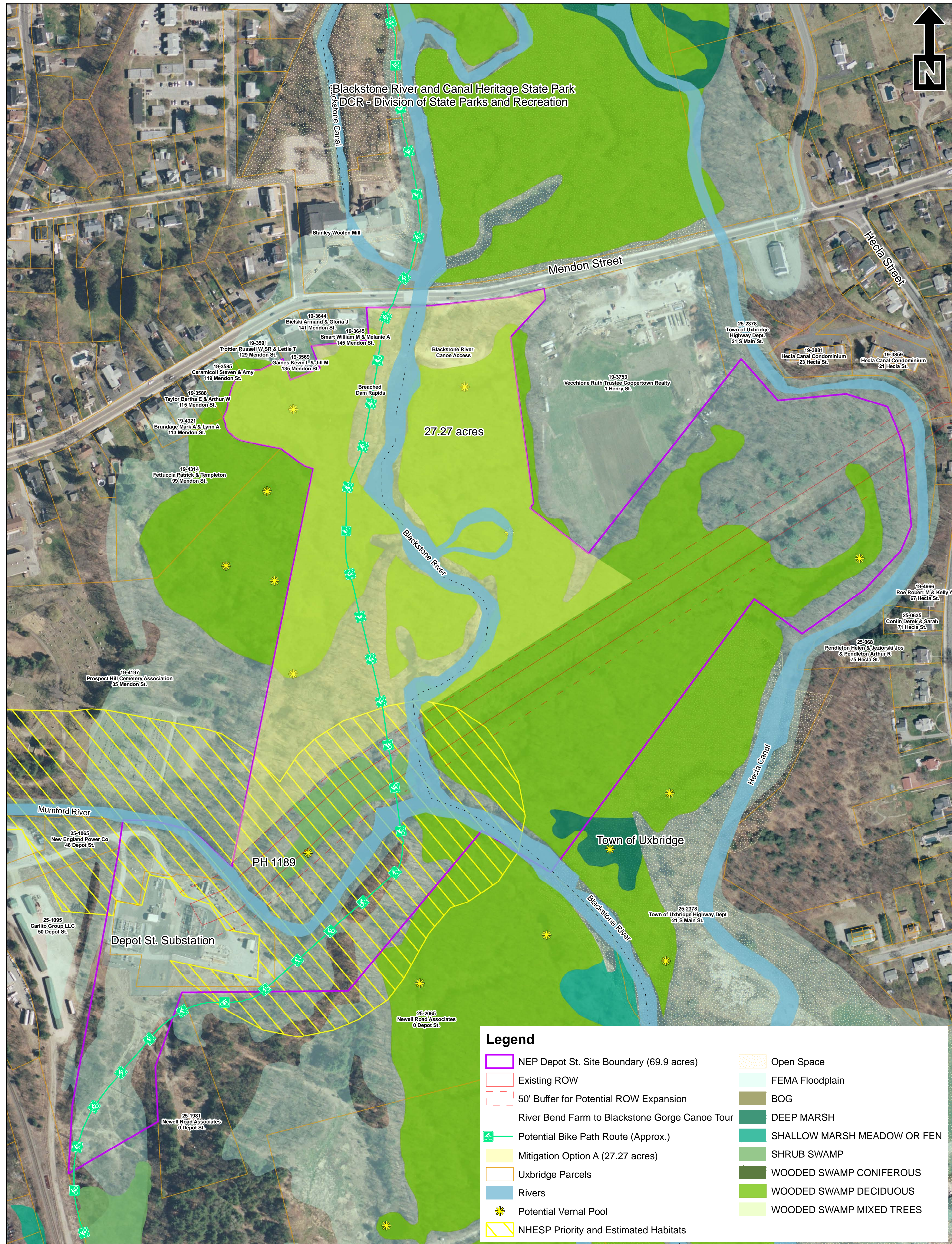


Figure 1
Depot St Substation Parcel Locus

Source:
ESRI; MassGIS;
USGS;





Scale:
 1 inch = 500 feet

Feet
 0 225 450

Compensatory Wetland Mitigation Options

Depot Street Substation Site

Source:
 ESRI; MassGIS;
 Town of Uxbridge;
 NHESP

