



**Connecticut Siting Council  
Docket No. 272**

**Development & Management Plan  
for the  
Middletown-Norwalk  
345-kV Transmission Line Project**

**Segment 1a –  
Scovill Rock to Chestnut Junction  
Oxbow Junction to Beseck Switching Station (excluding  
Royal Oak Bypass)  
Black Pond Junction to Beseck Switching Station**

**Volume 1 of 2**

**December 2005**



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**for the**

**Middletown-Norwalk  
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**Segment 1a  
Volume 1 of 2**

**Connecticut Siting Council  
Docket No. 272**

**Submitted By:  
The Connecticut Light and Power Company**

**December 2005**

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## 1.0 INTRODUCTION

The Connecticut Light and Power Company (CL&P) hereby submits this Development and Management (D&M) Plan for Segment 1a of the Middletown-Norwalk Project (the Project), in accordance with the Connecticut Siting Council (Council) Decision and Order for Docket 272 of April 7, 2005, and pursuant to Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies, *Requirements for a right-of-way development and management plan*. Segment 1a includes all of the transmission line construction for the Project from a.) Scovill Rock Switching Station to Chestnut Junction, b.) Oxbow Junction to Beseck Switching Station (with the exception of the Royal Oak Bypass in Middlefield and Middletown) and c.) Black Pond Junction to Beseck Switching Station. The Royal Oak Bypass will be submitted as Segment 1b and will be presented in a separate D&M Plan.

The Middletown-Norwalk Project consists of approximately 69 miles of 345-kV transmission line construction from CL&P's existing Scovill Rock Switching Station (located in the City of Middletown in Middlesex County), through New Haven County to CL&P's existing Norwalk Substation (located in the City of Norwalk in Fairfield County). The Project will include approximately 45 miles of overhead transmission line construction and 24 miles of underground transmission line construction. The overhead portion of the Project will extend from the Scovill Rock Switching Station to the East Devon Substation in the City of Milford. The underground portion will extend from the East Devon Substation to the Norwalk Substation in Norwalk. The Project will include the construction of two new electric substations (East Devon in the City of Milford and Singer in the City of Bridgeport) and one new switching station (Beseck in the Town of Wallingford), as well as modifications to the existing Norwalk Substation and Scovill Rock Switching Station. CL&P will own all overhead portions of the Project, as well as the underground portion from East Devon Substation to the first splice vault west of the Housatonic River. CL&P ownership also includes the underground segment from the Singer Substation to the Norwalk Substation. United Illuminating Company will build and own the Singer Substation and the underground segment from the Singer Substation to the first splice vault, inclusive of the vault, located west of the Housatonic River, a distance of approximately 5.75 miles.

CL&P plans to submit twelve separate D&M plans for its portion of the Project. The D&M plans will be developed based on the type of construction and geographic location along the route, as follows:

### Switching Stations and Substations (4 D&M plans)

- Scovill Rock (Middletown) – Approved by the Council on August 25, 2005
- Beseck (Wallingford) – Filed with the Council December 21, 2005
- East Devon (Milford)
- Norwalk (Norwalk)

### Overhead Lines (4 D&M plans)

- Segment 1a: Scovill Rock Switching Station to Chestnut Junction, Oxbow Junction to Beseck Switching Station (with the exception of the Royal Oak Bypass), and Black Pond Junction to Beseck Switching Station  
(Middletown, Haddam, Durham, Middlefield, Meriden, Wallingford)
- Segment 1b: Royal Oak Bypass  
(Middlefield, Middletown)
- Segment 2a: Beseck Switching Station to Cheshire/Hamden Town line  
(Wallingford, Cheshire)
- Segment 2b: Cheshire/Hamden Town line to East Devon Substation  
(Hamden, Bethany, Woodbridge, West Haven, Orange, Milford)

Underground Lines (3 D&M plans)

- Segment 3: East Devon Substation to UI ownership point in Stratford (Milford, Stratford)
- Segment 4a: Singer Substation to Fairfield/Westport Town line (Bridgeport, Fairfield) – Filed with the Council December 20, 2005
- Segment 4b: Fairfield/Westport Town line to Norwalk Substation (Westport, Norwalk)

Underground Watercourse and Railroad Crossings (1 D&M plan)

(Milford, Stratford, Bridgeport, Fairfield, Westport, Norwalk)

## 1.1 PROJECT DESCRIPTION

Segment 1a consists of three sub-segments that will tie the proposed 345-kV additions into the existing 345-kV backbone in central Connecticut. The sub-segment from Scovill Rock to Chestnut Junction in Middletown involves the construction of a new section of 345-kV line from Scovill Rock to Chestnut Junction and a reconfiguration of the two existing 345-kV lines along this right-of-way (ROW) sub-segment. The second sub-segment will include a new section of 345-kV line from Oxbow Junction in Haddam to the new Beseck Switching Station in Wallingford. The third sub-segment begins at Black Pond Junction in Meriden and consists of the construction of two new 345-kV line sections to the new Beseck Switching Station. The second and third sub-segments also involve re-construction of existing 115-kV lines.

These routes of the three separate overhead line sub-segments total 11.6 miles in length and are shown on Exhibit 1, Key Map. Sub-segment details are:

- Scovill Rock Switching Station in Middletown to Chestnut Junction, a distance of approximately 2.6 miles
- Oxbow Junction, in Haddam traversing through Durham, Middletown and Middlefield to Beseck Switching Station in Wallingford (excluding the Royal Oak Bypass), a distance of approximately 6.2 miles.
- Black Pond Junction in Meriden to Beseck Switching Station in Wallingford, a distance of approximately 2.8 miles.

### **1.1.1 Scovill Rock Switching Station to Chestnut Junction**

From Scovill Rock Switching Station to Chestnut Junction there are currently two 345-kV circuits within the ROW, each supported on wood-pole H-frame structures with a typical height of 80 feet. There are no 115-kV line components in this sub-segment. The structures for the new 345-kV line will be a compact delta design with a typical height of 85 feet. Typical cross sections along this portion of the transmission line route are illustrated in Volume 2 (*Typical Cross Section, Figure 1LEMF*). Construction and installation of the new circuit will require a widening of the existing ROW southerly by 55 feet. Much of this widening will be on land already owned by companies in the Northeast Utilities system (NU). Additional ROW required from nine (9) private landowners is identified in Section 2.3, Table 2-1.

### **1.1.2 Oxbow Junction to Beseck Switching Station**

From Oxbow Junction to the location of the new Beseck Switching Station, the two lines of existing 115-kV wood-pole H-frame structures (typical height of 57 feet) will be removed and replaced with a single line of 345/115-kV self-supporting steel monopoles with a typical height of 135 feet, as shown in Volume 2 (*Typical Cross Section, Figure 2LEMF*). No additional ROW will be required along the existing corridor.

The 115-kV 1975 circuit is a bundled circuit carried on two lines of wood-pole H-frame structures, 1975 north and south, from Oxbow Junction to Carpenter Lane Junction (located adjacent to Beseck Switching Station). The two H-frame transmission lines on the 1975 circuit will be removed between Oxbow Junction and Carpenter Lane Junction. The new steel 345-kV monopole structures will carry the 345-kV circuit on the south side of the pole and the 115-kV 1975 circuit on the north side of the pole. The existing 1975 circuit ROW adjoining the Royal Oak Bypass will not be impacted by the Project.

### **1.1.3 Black Pond Junction to Beseck Switching Station**

From Black Pond Junction to the Policeman's Benevolent Association property (approximately three spans), the existing 130-foot steel monopole structures will be relocated approximately 20 feet to the west and continue to carry the 345-kV circuit 387 (*Typical Cross Section, Figure 3 LEMFB*). Additionally, two new lines of steel monopoles having a typical height of 130 feet will be installed in the existing ROW. Each new structure will support a single 345-kV circuit as shown in Volume 2 (*Typical Cross Section, Figure 3, LEMFB*). The length of this section is approximately 0.45 miles. No additional ROW is required.

From the Policeman's Benevolent Association to East Meriden Substation, the existing line of 130-foot steel monopole structures will remain, but the arms will be relocated from the west to the east side of the existing structures. Two new lines of steel monopoles, also with typical heights of 130 feet, will be installed in the existing ROW. Each new structure will support a single 345-kV circuit as shown in Volume 2 (*Typical Cross Section, Figure 3*). The length of this section is approximately 0.9 miles. No additional ROW is required.

From the East Meriden Substation south to the proposed Beseck Switching Station, two new lines of 345/115-kV 130-foot steel monopole structures will be installed. The existing line of 130-foot double circuit monopoles will remain. The existing wood-pole H-frame line circuit 1466 will be removed between East Meriden Substation and Carpenter Lane Junction and the 115-kV circuit will be relocated on one of the two new lines of 345/115-kV structures. This configuration is shown in Volume 2 (*Typical Cross Section, Figure 4*). The length of this section is 1.45 miles. No additional ROW will be required.

The existing steel monopoles carrying the 345-kV circuit 387 between the East Meriden Substation and Carpenter Lane Junction also carry the 115-kV circuit 1975. The new configuration removes the easterly arms that currently carry the 387 circuit and moves the 387 circuit to the westerly arms that currently carry the 1975 circuit. The 1975 circuit will be moved to the second line of new steel monopole structures that will also carry one 345-kV circuit. The existing and new configurations for circuit 1975 are shown in Volume 2 (*Typical Cross Section, Figure 4*).

## **1.2 CONDITIONS**

In addition to the *Requirements for a right-of-way development and management plan* found in Sections 16-50-j-60 et seq. of the Regulations of Connecticut State Agencies, the Council stipulated certain requirements for the D&M plans in conditions 14-21 of its Decision and Order for the Middletown-Norwalk Project. A copy of this portion of the Decision and Order is provided in Appendix A. Those requirements have been incorporated in this D&M Plan either directly or by reference. Construction procedures will also be described in the *Method and Manner of Construction* filing that will be submitted to the Connecticut Department of Public Utility Control pursuant to Connecticut General Statutes §16-243 and associated Department regulations. The Project is also subject to a permit from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act and Section 10 of the River and Harbors Act.

## **1.3 CONSULTATIONS**

Prior to preparing this D&M Plan, CL&P consulted with officials and residents of all six (6) Segment 1a municipalities – Middletown, Meriden, Haddam, Durham, Middlefield and Wallingford - as well as representatives of the Lyman Orchards Golf Club in Middlefield.

Municipal consultations included meetings with municipal officials, meeting with residents directly affected by the Project and town-wide public meetings. Public meetings typically began with a presentation by CL&P officials outlining several matters: the Council decision; the D&M Plan process, including ways to provide input; schedule; and potential options for the municipality to consider. The presentation was followed by a question and answer session. Input was solicited on potential changes to structure heights, structure finish and limited linear movement of structures along the ROW. Preliminary detailed drawings and handouts were available to discuss specific preferences.

Residents were informed that project engineers were available for site visits and to conduct magnetic field measurements. Commonwealth Associates, an independent Technical Advisor selected after consultation with Connecticut's Office of Consumer Counsel, was available to assist residents and municipal officials with their requests. A dedicated project hotline and Website is available to further facilitate open and timely communications, and residents were invited to call the Project Director.

Many questions were addressed during the public meetings. Fifty written requests or comments were submitted to CL&P during or after these public meetings. Written requests included 36 concerning design changes; one regarding construction; and nine pertaining to other matters, such as vegetation, electric and magnetic fields (EMF) or noise. Four residents requested copies of the presentation or drawings. Where appropriate, correspondence conveying CL&P's resolution of requests was provided to the municipality. Copies of this correspondence are provided in Appendix B.

An overview of these consultations is presented below.

### **1.3.1 City of Middletown**

On May 10, 2005, a meeting was held with the Mayor of Middletown and other City officials to review the Council decision. On July 6, 2005, a joint meeting was held with the Mayor of Middletown and the First Selectmen of Middlefield and Durham to discuss the D&M Plan process and to notify the towns of the availability of the Technical Advisor.

### **1.3.2 Town of Haddam**

A meeting to discuss the Council's decision was held with the First Selectman of Haddam on June 23, 2005.

### **1.3.3 City of Meriden**

A meeting to discuss the Council decision was held on July 15, 2005 with Meriden's Town Manager, Assistant Planning Director and Associate City Attorney. A meeting to discuss environmental, zoning and land use issues was held on July 28, 2005 with a representative of Zoning and Wetland Enforcement and the Assistant City Planner. A public meeting was conducted by the Meriden Public Works Department on August 9, 2005. On December 2, 2005, the City of Meriden submitted two letters to CL&P that included comments and requests. This correspondence and CL&P's response are provided in Appendix B.

#### **1.3.4 Town of Durham**

On July 6, 2005, a joint meeting was held with the Mayor of Middletown and the First Selectmen of Middlefield and Durham to discuss the D&M Plan process and to notify the towns of the availability of the Technical Advisor. A public meeting was held on August 17, 2005 with Durham residents. Follow-up phone calls and site visits to several homeowners were made by our project engineers to address specific requests.

On September 7, 2005, the Town of Durham submitted a letter to CL&P that included comments and requests. This letter and CL&P's response are provided in Appendix B.

#### **1.3.5 Town of Middlefield**

On July 6, 2005, a joint meeting was held with the Mayor of Middletown and the First Selectmen of Middlefield and Durham to discuss the D&M Plan process and to notify the towns of the availability of the Technical Advisor.

The primary landowner affected in Middlefield is Lyman Orchards Golf Club. Meetings were held with representatives of Lyman Orchards Golf Club in May and June 2005 to respond to their concerns regarding golf operations. Several phone calls and site visits were made to review various design options involving the number of structures and structure height. A design satisfactory to Lyman Orchards Golf Club was agreed to by all parties at the conclusion of the consultations and is incorporated in this D&M Plan.

#### **1.3.6 Town of Wallingford**

A meeting with Wallingford officials, including the Mayor and Director of Public Utilities, was held on July 19, 2005 to review the Council decision and to notify them of the availability of the Technical Advisor. Prior to this, the Mayor had elicited input from residents at an informational session held on May 3, 2005. This input was shared with CL&P at the July 19 meeting. A public meeting for residents was held on September 15, 2005. Many comments and requests were received at this meeting. See Appendix B for the October 26, 2005 correspondence to the Town detailing the resolution of these requests, and the Town's December 8, 2005 response indicating the Town had no major issues with our plan.

## **2.0 DRAWINGS AND SITE INFORMATION**

CL&P inventoried and assessed environmental conditions and cultural resources as part of the Application to the Council in Docket No. 272. The following provides descriptive information regarding the existing conditions and modifications that will take place within Segment 1a. Much of this information is shown graphically on the Plan drawings as described below.

### **2.1 KEY MAP**

The locations of the three sub-segments that comprise Segment 1a are shown on the Key Map, Exhibit 1.

### **2.2 PLAN DRAWINGS**

Volume 2 of this D&M Plan includes drawings that depict the plan view for the overhead portion of the Project in Segment 1a and cross-sections depicting typical structure profiles and ROW requirements.

### **2.3 LAND OWNERSHIP**

Most of the land within the Segment 1a ROW is privately owned, although NU owns tracts of land on all three sub-segments of Segment 1a. NU land ownership typically is centered around CL&P facilities, including substations and transmission lines. Land ownership is identified on the Plan Drawings. Landowner information for parcels where additional rights will have to be acquired for an expanded easement is provided in Table 2-1.

In addition to the property rights to be acquired that are set forth in Table 2-1, CL&P may need to acquire certain easements in connection with the access roads identified on the drawings in Volume 2. CL&P is currently preparing an inventory of where such rights will be needed and will file an amendment to this D&M plan to identify such rights pursuant to the D&M Plan Change Approval Process discussed in section 4.2.2 and outlined in Appendix F.

### **2.4 PUBLIC ROADS AND LANDS**

Numerous public roads will be crossed along Segment 1a. The Scovill Rock Switching Station to Chestnut Junction sub-segment crosses State Highway 154, Route 9 and three local roads. State Highways 17, 147 and 157 and thirteen local roads are crossed by the Oxbow Junction to Beseck Switching Station sub-segment. The Black Pond Junction to Beseck Switching Station sub-segment crosses Route 66 and Interstate 691, as well as two local roads.

### **2.5 TOPOGRAPHY AND GRADING**

No significant changes in topography or grade will occur as a result of the construction and installation of new transmission lines in Segment 1a. Minor deviations may occur along access roads or at stream crossings. Construction mats may require some grading to provide a level work area.

### **2.6 STRUCTURE AND FOUNDATION LOCATIONS**

The location and type of structures and foundations along the ROW are shown on the Plan Drawings provided in Volume 2. A drawing depicting typical foundation characteristics is also provided in Volume 2.

**Table 2-1. Land Owner Information for Parcels Impacted by ROW Expansion.**

<b>Line List No.</b>	<b>Owner Name</b>	<b>Site Address</b>	<b>Town/St/Zip</b>	<b>Assessors Parcel Number</b>	<b>Acreage of Additional Easement Rights Needed</b>
10	Rook, Shirley J. (est) , Spopelak, Kristen M. & Rook, Victor B. Sr. (Co Exec)	Chamberlain Hill Road	Middletown, CT 06457	49 42-1 16	1.26
20.01	Bartholomew Heights Homeowners' Association, Inc.	Chamberlain Hill Road	Middletown, CT 06457	49 49-1 18	0.01
21	Bernstein, Matthew A., et als	Shunpike Road	Middletown, CT 06457	49 49-1 12	1.75
25	Marino, Sebastian G.	1967 Saybrook Road	Middletown, CT 06457	49 49-1 4	0.89
26	Smith, Gregory D. and Kelly M.	Saybrook Road (rear)	Middletown, CT 06457	49 49-1 9	0.26
27	Samson, Reed L.	Saybrook Road (rear)	Middletown, CT 06457	54 49-1 5	0.23
30	Laverty, Raymond J. and Vera B.	2099 Saybrook Road	Middletown, CT 06457	54 49-1 5A	0.73
31	Laverty, Raymond J. and Vera B.	Saybrook Road	Middletown, CT 06457	54 49-1 6A	0.07
39	Connecticut Park and Forest Association, Inc.	Saybrook Road	Haddam, CT 06438	5 61-2	0.06
41	Smith, Santana G.	Boulder Dell Road	Haddam, CT 06438	5 64	0.97
				Total	6.23

## **2.7 ACCESS POINTS FOR CONSTRUCTION**

Access roads (and alternates) are identified on the D&M Plan Drawings provided in Volume 2. Access includes both existing access roads and new construction access roads, including spurs from existing access roads to structures, where needed. Some improvements to existing access roads will likely be necessary. The width of access roads is typically 15 feet. Only roads approved by the Council will be used for access. Prior to the initiation of construction activities, CL&P's Environmental Inspector or Construction Supervisor will install signage identifying access roads restricted from vehicular traffic.

## **2.8 VEGETATION AND CLEARING**

Vegetation types occurring in Segment 1a can be divided into two categories: vegetation in the cleared ROW and vegetation outside of the cleared ROW. The locations of vegetation identified in Section 16-50j-61(b)(6) of the Regulations of Connecticut State Agencies are provided on the drawings in Volume 2.

### **2.8.1 Vegetation**

Brief overviews of the typical off-ROW vegetation by sub-segment are provided below.

#### **2.8.1.1 Scovill Rock Switching Station to Chestnut Junction**

Areas adjacent to the existing cleared ROW include mixed hardwood and pitch pine/oak forests of various ages and size that average 50 to 80 feet in height

Cleared ROW vegetation includes upland shrubs, grasses and forbs with scattered dense areas of mountain laurel.

#### **2.8.1.2 Oxbow Junction to Beseck Switching Station**

Areas adjacent to the existing ROW include mixed hardwood forest averaging 50 to 80 feet in height, hemlock forest, upland shrub, wooded wetlands, and abandoned and active farmland, including open pastures and reverting fields with cedars and upland shrubs, wet meadows and red maple swamps.

Cleared ROW vegetation consists of shrubs and forbs typical of early successional species.

#### **2.8.1.3 Black Pond Junction to Beseck Switching Station**

Areas adjacent to the existing ROW include mature hardwood forest, wooded swamps, upland shrubland, marshland, wetlands and agricultural lands. Vegetation within the wooded swamps include, but are not limited to, red maple, elm, white ash pole timber and small saw timber.

Cleared ROW vegetation includes upland shrubs, grass areas and shrub swamps.

### **2.8.2 Clearing**

Clearing will occur along two portions of the ROW: Scovill Rock Switching Station to Chestnut Junction and Black Pond Junction to Beseck Switching Station.

The practices to be used are consistent with NU's Design and Application Standard titled "Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines" (TRM 81.021) provided in Appendix C, the New England Independent System Operator's Vegetation Clearing Standard OP-4, and the National Electrical Safety Code Rule 218 as adopted by the Connecticut Department of Public Utility Control (Regulation Sec. 16-11-134). The construction clearing practices include use of a buffer for

wetlands and watercourses. A 50-foot buffer will be used near intermittent streams and wetlands and a 100 foot buffer will be used near perennial streams. TRM 81.021 is provided in Appendix C.

### **2.8.2.1 Scovill Rock Switching Station to Chestnut Junction**

Approximately 55 feet of clearing width will be required from Scovill Rock Switching Station to Chestnut Junction along the expanded portion of the new ROW to the south of the existing ROW.

### **2.8.2.2 Black Pond Junction to Beseck Switching Station**

The first three spans south of Black Pond Junction require 105 feet of clearing width, 35 feet on the east side and 70 feet on the west side. The remainder of the East Meriden to Black Pond Junction sub-segment requires a clearing width of 125 feet, 20 feet along the eastern edge of the ROW and 105 feet along the western edge. The Beseck Switching Station to East Meriden Substation portion of Beseck Switching Station to Black Pond Junction sub-segment requires a 55 foot width of clearing along the eastern edge of the ROW. All clearing will occur on existing, but as yet uncleared, ROW.

## **2.8.3 Low-Impact Tree Clearing**

Low-impact tree clearing is the preferred method for clearing on the Project. It incorporates a variety of approaches, techniques and equipment to minimize site disturbance and to protect residual forests, wetlands, watercourses, soils and cultural resources, including stone walls, old cemeteries and old foundations that are commonly found in wooded areas in Connecticut. The generally accepted tenets of low impact tree clearing include:

- Professionally prepared harvesting plan detailing landing areas, access and stream/wetland crossings.
- Employing directional tree felling – both hand felling and mechanical felling.
- Following Best Management Practices (BMP's) for harvesting in the design and implementation phase as outlined in *Logging and Water Quality in Connecticut* – developed by the Connecticut 208 Forestry Advisory Committee, 1982.
- Professionally prepared harvesting contract that includes specifications for access, wetland/stream crossings, vegetation removal, cultural resource protection and residual site quality.
- Selecting tree-clearing contractors that are experienced in low impact tree clearing and certified in the State of Connecticut.
- Utilizing a professional forester to oversee the tree clearing operations, access development, wetland/watercourse crossings, wetland and archeological site protection and wood removal for contract compliance.
- Regulate days of operation due to suitable/unsuitable ground conditions.
- Using a variety of tree clearing equipment to minimize impacts – forwarders, feller bunchers (cut-to-length systems), cable and grapple skidders, high-flotation tires, portable bridges and temporary culverts. The correct equipment needs to be matched to each specific site and conditions.
- The skidding of severed trees (tips of trees are dragged along the ground behind a skidder) should be limited to areas of low erosion potential. A forwarder is the recommended equipment type in areas with sensitive soil conditions.
- Trees should be cut close to the ground, and stumps and root systems should be left in the ground to naturally decompose over time. These decaying root systems provide additional soil stability as well as hosting native organisms.
- Maximizing use of upland portions of the existing cleared ROW for landing areas and the use of existing accessways.

The benefits of low-impact tree clearing compared with conventional land clearing are substantial. Low-impact tree clearing strives to minimize site disturbances and maximize timber utilization. These objectives are less of a factor in conventional land clearing. Most land that is conventionally cleared is stumped, excavated and graded for roads, homes and commercial development.

Trees that are to be cleared will be directionally felled either by hand – a chainsaw and operator – or felled mechanically by the equipment described below, which typically includes a felling head (a type of rotary saw) attached to a boom. The boom extends out to the tree, the felling head severs the tree, and the boom and operator place the tree on the ground.

Skidders are large articulated tractors with either a grapple or cable winch at the rear of the machine. The winch allows the skidder to be parked away from sensitive areas and to winch trees back to the machine. They may have rubber tires or tracks.

A forwarder is a tractor with a loading boom and bunk on the back of the machine to hold logs. A forwarder drives up to a pile of logs, loads the logs onto its' bunk and drives back to the landing area. The logs are never skidded on the ground.

A feller buncher is a “cut-to-length” system consisting of a tractor with a specialized felling head on a boom that is capable of cutting a tree, directing its' fall, removing the limbs and cutting the bole into logs. This system is more commonly used in smaller diameter conifer forests.

There are some variations to the equipment described above, including whether the equipment is mounted on tracks or rubber tires, but these devices are typically the equipment recommended for use in this type of clearing.

## **2.9 ENVIRONMENTALLY SENSITIVE AREAS**

Two “Environmentally Sensitive Areas” in Segment 1a were identified in the Docket No. 272 application: (1) Ball Brook, where the wood turtle can be found; in the Oxbow Junction to Beseck Switching Station sub-segment and (2) from Wetland Number 15 to Wetland Number 17 in the Scovill Rock Switching Station to Chestnut Junction sub-segment. Both of these areas are in the City of Middletown. In addition to these areas specifically identified in the Application as “Environmentally Sensitive Areas”, there are two sensitive drinking water areas in this segment: (1) the Sumner Brook Aquifer in Durham; and (2) the McKenzie Watershed Protection Zone in Wallingford. Both of these areas are in the Beseck Switching Station to Black Pond Junction sub-segment.

In addition, all wetlands and watercourses are considered to be environmentally sensitive. These are identified on the D&M Plan Drawings in Volume 2. Also identified are erosion and sediment control measures necessary to protect the resource. No areas were identified in the Council Application as having a high erosion potential; however, several slopes identified on the D&M Plan Drawings were considered to have a higher than average potential to experience excessive erosion without protection. Recommended best management practices for these potential erosional areas are included on the D&M Plan drawings.

A potential vernal pool is located in Durham, west of Johnson Lane, near existing structure #3564 (D&M plan drawings, Volume 2, Oxbow to Beseck, Sheet 6 of 8). This area will be fenced with orange safety fence and will be noted as restricted access for construction purposes.

The Durham Meadows Wildlife Management Area may provide nesting habitat for King rail and Blue-winged teal.

CL&P will make every attempt to limit the conductor installation sites to upland areas.

## **2.10 EXISTING UNDERGROUND UTILITIES**

Prior to and during the construction phase of the Project, the Construction Contractor will be required to use “Call Before You Dig” to identify buried utilities.

## **2.11 STAGING AREA AND CONSTRUCTION FACILITIES**

A combination of temporary storage areas, staging areas and laydown areas will be needed to support construction. Material staging sites will be required at locations in the vicinity of the transmission line corridor. Although these areas do not necessarily have to be adjacent to the transmission line ROW, the closer these areas are to the ROW, the less the disturbance to the public. Where possible, material storage, staging and laydown areas will be set up on property already owned by NU. If NU-owned property is not available, areas such as parking lots or land that is not in use will be considered, provided the areas are of sufficient size and in the general vicinity of construction.

