

**PETITION TO THE  
CONNECTICUT SITING COUNCIL FOR DECLARATORY RULING  
OF NO SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT**

*for the*

**STRATFORD 115-kV TRANSMISSION LINE UPGRADES  
PROJECT**

**Town of Stratford, Fairfield County, Connecticut**

*Submitted By:*

**THE UNITED ILLUMINATING COMPANY**

**June 2, 2017**



# TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	2
A. PROJECT BACKGROUND .....	6
B. TECHNICAL DESCRIPTION OF THE PROJECT .....	7
B.1 EXISTING TRANSMISSION LINES .....	7
B.2 PROPOSED TRANSMISSION LINE UPGRADES .....	8
C. CONSTRUCTION .....	10
C.1 OVERVIEW OF CONSTRUCTION .....	10
C.2 CONSTRUCTION PROCEDURES .....	10
C.3 RIGHT-OF-WAY VEGETATION CLEARING .....	11
C.4 CONSTRUCTION SCHEDULE .....	11
D. ENVIRONMENTAL EFFECTS .....	12
D.1 AIR QUALITY AND NOISE .....	12
D.2 INLAND WETLANDS/WATERCOURSES AND FLOODPLAINS .....	12
D.3 VERNAL POOL AND AMPHIBIAN HABITAT BREEDING AREAS .....	14
D.5 VEGETATION .....	15
D.6 NATURAL DIVERSITY DATABASE AND SPECIES HABITAT REVIEW .....	15
D.7 SOIL MANAGEMENT .....	16
D.8 GROUNDWATER RESOURCES .....	16
D.9 VISUAL RESOURCES .....	17
D.10 CULTURAL RESOURCES REVIEW .....	17
D.11 CONFIGURATION OF STRUCTURES NEAR AN AIRPORT .....	17
D.12 FEDERAL, STATE, AND LOCAL LAND USE PLANS .....	18
D.13 ACCESS ROADS AND WORK PADS .....	18
E. ELECTRIC AND MAGNETIC FIELDS .....	19
F. MUNICIPAL AND COMMUNITY OUTREACH .....	23
G. CONCLUSION .....	23