The Construction Contractor will be responsible for selecting sites for material staging and for making arrangements with property owners for use of the land during construction. Material staging areas proposed for use will be submitted to Council staff for review and approval prior to use through the Change Approval Process described in Appendix F of this Plan.

### 3.0 CONSTRUCTION INFORMATION

This section contains information concerning construction practices and mitigation measures related to the construction of Segment 1a overhead lines.

#### 3.1 TIMBER AND SNAG TREES

To maximize forest resource utilization, CL&P employed a professional forestry consulting firm to inventory trees on the properties affected by ROW widening during construction and installation of the Project. Most of the marketable timber to be removed is on NU property in Middletown. In some cases, there are private landowners who also own marketable timber in the affected ROW. CL&P will work with these private landowners to distribute marketable timber value equitably.

##### 3.1.1 Marketable Timber

Trees identified during the marketable timber survey to be removed during construction and installation of the Project fall into three categories of marketability:

- **Non-marketable Timber** – Trees that are generally small, seedling and sapling sized, or larger trees with significant defect.
- **Marginal Value Timber** – Trees that are generally pole timber sized (6-11 inch diameter at breast height (dbh)) or larger trees with some defect. Common uses for these trees include fuelwood and pulpwood, and pallet wood. This category also includes larger sawtimber trees whose economic value has been decreased due to high harvesting costs.
- **Marketable Timber** – Trees that are sawtimber sized (12+ inches dbh), sound and reasonably accessible to harvesting. Uses for these trees include veneer and dimensional lumber products.

Utilization of the harvested trees will fall into one or more of the following categories:

- **Chipped on Site** – These trees are usually non-marketable or marginally marketable. Chips would be blown onto upland portions of the ROW.
- **Cut, Trimmed and Piled on Site** – The harvested trees are trimmed, piled and available to neighboring landowners for use as fuelwood and other uses. This approach can be used in areas where the transportation of harvested wood has the potential for site impact.
- **Removed from Site** – The harvested trees and chips can be removed from site and be utilized at various mills. Markets, harvesting and transportation costs will determine the viability of this option.

A number of options exist for capturing the value of the trees removed during construction activities. These include:

- **Roadside Sale** – Landclearing contractor(s) will pile marketable timber roadside. CL&P will have the logs measured, graded and sold to the forest products industry.
- **Contractor's Timber Sale** – The logging contractor/construction contractor will accept ownership of the marketable timber. CL&P will have the logs measured,

graded and appraised. The appraised value will be deducted from the contractor/construction contractor's bid price for clearing.

- **Contractor's Timber Sale** –Logging contractor/construction contractor will be provided with an inventory and location map prior to clearing to ascertain approximate timber value. The approximate timber value can be deducted from the ROW clearing bid price.

### 3.1.2 Snag Tree Maintenance

A snag tree is defined as a standing tree in some stage of decay that has one or more biological and structural attributes usable by wildlife. Snag trees can be used for cavity and branch nesting, perches, insect production and cover. Existing snag trees will be maintained along the transmission corridor providing they meet all specifications for line clearance and safety. There is a constant supply of new snag trees being created along the ROW due to tree damage caused naturally by ice, wind, insects and disease.

## 3.2 CONSTRUCTION AND REHABILITATION PROCEDURES

Construction procedures for water crossings, sedimentation and erosion control, protected species, hydrologic features and cultural resource properties are described below.

### 3.2.1 Water Crossing Techniques for Overhead Construction

Section L.2 of CL&P's Application to the Council discusses the existing water resources within the footprint of the Project. The drawings in Volume 2 depict these resources graphically and the recommended crossing method. Water crossing methods that may be used during construction include flume pipe with crushed rock ramp, temporary bridge, wooden construction mats and stone fords. Gaps have been designed into the access roads to provide additional protection to water and/or wetland crossings. These gaps are identified on the drawings in Volume 2 as "Restricted Access."

Specific construction techniques at each of the water crossings in Segment 1a will be dependent upon site conditions at the time of construction and will be the responsibility of the Environmental Inspector and/or Construction Supervisor representing CL&P. Periods of low flow occur in the summer months of June through September and the winter months of January through March. If, during periods of low flow, a precipitation event increases the rate of flow and no crossing structure is installed, the Construction Contractor will either delay resuming construction activities until the flow decreases or install a crossing structure as described in the sedimentation and erosion control measures in Appendix D.

There are two unique locations in Segment 1a where water crossing techniques may require specialized approaches. The first is located east of the Coginchaug River near existing structures #3592 and #4510 and new structure #24521 in the Oxbow Junction to Beseck Switching Station sub-segment. The only access to these structures is from Durham Road to the east. If these two streams are crossed, construction of temporary bridges for access will be required. If temporary bridges are required, they will be removed after construction.

The other locale is the portion of the Beseck Switching Station to Black Pond Junction sub-segment from the East Meriden Substation to Route 66. In this portion of the route, a stream flows through, and parallel to, the ROW. Construction mats will be used to allow for access to the site. Construction mats will be removed after construction is complete.

### **3.2.2 Sedimentation and Erosion Control Procedures**

Construction activities will comply with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. A discussion of sedimentation and erosion control measures is provided in Appendix D. Specific sedimentation and erosion control measures per the Sediment and Erosion Control Plan in Appendix D are shown on the D&M Plan Drawings provided in Volume 2. Sedimentation barriers will be installed on the downhill side of the construction area to reduce sedimentation associated with construction activities during precipitation events. Excess spoil material will be removed from wetland areas by the contractor and disposed of in approved locations.

As the Council stated in the Decision and Order (condition 14(r)) excavated material in upland construction may be allowed to be graded in proximity to the structure and excavated soil in wetland construction will be stockpiled in an upland area for use in wetland restoration.

Groundwater encountered during the installation of structure foundations will be discharged in accordance with the DEP Stormwater and Dewatering Wastewaters from Construction General Permit.

### **3.2.3 Precautions for Protected Species**

Pursuant to consultation with the Department of Environmental Protection (DEP) Natural Diversity Database, two areas of concern involving three species were noted. King rail and blue-winged teal were noted as potentially nesting along the Coginchaug River in the Durham Meadows Wildlife Management Area. During a phone call on July 8, 2005 with Jenny Dickson (DEP), she requested that construction be restricted during the nesting season from April 1 to July 31. CL&P will comply with this request.

Julie Victoria of the DEP noted that wood turtles are found in the vicinity of Ball Brook. Ms. Victoria, in a letter dated March 24, 2003, stated a preference that construction not occur during the period from April 1 to November 1. It is currently not known if construction will occur in the vicinity of Ball Brook during this time period. If construction occurs during this period, CL&P will provide appropriate training in the recognition and removal of individual wood turtles from the ROW observed during construction activities. Environmental Inspectors representing CL&P will be trained in the proper care and treatment of turtles encountered on the ROW and will be responsible for the aforementioned training. Use of these measures will minimize risks to this species from the construction of the project on Segment 1a.

A summary letter dated August 18, 2005 addressing all of the protected species concerns identified by the DEP is presented in Appendix E.

### **3.2.4 Restoration of Hydrologic Features**

No permanent changes will occur to hydrologic features in the transmission line ROW. Temporary changes may occur due to rutting by vehicles or tree removal, installation and removal of construction crossing structures, or other construction-related activities. These areas will be restored to pre-existing conditions. Use of site-specific water crossing techniques, careful logging and other Best Management Practices will minimize or alleviate impacts to hydrologic features so that specific remedies will not be necessary.

### **3.2.5 Protection of Cultural Resources**

CL&P contracted with a cultural resource consultant, Raber & Associates, to perform a Phase I Cultural Resources Assessment as part of the Application to the Council. A significant portion of

the ROW was identified as being “sensitive” with a high probability of encountering unknown resources. Further information is needed to complete the cultural resource assessment. In accordance with the Council Decision and Order condition 21, CL&P has retained this same firm to survey the structure locations prior to construction and to identify sites that are eligible for inclusion on the National Register of Historic Places. The Phase II survey is anticipated to be complete for Segment 1a by the Spring of 2006 with anticipated concurrence from the State Historic Preservation Officer (SHPO) of no significant adverse impacts to cultural resources. The use of archeological monitors to observe the preparation of the foundations may be necessary in rare instances. If monitors observe cultural material during construction of Segment 1a structures, work will stop until the significance of the cultural materials can be determined.

Rock walls identified by the SHPO as having significance, as defined in the National Historic Preservation Act of 1966, will require that protective measures be employed during clearing and construction activities. Such measures will be developed in consultation with the SHPO, cultural resource contractor and CL&P prior to construction.

### **3.2.6 Herbicide Use**

No herbicides will be used during construction. Normal maintenance of the ROW, conducted on an annual basis, includes treatment of vegetation mechanically and with EPA-approved herbicides. No change in ROW maintenance practices is anticipated due to the construction of new lines in Segment 1a.

### **3.2.7 Public Recreation Areas**

Six recreational resources are located in the vicinity of the Segment 1a ROW:

- Mattabessett Trail
- Seven Falls Roadside Park
- Cockaponset State Forest
- City of Middletown trails
- Durham Meadows Wildlife Management Area
- Black Pond Wildlife Area.

The Mattabessett Trail is a portion of the blue-blazed trail system created in the late 1920's. The trail crosses the ROW in two locations. The first crossing is along the Scovill Rock Switching Station to Chestnut Junction sub-segment on NU property near the Scovill Rock Switching Station in Middletown. The trail extends into the existing ROW at several places before turning north and crossing the ROW near existing structure #19078 (Volume 2, Scovill Rock Switching Station to Chestnut Junction, Sheet 2 of 4). Portions of the trail will be temporarily affected along the south side of the ROW where approximately 55 feet of additional clearing will be required. Portions of the trail disturbed by construction will be repaired and restored to their pre-construction condition. The second location where the Mattabessett Trail and the ROW intersect is near existing structure #3616, as shown in Volume 2 (Oxbow Junction to Beseck Switching Station, Sheet 1 of 8), on Beseck Mountain just west of the Middlesex/New Haven County line in the City of Wallingford. At this locale the Mattabessett Trail crosses the ROW in a perpendicular fashion with minimal exposure. Any damage to the trail will be repaired to pre-construction condition. No permanent restrictions to recreational use are anticipated at either of the Mattabessett Trail sites. Short-term inconvenience from detouring around construction may occur, but will not be significant.

The portion of the ROW associated with the state-maintained Seven Falls Roadside Park is located just north and east of the Old Saybrook Highway in the City of Middletown in the Scovill Rock Switching Station to Chestnut Junction sub-segment. The Seven Falls Roadside Park consists primarily of a picnic area constructed adjacent to Seven Falls. The new edge of cleared ROW will be approximately 113 feet from this roadside park. This provides a vegetative buffer in excess of 100 feet. No significant adverse impacts or restrictions to recreational use to this area are anticipated.

The Cockaponset State Forest consists of one large tract of land and numerous small tracts in Middlesex County. The existing ROW approaches two of the smaller tracts of the State Forest. NU owns a large tract of wooded land that contains Oxbow Junction, a terminus of the Beseck Switching Station to Oxbow Junction sub-segment. Adjacent to this tract along the south side of Oxbow Road is a small parcel of the Cockaponset State Forest. There will be no direct impacts to this part of the State Forest. The second small tract of State Forest land near the ROW is located in Meriden just south of the Black Pond Junction, a terminus of the Beseck Switching Station to Black Pond Junction sub-segment. The closest point of the ROW to the State Forest property is 100 feet. There will be no direct impacts or restrictions to recreational use to either Forest tract of land.

The City of Middletown owns several parcels crossed by the Project's ROW near Coleman Road in the Oxbow Junction to Beseck Switching Station sub-segment. These parcels have been designated as "open space" and contain several trails that cross the ROW. Any trails affected by Project construction will be repaired to pre-construction conditions. No permanent restrictions to recreational use of these areas are anticipated. Short-term inconvenience from detouring around construction may occur but will not be significant.

The state-owned Durham Meadows Wildlife Management Area (WMA) extends in a north-south manner along both sides of the Coginchaug River in Durham in the Oxbow Junction to Beseck Switching Station sub-segment. This recreation area is used for hunting (primarily waterfowl), fishing and birding. Construction in this area will be restricted to the months of August-March, which is the period of minimal use of this recreational area. Additionally, the ROW crosses at a narrow location of the extreme northern portion of the WMA. Both of these factors will minimize, or alleviate, adverse impacts to recreational use of this WMA.

The Black Pond Wildlife Area is located in Middlefield just south of the Middlefield/Meriden town line in the Black Pond Junction to Beseck Switching Station sub-segment. This area is primarily used for fishing and is stocked with trout annually. It also contains a small boat launch. The ROW crosses west of the Black Pond Wildlife Area and will not directly impact or restrict recreational area use of this area.

### **3.2.8 Disposal and Maintenance Procedures**

The Construction Contractor will remove all construction debris and dispose of it in accordance with local, state and federal regulations. Excess soil in upland areas will be spread on the ROW in adjacent upland areas as noted in condition 14(r) of the Council's Decision and Order. No burning of debris will occur on the ROW.

### **3.2.9 Blasting Procedures**

Blasting is not anticipated for Segment 1a. However, should further geotechnical studies or field conditions dictate the use of blasting, a blasting plan will be prepared and submitted to the Council for review and approval prior to the use of any blasting on the ROW.

### **3.2.10 Rehabilitation Plans**

#### **3.2.10.1 Wetlands Restoration**

Detailed information pertaining to restoration of wetlands is contained in Section 5.0 of the Sedimentation and Erosion Control Plan in Appendix D.

#### **3.2.10.2 Invasive Species**

Wetlands are the most susceptible habitat to invasive species introduced by construction and installation of the Project. The Connecticut DEP, under PA 03-136 and in cooperation with the Connecticut Invasive Plants Council through the Invasive Plant Atlas of New England, has compiled a list of invasive plants for the State of Connecticut. The most common invasive species include the following:

- Purple loosestrife (*Lythrum salicaria*)
- Black locust (*Robinia pseudo-acacia*)
- Barberry (*Berberis spp*)
- Ligustrum (*Ligustrum spp*)
- Honeysuckle (*Lonicera spp*)
- Buckthorn (*Rhamnus sp*)
- Rose (*Rosa multiflora*)
- Spurge (*Euphorbia spp*)
- Common reed (*Phragmites australis*).

Areas where the aforementioned species occur in significant numbers, either within or adjacent to the ROW, are noted on the Plan drawings in Volume 2. These areas will be monitored for a period of two years following final restoration of the ROW. If significant populations occur within the ROW, a licensed professional horticulturist and/or wetland scientist will be retained to recommend and implement methods of control for invasive species and to maximize re-establishment of native vegetation.

The ROW will also be surveyed one year after final rehabilitation for the remaining species on the invasive plant list noted in the Invasive Plant Atlas of New England. If significant populations of these less common species are found on the ROW, a licensed professional horticulturist and/or wetland scientist will be retained to recommend and implement methods of control for invasive species and to maximize re-establishment of native vegetation.

### **3.2.11 Independent Environmental Consultant**

In accordance with condition 20 of the Council's Decision and Order for the Project, CL&P will select and retain an independent environmental consultant, subject to approval by the Council, to monitor construction of the Middletown-Norwalk Project in accordance with Council-approved D&M Plans. The consultant will report regularly to the Council.

## **4.0 NOTICES AND REPORTS**

This section outlines requirements regarding notifications and reporting procedures per Section 16-50j-62 of the Regulations of Connecticut State Agencies.

### **4.1 STAGING AND MATERIAL LAYDOWN AREAS**

Where possible, material storage, staging and laydown areas will be set up on property already owned by NU. If NU property is not available, areas such as parking lots or land that is not in use will be considered provided the areas are of sufficient size and in the vicinity of construction. Potential material staging areas were identified in Volume 1, Section K (Proposed Construction Areas) of the Docket No. 272 Certificate application. The Construction Contractor may use these locations or choose to identify others that may be more suited to its needs. Staging and material laydown areas proposed for use and not on this list will be submitted to the Council for review and approval.

### **4.2 NOTICES TO THE COUNCIL**

Three types of notices are required by the Council for construction. Each type is described below.

#### **4.2.1 Notice of Beginning**

CL&P will provide written notification to the Council a minimum of two weeks prior to the beginning of construction of the line.

#### **4.2.2 Notice of Changes**

For all segments of this Project, CL&P intends to utilize a uniform procedure for interfacing with the Council regarding any changes to approved D&M Plans, namely, the procedure that the Council has already approved in connection with the D&M Plan for Scovill Rock Switching Station. This model, which has also been successfully applied for the Bethel-Norwalk Project, (Docket No. 217) is described and depicted in Appendix F.

#### **4.2.3 Notice of Completion**

CL&P will provide the Council written notification of the completion of construction and site rehabilitation for Segment 1a.

### **4.3 NOTICE TO MUNICIPALITIES**

CL&P will provide written notification to the Chief Elected Officials of Middletown, Haddam, Durham, Middlefield, Meriden and Wallingford a minimum of three weeks prior to the beginning of construction. CL&P will also notify the Chief Elected Officials upon completion of the work.

### **4.4 NOTICE TO LANDOWNERS**

CL&P will provide written notification to adjacent landowners a minimum of two weeks prior to the beginning of construction.

#### **4.5 MONTHLY REPORTS**

CL&P will provide the Council with written monthly progress reports that will include changes or deviations from the approved D&M Plan, if any.

#### **4.6 FINAL REPORT**

CL&P will provide a final report to the Council as required in Section 16-50j-62 of the Regulations of Connecticut State Agencies. The final report will contain the following information as prescribed in the regulations:

1. All agreements with abutters or other property owners regarding special maintenance precautions.
2. Significant changes to the D&M Plan that were required because of the property rights of underlying and adjoining owners or for other reasons.
3. Location of non-transmission materials that have been left in place.
4. Actual construction cost of the facility including but not limited to the following:
  - Clearing and access
  - Construction
  - Rehabilitation

## 5.0 ADDITIONAL ELEMENTS PER COUNCIL ORDER

The listing of additional elements identified in the Decision and Order for Docket No. 272 pertaining to D&M Plans is included in Appendix A. All applicable information is contained within the above portions of the plan.

### 5.1 Decision and Order Checklist

Following is a synopsis of the requirements for the D&M Plans for the Middletown-Norwalk Project as stated in the Decision and Order, followed by the location of the information in the Plan, or a statement if not applicable to this specific Plan for Segment 1a.

ITEM FROM DECISION	LOCATION/APPLICABILITY
<b>14. D&amp;M Elements</b>	
a. Detailed site plan showing access roads, foundations, staging areas for overhead route	Plan Drawings, Volume 2
b. Detailed site plan showing splice vaults, duct banks, staging areas for underground route	Not Applicable (no underground)
c. Identification of boring sites for underground	Not Applicable (no underground)
d. Erosion and Sediment Control Plan	Appendix D, Section 3.2.2
e. Provisions for crossing wetlands and watercourses	Section 2.9 and Section 3.2.1, Plan Drawings – Volume 2
f. Vegetation Clearing Plan	Section 2.8
g. Wetland Restoration Plan	Section 3.2.10
h. Invasive Species Management Plan	Section 3.2.10
i. Plan for Pre-Construction Survey for species of concern	Section 3.2.3; None required by DEP
j. Post-construction EMF Monitoring Plan	Section 5.2
k. Fencing of vernal pools; buffer around wetlands	Sections 2.8 and 2.9, Plan Drawings- Volume 2
l. Inland Wetlands Restoration Plan	Section 3.2.10
m. Monitoring and Operations Plan for each water crossing	Section 3.2.1, Plan Drawings – Volume 2
n. Traffic Control Plan	Not Applicable
o. Blasting Plan	Section 3.2.9
p. Groundwater Best Management Practices	Section 3.2.2
q. Identification of staging areas	Sections 2.11 and Section 4.1
r. May spread excavated material in uplands; stockpile excavated soil from wetlands	Section 3.2.2

s. Limit conductor installation sites and pulling sites to cleared ROW, not in wetlands	Section 2.9
t. Plan to remove or adjust selected structures	Not Applicable (none of the mentioned structures are located in Segment 1a)
<b>15. DEP Consultation</b> (river crossings)	Not Applicable (no DEP-permitted water crossings in Segment 1a)
<b>16. Regional Water Authority (RWA) Conditions</b>	Not Applicable (not on RWA property)
<b>17. DOT Encroachment Permit Process</b>	Not Applicable (no areas of DOT encroachment)
<b>18. Provide the Following Permits Prior to Construction</b> (Public Health, OLISP, Water Crossings)	Not Applicable (No Department of Public Health or OLISP permits required on this Segment; No DEP-permitted water crossings)
<b>19. Waste Management Permits</b>	Section 3.2.8
<b>20. Independent Environmental Consultant</b>	Section 3.2.11
<b>21. Phase II Archeological Reconnaissance Survey</b>	Section 3.2.5

## 5.2 SUPPLEMENTAL PLANS AND INFORMATION

CL&P and UI intend to file a single electric and magnetic field monitoring plan for locations along the project route at a future date.

## **6.0 PROJECT SCHEDULE**

The construction of Segment 1a will take approximately three and a half years, from mobilization through construction and site restoration. The schedule is currently under review and subject to modifications. Construction activities are expected to take place during six 10-hour days per week, with additional overtime if necessary.

### **SEGMENT 1 CONSTRUCTION SCHEDULE**

<b>Survey</b>	<b>May 2005 – December 2005</b>
<b>Geotech testing</b>	<b>October 2005 – January 2006</b>
<b>Right-of-way clearing</b>	<b>April 2006 – September 2006</b>
<b>Mobilization</b>	<b>July 2006</b>
<b>Structure Removal</b>	<b>August 2006 – September 2008</b>
<b>Structures/Cable installation</b>	<b>July 2006 – November 2008</b>
<b>Cut-overs</b>	<b>August 2006 – December 2008</b>
<b>Site Restoration</b>	<b>October 2007 – November 2009</b>

## **APPENDICES**

- A Docket 272 Selected Portions  
of Decision and Order**
- B Municipal Correspondence**
- C Right-of-Way Vegetation  
Clearing Standard TRM 81.021**
- D Sediment and Erosion Control  
Plan**
- E Protected Species Summary  
Letter**
- F D&M Plan Change Approval  
Process**

**APPENDIX A**  
**DOCKET 272**  
**SELECTED PORTIONS OF DECISION AND ORDER**

**APPENDIX A**  
**DOCKET 272**  
**SELECTED PORTIONS OF DECISION AND ORDER**

14. The Certificate Holders shall not commence construction of the overhead and underground electric transmission system until securing Council approval of a D&M Plan, consistent with the Regulations of Connecticut State Agencies Section 16-50j-60 through Section 16-50j-62 and which includes the following elements:
- a. A detailed site plan showing the placement of the access roads, structure foundations, equipment and material staging area for the overhead route;
  - b. A detailed site plan showing the underground route, splice boxes, provisions for underground cable protection, and equipment and material staging area;
  - c. Identification of horizontal directional drill and jack and boring sites;
  - d. An erosion and sediment control plan, consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control as amended for both overhead and underground routes;
  - e. Provisions for crossing inland wetland and watercourses for both overhead and underground routes;
  - f. Vegetative clearing plan;
  - g. A wetland restoration plan;
  - h. Invasive species management plan;
  - i. A Plan for a pre-construction survey for all other endangered, threatened and species of special concern, flag areas of mudwort and bayonet grass, sweep areas for eastern box turtle and wood turtle prior to construction and abide to construction periods as outlined by the DEP Wildlife Division;
  - j. A post-construction electric and magnetic field monitoring plan;
  - k. A plan for installing construction fencing at vernal pools near construction activities and a buffer area be established around inland wetlands;
  - l. An inland wetlands restoration plan;
  - m. Monitoring and Operations Plan for each water body crossing;
  - n. A traffic control plan to include scheduling of construction hours during nights and/or weekends and mitigation of lighting and noise;
  - o. A blasting plan
  - p. Groundwater best management practices plan;
  - q. Identification of developed areas for staging and equipment lay down, field office trailers, sanitary facilities and parking before establishing a new area;
  - r. Excavated material in upland construction may be allowed to be graded in proximity to the structure and excavated soil in wetland construction shall be stockpiled in an upland area for use in wetland restoration;
  - s. Conductor installation sites shall be within the existing ROW, use of existing cleared areas, to the extent possible, and pulling sites will not be allowed in wetlands;
  - t. A plan for the following: structure #4010 may be eliminated; in Woodbridge, details on removal of structure #3920 and new poles may be eliminated in the area of wetland #133; a number of structures within wetland #70 adjacent to Tamarac Swamp in Wallingford may be reduced, especially structures #8769 and 8800; and a set of existing pole structures immediately adjacent to the Farmington Can Recreational Trail in Hamden could be removed.

15. The Certificate Holders are directed to consult with DEP on the following matters:
  - a. Concerning horizontal directional drill and the jack and bore crossing techniques;
  - b. Forging streams; and
  - c. Construction scheduling at the Milford boat launch and the line should be sited so as to not interfere unreasonably with any future maintenance needs.
  
16. The Certificate Holders shall abide to the following Regional Water Authority (RWA) conditions:
  - a. Shall provide all information necessary for the RWA to prepare a DPH Change in Use Application and Revocable License Agreement for the construction activities on RWA owned watershed land.
  - b. Shall prepare a Stormwater Pollution Prevention Plan (SWPPP) during the development of the Development and Management Plan (D&M Plan). The D&M Plan shall be prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control.
  - c. Refueling of construction equipment on public water supply watershed and aquifer areas shall only be conducted over portable spill container areas. Absorbent spill response materials shall be readily available on-site. The RWA shall be immediately notified of any hazardous material spills or other water quality incidents on its public water supply watershed or aquifers.
  - d. Any fuel, oils, paints solvents, or other hazardous material stored on-site during the construction process shall be in a secure area with at least 100 percent secondary containment.
  - e. Submittal of an Integrated Pest Management Plan for long-term maintenance of right-of-ways and submittal of an annual summary of pesticide use and other maintenance activities on RWA property.
  - f. If blasting is required, pre-blast surveys of RWA facilities shall be done, recording seismographs shall be in place during blasting and copies of the survey and sand seismograph results shall be provided to the RWA.
  - g. Provision of reimbursement for reasonable costs incurred by the RWA regarding review and inspection of the Project, including costs for review by its special consultants, and costs associated with designing and relocating the RWA's facilities, if required.
  - h. Preliminary and final D&M Plans shall be provided to the RWA for its review comments. The RWA shall be allowed at least 30 days to review and comment.
  - i. The RWA shall receive between three and five days notice prior to commencement of construction activity on public water supply watershed or aquifers, or in the vicinity of RWA facilities.
  
17. The Certificate Holders shall use the DOT encroachment permit process developed for Docket No. 217 project as a template.
  
18. The Certificate Holders shall provide the following permits prior to the commencement of construction:
  - a. Department of Public Health change-in-use permit;
  - b. Office of Long Island Sound Programs (OLISP) coastal permits for the Singer and East Devon Substations; and
  - c. DEP water body crossing permits.