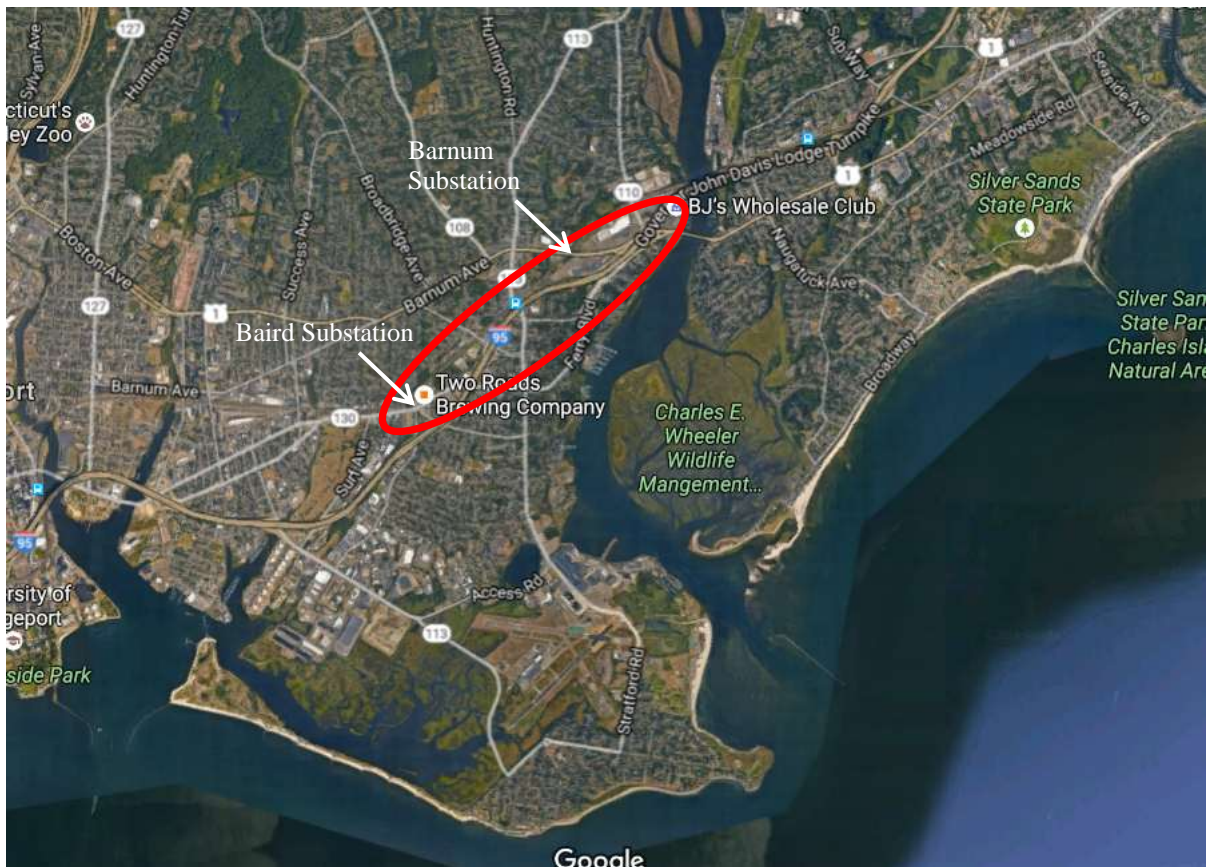
## **ATTACHMENTS**

- Attachment A – Key Map, Aerial Segment Maps and Descriptions
- Attachment B – Representative Photographs
- Attachment C – Wetland Delineation and Vernal Pool Identification Report
- Attachment D – Connecticut Department of Energy & Environmental Protection Natural Diversity Database
- Attachment E – Cultural Resources Review and Study
- Attachment F – Exponent EMF Study
- Attachment G – Correspondence from Town Official
- Attachment H – Notice Letters, Abutter List and Maps
- Attachment I – Soil and Groundwater Management Plan

## EXECUTIVE SUMMARY

The United Illuminating Company (“UI” or the “Company”) hereby petitions the Connecticut Siting Council (“Council”) for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required pursuant to Section 16-50g et seq. of the Connecticut General Statutes (“CGS”) for proposed upgrades to two existing 115-kilovolt (kV) transmission lines that connect UI’s Baird Substation and Barnum Substation, both located in the Town of Stratford, Fairfield County, Connecticut (“Petition”). The proposed upgrades, referred to as the Stratford 115-kV Transmission Line Upgrade Project (the “Project”) will entail the removal and relocation of 63 115-kV structures presently positioned on top of catenary structures located along the Metro-North Railroad (“MNR”) corridor, as well as relocation from four existing take off structures at Barnum substation; conductors also will be upgraded along the relocated lines. The Project area will extend for approximately 1.9 miles, from Baird Substation, past Barnum Substation, to just west of the Housatonic River, where the planned 115-kV line upgrades will connect to the 115-kV upgrades (new structures) that UI recently installed as part of its associated Housatonic River Crossing Project (Petition 1138) (refer to Figure 1). UI submits that no Certificate is required because the proposed transmission line upgrades would be within or directly adjacent to an established right-of-way (“ROW”) and would not have a substantial adverse environmental effect.

**Figure 1: General Project Location Map: Baird Substation to Housatonic River Crossing 115-kV Transmission Lines: Town of Stratford**



Source: Google (2017)

The need for the Project is documented in the Independent System Operator – New England’s (“ISO-NE’s”) *Southwest Connecticut Area Transmission Needs Assessment (July 13, 2011)*, which shows that under certain conditions, the reliability of the area transmission system is at risk. The risks include damaging overloads to 115-kV transmission lines that, in turn, expose the electric system and UI’s customers to unacceptable overloads. The proposed line upgrades will result in enhanced delivery of safe and reliable power to UI customers served by the local area substations.

The existing 115-kV lines are supported on Connecticut Department of Transportation (“ConnDOT”) catenary structures, operated by the MNR, are more than 100 years old and do not have the structural capability to support the upgraded 115-kV lines. The existing 115-kV lines are supported on steel columns (commonly referred to as “bonnets”) that are attached on top of the ConnDOT lattice catenary structures.

As a result, UI proposes to remove the 115-kV lines from both the north and south sides of the ConnDOT catenary structures and to rebuild the lines on new transmission structures, consisting of galvanized steel monopoles, and new 1590-kcmil Aluminum Conductor with Steel Support (“ACSS”). The Project will result in safer conditions for UI maintenance crews and will improve the reliability of the electric transmission system by replacing all of the original structures. A majority of the new structures will be located within ConnDOT’s existing ROW. The remaining structures will require the acquisition of permanent easements.

UI proposes to upgrade the 115-kV transmission lines as follows:

1. **North Side of ConnDOT Catenary Structures (North Section).** This section of the project extends from UI’s Baird Substation (structure B826N) east 1.9 miles, past Barnum Substation, to just west of the Housatonic River where it will connect to the 115-kV upgrades (structure 859N) that UI recently installed as part of the Housatonic River Crossing Project (Petition 1138). The existing overhead transmission line consists of a single circuit, with one conductor per phase, and is situated on the northern side of ConnDOT’s steel lattice catenary structures. The existing 31 115-kV steel bonnets that are attached to the top of the ConnDOT catenary structures and the associated conductors will be replaced by a single set of conductors in a vertical orientation supported by 31 115-kV tubular steel monopoles. One substation takeoff structure will be replaced with one tubular steel monopole. Four of the new monopoles will be located outside of the existing ROW and require permanent easements.
2. **South Side of MNR Catenary Structures (South Section).** This section of the project extends from UI’s Baird Substation (B828S) east 1.9 miles, past Barnum Substation, to just west of the Housatonic River where it will connect to the 115-kV upgrades (859AS) that UI recently installed as part of the Housatonic River Crossing Project (Petition 1138). The existing 32 115-kV steel bonnets that are attached to the top of the MNR catenary structures and the associated conductors will be replaced by 30 115-kV tubular steel monopoles. Three substation takeoff structures will be replaced by two tubular steel monopoles. Four of the new monopoles will be located outside of the existing ROW and will require permanent easements.

**Figure 2: Baird Substation to Housatonic River Crossing 115-kV Transmission Lines**



Source: Google (2017)

While the proposed Project will constitute “modifications” of a “facility”, the Project would result in no substantial adverse environmental impacts for the following reasons:

1. ConnDOT existing ROW will be used for most of the replacement structures. The rest will require acquisition of permanent easements.
2. The Project will have no permanent effects on wetlands and will result in minor temporary and secondary impacts. (Attachment A).
3. Tree clearing along the ROW will cause minimal disturbance. (Attachment A).
4. No federal or state-listed threatened, endangered, or species of concern will be impacted as a result of the proposed Project. (Attachment D).
5. Although the Project will result in an increase in the height of the transmission line structures (compared to the height of the lines presently supported on the catenary structures), the visual character of the area has long been influenced by the MNR catenary

structures and the railroad corridor and other industrial uses and transportation developments (e.g., Interstate 95). As a result, the use of the taller galvanized steel monopoles to support the upgraded 115-kV lines would not appreciably alter the overall visual environment in the Project vicinity.

6. EMF levels will increase but remain well below international safety guidelines. (Attachment F).

## **A. PROJECT BACKGROUND**

UI proposes the Stratford 115-kV Transmission Line Upgrade Project, which will involve the relocation and upgrade of portions of two 115-kilovolt transmission lines presently supported on catenary structures along the MNR. The line relocation and upgrade work will be located along the MNR railroad corridor in the southeastern portion of Town of Stratford, Fairfield County and will extend from UI's Baird Substation, past the Barnum Substation, to a point approximately 0.08 miles west of the Housatonic River, where the proposed Project facilities will connect to portions of the 115-kV lines that UI recently upgraded as part of another project (Petition No. 1138). Figure 2 illustrates the Project location.

The proposed Project will fulfill UI's obligation to provide reliable service to its customers and to meet the reliability standards mandated by national and regional authorities responsible for the reliability of the transmission system, i.e., the North American Electric Reliability Corporation ("NERC"), the Northeast Power Coordinating Council ("NPCC") and ISO-NE.

Transmission Planning – National and Regional Reliability Standards. In 2006, the Federal Energy Regulatory Commission ("FERC") designated NERC as the nation's Electric Reliability Organization ("ERO"). FERC approved mandatory reliability standards developed by NERC in 2007. These mandatory reliability standards apply to UI as a transmission owner ("TO") and as a transmission planner ("TP") of the bulk power system, as designated by NERC through its compliance registry procedures. In addition to satisfying NERC reliability standards, UI must also satisfy NPCC and ISO-NE reliability standards. Both monetary and non-monetary penalties may be imposed for violations of the NERC, NPCC, and ISO-NE Reliability Standards.

Transmission Planning Process. ISO-NE, as the registered NERC reliability authority, along with UI and the Connecticut Light and Power Company doing business as Eversource Energy ("Eversource"), as the TOs in Connecticut, must comply with NERC and NPCC planning standards by performing reliability assessment studies of the transmission system. UI, along with ISO-NE and Eversource, completed a long-term reliability *Needs Assessment* of the Southwest Connecticut ("SWCT") area. This assessment's objective was to evaluate the reliability performance of SWCT in meeting NERC, NPCC, ISO-NE, Eversource, and UI standards and criteria. The study, which was conducted in accordance with the regional planning process as outlined in the ISO-NE Open Access Transmission Tariff ("OATT"), identified reliability transmission needs in the greater New Haven, greater Bridgeport, and Naugatuck Valley areas of UI's service territory related to capacity limitations,

unacceptable voltage performance, and high short circuit current levels. Additional details of specific reliability concerns/needs were initially provided in the *Southwest Connecticut Area Needs Assessment* report, dated July 13, 2011, which is posted on the ISO-NE website<sup>1</sup>.