19. The Certificate Holders shall obtain necessary waste management permits for activity in any solid waster disposal areas and remove and dispose of contaminated soil per municipal, state and federal regulations.
20. The Certificate Holders shall hire an independent environmental consultant, subject to Council approval, to monitor and report on the installation of the overhead and underground transmission system.
21. The Certificate Holders shall conduct a Phase II Archeological Reconnaissance Survey in consultation with the Connecticut Historical Commission prior to construction.

**APPENDIX B**  
**MUNICIPAL CORRESPONDENCE**

## **Town of Durham**



# Town of Durham

OFFICE OF THE FIRST SELECTWOMAN

*PRIDE in the Past,  
FAITH in the future.*

September 7, 2005

*Maryann P. Boord  
First Selectwoman*

Anne Bartosewicz, Project Manager  
Northeast Utilities Service Company  
P.O. Box 270  
Hartford, CT 06141-0270

STATE OF CONNECTICUT  
Ms. Pamela B. Katz, Chairman  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

RE: Northeast Utilities Middletown-Norwalk 345kV Transmission Line Project

Dear Anne and Pam:

Thank you for the opportunity provided our residents during the Development and Management Phase of the Project. The Public Meeting was well attended by both NU Staff and our residents and we had options come to light, which those present seemed to believe are "do-able."

The Town requests that all structures used for the 345kV upgrade in the Town of Durham have the weathered steel finish.

Unless specified otherwise below, the Town desires the structures to be as tall as possible in residential areas to mitigate Electro Magnetic Field exposure (EMF) and as short as possible in non-residential areas.

All structure numbers referred to below are the structure numbers provided on the preliminary plan and profile drawings of August 2005, unless otherwise noted.

Dean DelVecchio  
173R Foot Hills Road; Durham

## **Structures 556-558 (P&P Sheet 10007)**

This property owner owns land on both sides of the right-of-way (ROW). The landowner is willing to grant CL&P an easement to shift the existing ROW on his property slightly to the south to create a new ROW on his property. This would provide a safety buffer zone for his family to help reduce the EMF level at his home. He would like to shift structure 557 southeast approximately 40 feet, to the current location of the southern most pole of the existing southerly H-frame. He is also willing to shift structure 556 from the west side of Johnson Lane, off another's property, onto his property on the east side of Johnson Lane. This would allow for a slight bypass around his home without creating any type of negative impact on any other homeowners' property. This very small bypass would begin at structure 558 within the existing ROW, go to structure 557, and then return to the existing ROW at structure 556, which would now be on his property. All three structures would be changed from tangent structures to angle

Anne Bartosewicz, Northeast Utilities  
Pamela Katz, CT Siting Council

September 7, 2005

structures. The increase in cost to survey and incorporate angle structures into the design would be offset by the savings due to the decrease in structure size.

Due to the non-significant EMF mitigation with the increased structure heights (less than 1.0mG), the DelVecchios request the structure height to be 105 feet and they prefer the weathered steel finish.

Fred and Judith Bulmer  
408R Powder Hill Road; Durham

Pat Miles  
404 Powder Hill Road; Durham

Sherry Banack  
406R Powder Hill Road; Durham

### **Structures 511-513 (P&P Sheet 10002)**

If either of the below options are incorporated, the property owners would feel comfortable reducing the structure height to 135 feet.

#### **Option 1:**

The Bulmers own land on both sides of the ROW. They are willing to shift the existing ROW on their property further to the north side on their property, creating a new ROW. This would provide a safety buffer zone to reduce EMF levels at their home and their neighbors' homes. The property owners request moving structure 513 approximately 50 feet to the east. The north edge of the ROW would be moved about 90 feet north to the Durham-Middlefield town line. This would involve replacing tangent structure 513 with a light angle structure to deflect the line to the north, moving tangent structure 512 to the north and replacing it with a light angle structure, and moving medium angle structure 511 to the northwest, to the west side of Powder Hill Road.

#### **Option 2:**

Replace structure 513 with a light angle structure. The homeowners would be open to discussion on shifting structure 513 further to the west. Shift structure 512 to the north approximately 90 feet, replacing it with a medium angle structure. Structure 511 would remain at this current location on the preliminary map. This very small bypass would begin at structure 513 within the existing ROW, go to structure 512, and then return to the existing ROW at structure 511. This would allow for a slight bypass around a number of homes without creating any type of negative impact on any other homeowners' property. It would not be necessary to obtain any land, and the landowner is willing to grant NU an easement. The increase in cost to survey and incorporate angle structures into the design would be offset by the savings due to the decrease in structure size.

Debbie and Bob Huscher  
37 Elihu Drive; Durham

Alice and Dave Blair  
36 Elihu Drive; Durham

Athena and Valerio Cappobianco  
34 Elihu Drive; Durham

Bill and Dawn Child  
50 Elihu Drive; Durham

**Structures 515 and 516 (P&P Sheet 10002)**

These homeowners in the Elihu neighborhood would like to shift the location of structure 515 approximately 400 feet to the east, within the existing ROW. The new location of structure 515 would be on the east side of Elihu Drive and hidden behind a cluster of trees. This would mitigate the negative visual impact for the entire Elihu Drive neighborhood. Structure 516 could then be shifted approximately 250 feet east for a new location east of the railroad tracks.

These homeowners feel that at their distance from the edge of the ROW, the increase in structure heights will not significantly decrease the EMF levels (less than 1.0mG) at their homes to ensure a safer environment for their children. Therefore, they are requesting structure heights of 105 feet. However, they do not want any additional structure in order to acquire the lower height. If an additional structure would be necessary, they are willing to go up to 125 feet in height to minimize the number of structures.

In their willingness to help alleviate the visual burden to homeowners, the Lymans have agreed to be open to discussion of the possibility of an additional structure in the woods behind the Jones Course 5th hole, where it crosses the railroad tracks. The Town understands that the Lymans are not willing to accept an additional structure on the actual golf course. They are willing to negotiate structure height and possibly lower the structure at the 5th hole, which would allow for a smoother transition to the lower structures requested by their Elihu neighbors.

Athena and Valerio Cappobianco, 34 Elihu Drive, Durham, prospective homeowners on Elihu Drive, request landscaping in the vicinity of pole #24516 in order to screen their view of the pole.

Paul and Irina Haberern  
233 Skeet Club Road; Durham

**Structures 515 and 516 (P&P Sheet 10002)**

The owners object to the visual prominence of the structures in the locations shown in the August 2005 plan and profile drawings. Regardless of the location, the Habererns request that the structures are as high as possible to mitigate the EMF levels at their home.

**Option 1:**

Shift the location of structure 515 approximately 400 feet to the east, within the existing ROW. The new location of structure 515 would be on the east side of Elihu Drive and hidden behind a cluster of trees. This would mitigate the negative visual impact for the entire Elihu Drive neighborhood. Structure 516 could then be shifted approximately 250 feet east for a new location east of the railroad tracks.

As in the prior instance, the Lymans have been contacted and are open for discussion. In their willingness to help alleviate the visual burden to homeowners, the Lymans have agreed to discuss the possibility of an additional structure in the woods behind the Jones Course 5th hole, where it crosses the railroad tracks. We understand that they are not willing to accept an additional structure on the actual golf course. They are willing to negotiate structure height and possibly lower the structure at the 5th hole, which would allow for a smoother transition to the lower structures requested in the Elihu neighborhood.

Option 2:

This option involves placing the single tower adjacent to the wooden poles marked as 1975 and 3605 that stand on their property. They request landscaping facing their home to help shield their view of the structure.

Diana McCain  
262 Skeet Club Road; Durham

**Structure 513-514**

The property owners believe that the increase in structure height does not mitigate EMFs to a safe level. With structure heights at 190 feet, the EMF levels at their home will remain well above 3.0mG, which they consider to be the higher side of the safe level. Due to the insignificant decrease in EMF levels, the property owners are requesting that structure 513 and 514 be 105 feet in height.

John Landers  
264 Skeet Club Road; Durham

**Structure 514**

The homeowners request that structure 514 be at 190 feet to reduce the EMF levels for the protection of their family. Their home is only 60 feet from the edge of the ROW.

Town of Durham

**Structure 531, 532, and 564; West of South Main Street (Route 17) (P & P Drawing 10004)**

These structures are in Durham on the west end of the Royal Oak Bypass, where the Bypass rejoins the existing ROW and continues to the west. The Town has been informed that there will be six towers grouped together to transition the bypass into the existing ROW. These were described as two monopoles at 180 feet in height, two H-frames at 70 feet in height, and two T towers at 40 feet in height. On the preliminary map, at the intersection of the Bypass and the existing ROW, only structure 532 and structures 564 are depicted. The Town would like to know exactly where the above mentioned six structures will be located to transition the Bypass into the existing ROW.

The Town requests that the height of all these structures be reduced to 105 feet or the lowest possible height. The Town also requests that structure 531, just beyond the Bypass intersection, be reduced to 105 feet.

The Town understands that the 345kV line must pass over the top of the 115 kV line so the 345kV line can run along the south side of the ROW, but the scenario is the same for both the east and west Bypass points of transition. The six structure Bypass transition into the existing ROW to the west side of Royal Oak should be no greater in height than the similar Bypass transition to the east side of Royal Oak.

The Town wishes to reserve the right to comment on the transition locations into and out of the Royal Oak Bypass. Such comment will occur during the 30 days following the submission of the final design.

Anne Bartosewicz, Northeast Utilities  
Pamela Katz, CT Siting Council

September 7, 2005

The Town recently became aware of a change to an existing H-frame just west of Royal Oak, yet within the area to be bypassed. This 57 foot wooden H-frame is to be replaced with a 75 foot steel H-frame, only because it is "old." The Town questions why the western-most wooden H-frame must be replaced with a taller steel structure. The H-frame directly to the west of Rt 17 is not part of the upgrade and if it, or any other existing H-frame must be replaced, the Town requests that it be replaced with a new WOODEN H-frame no higher than the 57 foot one that is there today.

### **Additional Meeting Requested**

The Town of Durham would like to have an additional meeting with Northeast Utilities to review the possibility of the revisions requested before the design is finalized.

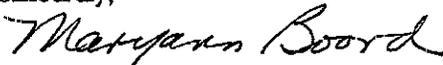
Please find enclosed letters from the following property owners:

- 1) Dean DelVecchio
- 2) Fred and Judith Bulmer
- 3) Debbie and Bob Huscher  
Alice and Dave Blair  
Valerio and Athena Cappobianco  
Bill and Dawn Child
- 4) Paul and Irina Habern
- 5) Dianna Ross McCain
- 6) John Landers
- 7) Attorney Vincent Amendola, Jr., for Athena and Valerio Cappobianco

Also enclosed are the comments and designs of John H. Guidinger, Technical Advisor to the Municipalities. We appreciate John's advice and expertise.

Thank you in advance for your thoughtful review of our comments and recommendations. I believe that their implementation will further protect our residents' health and well being while still providing a design, which will adequately serve the project.

Sincerely,



Maryann P. Boord  
First Selectwoman

MPB:DDA

enclosures

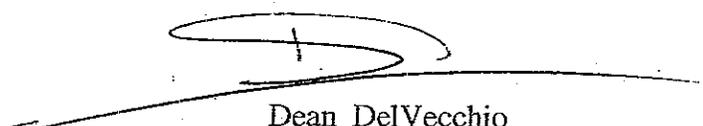
MaryAnn,

I'm requesting that the proposed utility poles identified as 24556 and 24557, within the CL&P right of way in the enclosed site plan be shifted to the south to the center line of the southerly H frame poles currently existing in the right of way and if necessary the shifting of other utility poles in the immediate vicinity for alignment purposes. This will provide an additional 40 foot horizontal separating distance from the proposed route marked in red in the attached site plan provided by CL&P. This additional distance will further reduce EMF exposure in the vicinity of the homes shown north of the right of way on the site plan. There aren't any existing homes south of the right of way that warrant concerns for EMF exposure and future development in this area is unlikely due to the rocky terrain. The proposed monopole configuration with the 345 kV line to the south of the proposed monopole and the 115kV line to the north of the monopole further reduces EMF exposure since the 345 kV line remains further from the homes in this configuration.

The proposed monopole structure has a 15 foot arm to the south for the 345 kV line with a 10 foot arm to the north for the 115 kV line for a total span between the lines of approx. 25 feet. The existing right of way with the two H frame structures has a horizontal span, between the lines on the north side of the northerly H frame and the lines on the south side of the southerly H frame, of approx. 75 feet. This means that only a 25 foot buffer exists between the lines and the northerly and southerly edge of the right of way. Therefore, the new monopole structure can be maneuvered anywhere within the current 75 foot span and still provide a 25 foot buffer from the edge of the right of way.

The tree line within the southerly edge of the **existing right of way** in the vicinity of the preferred pole locations( southerly H frames) as shown on the site plan circled in red can be cleared by approx. 40 to 50 feet to provide additional clearance from vegetation and shrubs. Although, with the proposed pole heights at 180 to 190 feet the wires will be suspended above the tree canopy which is approx. 80 feet in height. If further clearing is required to accommodate this proposed alternative design (southerly H frame route) I can certainly provide an additional easement area for tree clearing along the southerly edge of the right of way since I also own property outside of the current easement area.

Sincerely,



Dean DelVecchio



August 24, 2005

The Honorable Maryann P. Boord  
Town Hall  
P.O. Box 428  
Durham, CT. 06422

Dear First Selectwoman Boord:

We are requesting that Connecticut Light & Power comply with our request to move the existing transmission poles and the existing right of way from their current position to a position north of the existing right of way, where they would still be on property owned by us.

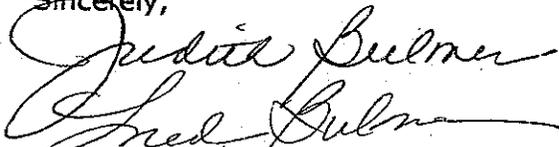
We would like to move pole #514 - 30 ft. North  
Pole #515 - 90 ft. North  
Pole #516 - 50 ft. East

Preferred location of the new poles are marked in white on the attached map. Relocating these poles would not affect adjacent property owners. They would also benefit by the change, moving the lines further away from their homes and further away from the day care center located on Powder Hill Road.

With this change in pole location, the proposed pole height of 190 feet could be lowered to a more acceptable 135 ft.

We believe any additional costs to NU for surveying and any land clearing would be offset by the cost savings of lowering the pole height.

Sincerely,



Fred and Judith Bulmer  
408R Powder Hill Road  
Durham, CT. 06422



DATE OF AERIAL PHOTOGRAPHY:  
SPRING 2002



**Northeast  
Utilities System**



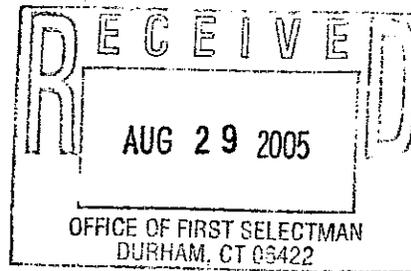
*The United Illuminating Company*

## LEGEND

- |   |                                     |   |                             |
|---|-------------------------------------|---|-----------------------------|
|  | CONTOUR LINE (LIDAR SURVEY, 2000)   |  | SUPPORTED C TOWN LINE       |
|  | WATERCOURSE (FIELD INVENTORY, 2002) |  | WETLAND FLAG (FIELD SURVEY) |
|  | PROPOSED STRUCTURE (±100')          |  | CULVERT                     |
|  | EXISTING STRUCTURE TO REMAIN        |  | LIMIT OF R.O.V              |
|  | EXISTING STRUCTURE TO BE REMOVED    |  | PROPOSED LIM                |
|  | UNDERGROUND TRANS. LINE             |  | ACCESS ROAD                 |
|  | NORTHEAST UTILITIES SYSTEM          |   |                             |

The Honorable Maryann Boord  
Town Hall  
30 Town House Road  
P.O. Box 428  
Durham, CT 06422

28 August 2005



Re: Placement of 345Kv towers

Dear Ms. Boord,

We are writing to provide input to the placement of the 345Kv towers along the right of way that passes through our property at 233 Skeet Club Rd.

Since we purchased our home in April, 1999 we have consistently maintained approximately 90% of the right of way through mowing and trimming while leaving about 9% in the northern corner bordered by Skeet Club Rd. and Elihu Drive in a natural state to afford protection and a habitat for a variety of wildlife species. Similarly, we left the remaining 1% by the second set of wooden poles along the property line we share with our neighbors untouched. As a result, CL&P has not had to send crews to do this work. We even incurred a cost to level a certain portion of the right of way.

In reviewing the overhead maps and the location of the pin that was set earlier this year it appears the location that the power company desires for the new tower is under the set of wires closest to our home and on a section of land we've used for vegetable gardening and growing small trees.

We also have a concern about the site's proximity to our septic and leeching fields. Having heavy equipment operating so close to that area is an unnecessary risk and either the town or CL&P would have to be liable for any resulting damage.

We would like to offer two alternative locations that address our EMF related concerns. We believe these alternative locations warrant consideration by the power company and the town. Either solution will not place an unnecessary burden on a single family along the right of way.

Solution #1 involves placing the new tower on the side of Elihu Drive that is closer to the golf course but abuts Elihu Drive. This land is still within the existing right of way and places the tower at the furthest total distance from the three home owners along the right of way. One of the homes is currently unoccupied and the other two each house two young children. In addition, this proposed location is not being used and would not be considered an integral part

of the planned land use by the Beaudoins due to its distance from the actual home that is located on the parcel of land.

Solution #2 involves placing the single tower adjacent to the wooden poles marked as 1975 and 3605 that stand on our property. The 10' x 10' concrete pad will be set to the left of the existing poles, when viewed from our front steps, and will be in that 9% piece of the right of way that has been left alone. Properly designed landscaping on the side of the pad facing the house would help to alleviate the visual effect posed by such a large structure. Based on our own living patterns, placing the new tower in this location would minimize the frequency of actually viewing the structure.

In any case, be it alternate solution #1, solution #2 or the assumed current location we will be requesting that the tallest possible tower be constructed to minimize EMF exposure.

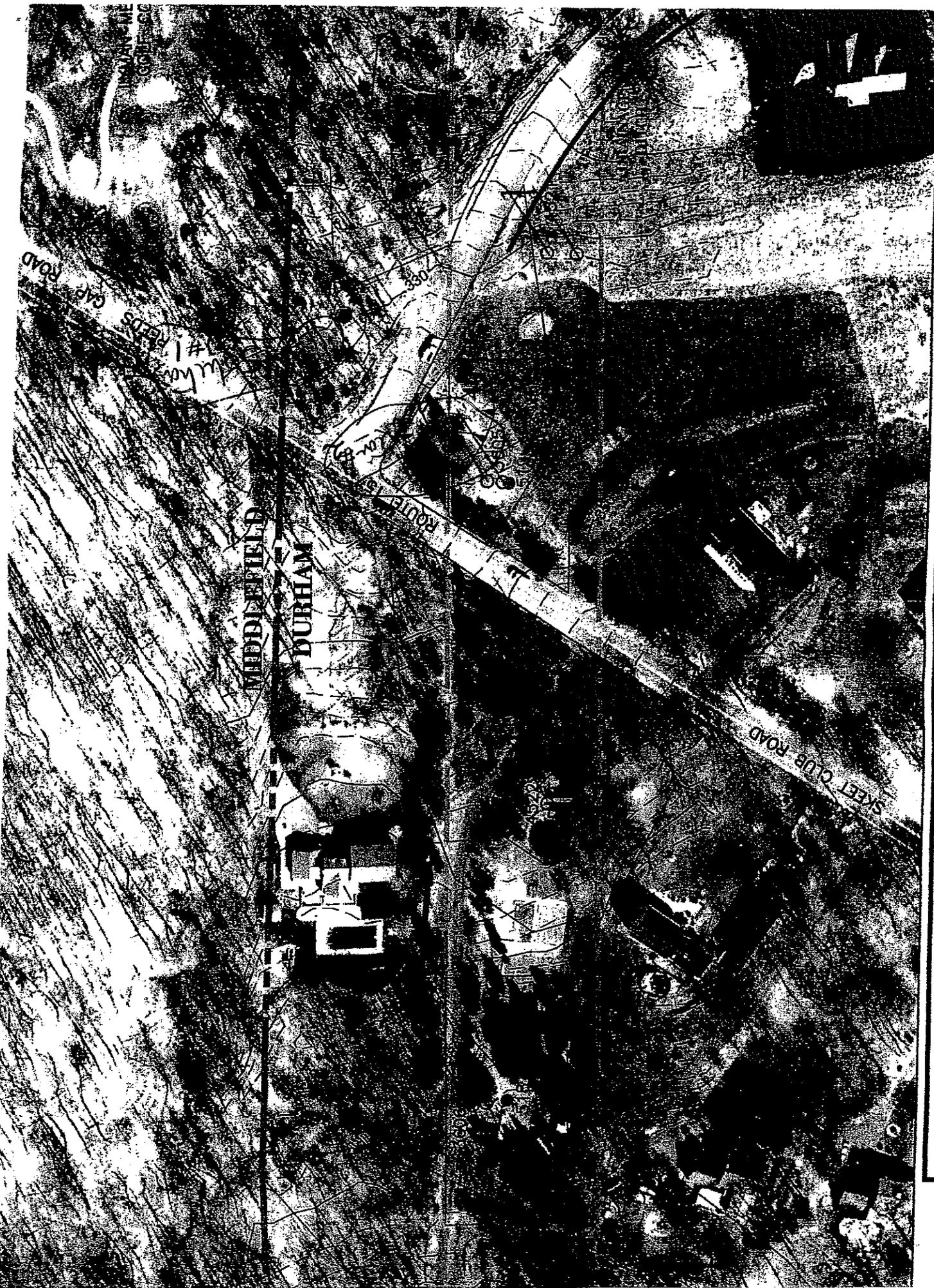
It is our hope that you will pursue these alternatives with the same vigor and dedication that was demonstrated during the hearings before the Connecticut Siting Council. Either alternative is reasonable, can be accomplished and is being offered to the CL&P in good faith.

If we can answer any questions or provide more input please feel free to contact us.

Thank you.

Paul and Irina Haberern  
233 Skeet Club Rd.

Res: 349.0016



# LEGEND

• • • • • SUPPORTED CHANGE

I

# Memo

**To:** Maryann Boord  
**From:** Residents from Elihu Drive  
**Date:** 09/06/2005  
**Re:** Powerlines

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The abutters and several residents of Elihu Drive would like to provide feedback for the Planning and Development Phase of the powerline upgrade.

We are disappointed that our questions posed at the Town meeting (regarding average gigowatts in July) and in writing after the meeting (height of towers in regards to EMF's and number of poles) were never answered. The answers to those questions were critical for us to make informed decisions. So we are providing this feedback with a disclaimer that we did not have all the facts.

Our primary concern is EMF's. Many of our homes are around 150 feet away from the right of way. Using the calculated EMF level at the 15 gigowatt line load, the calculated result in the inside of our homes will be at 3.0 milogauss or below. We believe that above 3.0 milogauss there is an increased health risk. Since NU has only provided us with EMF calculations for a 15 gigowatt line load, we are assuming that this will be the maximum line load for the life of the line and the EMF's will not increase. For these reasons we would like to have the poles at **105 feet**, or at the lowest possible height to have limited poles.

The residents of Elihu Drive, in addition to having lower poles, would like to have the following:

- Change the longitudinal placement of Pole 24515 and Pole 24516. We want these poles to move up to the location of the next H Frame to the north. Pole 24515 on the corner of Skeet Club and Elihu Drive would be moved to the east of Elihu Drive, hidden behind tall trees. Pole 24516 would be moved further east, across the railroad track and not in Lyman's Golf Course.
- Due to outside factors such as weather conditions (ie: wind and ice), we know that the EMF calculations can have a margin for error, and for the safety of our children we want the poles pushed to the farthest north side of the right of way. Those extra feet will provide an additional buffer zone from the EMF's. We believe all this is possible because the pole height we are requesting is significantly lower than the pole heights on the preliminary maps provided by NU. The Federal Government requires the outermost cables to be a specified distance from the edge right of way. The span of two sets of H Frames in our neighborhood is 75 feet, from outermost cable to outermost cable. The span across the top of a single monopole 180 feet, must be less and a pole of 105 feet, must be significantly less. Therefore we believe it is feasible to move the pole to the farthest point in the north side of the right of way without the cables being any closer to the edge of right of way as they are today

We appreciate the opportunity to provide our feedback and are hopeful that NU and the Siting Council will do everything in it's realm of possibility to reduce the number of unsightly poles, strategically blending them into the landscape to reduce residential impact and move the lines laterally to the north.

If have any questions, you may contact any of the Elihu Drive residents.

Debbie & Bob Huscher – 349-2342

Alice & Dave Blair – 349-1517

Val & Athena Capobianco –203-284-1639

Bill & Dawn Child – 349-1519

LAW OFFICE OF VINCENT N. AMENDOLA, JR., LLC

531 CAMPBELL AVENUE  
WEST HAVEN, CONNECTICUT 06516  
TELEPHONE (203) 937-7400  
FACSIMILE (203) 479-0865

VINCENT N. AMENDOLA, JR.  
ALBERT J. WAMBOLT

SARENA BOULIER  
PARALEGAL  
DONNA VIENNEAU  
REAL ESTATE ASSISTANT  
SEAN McCAULEY  
ADMINISTRATIVE ASSISTANT

September 1, 2005

Maryann P. Boord  
First Selectwoman  
Town of Durham  
30 Town House Road  
PO Box 428  
Durham, CT 06422

VIA FAX 860-349-8391 AND E-MAIL  
[mboord@townofdurhamct.org](mailto:mboord@townofdurhamct.org)

Re: 28 Elihu Drive

Dear First Selectwoman Boord:

Thank you for your telephone conference of this afternoon. As previously stated in earlier correspondence Athena and Valerio Cappobianco are in the process of purchasing the above referenced property. This parcel is bordered by an array of power lines and a monopole as you described it, will be erected adjacent to this property by CL&P as part of their project to improve the infrastructure of power lines in the area. The structure number of the pole is #24516 according to your records.

My clients understand that CL&P will offer landscaping improvements to property owners such as my client in order to screen the utility poles in order to improve the aesthetics of the project. Please notify CL&P that my clients are interested in participating in this program.

Thank you for your kind attention to this matter.

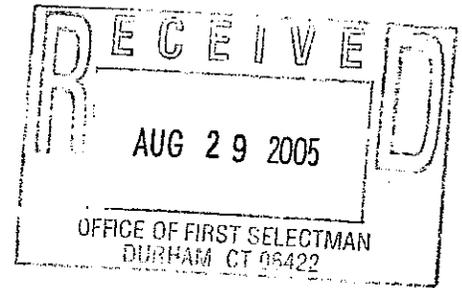
Sincerely yours,



VINCENT N. AMENDOLA, JR.

VNA/sbm

**DIANA ROSS MCCAIN**  
262 Skeet Club Road  
Durham, CT 06422  
(860) 349-0182; (860) 349-0338  
dianamccain@comcast.net



August 28, 2005

Maryann Boord  
First Selectwoman  
Town of Durham  
Town Hall  
Durham, CT 06422

Mrs. Boord:

Please include this letter in the materials you submit to Northeast Utilities concerning residents' input on the design and management phase of the 345,000-volt transmission line.

To Northeast Utilities, Design and Management staff,

Please be advised that I want the transmission poles from Skeet Club Road to Powder Hill Road to be as short as possible – which, judging from the materials distributed at the August 17 D&M session, is 105 feet tall.

I make this statement with the observation that having residents provide “input” into how tall the poles should be and other relatively minor factors is an exercise in futility.

Residents are being asked to choose between the lesser of two very great evils – poles at least 105 feet tall (nearly twice as tall as the existing poles) that will generate EMF levels that many fear constitute a serious health risk to children and that will have a negative impact on the value of their homes, or ludicrously tall poles (195 feet tall, the height of a twelve-story building) that will blight their neighborhoods and in many cases the scenic landscape, and significantly reduce the value of their homes.

In the case of my property (and there are many homeowners in a similar situation) there can be no “better” option. With a 105-foot-tall pole the EMF level at the edge of the right-of-way will be 17.1 mG, and the level at my house, 30 feet from the right-of-way, will be 9.6 mG. With a 175-foot-tall pole the EMF level at the edge of the right-of-way will still be 7.4 mG, and at my house will be 5.7 mG.

The chart prepared by Northeast Utilities comparing structure height to magnetic fields doesn't even provide EMF levels for poles taller than 175 feet, although the construction plan currently calls for poles 195 feet tall on the section of the right-of-way that runs through my property. A formula that my neighbor Debbie Huscher says she was

given arrived at an EMF level of 4.9 mG at the edge of my house with a pole 195 feet tall.

According to the Siting Council's Draft Opinion in Docket 272, Dr. Gary Ginsberg of the Connecticut Department of Public Health stated that "EMF levels above 6 mG have a larger public health concern." A 175-foot-tall pole results in an EMF level at my house that is barely below that 6 mG benchmark. Even a 195-foot-tall pole reduces the EMF level at my house by only an additional .8 mG.

And as I understand it, the EMF levels for varying structure heights on the chart provided to attendees at the August 17 meeting are based on lines carrying a 15 gW load. That is unrealistically and misleadingly low, since it is projected that within a decade the new 345 kV line will be carrying a 27 gW load. In fact, that day has already arrived; at the August 17 meeting a Northeast Utilities representative said that on the hottest day in July of 2005 the load had reached 27 gW. Thus even with a 195-foot-tall pole, the inevitable increase in the load on the lines will generate EMFs significantly higher than the numbers listed on NU's chart, and almost without a doubt much higher than 6 mG.

Forced to choose between 105-foot-tall poles that will generate an EMF level of 9.8 mG at my house with the 15 gW load, and gigantic, unsightly 195-foot-tall poles that will only halve the EMF level at 15 gW, barely bringing it below the 6 mG benchmark, I opt for the shorter poles. It accomplishes nothing to double the height of the poles to achieve an EMF level that at a 15 gW load is barely below the benchmark, and that will unquestionably exceed it when the load on the lines increases.

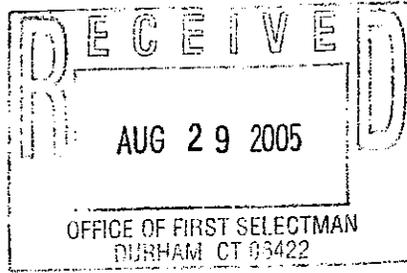
If poles in excess of 195 feet were to be proposed to further mitigate EMFs, it would be ludicrous. At 200 feet tall a pole must have a light atop it to warn aircraft of its presence. Aviation hazards do not belong next to homes.

In short, it is literally impossible to satisfactorily mitigate EMF levels on my property. The 345-kV transmission line should be buried through Durham, or avoid the residential areas via bypasses.

Sincerely,

  
Diana Ross McCain

John Landers  
264 Skeet Club Rd.  
Durham, Ct. 06422  
August 29, 2005



First Selectwoman Board,

This letter is to inform you of my desire to have the pole heights in conjunction with the 345 k upgrade to be 190 feet in proximity to my home. Given that my home sits 60 feet from the right of way I feel this is the only prudent thing to do to protect the health of my family. I am fully aware that 190 foot poles will devastate the landscape of our area and that it will also further adversely impact the property value of my home but I cannot gamble with the health of my family. This is not much of a choice I am being given I do want to go on record with the town of Durham, the CT. Siting Council and Northeast Utilities as stating that even with the 6.0 mg level Northeast Utilities is looking to get to at the edge of the right of way (assuming a 15 gw load, that is routinely exceeded today and will only get bigger as the demand for power increases over the years) my home and property will still be exposed to mg levels that exceed the recommended levels put out by the State of Connecticut Dept. of Health.

Sincerely,  
John Landers

A handwritten signature in cursive script that reads "John Landers". To the right of the signature, the date "8/29/05" is written in a similar cursive style.

**Town of Durham  
September 2, 2005**

**Northeast Utilities Middletown-Norwalk 345 kV Transmission Line Project**

The following comments are submitted:

The Town wishes to use the weathered steel finish for the structures.

Unless specified otherwise below, the Town desires for the structures to be as tall as possible in residential areas and as short as possible in non-residential areas. (All structure numbers shown below are from the preliminary plan and profile drawings of August, 2005.)

**Structures 555-558, Dom Del Vecchio Property, Johnson Lane, Durham. (P&P Sheet 10007)**

This property owner would like to shift structures 556 and 557 to the south 40 feet so as to be further away from his residence (see attached sketch). Structure 557 would also be shifted 150 feet east onto his property east of Johnson Lane. He indicates that he owns the land on both sides of the 125-foot wide easement and will trade land to adjust the easement to the south. This would involve replacing tangent structures 555, 556, 557, and 558 with light angle structures. The reason for the change is to reduce the magnetic field at his house, which is currently about 100 feet north of the right-of-way edge.

Del Vecchio does not own land west of Johnson Lane where structures 555 and 556 are located. The landowner west of Johnson Road also would have to be contacted and agree to trade land to adjust the easement.

We discussed moving the line over to the south side of the existing easement, but the 345 kV line must remain in the center of an easement that is 125-foot wide to allow for conductor blowout.

**Structures 511-513, Bulmer Property, Powder Mill Road, Durham. (P&P Sheet 10002)**

The property owner would like to shift the alignment to the north to place the line further away from their residence and the residences of others in the vicinity (see attached sketch). The north edge of the right-of-way would be moved about 80 feet north to the Durham-Middlefield town line. This would involve replacing tangent structure 513 with a light angle structure to deflect the line to the north, moving tangent structure 512 to the north and replacing it with a light angle structure, and moving medium angle structure 511 to the northwest to the west side of Powder Mill Road. The property owners also request moving structure 513 about 50 feet to the east.

The reason for the change is to reduce the magnetic field at their house and other houses south of the present alignment.

This property owner does not own land west of Powder Mill Road where structure 511 is located and this owner would have to be contacted and agree to trade land to adjust the easement. Also structure 513 is about 100 feet east of the Bulmer property and this landowner would also have to agree to trade land to move the easement.

**Structures 515 and 516, Haberern Property (And Others), Elihu Drive, Durham.  
(P&P Sheet 10002)**

The owners object to the visual prominence of the structures in the locations shown in the August 2005, plan and profile drawings. The property owners would like to either:

- (1) Shift the location of structures 515 and 516 to the east. Structure 515 should be moved about 400 feet to the east so as to be in the trees east of Elihu Drive. Structure 516 should be moved about 250 feet east so it is east of the railroad.
- (2) Or, if structure 515 must be located at the location of H-frame 3605, then it should be as tall as possible. If possible, structure 515 should be positioned to be as close to Skeet Club Road as possible.

**Structures 531, 532, and 564, West of South Main Street (Route 17) (P&P Drawing 10004)**

These structures are at the west end of the Royal Oak Bypass, where the Bypass rejoins the existing right-of-way. The town requests that these structures be kept as low as possible.

The town questions why the structure 564 at the west end of the Bypass are so much taller than the structures at the eastern end of the Bypass, where the Bypass leaves the existing right-of-way.

The Town also questions why the western-most wooden H-frames must be replaced with taller steel structures. Cannot the existing H-frame structures be used?

**Additional Meeting Requested**

The Town of Durham would like to have an additional meeting with the public and NE Utilities to review the heights of the structures before the design is finalized.

**Attached Summary Table**

The attached table summarizes these comments and comments received from other residents of Durham.

Summary of Durham Public Comments  
1-Sep-05

Property Owner	Location	Pole Finish	Height	Other Comments
DeVecchio (Dom and Dean)	173R Foot Hills Rd	Not stated	Shorter if line can be moved 40 ft south. Otherwise taller is better	Move str 556 and 557 40 ft to south. (See sketch) Move str 557 about 150 feet east. Will trade land to allow easement to be moved 40 feet to the south.
Bullmer Miller	408R Powder Hill Rd 404 Powder Hill Rd	Not stated	135 ft if line can be moved to north	Move Str 511, 512, and 513 to north so that north r/w edge is on the Durham/Middlefield town line. (See sketch)
Hascher & Blair & Capobianco & Child	Elihu Drive	Weathering Steel	Str 515 & 516 to be 105 ft, or kept to minimal height if must be above 105 ft	Do not add new poles where H-frames do not exist presently. Put plantings around Str 516.
McCain	262 Skeet Club Rd	Not stated	105 ft, or as short as possible	Tall Str will be bad visually EMF cannot be mitigated on their property.
Halberem	233 Skeet Club Rd	Not stated	Tallest possible if Str 515 is to be located at H-Frame 3605.	Either (1) move Str 515 about 400 ft to east (beyond Elihu Drive) and Str 516 about 250 ft east (east of RR), or (2) make Str 515 as tall as possible
Landers	263 Skeet Club Rd	Not stated	190 ft	Reduce EMF with tall structures.
Town of Durham	West end of the Royal Oak Bypass			The extreme height of Str 564 is questioned. Why is this str so much taller than the comparable str at the east end of the Bypass?

RELOCATED ROLE HEIGHTS  
511-135', 512-135', 513-125'

UNKNOWN PROPERTY OWNER

TOWN OF MIDDLEFIELD  
TOWN OF DURHAM

RELOCATED STR 512

EXISTING 18.5' A/W  
RELOCATED 18.5' A/W

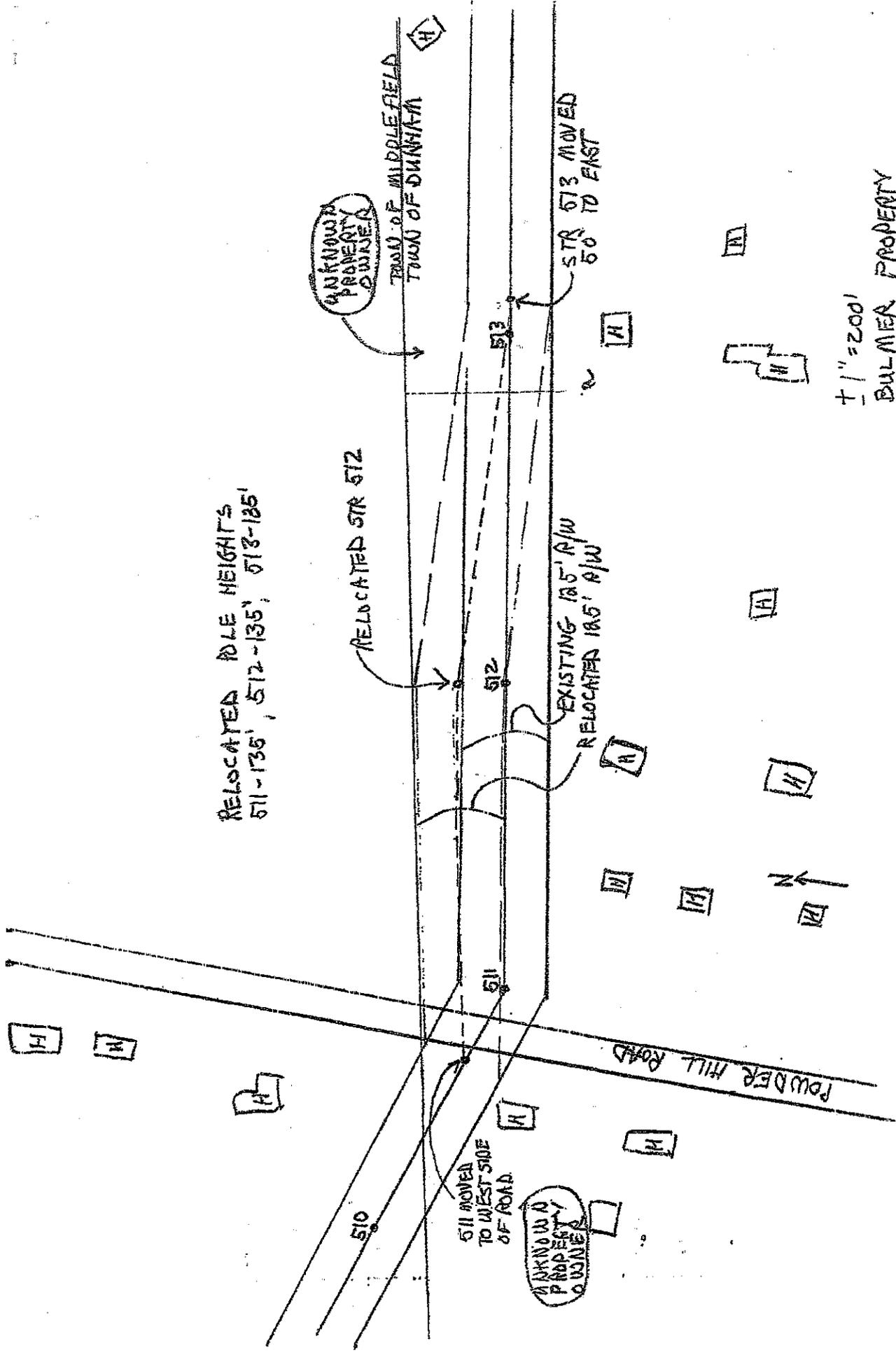
STR 513 MOVED  
50 TO EAST

511 MOVED  
TO WEST SIDE  
OF ROAD

UNKNOWN PROPERTY OWNER

+ 1" = 200'

BULMER PROPERTY  
TOWN OF DURHAM  
FROM DWG-1225-10005  
8/05



FIRST HILLS ROAD



JEHANSAN ROAD

EXISTING R/W  
(125' WIDE)

555

556

557

558

R/W

RELOCATED  
STR 556

RELOCATED R/W  
(125' WIDE)

RELOCATED  
STR 557

UNKNOWN  
PROPERTY  
OWNER

± 1" = 200'

DEM DELVECCHIO PROPERTY  
TOWN OF DURHAM  
FROM DWG 01225-10007  
8/05

**Bandzes, Patricia**

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**From:** Maryann Boord [mboord@townofdurhamct.org]  
**Sent:** Monday, September 19, 2005 6:32 PM  
**To:** Bandzes, Patricia  
**Cc:** Pam Katz (E-mail)  
**Subject:** D&M Phase Docket 272

9/19/05

Dear Pat,

Per our conversations today, please consider the following:

Regarding the pole placement and height on Little Lane: I spoke with Norm Hicks, the property owner adjacent to the ROW. He was told by two NU engineers at the D&M Public Meeting that the EMF's could be mitigated by moving the poles as far to the north on the ROW as possible. Norm and his family are concerned with both EMF's and pole height since their home is approximately 50 feet from the existing ROW. I am not sure whether the actual ROW can be relocated further north into what Norm believes to be Town of Middlefield property or not. Additionally, the design shows only 2 poles adjacent to the Hick's property, when I believe there are 6 poles proposed for the transitioning back in from the by pass.

Regarding the H-frame on Route 17: Anne told Trish Bradley that the reason that pole was being replaced was because it was old. We believe this pole is in the area being by-passed and requested that it be replaced with a wooden H-frame of the same height as the existing H-frame. You believe that this pole will be affected by the by pass and needs to be stronger than the existing wooden pole. Could we be referencing two different poles?

If I can be of further help for clarification, please don't hesitate to contact me.

Sincerely,

Maryann Boord  
First Selectwoman  
Town of Durham



November 15, 2005

The Honorable Maryann P. Boord  
First Selectwoman  
Town of Durham  
350 Main Street  
Durham, CT 06422

Dear Maryann,

In their April 7, 2005 decision (Docket No. 272, Middletown-Norwalk Transmission Line Project), the Connecticut Siting Council (CSC) encouraged CL&P to seek additional input from municipalities prior to filing their Development & Management (D&M) Plans. This letter represents the resolution of all comments and requests received from the Town of Durham since the CSC decision.

#### History

On July 6, 2005, in a joint meeting with Middletown and Middlefield, CL&P met with Durham officials to review the CSC decision and to discuss the process and schedule for the town to provide input. A public meeting was held on August 17. During this public meeting, Durham residents had the opportunity to express their preferences in small group meetings with our project engineers regarding structure height and finish and to discuss limited movement of structures along the Right-of-Way. An independent Technical Advisor -- selected by Connecticut's Office of Consumer Counsel -- was provided as an additional resource for the town and its residents. Several site visits were made by our project engineers over the past few months to review requests and to address specific questions from residents. This culminated in a September 7, 2005 letter from the Town of Durham where you outlined your final comments and requests. Further comments were received via email on September 19.

We have listened and thoughtfully reviewed your specific comments and recommendations. Note that, in some cases, we received conflicting information from residents living in the same area. When this occurred, we did not choose between them but will implement the CSC decision. Also note that we are continuing to work with one of your residents (Mr. Delvecchio) on alternate structure locations.

Appendix A contains a summary of our resolution of your requests. Unless otherwise noted, all structure numbers and references are as shown in our Preliminary Plan & Profile drawings, dated August 2005.



**Connecticut  
Light & Power**

The Northeast Utilities System

As previously discussed, C&LP will provide a copy of the draft D&M Plan to the town prior to submitting it to the CSC. Your town should expect to receive this draft plan shortly. CL&P expects to file this D&M Plan with the CSC in December 2005.

Thank you for your participation and cooperation in this process. We value the input provided and believe that it has resulted in an improved design that better serves your community and the needs of CL&P's customers. We wish you the best in your future endeavors.

Please contact me at 860-665-2771 if you have further questions.

Sincerely,

A handwritten signature in black ink that reads "Anne Bartosewicz". The signature is fluid and cursive, with the first name "Anne" written in a larger, more prominent script than the last name "Bartosewicz".

Anne Bartosewicz  
Middletown-Norwalk Project Director

Enclosure:  
Appendix A - Resolution of Comments and Requests

c: State Representative Raymond Kalinowski

**APPENDIX A**  
**Resolution of Comments & Requests**  
**Town of Durham**

Requester Name	Address	Comment or Request	Resolution
Town of Durham	350 Main Street	Keep structures as low as possible in non-residential areas and as high as possible in residential areas to mitigate EMF.	Yes, per CSC decision, all structures will be kept as low as possible in non-residential areas and as high as possible in residential areas.
Town of Durham	350 Main Street	Request that all structures have a weathering steel finish	Yes, all structures will have a weathering steel finish, except near wetlands where a galvanized finish will be used. While not considered harmful, this is to prevent the residue from the weathering steel from entering wetlands.
Town of Durham	350 Main Street	Requests that all structures on west side of Royal Oak Bypass to Lyman Orchards be reduced to height of 105' or lower.	Due to design requirements, structures #24524 - 24532 will range from 95' to 130' in height, except for # 24531 which will be 180' because of EMF concerns from the adjacent landowner (see N. Hicks request below).
Town of Durham	350 Main Street	Six structures at transition points east and west of Royal Oak Bypass should be similar to current design.	The structures at both the east and west transition points for the Royal Oak Bypass should be similar to the current design, but will vary somewhat on each end due to different spans, terrain, etc.
Town of Durham	350 Main Street	Requests that "old" structure #3583 on 115-kV line directly to the west of Rt. 17 be replaced with a new wooden H-Frame.	Structure #3583 is not being replaced because it is "old" but because it needs to be upgraded to handle the different loadings between the larger conductor from the new 115/345-kV composite structure and the smaller conductor on the existing H-Frame line. This wooden structure will be replaced with a horizontal steel structure capable of handling the differing loads on each side of the structure.

<p>Dean and Dom DelVecchio</p>	<p>173R Foot Hills Road</p>	<p>1. Homeowner requested a copy of the preliminary detailed design drawing.  2. Originally, the homeowner requested various location changes for structures #24557 and #24556 that would create a small bypass on his property. However, after several conversations with our project engineers, we understand that the Delvecchio's remaining request is to move #24557 to the east.  3. Per the Town's Sept. 7, 2005 letter, the homeowner requests a 105' structure height and weathering steel finish.</p>	<p>1. PLS-CADD drawing provided on August 29, 2005.  2. A project engineer made site visits on 9/9/05 and 10/6/05. Additionally, there were several follow-up phone conversations with this engineer and project management regarding the Delvecchio's requests. These requests can not be accommodated for the following reasons</p> <ul style="list-style-type: none"> <li>• Structure #24556 can not be moved to the east side of Johnson Lane since it would put this structure within the required buffer for a wetland. In addition to affecting the environment where we previously would not, the area would require additional access and clearing, putting several of our environmental permits at risk.</li> <li>• Structure #24557 can not be moved east due to span requirements and difficult terrain. The bypass requested would require additional easements from landowners south of the right of way.</li> <li>• Both of these moves would present outage issues due to the sequencing of the construction work planned.</li> </ul> <p>3. A weathering-steel finish will be used; however, we can not accommodate this request for a 105' structure height. Structure #24557 must be at least 180' due to the terrain in that area and design requirements that must be met on this and adjacent structures (i.e., span, conductor weight).</p> <p><b>NOTE: Another meeting with the Delvecchios is scheduled for November 17 to discuss longitudinal design options pertaining to his remaining request.</b></p>
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<p>Fred and Judith Bulmer Sherry Banack Pat Miles</p>	<p>408R Powder Hill Road 406R Powder Hill Road 404R Powder Hill Road</p>	<p>The homeowner originally presented two options; if either option is accepted, they requested reducing the structure height to 135'. <u>Option 1</u> – The Bulmers requested that the ROW be shifted 90' north; tangent structure #24513 be moved 50' east and be replaced with a light angle structure; #24512 moved north and replaced with a light angle structure. Move #24511 to the west side of Powder Hill Road. <u>Option 2</u> – Move #24513 to the west onto the Bulmer property and make it an angle structure. After the first site visit, homeowner presented an additional option: <u>Option 3</u> – Move #24513 &amp; #24514 west and #24512 north. After a phone call, the homeowner offered one more option: <u>Option 4</u> – Move #24513 west and #24512 north; add additional structure #24513A.</p>	<p>A project engineer made a site visit to these properties in August and had several follow-up phone calls with Mr. Bulmer. Requests can not be accommodated for the reasons stated below. <u>Option 1</u> – This request was based on the original application design that has been superseded by the CSC decision and order. This decision resulted in a reduction in the number of structures on Mr. Bulmer's property from three to two structures. Moving #24511 to the west side of Powder Hill Road would require an easement from additional property owners. <u>Option 2</u> – Moving #24513 onto Bulmer's property would exceed the maximum span length between #24514 and #24513. <u>Option 3</u> – Moving #24514 west would increase the height of either #24514 or #24515 to 200' or more requiring structure lighting due to FAA regulations. Moving #24512 north will result in #24511 becoming a 2-pole structure 10' taller in height. <u>Option 4</u> – We do not recommend this option. Extra, taller and substantially larger structures would need to be constructed without any obvious magnetic field or visual benefits for the Bulmers or neighboring landowners. For example, #24511 would become a 2-pole structure that would increase 10' in height.</p>
<p>Debbie &amp; Bob Huscher</p>	<p>37 Elihu Drive</p>	<p>Resident wanted to know average generation load for July 2005. As a follow-up, resident had additional questions about effect on EMF when load increased from 15 GW to 27 GW.</p>	<p>This information was provided to the resident on 9/1/05 and 10/5/05.</p>

<p>Alice &amp; Dave Blair Debbie &amp; Bob Huscher Bill &amp; Dawn Child</p>	<p>36, 37 and 50 Elihu Drive</p>	<p>1. Shift #24515 approx. 400 ft. to the east within the existing ROW (east side of Elihu Dr.). Shift #24516 approx. 250' east to a new location east of the railroad tracks. 2. To lower structure heights, add a new structure in the woods behind the Lyman Orchards Golf Course (5<sup>th</sup> hole) where it crosses the railroad tracks. 3. Request lower structures 105' in height. (would be willing to go up to 125' if no additional structure is needed).</p>	<p>1. No, moving these structures east would exceed maximum span length requirements and require additional structures. Also, shifting #24515 to the east side of Elihu Dr. would relocate this structure into a wetland. Shifting #24516 to the east side of the railroad tracks is not practical due to the steep sloping terrain in that area. 2. For the reasons stated above, it is not recommended that a structure be moved or added to the east side of the railroad tracks. Even if it was technically feasible, the structure heights in the Elihu Drive/Skeet Club Road area can not be reduced due to the CSC order to use a design that would lower magnetic fields in residential areas. 3. No, due to conflicting requests by adjacent landowners, we will use CSC decision of 190' structures.</p>
<p>Athena &amp; Valerio Cappobianco</p>	<p>34 Elihu Drive</p>	<p>These prospective homeowners request landscaping in the vicinity of #24516 to screen their view of the structure.</p>	<p>CL&amp;P does not routinely plant around transmission structures. Property owners are encouraged to contact us in advance of planting to discuss a vegetation plan that includes suitable trees, shrubs and other plantings that allow for the safe, reliable operation and maintenance of our transmission lines.</p>

Paul & Irina Haberem	233 Skeet Club Road	<p>The homeowners object to the visual prominence of the structures but request that they be as high as possible to reduce magnetic fields.</p> <p><u>Option 1</u> - Shift #24515 approx. 400 ft. to the east within the existing ROW (east side of Elihu Dr.). Shift #24516 approx. 250' east to a new location east of the railroad tracks. Add a new structure in the woods behind the Lyman Orchards Golf Course ( 5<sup>th</sup> hole) where it crosses the railroad tracks.</p> <p><u>Option 2</u> - Place single structure adjacent to existing wooden poles (marked as #1975/ 3605) on their property. Landscape to screen their view of the structure.</p>	<p>Per the CSC decision, the structure near Skeet Club Road will be 190' high.</p> <p><u>Option 1</u> - No, see response above to Elihu Drive, 1 and 2.</p> <p><u>Option 2</u> - Structure #3605 on the existing 1975 (115-kV) line will be removed and the new structure placed adjacent to its location. See above (Cappobianco) for our response to landscaping request.</p>
Diana McCain	262 Skeet Club Road	The homeowner requests that #24513 and #24514 be 105' in height.	No, due to conflicting requests by adjacent landowners, will use CSC decision of 190' structures.
John Landers	264 Skeet Club Road	The homeowner requests that #24514 be 190' in height.	Yes, consistent with CSC decision, structure will be 190' high.
Norman Hicks (via email from First Selectwoman)	34R Little Lane	Homeowner requests that structures be moved further north into what he believes is Town of Middlefield property.	The structures can not be moved further north since this would require the purchase of or condemnation of a new easement. The landowner stated that he is concerned about both structure height and EMF. For structure #24531 near his home, we will maintain the 180' structure height per the CSC decision.