Stratford 115-kV Transmission Line Upgrade Project Need. The *Southwest Connecticut Area Needs Assessment* shows that under certain conditions, the reliability of the area transmission system will be at risk. The risks include damaging overloads to 115-kV transmission lines which, in turn, expose the electric system and our customers to unacceptable reliability risks.

Due to the physical limitations of the structural support system for the 115-kV lines on the ConnDOT catenaries, new transmission structures (galvanized steel monopoles) and new 1590-kcmil ACSS conductors are recommended along this 1.9-mile transmission line corridor.

## **B. TECHNICAL DESCRIPTION OF THE PROJECT**

### **B.1 EXISTING TRANSMISSION LINES**

The two existing overhead 115-kV transmission lines in the Project area connect the Baird Substation and Barnum Substation, both located in the Town of Stratford. The lines extend east, crossing the Housatonic River into the City of Milford. These 115-kV lines are currently supported on bonnets that are attached on top of the ConnDOT lattice catenary structures. Originally built in the early 1900s, some of the ConnDOT catenary structures are over 100 years old. UI first installed 69kV transmission facilities on the catenary structures in the 1940s, upgraded to 115kV in the 1960's and reconducted the lines in the 1980's – also changing out the insulator assemblies to the vee type seen today.

The existing ConnDOT ROW, is generally 110 feet wide, but can vary significantly depending on location. An overhead transmission line is on the northern side of the ConnDOT catenary system and a second overhead transmission line is on the southern side. Single 1272-kcmil conductors plus a 4/0 copper shield wire are used for both circuits. The majority of the existing catenary structures have a typical height of 57 feet (ranging between 55 feet and 87 feet). Figure B-1 provides a cross-section of the existing and proposed configuration of the two transmission lines along the ROW.

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<sup>1</sup>[https://smd.iso-ne.com/committees/comm\\_wkgrps/prtcpnts\\_comm/pac/ceii/reports/2011/final\\_swct\\_needs\\_report.pdf](https://smd.iso-ne.com/committees/comm_wkgrps/prtcpnts_comm/pac/ceii/reports/2011/final_swct_needs_report.pdf)