November 30, 2005

The Honorable Maryann P. Boord  
First Selectwoman  
Town of Durham  
350 Main Street  
Durham, CT 06422

Dear Maryann,

This is a follow-up to our November 15, 2005 letter regarding ongoing discussions with Mr. Dom DelVecchio, 173R Foot Hills Road, Durham. On November 17, three of our project engineers met with Mr. DelVecchio to discuss alternatives to his request to move structure #24557 (now, #24553 in the draft D&M Plan drawings due to re-numbering).

On November 22, we received notification from Mr. DelVecchio that he and his brother, Dean, agreed to our proposal to move this structure 175 feet west along the right of way. That way, the structure is directly across from the home but out of their line of sight. We are pleased to accommodate this longitudinal move; however, as previously discussed, we can not accommodate his request to move this structure 25'-40' laterally due to span limitations and difficult terrain in that area. Also, this move would have a negative impact on the surrounding wetlands, require additional easements from landowners and would significantly impact the sequencing of construction work.

Please contact me at 860-665-2771 if you have further questions.

Sincerely,

A handwritten signature in cursive script that reads 'Anne Bartosewicz'.

Anne Bartosewicz  
Middletown-Norwalk Project Director

c: State Representative Raymond Kalinowski



**Connecticut  
Light & Power**

The Northeast Utilities System



# Town of Durham

OFFICE OF THE FIRST SELECTWOMAN

*PRIDE in the Past,  
FAITH in the future.*

December 2, 2005

*Maryann P. Boord  
First Selectwoman*

Anne Bartosewicz, Project Manager  
Northeast Utilities Service Company  
P.O. Box 270  
Hartford, CT 06141-2070

Pamela B. Katz, Chairman  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

**Re: Connecticut Siting Council Docket 272 - Middletown-Norwalk 345kV  
Transmission Line Project**

Dear Anne and Pam:

Anne, thank you for your letter of November 15, 2005, including your analysis of the requests made by the Town and our residents, and CL&P's responses to those requests. However, for the reasons contained in this letter, I must, on behalf of my constituents, take issue with certain of those responses.

Pam, subsequent to my letter dated September 7, 2005, I received a voice message from you, thanking us for taking the D&M process so seriously and filing such a thorough response. Town officials, our residents, and John Guidinger put an enormous amount of time and energy into this phase of the project, with assurances from CL&P that they would work closely with our residents to pursue all possible options. In fact, several of our residents offered portions of their real property, to assist in solutions that would benefit their families or their neighbors. In the beginning of the process, we were heartened by CL&P's responses to phone calls from our residents. However, as you will see in the attached letters, in most cases those responses have ceased.

Anne, as I stated in my letter of September 7, 2005, my impression at the Public Meeting was that the options which came to light were "doable." However, in the five pages of **Appendix A** attached to your letter of November 15, 2005, the large majority of the responses were "No." Additionally, with respect to pole height, my letter requested that the structures be as tall as possible in residential areas and as short as possible in non-residential areas "*unless specified otherwise.*" We did, in fact, specify otherwise in several instances; however, CL&P's response did not honor those requests.

Pam, you stated that if residents were not concerned about the exposure to EMFs, they could have shorter poles. Please note that in the attached letter from Elihu Drive residents, they all request the shorter, 105-foot poles.

I realize what a complex project this is and the amount of time it takes to investigate, evaluate, and respond to individual requests, but that was the commitment by CL&P and the decisions made now are for a lifetime (for many of us). As you are both well aware, the decisions made during the D & M process will affect the lives of our residents in proximity to the Right Of Way in many and varied ways. I believe it is worth the time and effort to be certain that the very best decisions are made *now*. Enclosed please find letters from the following property owners:

Alice and Dave Blair  
Judith and Fred Bulmer  
Dean DelVecchio  
Debbie and Bob Huscher  
Pat Miles

I do wish to make clear to you both that I do not view CL&P as having been completely unresponsive to Durham residents' requests. In particular I acknowledge and appreciate the fax I received yesterday, to the effect that a pole will be moved near the Dean DelVecchio property, for which the Town and the DelVecchio family are most grateful. However, with respect to that request, I ask that you please review the attached document from Dean DelVecchio thoroughly, since it includes several additional and well thought out, important options, which also should be considered.

Pam, as we move forward in the D & M process, and the Connecticut Siting Council receives and reviews the Final Design, it is my hope that you and your colleagues will continue to require a close working relationship with, and responsiveness to, the public.

Finally, participating in this process has truly been an education for me. I have very much enjoyed getting to know both of you and many of your colleagues. I admire your dedication and commitment.

Sincerely,



Maryann P. Boord  
First Selectwoman

enclosures

# Memo

**To:** Maryann Boord  
**From:** Debbie & Bob Huscher, Alice & Dave Blair  
**Date:** 12/2/2005  
**Re:** CL&P draft D & M Plan

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The Elihu neighborhood is very disappointed with the response from CL&P in regards to our feedback and recommendations in the Development and Management Plan. We explored every option to reduce EMF's and visual impact of hideous towers in residential areas. We feel that they did not do their due diligence in exhausting these possible scenarios, nor were they willing to work with us. The residents of Elihu Drive, partnered together to develop solutions that all the neighbors would agree to and be happy with

Our requests were:

- 1) *Our primary concern is EMF's. Many of our homes are around 150 feet away from the right of way. Using the calculated EMF level at the 15 gigawatt line load, the calculated result in the inside of our homes will be at 3.0 milligauss or below. We believe that above 3.0 milligauss there is an increased health risk. Since NU has only provided us with EMF calculations for a 15 gigawatt line load, we are assuming that this will be the maximum line load for the life of the line and the EMF's will not increase. For these reasons we would like to have the poles at 105 feet, or at the lowest possible height to have limited poles.*

CL&P responded with NO, using the basis of the CSC Decision. We don't remember anywhere in the decision stating that the towers must be 190 feet. We thought the decision was to reduce EMF's by using higher towers if there was no input from town residents. We understood the D and M Phase was designed to allow the residents to choose whether they wanted to go with the CSC decision of higher towers to lower the EMF's or to opt for lower towers if the EMF mitigation was insignificant. I would also like to note an error in CL&P synopsis of the feedback. As noted in Appendix B, under title subhead – Structure 515 & 516 – Haberem Property (and others on Elihu Drive) want structure 515 to be as tall as possible. That is **not true**. All Elihu Drive residents want the structures lower (due to reasons stated above) Only the Haberem's have requested a 190 feet pole. I would also like to add that the Haberem's have their house on the market and have had it on since July 2005 (see attached multiple listing sheet). Not only is their house on the market, they are already building a new house on the other side of town. Therefore, their comments should be negated due to the fact that they will no longer be part of this neighborhood and they will not be impacted by this upgrade. That leaves everyone in this neighborhood wanting the lower towers.

- 2) *Due to outside factors such as weather conditions (ie: wind and ice), we know that the EMF calculations can have a margin for error, and for the safety of our children we want the poles pushed to the farthest north side of the right of way. Those extra feet will provide an additional buffer zone from the EMF's. We believe all this is possible because the pole height we are requesting is significantly lower than the pole heights on the preliminary maps provided by NU. The Federal Government requires the outermost cables to be a specified distance from the edge right of way. The span of two sets of H Frames in our neighborhood is 75 feet, from outermost cable to outermost cable. The span across the top of a single monopole 180 feet, must be less and a pole of 105 feet, must be*

*significantly less. Therefore we believe it is feasible to move the pole to the farthest point in the north side of the right of way without the cables being any closer to the edge of right of way as they are today.*

This question was never addressed or answered. It's a viable option that in good faith, adheres to the CSC decision.

- *3) Change the longitudinal placement of Pole 24515 and Pole 24516. We want these poles to move up to the location of the next northerly H Frame to the north. Pole 24515 on the corner of Skeet Club and Elihu Drive would be moved to the east of Elihu Drive, hidden behind tall trees. Pole 24516 would be moved further east, across the railroad track and would still not be in Lyman's Golf Course. This movement will be a win-win for everyone. The new placement will lessen in the negative impact of the poles. In the neighborhood, Skeetclub and Elihu Drive, there would be only one pole and it would be slightly hidden between tall trees. Everyone will benefit and everyone agrees!*

CL&P responds with no, due to wetlands and steep terrain. There are many, many locations along the route that are steeper and contain more wetlands yet they are able to build towers there, why not here?

We also wanted to let you know that we attempted to call Peter Novak at NU, since it appeared he was working with another resident on the east side of Durham. No phone calls were returned. The only thing I've seen is pesticides being sprayed in CL&P defined wetland areas. Evergreen trees and beautiful natural landscaping is being killed off. In addition, after test drilling in the area was done, the trash was left behind for our viewing.

In summary, our biggest concern is that CL&P has not listened to our request and has displayed no effort to work with us. Our request for lower towers is not out of the scope of feasibility. That was the purpose of the D and M Phase. If the towers cannot be shifted to the northerly side of the right-of-way, at the very least we deserve a follow-up call and explanation.

We hope this second attempt at communicating our desires will be more productive. Thank you for all your attention in this matter.

November 28, 2005

Mrs. Maryann P. Boord  
First Selectwoman  
Town of Durham

Dear Mrs. Boord,

After the Development and Management Meeting held earlier this Fall, we came away with the feeling that NU would be willing to work with the property owners along the transmission lines. That feeling quickly turned into disappointment.

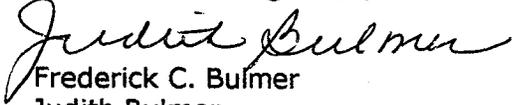
On our property, moving one pole would have made a great difference to me and my two neighbors. My proposed location for pole #512 would still be on my property and not interfere with the ROW of adjacent landowners.

I spoke with Mike George, who I believe will be the Project Manager. He told me that after talking with the engineers my proposal could not be accepted. I asked to have their rejection put into a letter to me so that I could explain to my neighbors. To date I have not received a response.

I also talked to Peter Novak at NU. Additional calls to Mr. Novak were never returned.

By now it is very clear that NU never intended to work with any of the property owners. They have rejected all requests made by property owners to have lower poles, or to move poles. In my opinion, the meeting was a waste of our time and misleading to the property owners along the transmission lines. It is obvious that NU had no intention of "working" with property owners in Durham.

Sincerely,

Frederick C. Bulmer  
Judith Bulmer  
408R Powder Hill Road  
Durham, CT.

## Maryann Boord

---

**From:** Sue [suedel@snet.net]  
**Sent:** Thursday, December 01, 2005 9:51 AM  
**To:** Maryann Boord  
**Subject:** CL&P

MaryAnn,

CL&P (Peter Novak) contacted me by phone today and indicated that CL&P has agreed to shift utility pole 24553, to the west by approx. 150, within the CL&P right of way (Drawing 01225-15001) to the centerline of my home. This proposed alternative pole placement addresses several of the aesthetic concerns I have regarding the views from the front porch of my home. This gesture by CL&P is certainly appreciated since the original pole location as selected by CL&P for utility pole 24557 was practically in my front yard and would have certainly diminished my property value. However, I have also requested that CL&P consider shifting pole 24553 in a southerly direction by 40 feet or at least to the centerline of the easement area. This additional horizontal distance will further reduce EMF exposure in the vicinity of the homes shown north of the right of way on the site plan. There aren't any existing homes south of the right of way that warrant concerns for EMF exposure and future development in this area is unlikely due to the rocky terrain. I can certainly provide an additional easement area for tree clearing along the southerly edge of the existing right of way since I also own property to the south of the current easement area. Furthermore, if further clearing is required to accommodate this proposed alternative pole location beyond the property that I own the adjoining property owners have agreed to a slight adjustment to accommodate the new site for utility pole 24553. Certified A-2 land surveys are available for each property which clearly delineate the property boundaries for each parcel.

The reason for the preferred alternate pole selection site to the south by 40 feet and to the west by 150 feet is to provide an additional horizontal buffer to provide for further protection from EMF exposure since four young children currently reside in the two homes within close proximity to proposed utility pole 24553. My primary concern is not aesthetics, however, the proposed shifting of pole 24553 to the west as proposed will certainly provide a visual buffer from the front of my home which is also of equal importance since the new poles will be approx. 5 feet in diameter and are going to be clearly visible from my home. Certainly any homeowner would

be concerned about the health of their children and diminished property values as a result of utility pole placement. The siting council requested that CL&P work closely with the town's and homeowners to resolve these issues. I'm hopeful that CL&P will seriously consider these minor pole adjustments for the protection of my children and others.

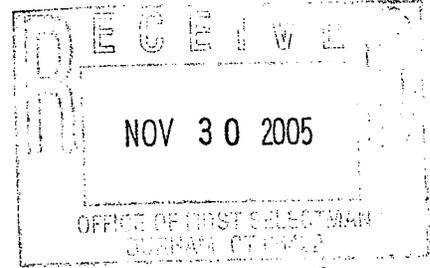
The environmental issues raised in Mr. Guidinger correspondence dated Nov. 8, 2005 are understandable, however when compared to the health and safety of my children I believe that the environmental concerns are minor. The existing H frames within the right of way must be dismantled and removed and are presently included in any Army Corp permit and local inland wetlands applications. Therefore, activity within this environmentally sensitive area is already going to occur. Construction for the preferred pole location will be outside of the designated protected wetland area and will be limited to the inland wetland buffer required by the Town of Durham. The additional tree clearing resulting from this alternative design will also be minimal. The replacement of the existing H frames with a monopole structure with a smaller base area should also contribute very little environmental activity at this location.

My understanding is that CL&P will be formally modifying the Design and Management phase drawings recently submitted to the Town of Durham to reflect the adjustment of utility pole 24553 to the west by approx. 150 feet. I'm hopeful that CL&P will also consider moving pole 24553 as far south as possible to provide my children with further protection from EMF exposure. Once again I certainly appreciate CL&P's decision to relocate pole 24553 by 150 feet to the west since this alternative location significantly improves the views from my home. CL&P's response and meetings with their staff have been productive and greatly appreciated. I'm looking forward to working together with CL&P to address any remaining construction concerns that can be implemented without jeopardizing this project.

Sincerely, Dean DelVecchio

Nov 29, 2005

Maryann Boord  
First Selectwoman  
Town of Durham



Dear Maryann,

Regarding the NU management plan on  
Powder Hill Rd:

Since NU has turned down all three/four  
options, I would like the structure heights  
to be 105' and the color to be stainless steel.

I am deeply disappointed that we did not  
get any of our options. I would hope  
to see my taxes lowered next year  
since our homes will certainly be  
worth less once these ugly towers  
are installed.

Sincerely,  
Pat Miles  
404R Powder Hill Rd.  
Durham  
349-0622





**Connecticut  
Light & Power**

The Northeast Utilities System

107 Selden Street, Berlin CT 06037

Northeast Utilities Service Company  
P.O. Box 270  
Hartford, CT 06141-0270  
(860) 665-5000

December 13, 2005

The Honorable James W. McLaughlin  
First Selectman, Town of Durham  
P.O. Box 428  
350 Main Street  
Durham, CT 06422

References:

1. Maryann Boord letter to Anne Bartosewicz and Pamela Katz, dated December 2, 2005. (re: response to Nov. 15 letter)
2. Anne Bartosewicz letter to Maryann Boord, dated November 30, 2005. (re: DeVecchio request)
3. Anne Bartosewicz letter to Maryann Boord, dated November 15, 2005. (re: CL&P's resolution of Town and resident requests)
4. Maryann Boord letter to Anne Bartosewicz and Pamela Katz, dated September 7, 2005. (re: summary of Town and resident comments)

Dear First Selectman McLaughlin:

I am writing in reply to a letter received from former Durham First Selectwoman Maryann Boord (Reference 1) responding to our November 15, 2005 letter (Reference 3). I must take exception to many of the points expressed in her letter that I believe misrepresent the process that transpired.

Like Ms. Boord and others, our project team put an enormous amount of time and energy into keeping the town and its residents informed of our plans and listening to and recording their concerns and requests. Numerous phone calls and nearly a dozen site visits were made by our project team to ensure that we fully understood resident's concerns. During the period between the public meeting on August 17 and November 2005, our Community Relations Manager maintained regular contact with Ms. Boord, keeping her informed of our progress and letting her know that we were still researching options and exploring ways to meet their requests. I assure you, your town's input was not taken lightly.

During the Development & Management (D&M) public meetings, a standard presentation was used for all municipalities when discussing the D&M process. We made it very clear during the August 17 public meeting that the municipality would have input on three areas: 1.) adjustments to structure height; 2.) type of structure finish; and 3.) limited shifting of structures along the right of way. We explicitly stated that lateral shifting of structures would be extremely difficult to accommodate, but that we would consider limited longitudinal shifting of structures if it was acceptable to the municipality who obtained the agreement of all residents affected by this move. During our presentation and in subsequent conversations, we made it very clear that technical (i.e., span lengths, transitions from structure heights); safety (i.e., wire-to-ground clearances); and environmental (i.e., wetlands are to be avoided) factors would, first and foremost, be considered when



middletown | norwalk

(McLaughlin, continued)

evaluating their requests. As you can see from our November 15 letter (Reference 3), we were unable to accommodate most requests due to these factors.

Reference 3 illustrates the difficulty of balancing the requests received. For example, certain residents of Elihu Drive, portrayed as representatives of the entire neighborhood, requested lower structure heights (105'), while a Skeet Club Road resident just across the street wanted the highest structure height possible (190'). These two requests are not compatible since a gradual transition is needed from one structure height to another. Absent neighborhood consensus or clear direction from the chief elected official of the town, we utilized the CSC decision that specified taller structures in neighborhoods in Durham. If you would like to provide clear direction to use the lower structure heights in the Elihu Drive area regardless of the resulting height of the structure near the Skeet Club Road resident, please let us know as soon as possible.

Ms. Boord implies that we did not honor any of the resident's requests. You will see from References 2 and 3 that this is not the case. We continued discussions with Mr. Dom DeVecchio, 173R Foot Hills Road, to reach a mutually agreeable solution. While it did not satisfy Mr. DeVecchio's original request, it is a solution that improves the DeVecchio's viewscape. Also, we continued to work with Mr. Fred Bulmer, 408R Powder Hill Road, on a solution that lessened the impact on his Christmas tree farm. After agreeing to a solution to move the structure out of his farm, Mr. Bulmer decided to leave the structure in its original location.

We hope this clarifies why these decisions were made. We acknowledge that some of your residents are not pleased with these decisions, but you can see that sound technical justification, such as span requirements, difficult terrain, wetlands or easement issues prevented us from accommodating most of the resident's requests.

Lastly, please encourage residents to call our hotline, 1-866-MID-NORW, if they see unacceptable work practices or have any concerns. After speaking to the field supervisor for our drilling contractors, it is my understanding that the trash left behind in the Elihu Drive area was removed (re: Memo from Huscher and Blair to Maryann Boord, dated December 2, 2005). This issue would have been expedited had residents notified us directly.

I look forward to meeting you soon. Please contact me if you have questions at 860-665-2771.

Sincerely,



Anne Bartosewicz  
Middletown-Norwalk Project Director

c: Pamela B. Katz – Chairwoman, Connecticut Siting Council  
Raymond Kalinowski - State Representative  
Maryann Boord – Board of Selectman

## **City of Meriden**



City of Meriden, Connecticut  
DEPARTMENT OF LAW

142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450-8022  
TELEPHONE (203) 630-4045  
FAX (203) 630-7907

December 2, 2005

VIA FACSIMILE 741-1054

Pat Bandzes  
Middletown Norwalk  
345 kV Transmission Line Project  
Docket 272 CT Siting Council

RE: Proposed relocation of Pole #24407  
Segment 1A  
Beseck S/S- Black Pond Jct. 345/115kV line

Dear Ms. Bandez:

Please be advised that the City of Meriden was contacted by Mr. Richard Malinowski, the owner of the property where Pole #24407 is proposed to be located. Mr. Malinowski objected to the location of the pole on his property.

The City of Meriden, including staff from the City Planner's office met with Mr. Malinowski to review the Draft D&M plan and to consider the options available for relocating the pole to a different location.

Upon review of the Draft D&M plan during that meeting, and a subsequent conversation with Mr. Malinowski regarding the options available, Mr. Malinowski made the following suggestion over the telephone today:

- 1 Relocate pole #24407 further NORTH along the line—approximately 40 feet - up to Mr. Malinowski's property line so it would be more in line with the existing pole in the middle line structure #8570.

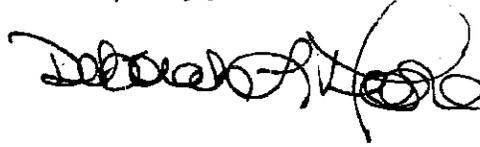
The City of Meriden supports this proposed change inasmuch as this proposed change would not be an adverse impact on other residents and would serve to satisfy the request of a Meriden citizen.

Also, please note that it was explained to Mr. Malinowski that the City of Meriden could only make the suggestion and that there are no guarantees that it would be granted, or that it could be granted. It was explained to Mr. Malinowski that while the utilities would make every effort possible to accommodate requests, if the proposal was not

feasible due to engineering or other constraints, the plan would have to remain as proposed.

Thank you for your time and attention to this matter, and I look forward to hearing from you on this matter.

Very truly yours,



Deborah L. Moore  
Associate City Attorney

DLM/rah

cc: Mayor Mark D Benigni  
Lawrence J. Kendzior, City Manager  
Dominick J. Caruso, Director of Development & Enforcement  
Richard Malinowski



City of Meriden, Connecticut  
DEPARTMENT OF LAW

142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450-8022  
TELEPHONE (203) 630-4045  
FAX (203) 630-7907

December 2, 2005

Pat Bandzes  
Middletown Norwalk  
345 kV Transmission Line Project  
Docket 272 CT Siting Council

VIA FACSIMILE 741-1054

Dear Ms. Bandzes:

Please be advised that late this afternoon I received the following feedback from the City of Meriden Department of Development and Enforcement Please have your technicians review and let me know at your earliest convenience whether any of the proposals here are feasible.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Deborah L. Moore".

Deborah L. Moore  
Associate City Attorney

The City of Meriden Department of Development and Enforcement staff request that Northeast Utilities modify the power line project plans to include a less intrusive power line alternative in eastern Meriden north of the substation.

We request that lines on two separate sets of large poles be combined onto one pole thereby reducing the width of physical disturbance, encroachment on buffers of residences and institutions, EMFs, etc., along the corridor while allowing full development of increased power (reference our letter dated August 26, 2005). We are

specifically asking to eliminate the westernmost set of poles shown in Meriden north of the substation, moving the line on this pole onto an adjacent set of poles.

The Commonwealth Associates Inc. report dated September 6<sup>th</sup>, 2005:

- ξ Noted that some loss of property values, quality of life, environmental disturbance can be expected although it probably won't be great;
- ξ Noted that reducing the width of the corridor would reduce negative impacts;
- ξ Noted that doubling lines such as lines proposed in Meriden is possible and is clearly done in parts of the U.S.;
- ξ Offered only anecdotal information indicating that such doubling was not already present in New England.

The City asked Northeast Utilities about the possibility of reducing the poles in a timely fashion in September of this year. We never received complete clear information to indicate that combining two lines on one pole would be unreasonable. In fact, it is our recollection that the Northeast representative said it was not infeasible or unreasonable. They did say that due to the nature of the request, only the Siting Council could approve it.

It must be pointed out that while NU has made many changes in other communities to reduce impacts, very little changes have been offered in Meriden. As evidenced by the Draft D&M plan, Meriden is the only community in this area being asked to bear the burden of three sets of large poles with the largest impact in terms of width of disturbance.

It also appears that the three line expansion in Meriden is really an offshoot of the Middletown to Norwalk project, not a direct required piece. The purpose and need for such expansion may not have been completely explained to the public.

Finally, the Department had some concerns about the proximity of pole #9411 to the residences and is wondering whether it could be relocated a further away from the homes.

# PLANNING COMMISSION-DIVISION



CITY OF MERIDEN

Tel. (203) 630-4081 Fax (203) 630-5883

August 26, 2005

John Guidinger, Environmental Consultant  
Commonwealth Associates Inc.  
Jackson, Michigan 49204

Dear Mr. Guidinger (John):

This letter is a follow-up to previous meetings and the public meeting regarding the Northeast Utilities (NU) power line expansion project. I realize that NU is paying your firm, but we understand and appreciate that you are essentially working for communities along the project route. Please note the following Meriden Planning perspective, concerns, and request.

- 1) NU is proposing three large overhead lines of poles each carrying a single circuit as part of this project in Meriden. Primary serious concerns raised by the public include:
  - a. the increased radiating electromagnetic field (EMF's) resulting from expanding the width of the electric fields closer to surrounding residences institutions, and recreational areas;
  - b. and loss of vegetative buffer areas for these populated areas proposed for the three pole line design; corridor areas proposed to be cleared are literally their back yard, sometimes their front or side yard;
  - c. amount of disturbance to wetlands and wildlife;
  - d. potential loss of property value.

The above mentioned concerns were noted by various residents and City Councilors at the public meeting. In addition to numerous condos and single family residences, at a minimum, the CT Baptist homes nursing and assisted living complex, and the Police Benevolent Association appear likely to be impacted. The new City softball complex and a daycare facility are also located along the project route.

- 2) Planning and Engineering Staff considered the proposed siting plan and the potential impacts. The present proposal for three adjacent poles appears to impact Meriden. Staff believes that all the above noted negative and potential impacts would be significantly reduced if NU would reduce the width of the power line expansion. Without getting into technical jargon, please confirm that a single change to simply distance a person (receptor) from a power line will result in reduced potential EMF exposure. Similarly, without trying to judge impacts, please confirm that a single change to retain a visible buffer of trees rather than increasing the visibility of multiple large power lines, and less direct proximity to multiple large power lines cannot help but to reduce impacts to quality of living and property values.

It appears possible to reduce the design from three adjacent poles to two adjacent poles by combining circuits from two poles onto one pole; this is apparently often done. NU

142 East Main Street, City Hall • Meriden, Connecticut 06450

representatives have said that three separate poles are needed to provide a "second contingency" guideline. Apparently this means that in the very rare circumstance that lines on two poles are knocked down simultaneously, should the third pole power not also be knocked down, there would be an available power source. The justification seems to be based upon a scenario that may have only a tiny chance of ever occurring. Applying such a guideline in Meriden erodes the longstanding corridor buffer that has served us well. For instance, the existing poles north of the substation are located on the east side of the ROW, well distanced from the condos, nursing home and most residences. One additional line of poles is not problematic, two creates impacts.

Are three separate large poles absolutely necessary? Can you please provide examples of comparable locations where double stacked poles are utilized. Can you please investigate and if possible, make a convincing case in writing with supporting technical documentation for reduction of the adjacent poles from three to two where possible in Meriden. Please confirm that this is not a complex or costly change, but would reduce costs to NU and customers of NU.

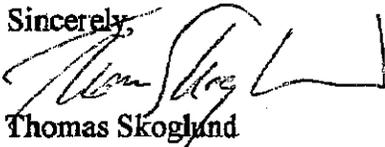
- 3) Also, clearly indicate the City staff's general directional preferences for lessening impacts by shifting poles in locations where the width of disturbance can be reduced by reducing the number of adjacent poles from three to two. In that circumstance, poles north of the substation should be shifted to the east along the corridor.

South of the Meriden substation, where one shorter "H" pole is present, can the line of shorter existing poles be retained, and only two rather than three large poles be added (eliminate the proposed large poles on the east side of the ROW)?

- 4) Please investigate and provide information regarding the status of the NU project's Army Corps of Engineers application for work in wetlands. Please confirm that in general any impacts to wetlands and habitat could be significantly reduced by the above noted modification.
- 5) Lastly, please investigate if there is a chance to reduce potential EMF exposure for adjacent properties in other ways that do not have other negative consequences (possibly by reversing circuits).

Please provide information in a timely manner as discussed

Sincerely,



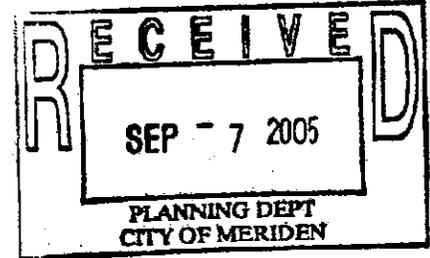
Thomas Skoglund

Cc: Dominick Caruso, Director of Planning and Development  
Michael S Rohde, Chairman, City Council Public Works Committee  
Deborah Moore, Associate City Attorney  
Pierre Blanchet, City Engineer  
James Anderson, Wetlands Officer



September 6, 2005

Mr. Thomas Skoglund  
Assistant Planning Director  
City of Meriden  
City Hall, Room 132  
142 East Main Street  
Meriden, CT 06450



Dear Mr. Skoglund:

In reference to your letter of August 26, 2005, we are providing the following information. The item numbers refer to the numbers in your letter.



**Item Number 1**

No response required.

**Item Number 2**

Relationship of Distance to EMF Strengths

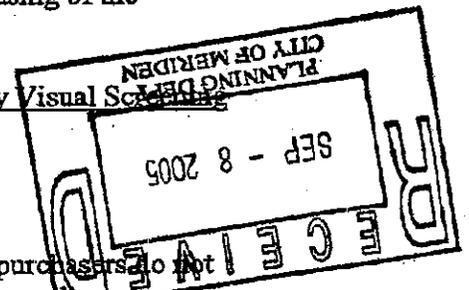
Electric and magnetic fields strengths are well known to be directly related to the distance a receptor is from the source of the fields. The further the receptor is from the source of the electric and magnetic fields the smaller the strength of the fields at the location of the receptor. For transmission lines, both electric and magnetic field strengths usually decline to less than background field strengths at distances of about 100 to 150 feet from the edge of the transmission line right-of-way.

For overhead high-voltage transmission lines, reduction of electric and magnetic fields is accomplished by moving the energized transmission line conductors as far as possible from the location of the receptor and by arranging the phasing of the conductors to get maximum cancellation of the magnetic field.

Impacts to Quality of Living and Property Values as Influenced by Visual Scenery and the Proximity of Transmission Lines to Viewers

*Visual Impacts*

In my experience most property owners and prospective property purchasers do not want electrical transmission lines to be located on their property or on the property they are considering for acquisition. However, if, the lines must be on the property,



engineers • consultants • construction managers

then they want them to be located where they cannot be seen or where they will not interfere with their intended use of the land.

Visual screening of transmission lines in urban areas such as Meriden can be accomplished by retaining trees to the extent feasible. Screening can also be provided by topographic variations and the presence of buildings in the viewshed.

The quality of life issue is related to many judgmental factors. One of these is, of course, the visual perception of a person's surroundings in comparison to what that person perceives to be a low or high quality surrounding. Following upon this, the monetary value of a piece of real property, especially residential property, is usually largely dependent on the visual perception of the quality of life on the property.

Visual impacts are impacts to humans alone and the intensity of the impacts vary widely among humans. For electrical transmission lines there are many interrelated variables including:

1. The sensitivity of the viewer to views of the lines. Some people are not bothered by seeing transmission lines while others are greatly bothered.
2. The degree of visual accessibility of the transmission lines. As noted above, the lines may be screened or partially screened by vegetation, topography and other buildings.
3. The transmission facilities which are visible. Does the viewer see the entire line, or only the structures, or only the conductors, or only the cleared right-of-way?
4. Visual accessibility at normal viewpoints. If a viewer has to go to an unusual viewpoint to see the line, the impact may not be as great as if the normal daily activities put the viewer at view points where the line is continually seen.
5. The proximity of the lines to the viewer. The line may be close or distant from the viewer. Visual impacts normally decrease greatly with distance.
6. The amount of background blending. Lines on ridges highlighted against the sky may be very prominent. Lines on the side of a hill with the hillside for a background or on flat land with mature trees in the background may be much less prominent.
7. The presence of other similar transmission lines. If the transmission line is on a new right-of-way the visual impact may be great, especially to property owners not used to seeing the transmission line. If other transmission lines or connecting substation facilities are present in the view, then the addition of another line or a replacement of a line may cause less visual impact than an entirely new line.
8. The amount of unnatural disturbance in the view. If the line is in a pristine natural setting, visual impacts will normally be great to most viewers. If the line is in an area with severely degraded visual resources, such as an industrial or commercial setting, the visual impacts should be less to most viewers.

Mr. Thomas Skoglund  
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There are many more visual impact variables, such as time of day, amount of light present, color of the structures and background, size and height of the structures, reflectivity of the structures and conductors, angle of view, etc. Many of these variables apply to the situation in Meriden.

### *Property Values*

Many studies have been performed by various groups to determine the effect of transmission line on property values. Most of the studies I have looked at refer to residential properties, although some dealt with farmland and commercial property values.

There are two basic situations for residential properties; those adjacent to a right-of-way and those having the line on an easement actually on the property. For the adjacent property situation, the orientation of the right-of-way to the property is important to consider. The right-of-way may be at the rear of the property, along one side of the property, or in front of the property. Usually the line passing in front of the property presents the greatest visual impact.

Generally the property valuation studies follow one of two methods. The first method consists of a series of judgments made by one or more real estate agents familiar with the area and with recent sales prices. The judgments are based on the experience of the agent. Sometimes the agent includes a review of actual recent sales prices for properties along a transmission line and comparisons to similar properties not along a line. My experience is that these studies show generally a reduction in sales prices of 8 to 15 percent for properties along a high-voltage transmission line.

A recent study done this way in Cheshire by Lee McParland showed an 8 percent reduction in value. McParland was much more pessimistic in his conclusions and stated that the properties along the line may become unmarketable due to EMF concerns. Another review is being performed by the Assessor for the Town of Orange. His opinion is that the effect of the existing lines has only a minor influence on sales prices in Orange.

The second method of determining impacts to property values starts with the same selection of recent sales for properties along a transmission line right-of-way and similar properties not along the line. However, in this method equalization tools are applied to remove biases. The properties are carefully selected to be as similar as possible and then equalization techniques are applied by an experienced appraiser to reduce as much as possible any remaining differences in terms of value. The conclusions of these studies are usually that the reductions in sale prices are on the order of 4 to 6 percent for residences along transmission lines. Another common

Mr. Thomas Skoglund  
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result is that properties along a transmission line may take a somewhat longer time to sell compared to those not along a line.

Comments from many agents and appraisers suggest that the property owner may have paid a lower price when the property was purchased. The lower cost of the original purchase will offset the lower price received at sale time.

Not all property owners and prospective buyers are put off by a transmission line adjacent to their property. Where the line is at the rear or the side of the property, there is evidence that some property owners or prospective buyers may actually hold the property in higher esteem because they use or plan to use the right-of-way as an extension of their yard for purposes such as lawns, gardens, or recreation. They may also like knowing that the adjacent right-of-way can not be developed beyond the transmission line use. Some buyers say that the slightly lower price attracted them to the property and were not concerned about the transmission line when they bought the property. Similar comments have been received from real estate agents selling the property.

#### Second Contingency (Double-Contingency) for Electrical Reliability

Double-contingency planning is a broad planning standard applied to transmission system by utilities to guide the design of the system. It is used as a standard for reliability over an entire transmission system, especially those serving urban areas. The system involves many interrelated factors, including lines, substation equipment, system management, etc. In Meriden the existing 115 kV and 345 kV circuits, the proposed 345 kV circuits, and the existing and proposed substation components will be a part of the system for reliability planning. Because of the broad implications, double-contingency planning cannot be referred to in isolation to the two new circuits proposed for this right-of-way.

#### The Double-Circuiting Option to Reduce Clearing Width

For the 1.4-mile segment of the line in Meriden north of the East Orange Substation, it would be feasible to place the two new 345 kV circuits on one double-circuit structure instead of two new single-circuit structures. This would reduce the number of steel poles from three per span to two per span. This should also reduce the width of new clearing needed by about 40 to 50 feet. A high degree of reliability could be addressed by designing the double-circuit structures with features to ensure their structural strength and reliability. Commonwealth Associates (CAI) has designed and worked with many double-circuit 345 kV lines. There are many double-circuit 345 kV lines in other parts of the country.

However, Northeast Utilities (NU) has stated that they will not double-circuit a 345 kV line because of the need for high reliability of these important lines. It also

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appears that there are no double-circuited 345 kV lines in New England and that designing 345 kV lines on single-circuit structures in New England is apparently a regional design standard. I examined the three existing 345 kV lines north of Black Pond Junction in Middletown. These circuits are the source of the existing 345 kV line in Meriden and the two new proposed 345 kV lines. These three circuits in Middlefield are on single-circuit H-frame structures. I drove along the lines for several miles and did not see any double-circuit 345 kV structures in use.

I talked to other senior transmission line engineers at CAI who have designed transmission lines in New England. We also called a senior transmission line engineer at a large utility in New England. None of the engineers at CAI or the New England utility engineer were able to identify any double-circuited 345 kV lines in New England. For Northeast Utilities to agree to double-circuit the new lines in Meriden they would have to deviate from this regional standard.

South of the East Meriden Station, the need to carry the two additional 115 kV circuits on the existing right-of-way, would make the double-circuiting option infeasible as a means of reducing clearing. The utility is already proposing to double-circuit the 115 kV lines with the 345 kV lines. However, the 345 kV circuits are on separate poles and no double-circuiting of the 345 kV circuits on the same poles is proposed.

#### Other Comments Related to the Proposed Design

##### *Moving the Structures Closer Together*

Review of the three proposed cross sections for Meriden shows that the 345 kV structures are to be constructed with 60 or 70 feet of separation (center of pole to center of pole). This is unusually close for this voltage. Several transmission engineers at CAI said that they would have used 90 feet of separation or more. The design has already been compacted greatly and we would not recommend placing the structures any closer to save clearing width.

##### *Staggering the Structures Along the Axis of the Line*

Because of this compact placement of the structures, the structures must be placed adjacent to each other in a set of three structures. If not adjacent, blowout of the conductors in wind would violate the conductor to neighboring pole separation distance and lead to electrical unreliability and other limitations.

##### *Moving the Structures to One Side of the Right-of-Way*

Good engineering practices and the National Electric Safety Code requires that the conductor must not blow out in wind beyond a vertical plane at the right-of-way edge.

Mr. Thomas Skoglund  
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Using an average span of 500 feet between structures, a 6-pound wind, and a davit arm 15 feet in length, the centerline of the 345 kV line cannot be any closer than about 60 feet of the right-of-way edge where the 345 kV conductor is on the outer side of the pole (toward the right-of-way edge) or about 45 feet where the conductor is on the inner side of the pole. For the 115 kV lines the respective distances are about 55 feet and about 48 feet to the edge of the right-of-way. Moving the line closer than this to the right-of-way edge would require the acquisition of additional right-of-way.

For the segment north of the East Meriden Substation, ten sets of structures (each set with three structures) are proposed. As shown in the aerial photos supplied by NU, the first three sets of structures, 9401, 9402, and 9403 (the existing structure number), will be installed toward the east side of the right-of-way because the Mountain View Condos are located close to the west side of the right-of-way. The structures closest to the east side of the right-of-way will be 45 feet from the edge of the right-of-way. This is the farthest east they can be positioned in the present right-of-way without violating the parameters defined in the above paragraph.

For remaining seven sets of structures north of the East Meriden Substation, if we take the parameters in the above paragraph and add the distance between the structures shown in the cross right-of-way profile drawing, the total width of each set of structures is 225 feet (60+60+60+45). The right-of-way is 275 feet wide, and since the present proposal places the set of structures in the center of the right-of-way, the most we could move the structure set is about 25 feet either west or east.

Examination of the 1 inch to 100-foot scale aerial photos provided by NU and additional field observations indicate that there are residences close to the right-of-way on both the west and east side. Structures 9404, 9405, 9406, 9407, and 9408 are between houses along Thorp Avenue, Knollfield Road, and the condos in the Connecticut Baptist Home on the west side and houses along High Hill Road on the east side. It would seem that the best solution on this segment of the line would be to keep the structures in the center of the easement so as to be about equidistant from the houses to the east and west.

For the ninth set of structures, number 2409, there are three houses nearby on the east side, but the structures cannot be moved to the west due to the presence of a pond at this location on the easement.

The final set of structures, 2410, will be located to avoid other lines entering and leaving the East Meriden Substation. This set of structures will be on land owned by the utility. Only one house on High Hill Drive is nearby and this house is also adjacent to the substation. It would seem that the existing visual impacts to this residence from the several other lines and the substation would not be greatly improved by moving these new structures 25 feet to one side or the other.

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For the segment of the line in Meriden south of the East Meriden Substation, the structures must also carry two additional 115 kV circuits. There are 7 sets of structures in this segment of the line in Meriden. The arrangement illustrated in the cross right-of-way profile drawing results in a set of structures with a width of 245 feet (55+60+75+55). The right-of-way in this segment is wider, a total of 320 feet wide. The structures are proposed by the utility to be located on the west side of the easement, so we could move them up to 75 feet to the east if we wished.

However, at the location of structures 9411, 8747, 8749, and 8748, houses are located immediately outside of the right-of-way on the east side. There are no residences near the west side of the right-of-way. So positioning the structures on the west side of the easement would seem to be desirable.

The positions of the remaining three sets of structures, numbers 8750, 8751, and 8752, are dominated by a large pond primarily on the east side of the easement. The area has only one house nearby, on the west side near structure 8751. There does not appear to be a lot of latitude to move structure 8751 or the other structures to the east due to the presence of the pond.

### **Item Number 3**

#### Shifting poles to Reduce Clearing and Lessening Impacts

Concerning the idea of shifting the poles to the east side of the right-of-way north of the substation, the analysis above indicates that there are many houses along the east side of the right-of-way. The better solution would be to keep the seven sets of structures south of the Mountain View Condos near the center of the right-of-way so as to be equidistant from the residences on both sides. This would be true whether there were three or two poles in each set on the right-of-way.

Moving the structures along the axis of the line cannot be accomplished without redesign of the line. Since transmission lines are designed with the goal of optimizing the number of structures needed and the size and height of the structures, shifting structures to new positions along the axis of the line will likely result in the need for additional structures and/or taller structures. Since the existing 345 kV structures are proposed for reuse, moving the structure locations along the axis of the line would also require replacement of these structures. Review of the aerial photographs does not indicate any obvious significant advantages from moving any structures along the axis of the line.

Mr. Thomas Skoglund  
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#### Retention of H-frame Circuit 1466 South of the Substation to Reduce Clearing

One of the problems with H-frame structures in narrow situations is that they are wide. The conductor phases are spread out horizontally on H-frames instead of vertically on steel pole designs. But let us consider retaining 115 kV circuit 1466 on the existing H-frame structures and placing the two new 345 kV circuits on one double-circuit pole to eliminate one of the three steel poles. Under this option, the widths across the right-of-way of the sets of structures would be 45 feet from the right-of-way edge on the west to the center of the H-frame, about 75 feet to the centerline of the double-circuit 345 kV structure, 65 feet to the center of the 345/115 kV structure, and 55 feet to the east right-of-way edge. This is a total of 240 feet.

The cross section provided by the utility for the segment of line south of East Meriden shows 240 feet of width for the proposed set of structures (55+75+60+50). Therefore, there does not appear to be any advantage to retaining the H-frame structures for circuit 1466. Essentially, the extra width of the 115 kV H-frame structure cancels out the savings in width of the double-circuit 345 kV structure. And the utility would have to accept double-circuiting and agree to retain the old (and probably deteriorated) H-frame structures for 1.4 miles through Meriden.

#### **Item Number 4**

##### Wetland Application

The exact status of the Army Corps of Engineers application for work in wetlands is unknown. I understand that NU's consultants have completed the field work involved in delineating the wetlands on the right-of-way and the application is being prepared or has just been submitted to the Corps. I do not see the application listed among the applications listed on the Corps Connecticut web site for the last few months. I will call NU on Tuesday to check on this.

##### Wetland Impacts

Wetland impacts could be reduced by using two poles instead of three by reducing the amount of soil disturbance for foundation construction. I do not have a wetland delineation for the right-of-way and so I am not sure if there are any structures in wetlands in Meriden. Preliminary information indicates that some of the structures will probably have to be in wetlands along the drainage in the right-of-way. The utility has stated on several occasions in public meetings that they will avoid placing any poles in ponds or wetlands to the maximum extent possible. They may be able to adjust the location of some of these structures to move them out of wetlands.

#### **Item Number 5**

Mr. Thomas Skoglund  
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Phasing Arrangement to Reduce EMF

Having three 345 kV circuits and then two additional 115 kV circuits on the right-of-way offers opportunities to reduce EMF by optimizing the phasing arrangement of the conductors. Because of the public interest in EMF, I would assume that NU has performed a phasing study to optimize the electric and magnetic field levels at the edge of the right-of-way.

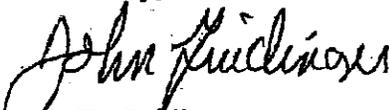
Another method to reduce EMF at the right-of-way edge is to raise the conductors to higher levels above the ground by using taller structures. As you know, this would have negative visual impacts from the increased height and visibility of the structures and from the increased diameter of the structure bases. Typical heights proposed by the utility in Meriden range from 85 feet up to 140 feet. The typical diameters of the structure bases will be 6 feet, with diameters up to 8 or 10 feet for the taller structures and large angle structures.

The utility is requesting the towns and cities affected by the proposed line inform them of the heights (and structure finish) desired. Heights offered and discussed in detail in the other towns and cities range from 85 feet up to 185 feet in height. A height of 185 feet for a tangent structure is almost unheard of in the United States. If any of these structures are actually constructed, they will be massive structures.

I will call you with information about the status of the wetland application today.

If you have further questions or need additional information please call me at anytime at 517-788-3016, by cell phone at 517-449-9041 cell, or by return email. I plan to be in Connecticut meeting with several towns or cities on September 8<sup>th</sup> and 9<sup>th</sup>, and probably again on September 13<sup>th</sup> through 15<sup>th</sup> and will make an appointment to visit you after you have had time to review this information.

Yours truly,



John H. Guidinger  
Technical Advisor

JHG/ypb



December 6, 2005

Deborah L. Moore  
Associate City Attorney  
City of Meriden  
142 East Main Street  
Meriden, CT 06050-8022

RE: Deborah L. Moore - City of Meriden, Department of Law letter to Pat Bandzes –  
Middletown-Norwalk Transmission Line Project, dated December 2, 2005 (faxed).

Dear Ms. Moore:

This is in response to your December 2, 2005 letter to Pat Bandzes regarding the proposed relocation of Pole #24407. The location of this structure is at 125 Fleming Road, Lot #10-10 337-2T, owned by Chris and Richard Malinowski.

In your letter, you request that we relocate the proposed structure #24407 approximately 40 feet north along the right of way up to the northern-most edge of the Malinowski's property boundary. This would position the proposed structure more in line with the existing structure in the middle line, designated as #8750 in the draft D&M Plan.

We are pleased to accommodate this request. Structure #24407 will be moved approximately 40 feet north along the right of way. Its new location will be at the point furthest north on the Malinowski's property, approximately five feet from the existing fence line.

Please contact me or Pat Bandzes if you have further questions.

Sincerely,

A handwritten signature in black ink that reads 'Anne Bartosewicz'.

Anne Bartosewicz  
Middletown-Norwalk Project Director  
PH: 860-665-2771



**Connecticut  
Light & Power**

The Northeast Utilities System



**Connecticut  
Light & Power**

The Northeast Utilities System

107 Selden Street, Berlin CT 06037

Northeast Utilities Service Company  
P.O. Box 270  
Hartford, CT 06141-0270  
(860) 665-5000

December 13, 2005

Deborah L. Moore  
Associate City Attorney  
City of Meriden  
142 East Main Street  
Meriden, CT 06050-8022

Re: Deborah L. Moore - City of Meriden letter to Pat Bandzes – Middletown-Norwalk Transmission Line Project; Comments on draft D&M Plan; dated December 2, 2005 (via facsimile 741-1054).

Dear Ms. Moore:

This is in response to your December 2, 2005 letter to Pat Bandzes regarding feedback from the City's Department of Development and Enforcement on the Middletown – Norwalk Transmission Line Project draft Development & Management Plan. Specifically, we are writing to address the two issues raised in this letter: 1.) a request that lines on two separate sets of poles be combined onto one pole; and 2.) a concern about pole #9411 and its proximity to Meriden residences.

**Request to combine two separate 345-kV lines onto one double-circuit structure**

This issue was previously addressed by CL&P during an August 9 meeting with Public Works and in a September 20, 2005 phone conversation between Al Cretella - Middletown-Norwalk Project Manager and Tom Skoglund – Assistant Planning Director, City of Meriden. Two 345-kV circuits can not be placed on one structure due to regional reliability standards as described below.

Northeast Utilities, the parent company of CL&P, is a member of the Northeast Power Coordinating Council (NPCC), one of ten regional reliability councils in the U.S., Canada and portions of Mexico that form the North American Electric Reliability Council (NERC). NERC Standard TPL-003-0 requires the assessment of the loss of any two circuits of a multiple circuit towerline. NPCC Criteria A-2 requires that the stability of the bulk power system be maintained during and following a simultaneous permanent phase-to-ground fault on different phases of each of two adjacent circuits of a multiple circuit structure. These same criteria require that line and equipment loading be within applicable emergency limits following such an event. ISO New England, the regional transmission organization responsible for meeting New England's electricity demands, also has a standard -- Planning



middletown | norwalk

Procedure 3 – that contains similar language and testing requirements preventing us from placing two 345-kV circuits on one structure. Copies of these documents can be found on their websites: [www.nerc.com](http://www.nerc.com); [www.npcc.org](http://www.npcc.org); or [www.iso-ne.com](http://www.iso-ne.com).

Note that each regional reliability council can dictate design standards specific to their region. That's why you might see double-circuit structures for higher voltage lines in other parts of the country.

**Request to relocate structure #9411**

Structure #9411 can not be moved since it is the last structure leading into the East Meriden Substation. Moving the structure away (laterally) from the residences would significantly increase the line angle leading into the Substation, creating conductor separation and clearance issues. Also, it would present an overload issue for an existing 115-kV dead-end structure due to the heavier conductor we will be using. Moving the structure north (longitudinally) along the line, closer to the East Meriden Substation, is not possible for similar reasons. Moving the structure south along the line would only bring the conductor closer to the residences in question.

Please contact me or Pat Bandzes if you have further questions.

Sincerely,



Anne Bartosewicz  
Middletown-Norwalk Project Director

## **Town of Wallingford**



October 26, 2005

The Honorable William W. Dickinson  
Mayor, Town of Wallingford  
Municipal Building  
45 South Main Street  
Wallingford, CT 06492-0427

Dear Mayor Dickinson,

In their April 7, 2005 decision (Docket No. 272, Middletown-Norwalk Transmission Line Project), the Connecticut Siting Council (CSC) encouraged CL&P to seek additional input from municipalities prior to filing their Development & Management (D&M) Plans. This letter contains the resolution of comments and requests received from the Town of Wallingford for the residences east and north of the planned Beseck Switching Station (Segment 1).

History

On July 19, 2005, CL&P met with Wallingford officials to review the CSC decision and to discuss the process and schedule for the town to provide input. Prior to that, on May 3, 2005, you hosted an informational meeting with residents where you solicited their input on structure height. This input was given to me at our July 19 meeting. A public meeting was held on September 15, 2005. During this public meeting, Wallingford residents had the opportunity to express their preferences regarding structure height and finish and to discuss limited movement of structures along the Right-of-Way in small group meetings with our design engineers. An independent Technical Advisor -- selected by Connecticut's Office of Consumer Counsel -- was provided as an additional resource for the town and its residents. Further comments were received via fax from your office, State Representative Mary Mushinsky, and State Senator Len Fasano following the September 15 meeting.

We have listened and thoughtfully reviewed your specific comments and recommendations. Note that, in some cases, we received conflicting preferences from residents living in the same area. When we received conflicting preferences, we did not choose between them but will implement the CSC decision.

Appendix A contains a summary of our resolution of your requests for residences east and north of the planned Beseck Switching Station (Segment 1). Unless otherwise noted, all structure numbers and references are as shown in our Preliminary Plan & Profile drawings, dated August 2005.



**Connecticut  
Light & Power**

The Northeast Utilities System

As previously discussed, C&LP will provide a copy of the draft D&M Plan for Segment 1 to the town over the next few weeks. CL&P expects to file this D&M Plan with the CSC in December 2005. Note that the draft D&M Plan for Segment 2a, which includes the balance of Wallingford, is expected to be available during the second quarter of 2006.

Thank you for your participation and cooperation in this process. We value the input provided and believe that it has resulted in an improved design that better serves your community and the needs of CL&P's customers. Please do not hesitate to contact us should you have further questions or concerns.

Very truly yours,



Anne Bartosewicz  
Middletown-Norwalk Project Director

Enclosure:  
Appendix A - Resolution of Comments and Requests

C: State Representative Mary Mushinsky  
State Representative Len Fasano  
Director Ray Smith, Wallingford Department of Public Utilities

**APPENDIX A**  
**Resolution of Comments & Requests**  
**Town of Wallingford**  
**(NOTE: For residences east and north of Besek Switching Station)**

Requester Name	Address	Comment or Request	Resolution
Scott Bradley	40 Cliffs Drive	Requests structure #24504 be as high as possible (suggests 185')	<p><b>(NOTE: The resolution below addresses all comments or requests listed here.)</b></p> <p>Due to conflicting preferences received, we will implement the CSC decision for structure height and finish:</p> <ul style="list-style-type: none"> <li>• Structure #24504 will be 175' and relocated approximately 17' to the west of its original location; structure #24503 has been deleted.</li> <li>• A galvanized steel will be used.</li> </ul>
Scott McCaffrey	53 Cliffs Drive	Preferred different structure location but did not indicate a specific location. Had general comments about how higher towers will put out more radiation.	
Barry & Phyllis Gordon	61 Cliffs Drive	Requests that structures be as high as possible.	
Gail Schaeffer	14 Valley View Drive	Prefers lower structures.	
Larry & Stacia Morehouse	25 Valley View Drive	Prefers lower structures.	
Brendan Kinchla	40 Valley View Drive	Requests higher structures and galvanized steel finish.	
Beverly & Fred Jurau	41 Valley View Drive	Prefers higher structures	
John Livingston	42 Valley View Drive	Prefers higher structures.	
Michael Brodinsky	45 Valley View Drive	Prefers lower structures.	
William & Merieth Hutchinson	39 Valley View Drive	Requests higher structures, specifically, that structure #24504 be 175'. Requested weathering steel finish.	
James Vumbaco	81 High Hill Road	Prefers lower structures.	
Richard Gordow	93 High Hill Road	Prefers higher structures.	



**OFFICE OF THE MAYOR**  
**TOWN OF WALLINGFORD**  
**CONNECTICUT**

WILLIAM W. DICKINSON, JR.  
MAYOR

45 SOUTH MAIN STREET  
WALLINGFORD, CT 06492  
TELEPHONE 203 294-2070  
FAX 203 294-2073

December 8, 2005

Ms. Anne Bartosewicz  
Middletown-Norwalk Project Director  
Connecticut Light & Power  
107 Selden Street  
Berlin, CT 06037

RE: Draft D&M Plan, Segment 1a

Dear Ms. Bartosewicz:

In accordance with the attached letter from Raymond Smith, Director of Utilities for the Town of Wallingford, there are no major issues regarding the draft D&M Plan, Segment 1a.

Sincerely,

William W. Dickinson, Jr.  
Mayor

jms  
Attachment

cc: Raymond Smith



RECORDED  
*Town of Wallingford, Connecticut*  
CL&P/U.I.

**RAYMOND F. SMITH, P.E.**  
DIRECTOR

DEPARTMENT OF PUBLIC UTILITIES  
100 JOHN STREET  
WALLINGFORD, CONNECTICUT 06492  
TELEPHONE 203-294-2263  
FAX 203-294-2267

November 17, 2005

Mayor William Dickinson  
Town of Wallingford  
45 S. Main Street  
Wallingford, CT 06492

SUBJECT: DEVELOPMENT AND MANAGEMENT PLAN  
CL&P/U.I.

Dear Mayor:

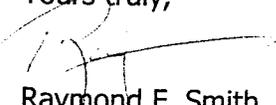
I've reviewed the Development and Management Plan for Segment 1A, prepared by CL&P and U.I. for presentation to the Connecticut Siting Council, Docket No. 272. Materials were delivered to my office on Wednesday, November 16, 2005. I find that the documents describe that the line be constructed in the High Hill Acres Area (Valley View, Cliffside, Wisk-key Wind, etc.) in accordance with the original concepts as approved by the CSC. The documents further describe the construction methodologies which CL&P and UI will utilize to meet regulatory and land use requirements. You should note that the highest structure will be a 175' galvanized monopole, which will be located at the peak of the right-of-way midway between Valley View Drive and High Hill Road (pole #24502).

Pole #24502 will be the receiving structure at the end of an extremely long span connecting to pole #24503 at the top of Beseck Mountain. The line going west from pole #24502 will drop down to a 120' structure (pole #24501) before turning to enter the Besek switching station.

The plans also show a number of poles running north from Beseck switching station toward Meriden that lie within the Town of Wallingford corporate limits. In that area, there will be generally a three monopole arrangement carrying three individual circuits from Meriden into Wallingford. The poles along this area of the right-of-way range in height from 70' to 140'. All poles shown on the plans will be galvanized as opposed to the cor-ten steel (brown) finish.

In summary, I find that the plans are consistent with the presentations made to the Connecticut Siting Council, and in accordance with the CSC decision rendered in the summer of this year. If you have any further questions regarding this topic, please advise.

Yours truly,



Raymond F. Smith  
Director - Public Utilities

RFS/kaw

C: R. Hendershot

**APPENDIX C**

**RIGHT-OF-WAY VEGETATION CLEARING STANDARD TRM**  
**81.021**

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## General

The major factor positively affecting transmission line reliability is a well managed program of vegetation control directed toward tall and fast-growing trees and invasive shrub species in and adjacent to transmission line rights-of-way. Vegetation related outages of high-voltage transmission lines can be minimized by applying this clearing standard to new and replacement lines and post-construction periodic vegetation management. The clearance minimums in this standard will provide safe clearances after re-growth at the end of a typical four (4) year maintenance cycle.

This specification conforms to the scope and intent of the NEPOOL Operating Procedures OP-3 Appendix 3-D1 titled "NEPOOL Right-of-Way Vegetation Management Standard" dated 02/26/99.

## Clearance Between Conductors and Woody Vegetation

Transmission lines within the Northeast Utilities' system present a variety of woody vegetation control situations. Regulatory permit conditions often specify "buffers" or "screenings" at visually sensitive highway and local road crossings and other locations which require special attention to the desired screening and to the necessary clearances. Northeast Utilities' right-of-way vegetation clearing practices differ in specific areas as defined below:

1. Under and adjacent to the conductors of the transmission line as depicted on Figure C; cut all tall-maturing tree species of any height while retaining existing compatible woody shrub species (see Appendix 1).
2. At structure sites and access roads; clear cut what is required to insuring clear construction and maintenance areas as depicted on Figure C.
3. At road crossings, within 15 feet of the edge of clearing and other sensitive areas that may be specified under the regulatory permit; retain low-maturing tree species such as Flowering Dogwood (see Appendix 2) to the extent that they will not conflict with operation of the transmission line throughout the vegetation maintenance cycle.
4. At ravines, river crossings, and similar locations; allow tree species to remain where the conductors will be significantly higher than normal and where the vegetation at full mature height would not violate Figure A clearances or will not cause construction, or access or problems.

The minimum clearances established in Figures A, B, and C between conductors and woody vegetation includes the allowance for re-growth over the periodic maintenance cycle of 4 years in order to prevent clearance problems to the energized conductors between maintenance cycles. The defined clearances cover all types of vegetation including natural growth, orchards, ornamental plantings, nursery stock, and danger trees.

The minimum clearances applicable to woody vegetation are shown in the included figures.

Figure A; Minimum Conductor Clearances

Figure B; Danger Tree Clearance

Figure C; Clear Cut Area for New Construction

Where orchards, ornamental plantings, or nursery stock exist, the maximum tree height is shown in Figure A. Individual easements or other legal instruments may define site specific maximum allowable tree heights.

Original	<b>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</b>			
02/27/04				
Approved				
DWF	<b>NORTHEAST UTILITIES</b>	<b>DESIGN &amp; APPLICATION STANDARD</b>	<b>TRM 81.021</b>	<b>1</b>

Where rights exist beyond the edge of the right-of-way, any tree designated as a “danger tree”, i.e.; a tree that can fall within the dimensions noted in Figure B, will be removed at the discretion of the arborist. In sensitive areas adjacent to or within the right-of-way or where rights or other permission to remove danger trees cannot be obtained, the solution is to remove those portions of the tree canopy projecting into the right-of-way and those portions of a tree which, if they become detached, may fall within the clearance area.

On sidehill rights-of-way, danger trees can be found significantly further from the conductors on the up-hill side of the right-of-way than they will be on the down-hill side of the right-of way.

### **Clearing Activities**

There are four distinct right-of-way vegetation clearing areas and activities:

1. Preparatory clearing for new transmission line construction.
2. Preparatory clearing for the replacement of an existing line, structure or appurtenance.
3. Clearing for wind-displaced conductor clearances.
4. Maintenance clearing.

Each clearing activity accomplishes a different objective by completing a different level of vegetation removal. New construction, equipment replacement, or repair typically involves activities 1 or 2, and 3.

### **Preparatory Clearing for New Construction**

This clearing consists of clear cutting three distinct areas of the right-of-way and removing other trees which may be a hazard to the line due to their mature height as defined by Figure C. These clearing areas are:

1. At each structure site for a distance of twenty-five (25) feet from all surfaces of the structure, all poles of a multiple pole structure, and all anchor locations.
2. The full length of all access road and spurs to structure sites for a cleared width of fifteen (15) feet.
3. A width along the centerline of construction to a horizontal distance outside the two outermost conductors in accordance with Figure A. Low-maturing woody shrub species are typically not removed, and low maturing tree species such as Flowering Dogwood may be allowed to remain along the outer edges (“B” dimension of Figure A).

For new construction, in addition to the twenty-five (25) foot cleared area around the structure, a lay-down and assembly area may be required that is considerably larger. This area is dependant upon topography, the type of structure to be assembled, and the type of foundation required at the site.

### **Preparatory Clearing for Structure Maintenance or the Replacement of an Existing Line**

This clearing is similar to new construction clearing with the following exceptions:

1. Clearing is dependant on the relative location of the rebuilt line with respect to the existing

cleared area and the proposed construction method for installation of conductors and shield wires. These factors may significantly reduce or eliminate needed clearing.

Original	<b>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</b>			
02/27/04				
Approved				
DWF	NORTHEAST UTILITIES	DESIGN & APPLICATION STANDARD	TRM 81.021	2

2. The structure site and access clearing will still be required but may also be significantly reduced.
3. When structures from the old line are removed, the clear area at these sites and the access spurs to them will be allowed to naturally re-vegetate with native plant species which may include native grasses, forbs or shrubs.

**Clearing for Conductor Clearance**

After the conductors are installed a reference is established to determine required conductor clearances. Additional "danger trees" outside of the initial cleared area will be identified and removed in accordance with the clearance envelope lines shown in Figure B.

**Maintenance Clearing**

This clearing will allow natural re-vegetation across the entire width of the right-of-way to the extent that the mature height of any second growth vegetation remains under the clearance envelope lines shown in Figure A. Normally maintenance in the area under the conductors will result in vegetation heights which do not exceed eight (8) feet. Additionally, at each clearing cycle the right-of-way will be examined to determine if any new danger trees have developed. If so, arrangements for their removal will be negotiated as needed and the trees removed or overhanging portions trimmed.

**Decision Responsibility for Clearing Woody Vegetation**

For initial clearing, the transmission line Construction Manager, with assistance as necessary from the Project Engineer, will be responsible for obtaining approval from the Transmission Supervisor, Vegetation Management before allowing vegetation to remain which conflicts with the clearances shown in Figures A, B, and C.

Original	<b>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</b>			
02/27/04				
Approved				
DWF	NORTHEAST UTILITIES	DESIGN & APPLICATION STANDARD	TRM 81.021	3

**APPENDIX 1**

**SHRUB SPECIES ALLOWED TO REMAIN: (PARTIAL LIST)**

<u>COMMON NAME</u>	<u>GENUS/SPECIES</u>
Arrowwood Viburnum	<i>Viburnum dentatum</i>
Bayberry	<i>Myrica pennsylvanica</i>
Blueberry - Highbush	<i>Vaccinium corymbosum</i>
Blueberry - Lowbush	<i>Vaccinium angustifolium</i> & <i>V. vacillans</i>
Brambles	<i>Rubus spp.</i>
Buttonbush	<i>Cephalanthus occidentalis</i>
Dogwood - Gray	<i>Cornus racemosa</i>
Dogwood - Redosier	<i>Cornus stolonifera</i>
Dogwood - Silky	<i>Cornus amomum</i>
Elderberry	<i>Sambucus spp.</i>
Hazelnut	<i>Corylus americana</i> & <i>C. cornuta</i>
Honeysuckle - Bush	<i>Diervilla lonicera</i>
Honeysuckle - Fly	<i>Lonicera canadensis</i>
Honeysuckle - Tartarian	<i>Lonicera tatarica</i>
Huckleberry	<i>Gaylussacia spp.</i>
Maple-leaf Viburnum	<i>Viburnum acerifolium</i>
Meadowsweet - Broad-leaved	<i>Spirea latifolia</i>
Meadowsweet - Narrow-leaved	<i>Spirea alba</i>
Mountain Laurel	<i>Kalmia spp.</i>
Oblong Fruited Juneberry	<i>Amelanchier bartramiana</i>
Oldfield Common Juniper	<i>Juniperus depressa</i>
Pasture Juniper	<i>Juniperis communis</i>
Running Shadbush	<i>Amelanchier stolonifera</i>
Sheeplaurel	<i>Kalamia augustifolia</i>
Spicebush	<i>Lindera benzoin</i>
Steeplebush	<i>Spirea tomentosa</i>
Sweetfern	<i>Comptonia peregrina</i>
Sweetpepperbush	<i>Clethra alnifolia</i>
Winterberry	<i>Ilex verticillata</i>
Witch Hobble	<i>Vburnum alnifolium</i>
Witherod	<i>Viburnum cassinoides</i>

**APPENDIX 2**

Original	<p><b>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</b></p>			
02/27/04				
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DWF	NORTHEAST UTILITIES	DESIGN & APPLICATION STANDARD	TRM 81.021	4

**LOW-MATURING TREE SPECIES ALLOWED TO REMAIN ALONG THE SIDES OF CLEARING: (PARTIAL LIST)**

**All species listed above including:**

Alder	<i>Alnus spp.</i>
Dogwood - Alternate-leaved	<i>Cornus alternifolia</i>
Dogwood - Flowering	<i>Cornus florida</i>
Sumac - Shining	<i>Rhus copillina</i>
Sumac - Smooth	<i>Rhus glabra</i>
Sumac - Staghorn	<i>Rhus typhina</i>
Willows (except tree species)	<i>Salix spp.</i>
Witch-Hazel	<i>Hamamelis virginiana</i>

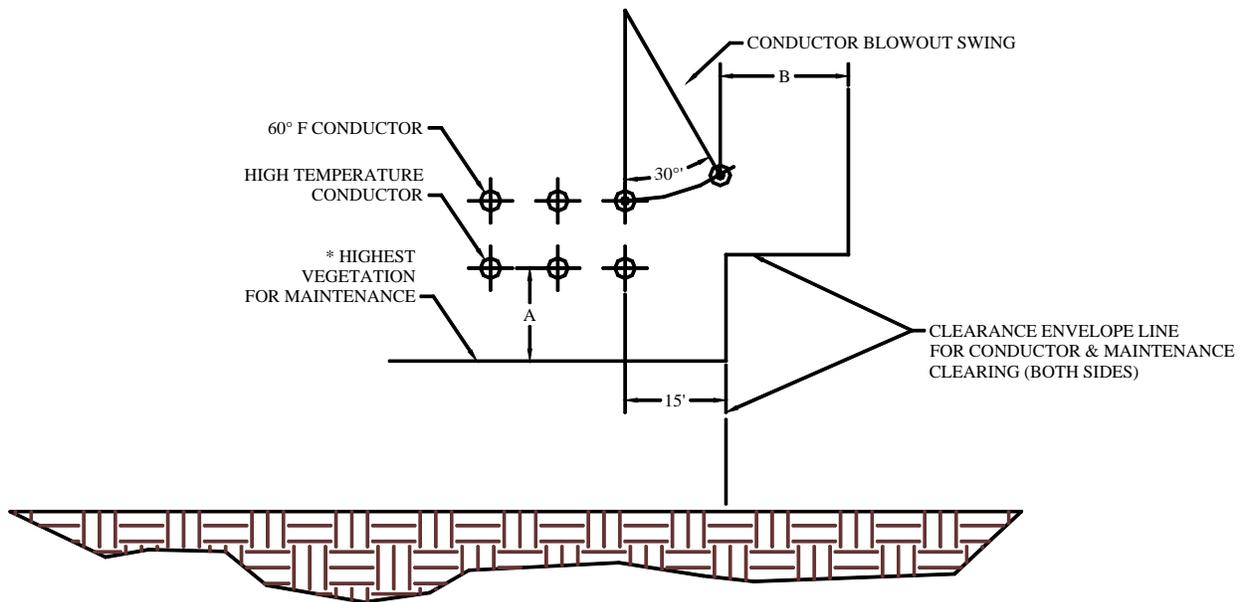
**Figure A**

**Minimum Conductor Clearances**

Original	<b>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</b>			
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* All Other Woody Species		
Line Voltage	A (ft.)	B (ft.)
69 & 115 kV	12	11
230 & 345 kV	16	15

* Orchards		
Line Voltage	A (ft.)	B (ft.)
69 & 115 kV	14	11
230 & 345 kV	18	15

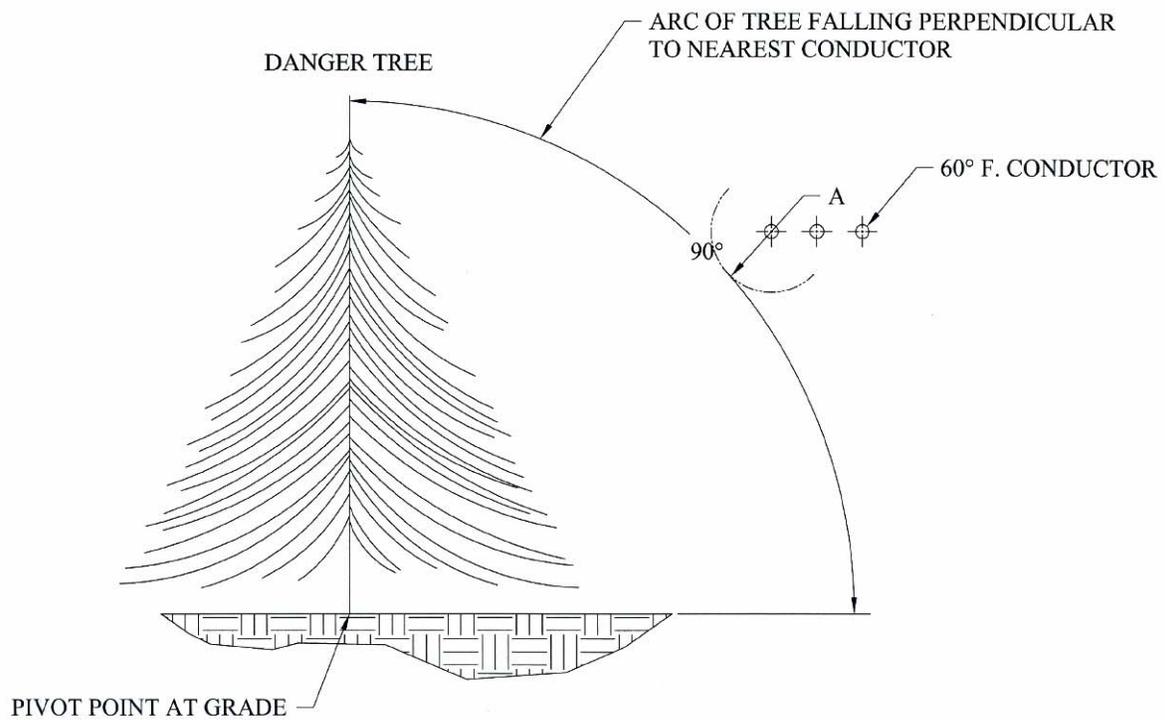


**Figure B**

**Danger Tree Clearances**

Original	<b>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</b>			
02/27/04				
Approved				
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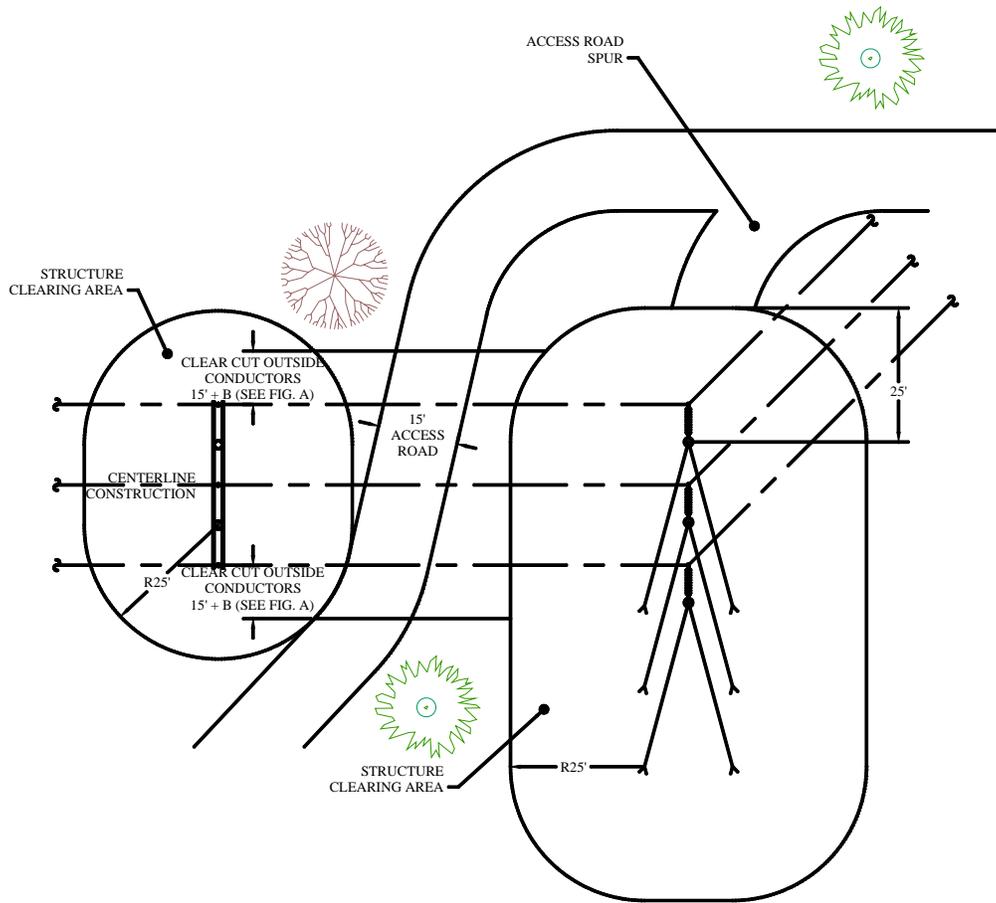
Line Voltage	A (ft.)
69 & 115 kV	6
230 & 345 kV	10



**Figure C**

**Clear Cut Area for New Construction**

Original	<b>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</b>			
02/27/04				
Approved				
DWF	NORTHEAST UTILITIES	DESIGN & APPLICATION STANDARD	TRM 81.021	7



Original	<b>Right-of-Way Vegetation Clearing Standard for 69-kV through 345-kV Transmission Lines</b>			
02/27/04				
Approved				
DWF	NORTHEAST UTILITIES	DESIGN & APPLICATION STANDARD	TRM 81.021	8

**APPENDIX D**

**SEDIMENT AND EROSION CONTROL PLAN**

## APPENDIX D

### SEDIMENT AND EROSION CONTROL PLAN

The objective of this Plan is to minimize the potential for erosion and sedimentation impact during construction and to effectively restore the work areas and other disturbed areas. This objective will be met by implementing the erosion and sediment control measures contained in this section. These erosion and sediment control measures will serve as minimum erosion sedimentation by:

- Minimizing the quantity and duration of soil exposure
- Protecting areas of critical concern during construction by redirecting and reducing the velocity of runoff
- Installing and maintaining erosion and sediment control measures during construction
- Establishing vegetation where required as soon as possible following final grading
- Inspecting the work areas and maintaining erosion and sediment control as necessary until final stabilization and inspection are achieved.

It is Connecticut Light and Power Company (CL&P) responsibility for ensuring that all contracts implement and maintain erosion and sediment control measures during construction. This plan includes erosion and sediment control techniques that apply to all areas of construction, expands on the impact minimization associated with clearing, grading, installation, and restoration phases and discusses the use of construction safety precautions.

#### 1.0 Standard Construction Methods

Construction of an aboveground electric transmission line consists of several distinct phases: clearing, grading, drilling of foundations, installation of new structures and restoration.

#### 1.1 CLEARING

All clearing activities will conform to the methods dictated in this section.

- Transmission line right-of-way boundaries will be clearly delineated in the field before commencement of clearing activities. The Environmental Inspector (EI) will ensure that no clearing occurs beyond these boundaries.
- Trees to be saved shall be clearly marked (flagging, snow fencing, etc.) before commencement of clearing operations. As part of the pre-construction planning and vegetation inventory, efforts have been, and will continue to be, made to identify unique or specimen trees that are located within or near the construction workspace. Landowners will be consulted concerning their desire to protect such trees. The specified trees will be flagged and, to the extent practical, attempts will be made to preserve the identified trees during the construction process.
- Stemmed vegetation such as brush, shrubs and trees shall be removed at or near the ground surface to allow the root system to remain intact.
- All existing fences and walls shall be maintained by the use of temporary fences section (gap). Prior to removal, the fence or wall will be properly braced and similar material used to construct the gap. At no time will an opening be left unattended. The gap will be replaced after cleanup with a permanent fence or wall of the same or similar material and condition.
- When pruning is necessary, it shall be conducted as follows:
  - a. Cuts shall be smooth
  - b. Branch collars shall not be cut (i.e., cuts should be made immediately in front of the branch collar)

- c. Large, heavy branches shall be precut on the underside to prevent splitting or peeling
- d. Climbing spurs shall not be used
- Trees shall be cut to grade within the non-paved work area
- Trees and limbs will not be permitted to fall into wetlands or watercourses, where possible.
- Construction activity with the potential for generating high-decibel noise levels will be restricted to the period between 7am and 7pm or in accordance with local regulations.
- Brush will be piled at the edge of the work area to provide additional runoff protection or additional wildlife habitat.
- All brush will be removed from wetland areas.
- Chips may be left on the workspace with EI approval if placement does not inhibit revegetation.
- Chips will not be left in wetlands or agricultural lands or stockpiled in such a location that they may be transported into wetland or agricultural lands.

## **1.2 GRADING**

When existing topography and/or terrain does not permit crews and equipment to operate safely and does not provide access or an effective work area, grading may be required. The following general construction methods will be employed by CL&P during grading.

### **1.2.1 Removal of Tree Stumps**

In upland areas, stumps can be removed across the entire width of the construction workspace; however, in wetlands, stumps will be removed only if they are in a structure foundation location. Stumps that create construction constraints or safety concerns may require removal from under a work pad or on a side slope. Stumps may be chipped in upland areas. Grindings will be removed from the wetlands to the maximum extent practicable.

### **1.2.2 Rock Disposal**

Excess rock, including drilled rock shall be used or disposed of by one or more of the following methods:

- Windrowed in uplands per landowner agreement and applicable permits, or removed if it exceeds that of surrounding terrain.
- Hauled to disturbed property per landowner agreement. As part of the agreement, the landowner will accept responsibility for the rock and not place it in a wetland area.
- Removed and disposed at an approved site that is traditionally used for rock debris disposal.
- Used to construct stone walls or fences, if approved by CL&P per landowner agreement.
- Used to improve designated construction access roads per appropriate approval.

### **1.2.3 Water Bars/Terraces (Slope breakers where necessary)**

- Water bars/terraces shall be installed diagonally across the work area when needed.
- A temporary channel will be excavated and a compacted berm created adjacent to the channel or ridge of compacted soil.
- The type of soil, degree of slope, runoff area and location of suitable outlets determines the number and shape of water bars required. The minimum guidelines for water bar spacing per the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control are:

<u>Percent (%) Slope</u>	<u>Spacing (feet)</u>
<b>1</b>	<b>400</b>
<b>2</b>	<b>245</b>
<b>5</b>	<b>125</b>
<b>10</b>	<b>78</b>
<b>15</b>	<b>58</b>

- The bar/terrace will be created in such a way as not to prohibit safe passage.
- Water bars/terraces will be maintained and repaired at the end of each day.
- Water bars/terraces will divert water to a well vegetated area. If a vegetated area is unavailable, erosion control barriers shall be installed at the limit of the construction workspace at the outlet of the water bar.
- Silt fence, straw bales or sandbags may be used in place of water bars/terraces per the EI.

#### **1.2.4 Temporary Erosion Control Barriers**

Straw bales and silt fences are interchangeable, except where noted below. Temporary erosion control barriers shall be installed prior to initial disturbance of soil and maintained as described below.

- At the outlet of a water bar when existing vegetation is not adequate to control erosion.
- Along banks of waterbodies between the workspace and waterbody after clearing.
- Downslope of any stock piled soil in the vicinity of waterbodies and vegetated wetlands.
- At sideslope and downslope boundaries of the construction area where runoff is not otherwise directed by a water bar/terrace.
- Maintain throughout construction and remain in place until permanent soil stabilization has been judged successful, at which time they will be removed (straw bales may be left in place).
- Between wetlands and adjacent disturbed upland areas and as necessary to prevent siltation of ponds, wetlands, or other waterbodies adjacent to /downslope of the work areas.
- At the edge of the construction workspace as needed to contain soil and sediment.
- To be inspected on a daily basis in areas of active construction or equipment operation, on a weekly basis in areas with no construction or equipment operation and within 24 hours of a storm event that is 0.5 inches or greater.

##### **1.2.4.1 Silt Fence Installation and Maintenance**

- All silt fences shall be installed as directed by manufacturer and applicable permit conditions.
- A sufficient supply of silt fence shall be stockpiled onsite for emergency use and maintenance.

##### **1.2.4.2 Straw Bale Installation and Maintenance**

Straw bales may be used in place of, or in addition to, silt fence. If straw bales are to be used it must be installed and maintained as described below.

- It shall be anchored in place with at least two 2-inch diameter stakes.
- Bindings on bales shall be horizontal, in compliance with 2002 CT Guidelines for soil Erosion and Sediment Control.
- Bales shall be replaced if damaged or allowing water flow underneath.
- Damaged bales shall be replaced with new bales as deemed necessary by the EI.
- A sufficient supply of bales shall be maintained onsite for emergency use.

- Bales bound with wire or plastic shall not be used.

### 1.3 DRILLING OF FOUNDATIONS

To prepare for the installation of the concrete foundations, holes must be drilled into the ground. Since many of the proposed foundation locations are located on rock, rock drilling is likely to be required. Excess rock shall be disposed of as described in Section 1.2.2 of this Plan. Excess soil generated by the preparation for the foundation will be disposed of by:

- Spreading in uplands or removed if it exceeds that of surrounding terrain.
- Hauled to disturbed property per landowner request. As part of the agreement, the landowner will accept responsibility for the spoil. It cannot be placed in a wetland area.
- Removed and disposed at an approved site that is traditionally used for soil disposal.
- Used to improve designated construction access roads per appropriate approval.

Temporary erosion control barriers must also be installed around spoil piles as described in Section 1.2.4 of this Plan. Spoil will be stored at least 10 feet from waterbodies, where possible.

Underground utilities shall be located and carefully exposed, by hand digging if necessary. Appropriate authorities, such as "Call Before You Dig", will be notified 72 hours in advance of conducting any drilling.

### 1.4 INSTALLATION

Transmission line structures will be transported and unloaded in the general vicinity of their location. The structures will not be stored in wetlands or other waterbodies. Once the foundation holes are drilled, the foundations will be constructed. The foundations consist of re-inforced concrete with an above-grade bolting system. Excavations may require dewatering as a result of storm water or groundwater. Dewatering shall be conducted as described below.

- The dewatering location shall be a fairly level upland that is well vegetated, as to allow for the water to drain to the ground. Water will not be discharged to a wetland or waterbody.
- The dewatering area shall consist of a 10 ft by 10 ft straw bale perimeter (size adjusted per water volume). Straw bales shall be installed and maintained per Section 1.2.4.2 of this Plan.
- The pump hose shall be connected to a filter bag that is placed within the straw bale barrier. The pump hose shall contain a diffuser nozzle or be installed to allow for a low discharge rate to prevent scouring.
- Additional straw bales can be used to increase detention and filtering.

Once the foundations are cured (approximately 7 to 28 days) the steel transmission line structures will be erected and bolted securely to the foundation.

After all the structures are erected, the electric cables will be strung via pulley system from designated pulling areas. These areas will not be located within 50 feet of the edge of a wetland or waterbody.

### 1.5 RESTORATION AND REVEGETATION

Restoration and revegetation of the work areas incorporates permanent erosion and sediment control measures. However, in the event that final restoration cannot occur in a timely manner

due to weather or soil conditions, temporary erosion and sediment control measures will be maintained until weather is suitable for final cleanup and revegetation. In no case shall final cleanup be delayed beyond the end of the next growing season.

### **1.5.1 Temporary Erosion Control**

- Stabilization measures shall be initiated as soon as practical on portions of the workspace where activities have temporary or permanently ceased except:
  - a. When the initiation of stabilization measures are precluded by weather. Stabilization measures shall be initiated as soon as machinery is able to obtain access to the work areas.
  - b. When activities will resume within 21 days, stabilization measures do not have to be initiated by the fourteenth day following the cessation of activities.
- If construction is completed more than 30 days before the perennial vegetation seeding season, wetland areas and adjacent to waterbodies shall be mulched with straw or equivalent for a minimum of 100 feet on either side of the waterbody.
- Temporary plantings will be fertilized in accordance with the recommendations of the local NRCS office or other soil conservation authority.
- Temporary sediment barriers will be removed when an area is successfully revegetated in compliance with applicable regulatory approvals.

### **1.5.2 Permanent Restoration Measures**

- Final grading around structure foundations shall be completed after installing foundation and pole structure, weather permitting.
- For wetland and/or stream impacted areas, re-contouring will be completed as soon as the foundation and pole structures are installed and temporary wetland stream access location structures such culverts, pipe flume, or matting have been removed. These erosion and sediment control structures shall be removed upon completion of that portion of the project and when they are no longer needed for construction purposes/access. Permanent structures within streams or wetlands may require federal, state, or local permitting.
- Construction debris shall be removed from the workspace, and the area shall be graded so that the soil is left in the proper condition for mulching, seeding or natural revegetation.
- Permanent water bars/terraces shall be constructed in association with final grading and prior to seeding.
- Permanent water bars will be constructed to replace temporary erosion control barriers at road and waterbody crossings.
- Permanent water bars/terraces will be constructed to the same specifications as temporary water bars.

### **1.5.3 Revegetation and Seeding**

- The workspace will be seeded within 7 working days of final grading, weather and soil conditions permitting and planted in accordance with recommended seeding dates.
- Where broadcast or hydro-seeding occurs the seedbed will be scarified to ensure sites for seed to lodge and germinate.
- The seedbed will be prepared to an average depth of 3-4 inches using appropriate equipment to provide a firm, smooth seedbed, free of debris.
- Slopes steeper than 3:1 shall be seeded immediately after final grading in accordance with recommended seeding dates, weather permitting.

- The seed shall be applied and covered uniformly in accordance with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control Guidelines. Broadcast or hydro-seeding can be used at double the recommended seeding rates. Where broadcast seeding is used, the seedbed shall be firmed after seeding.
- Areas seeded will be mulched with straw to prevent erosion.

#### **1.5.4 Mulching**

- After seeding, mulch will be applied at a rate of approximately 2 tons per acre on the disturbed areas, except wetlands, lawns, agriculture areas and areas where hydro-mulch is used.
- If construction or restoration activity is interrupted for extended periods (greater than 21 days), mulch will be applied.
- If mulching before seeding, mulch application will be increased on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre at a 4 inch depth.
- Mulch shall be anchored immediately after placement on steep slopes and stream banks.
- When mechanically anchoring mulch, mulch anchoring tool or tracked equipment will be used to crimp the mulch to a depth of 2-3 inches.
- When anchoring with liquid mulch binders, application rates will be as recommended by the manufacturer. Liquid mulch binders will not be used within 100 feet of wetlands or waterbodies.

#### **1.5.5 Matting/Netting**

- Matting or netting will be applied to sensitive areas (i.e., steep slopes, banks of waterbodies, bar ditches, etc.), in accordance with permit requirements.
- Matting or netting will be anchored with pegs or staples.

#### **1.5.6 Monitoring/Reporting**

- CL&P will conduct follow-up inspections after the first and second growing seasons after seeding to monitor the success of revegetation. In upland areas, revegetation will be considered successful if vegetation cover is sufficient to prevent erosion of soils disturbed in the workspace. Sufficient vegetation coverage is defined as a uniform 70%. If sufficient vegetative cover has not been achieved after two full growing seasons, additional restoration measures will be implemented. Erosion control devices shall be removed upon successful stabilization and revegetation of disturbed areas.
- CL&P will implement one or more of the following measures in cooperation with the landowner, if warranted or required, to control off-road vehicles:
  - Post and maintain, as necessary, appropriate signage
  - Installing a locking gate with fencing to prevent bypassing
  - In extremely sensitive areas, planting conifers or other appropriate shallow-rooted trees and shrubs in underground areas and overhead line areas across the workspace except where access is required for periodic inspection and maintenance use by CL&P. The spacing of trees and shrubs and length of workspace plantings shall comply with CL&P and national codes. This method will be used only when reflected on site specific plans or required by a regulatory agency
  - Installing a slash and timber barrier or boulders across the ROW.

## 2.0 Safety

- Temporary safety fences shall be erected at ROW crossings (e.g., residential areas, sensitive environmental areas, road crossings, etc.) where necessary.
- The length of time that the foundation pit/hole is left open shall be minimized through coordination by the construction inspector and the construction contractor.
- Soil tracked onto roads by construction equipment shall be minimized and will be cleaned in a manner consistent with all applicable permits. If stone access pads are used in residential or active agricultural areas, synthetic fabric will be used to facilitate removal.
- CL&P may employ flagmen and/or police detail for traffic control, temporary traffic detours and/or off-site parking facilities and busing for work crews.
- An electric utility surveyor/inspectors will be on-site at all times while construction activities occur near electric utilities.
- Overhead spotters will be on-site during construction activities.

## 3.0 Access Roads

- The contractor will not make any arrangements with landowners to use, change, or improve private access roads or property beyond those specified on the drawings or designated in the landowner agreement.
- Water bars will be necessary on steep slopes if the road will require grading or regrading as described in Section 1.2.3.
- If side ditches are required to provide drainage, they shall be excavated parallel to the road to carry runoff away from the road.
- Where an access road crosses an intermittent drain, culverts or pipe flumes will be installed as necessary to maintain existing drainage patterns, and clean stone/rock will be used to improve the surface of access roads for stabilization and/or rutting protection.
- If open water crossings are required, an equipment bridge will be used.
- Access roads will be restored to pre-construction condition unless specified otherwise by the landowner and approved by applicable permits.
- If subsoils are unstable, the use of timber mats may be required. These materials will be removed during clean up.
- Erosion control barriers will be installed, inspected and maintained as required at the edge of access roads where necessary to prevent siltation of ponds, wetlands of other adjacent/downslope waterbodies.

## 4.0 Inadvertent Disturbance Off Right-Of-Way

CL&P will restrict all activities to the permitted construction work areas. However, under extreme circumstances, such as while working on steep slopes in slippery conditions, and while grading on steep side hills, some inadvertent disturbance may occur outside of these areas. In the event that inadvertent disturbances occur, the following procedures will be implemented:

- The operator or foreman will immediately report the occurrence to a CL&P Inspector, who will notify the construction inspector and environmental inspector. The environmental inspector will then notify the appropriate CL&P personnel.
- The conditions that caused the disturbance will be evaluated, and the construction inspector and environmental inspector will determine whether work at the site can continue under those conditions.

- The nature of the disturbance will be evaluated and corrective actions taken as deemed necessary by the construction inspector and environmental inspector. Such measures may include immediate re-contouring and seeding of the disturbed site, and/or installation of erosion control devices to contain the disturbance.
- CL&P will notify the landowner and appropriate agencies of the disturbance

## 5.0 Waterbodies and Wetlands

### 5.1 WETLANDS

CL&P will protect and minimize potential adverse impacts to wetlands by:

- Expediting construction in and around wetlands and limiting the amount of equipment and mainline construction activities within wetlands to reduce disturbances of wetland soils
- Limiting grading to the amount necessary to provide a safe workspace
- Segregating disturbed topsoil from subsoil, as practical, depending on soil saturation at the time of construction
- Restoring wetlands to their original configurations and contours
- Permanently stabilizing upland areas near wetlands as soon as practical after transmission line structure installation
- Inspecting the ROW periodically during and after construction and repairing any erosion control or restoration features until permanent revegetation is successful

Additional workspace at wetland crossings will be minimized and located at least 50 feet from the edge of the wetland where topographic conditions permit. No refueling of construction vehicles will occur within 100 feet of any wetland resource area. The setbacks from watercourses and wetlands will be clearly marked in the field before the start of construction. Hazardous materials, chemicals, fuels or lubricating oils will not be stored nor will concrete coating activities be conducted within 100 feet of a wetland or waterbody boundary.

#### 5.1.1 Clearing

- Equipment will not be allowed to work in wetlands unless it will not damage the existing root systems and as approved by the EI. Bulldozers will not be used for clearing. Trees and brush will be cut at ground level by hydro axes, tree shears, grinders or chainsaws.
- Stumps will be left in place, except on the trench line or unless the removal is necessary to ensure worker safety. Stumps may be ground to a suitable height for safety reasons.

#### 5.1.2 Grading

- Grading will be limited to the immediate work area of the foundation location, except where topography requires additional grading for safety reasons. Where grading is required, topsoil will be segregated and returned as an even layer to all graded areas.
- Prior to grading along or within wetlands, temporary erosion control barriers shall be installed on the down slope side of the area to be graded.

#### 5.1.3 Drilling/Stock Piling

Since the drilled hole/pit will be filled with concrete to form the foundation, the spoil will be removed from the wetland by side-casting in adjacent uplands or by hauling it out of the wetland by vehicle, to be disposed of as described below.

- Spread in uplands or removed if it exceeds that of surrounding terrain.

- Hauled to disturbed property per landowner agreement. As part of the agreement, the landowner will accept responsibility for the spoil. It cannot be placed in a wetland area.
- Removed and disposed at an approved site that is traditionally used for soil disposal.
- Used to improve designated construction access roads per appropriate approval.

Spoil will be stored at least 100 feet from wetlands. Spoil placed up gradient of wetlands will be contained with sediment control.

Excess rock shall be disposed of as described in Section 1.2.2 of this Plan.

#### **5.1.4 Cleanup/Restoration**

- All construction debris shall be removed following foundation completion and transmission line structure erection.
- Once the structures are erected, CL&P will restore the original contours (within 6 inches) and flow regimes to the extent practical with the exceptions of unnatural features and unstable grades.
- The disturbed areas will be seeded with annual rye grass (40 pounds/acre, unless standing water is present) to stabilize the area until indigenous hydrophilic vegetation can become reestablished. If the wetland is within an active agricultural parcel, reseeded will be performed according to appropriate land management or state agency permits and/or landowner agreements.
- If weather limits the effectiveness of reseeded efforts, non-paved work areas may be mulched to minimize erosion until conditions are suitable for reseeded at the discretion of the EI and as allowed by all applicable permits.
- No fertilizer or lime shall be used in wetlands unless specified by the NRCS.

#### **5.1.5 Monitoring**

CL&P or its designated EI will monitor wetland revegetation efforts annually for a period of two years. Revegetation will be considered successful if at least 70% of the total cover is native species and the level of diversity of the native species present after construction is at least 50 % of the level originally found in the wetland. If the area is not showing signs of re-establishing native wetland vegetation during the first growing season following construction, CL&P will develop and implement (in consultation with a professional wetland scientist) a plan to revegetate the wetland with native wetland species.

### **5.2 WATERBODIES**

CL&P will ensure that construction across or within waterbodies is completed in the shortest amount of time possible to minimize the duration of potential adverse impacts.

#### **5.2.1 Additional Work Space Areas**

Cable pulling locations, additional temporary workspaces, or staging areas will be located 50 feet beyond the edge of an intermittent waterbody and 100 feet from perennial streams.

#### **5.2.2 Spoil Pile Placement/Control**

Spoil will be stored at least 50 feet from stream banks and waterbody crossings, where possible. Spoil placed up gradient of stream banks will be contained with sediment control.

### 5.2.3 Equipment Crossings

Measures will include the use of timber mats laid adjacent to and across streambeds, flume pipes covered by fill material (clean gravel or crushed stone) or portable bridges as approved by the EI. Flume pipes will conform to waterbody crossing dimensions and alignments. Stream channels will not be permanently straightened or realigned for any reason, unless a permit has been acquired to do so. The size and number of the flumes will be sufficient for maximum anticipated flows.

If fill for an equipment crossing includes log riprap or other erodable materials sandbags will be placed in the waterbody at the upstream and downstream ends of the crossing to stabilize and seal the flume pipes. To prevent erosion, sandbags will be placed high enough along both sides of the equipment crossing to contain the fill material (straw bales may also be used for this purpose).

### 5.2.4 Clearing/Grading

- The construction of the equipment crossing will use one of the following:
  - a. Timber mats with or without flumes
  - b. Clean rock fill and flumes
- Equipment bridges will be maintained to prevent soil from entering the waterbody.
- If more than one-week will pass between the time when the area is cleared and when the pipe is installed, the clearing crew may:
  - a. Leave a 10 foot vegetative strip on either side of the waterbody (excluding the equipment crossing). Trees greater than 4 inches in diameter may be removed from the vegetative strip at the time of initial clearing
  - b. Install sediment barriers at the top of the stream bank if no vegetation strip is left.

### 5.2.5 Drilling/Stock Piling

Procedures for drilling and stock piling shall be consistent with Section 5.1.3 of this Plan.

### 5.2.6 Cleanup/Restoration

- During restoration, flume pipes, sand bags and other materials will be removed and the stream will be restored to preconstruction contours or better.
- Stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing the crossing.
- Equipment crossing will be left in place if needed for access during seeding. They will be removed if 1) more than one month will pass between final cleanup/grading and the beginning of initial permanent seeding and 2) appropriate alternative access is available.
- Jute thatching or other erosion control material will be used to stabilize stream banks as necessary.
- Banks of waterbodies disturbed during construction shall be restored in accordance with the 2002 CT Guidelines for Soil Erosion and Sediment Control as well as applicable approvals from the Department of Environmental Protection and the U.S. Army Corps of Engineers. Trees and/or shrub species selected for use in restoration shall be native and provide habitat components for existing fisheries as well as resident migratory wildlife.

### 5.2.7 Temporary Erosion and Sediment Control

- Install sediment barriers immediately after initial disturbance of the waterbody or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary, until replacement by permanent erosion controls or restoration of adjacent upland areas are complete.

- Install sediment barriers across the entire construction access road or disturbed area at all waterbody crossings. Temporary interceptor dikes may be used in lieu of sediment barriers in front of equipment bridges or timber mats across the travel lane.
- Install sediment barriers as necessary along the edge of the access road or construction area to contain spoil and sediment within them where waterbodies are adjacent or parallel to the access road or construction area.

### 5.2.8 Restoration

- Return waterbody banks to preconstruction contours.
- Limit the placement of riprap to the slopes along the disturbed waterbody crossing.
- Install seeded erosion control fabric along waterbodies with flow conditions.
- Revegetate disturbed riparian areas with conservation grasses and legumes. In the event that final cleanup is deferred more than 20 days after the structure is installed, all slopes adjacent to waterbodies shall be mulched with 3 tons/acre of straw for a minimum of 100 feet on each side of the waterbody crossing.
- Remove all temporary sediment barriers when restoration of adjacent upland areas is successful as specified in Section 1.5.2 of this Plan.
- Install a permanent interceptor dike at the base of slopes near each waterbody crossed. Permanent interceptor dikes may not be installed in agricultural areas.

## 6.0 Stabilization of Disturbed Areas Over Winter

If portions of the Project are constructed in the late fall or early winter (due, for example, to timing restrictions), revegetation and permanent site stabilization immediately after the completion of construction will be impractical. In addition, inclement weather late in the construction season also could delay final restoration on transmission line segments.

When such circumstances delay final restoration and permanent site stabilization, temporary erosion control measures will be used to minimize the potential for erosion until clean-up and permanent revegetation can proceed. These measures may include the following:

- Maintain or install hay or straw bales as silt barriers in swales, at the base of slopes, adjacent to streams and wetlands at access road crossings, and in other areas subject to sedimentation from low velocity runoff.
- Use straw or hay mulch stabilized with a binder or equivalent on disturbed slopes greater than 5%.
- Temporarily seed critical areas (e.g., stream banks on access roads) with a fast-germinating grass such as winter rye.
- Conduct periodic inspections of the construction ROW over the winter and early spring to ensure that the temporary measures are maintained and are effective.

In the event of such inclement weather conditions late in the construction season, final ROW restoration will be deferred until the following spring or early summer, after the ground has thawed, and soil conditions are suitable.

**APPENDIX E**  
**PROTECTED SPECIES SUMMARY LETTER**



middletown | norwalk

August 18, 2005

Environmental & Geographic Information Center  
Natural Diversity Data Base  
Connecticut Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106

Attention: Dawn M. McKay

Subject: Middletown to Norwalk 345kV Transmission Line Project  
Rare, Threatened, and Endangered Species Consultation

Dear Ms. McKay:

Thank you for reviewing our project, for your comments, and for forwarding our request for review and comments to the appropriate DEP biologists for their input. Subsequently, we consulted with the DEP biologists and this letter summarizes the results of those consultations.

#### Plants

Two species of special concern (Mudwort [*Limosella subulata*], and Bayonet Grass [*Scirpus paludosus*]) were identified as occurring within the project vicinity. Further consultations with Kenneth Metzler (DEP NDDDB) indicated that these species occur hundreds of feet away from (and upstream of) the location of our crossing of the Saugatuck River, where we propose to use horizontal directional drilling to install the cable beneath the river bed. Mr. Metzler concurs that our project will have no affect on these species.

#### Amphibians

Two species of special concern (Wood Turtle [*Clemmys insculpta*], and Eastern Box Turtle [*Terrapene Carolina*]) are known to occur within the immediate vicinity of our right-of-way in several locations. We consulted with Julie Victoria (DEP Wildlife Division) about the potential to encounter these turtles, and what to do if that should happen.

Wood Turtle: this species is dormant from Nov. 1 to April 1, and because it hibernates within the banks of streams, will not be disturbed when construction occurs during these months. Environmental inspectors (including those working for the Companies, and the independent environmental monitor who will make periodic reports to the Siting Council) will be informed of the habitat areas of this species.

In instances where construction occurs between April 1 and November 1 within the Wood Turtle's habitat area, construction vehicles will be confined to existing right-of-way access roads except when approaching and working at pole locations. Access roads and construction work areas at pole locations will be "swept" prior to commencement of construction activities each

morning by the environmental inspectors. Construction personnel will be trained to look for turtles, and in the procedure to follow if one should occur within or near construction work areas and access roads.

In wetlands, construction mats will be placed over access ways and construction work areas to protect the wetland resources. The areas to be protected by construction mats will likewise be swept by the Companies' environmental inspector immediately prior to placement of the mats. Silt fencing can impact turtle travel, and it will not be used to limit construction zones, although it may be installed temporarily for erosion and sediment control where necessary.

Eastern Box Turtle: Like the Wood Turtle, this species is also dormant from November 1 to April 1. Eastern Box Turtles are often found on transmission line right-of-ways. The same measures used for protection of the Wood Turtle (above) will be used for the Eastern Box Turtle.

#### Birds

Four (4) species of birds were identified as occurring within or near the project.

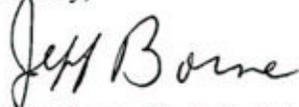
Jenny Dickson (DEP Wildlife Division) addressed the two species of shorebirds which have been observed at the Durham Meadows Wildlife Management Area, the Blue-wing teal (Anas discors) and King Rail (Rallus elegans). The nesting period for these species is between April 1 and July 31. Ms. Dickson indicated that if the Companies could prohibit construction during this period, no other measures would be needed to protect these species. The Companies do not plan to construct in the area of the Durham Meadows Wildlife Management Area during the nesting period.

Julie Victoria (DEP Wildlife Division) addressed the other two bird species: Red-shouldered Hawk (Buteo lineatus) and Peregrine Falcon. The Red-shouldered Hawk has been delisted, and is no longer a species of special concern. The Peregrine Falcon (Falco peregrinus) does not occur on the Companies' route alignment.

Please contact me if you have any comments on the Companies' proposed mitigation efforts.

Thank you all again for your time and consideration.

Sincerely,



Jeffrey Borne, Sr. Scientist

cc: Kenneth Metzler, Jennie Dickson, Julie Victoria (DEP)  
Donald D. Biondi, Susan Giansante, Anne Bartosewicz (NU)  
Katherine Shanley, John Prete (UI)  
Edward Beene (Burns & McDonnell)

**APPENDIX F**  
**D&M PLAN CHANGE APPROVAL PROCESS**

## APPENDIX F

### D&M PLAN CHANGE APPROVAL PROCESS

#### **Identification of Significant Changes:**

Once CL&P identifies a required change to the D&M Plan, it must determine whether it is a “significant change,” because such changes require advance Council approval. CL&P proposes the following criteria for identifying significant changes: a “significant change” is a change to the Project that significantly reduces the amount of protection to the environment or significantly increases potential public concerns. To be “significant”, the change must have a meaningful impact to the environment, public, or other permits.

For the underground portion of the Project, once CL&P identifies a potential change, it will consult with a Connecticut Department of Transportation (CDOT) representative to reach an agreement as to whether the change is “significant.” Any changes to existing CDOT facilities or affecting planned projects of CDOT will be considered “significant.”

#### **Procedure for Council Review of “Significant Changes” to D&M Plan:**

“Urgent” Case: If the change is “urgent” (i.e., if having to wait until the next regularly scheduled meeting of the Council to obtain approval of the change would have a material impact on construction cost or scheduling), then CL&P will contact Council staff to determine if the Council chairman will grant oral permission for the change so as to allow construction to continue in accordance with the proposed change. If oral permission is granted, CL&P will continue construction in accordance with the change and will file documentation regarding the change within 24 hours. If oral permission is denied, CL&P will file the proposed D&M Plan Change with the Council for review and will hold construction impacted by the change pending the Council’s determination.

“Non-Urgent” Case: If the change is not “urgent,” then CL&P will file the proposed D&M Plan Change with the Council for review at its next meeting and will delay the construction impacted by the change pending the Council’s determination.

#### **Procedure for Council Review of Other Types of Changes to the D&M Plan:**

For purposes of reviewing and processing changes to an approved D&M Plan that are not deemed to be “significant”, CL&P will categorize the change as one of the following:

*Non-significant change:* a change to the Project that may reduce the amount of protection to the environment or may increase potential public concerns, but only in a minor or trivial manner.

*Positive Change:* A change to the Project that increases the amount of protection to the environment or decreases public concerns, having no negative aspects in this regard (that is, positive impacts may not be considered to offset any negative impacts).

*Minor Change:* A change to a design aspect of a drawing, where the design has no bearing on the environment or potential public concerns.

For “non-significant” and “positive” changes, CL&P will inform Council staff of the change by phone (or telephone message) and will file appropriate documentation with the Council within 24 hours. There will be no “hold” on construction for such non-significant and positive changes.

For “minor changes”, there will be no formal notification process prior to proceeding with construction incorporating the change, and the reporting of such changes will occur biweekly, as described below.

**Biweekly Reporting of All Changes to D&M Plans**

CL&P will document all D&M Plan changes - significant, non-significant, positive, and minor – in an attachment to the environmental inspector’s biweekly report.

**Middletown-Norwalk Transmission Project  
D&M Plan Change Approval Process**