## **B.2 PROPOSED TRANSMISSION LINE UPGRADES**

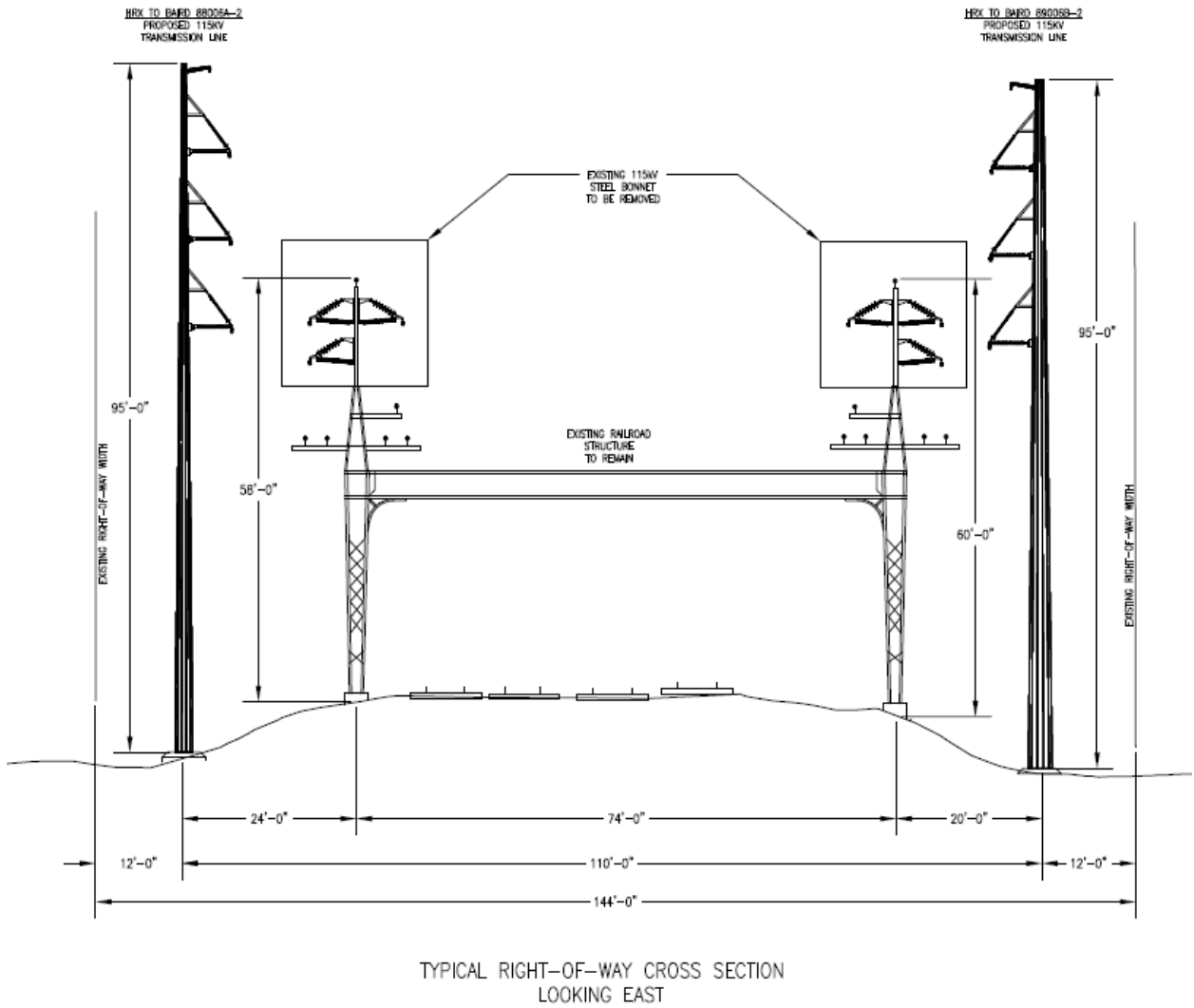
Due to the need to increase the size of conductor, as described in the Project Background section, and the physical limitations of the existing structures, UI plans to remove the existing bonnets, conductors, and hardware for both of the 115-kV lines from the ConnDOT catenary structures (refer to Figure B-1). Both 115-kV lines will be rebuilt and upgraded, using 1590-kcmil ACSS conductors, on new galvanized tubular steel monopoles, which will be located on either side of the ConnDOT facilities. The details of the proposed Project are summarized below. The Project key map, aerial segment maps and descriptions are included in Attachment A.

- **Northern Overhead Transmission Line.** The northern overhead transmission line occupies the northern side of the ROW, and will be offset from the existing structure centerline by 15 to 30 feet. The majority of the new structures will have a typical height of 90 feet (ranging from 85 to 110 feet).
- **Southern Overhead Transmission Line.** The southern overhead transmission line occupies the southern side of the ROW, and will be offset from the existing structure centerline by 15 to 30 feet. The majority of the new structures will have a typical height of 95 feet (ranging from 85 to 135 feet).

The existing transmission lines that supply Baird and Barnum substations will be utilized during construction to prevent substation outages. During Project construction, these two substations will remain in service even though the transmission lines will be de-energized for a portion of the work. Specifically, these transmission lines will be de-energized during the cutover, when the new conductor is installed going into both stations. The cutover will occur one line at a time. After the new conductor is energized, construction on the other circuit will begin. Accordingly, continuity of service to UI's customers will be maintained during Project construction to the extent possible. If an outage is necessary, the impacted customers will be notified in advance of the outage.

Following removal from the catenary structures, the bonnets, conductors, and hardware from both lines will be managed in accordance with the Connecticut requirements for solid waste and UI's best management practices.

**Figure B-1: Cross-Section – Existing and Proposed Conditions**



Source: The United Illuminating Company (2017)

## **C. CONSTRUCTION**

### **C.1 OVERVIEW OF CONSTRUCTION**

UI will construct the Project in several stages, some overlapping in time. Certain work activities and sequences may vary, based on factors such as site-specific conditions, the final Project design, the availability of circuit outages, and the requirements of regulatory approvals. UI will complete pre-construction planning activities and will continue to consult with the Town of Stratford, as well as with representatives of state and federal agencies, as appropriate, to avoid adverse effects to the environment and to the public.

### **C.2 CONSTRUCTION PROCEDURES**

The Project will be constructed in accordance with UI specifications, established industry practices, along with common industry best management practices when operating in sensitive regulated areas such as wetlands and watercourses, and any conditions of the decision issued by the Council and permits from other regulatory agencies.

Pre-construction activities will typically include the following primary activities:

- Survey and stake the monumented line of corridor, ROW boundaries, and future structure locations; and
- Confirm and re-flag resource area boundaries and any sensitive environmental resource areas that are to be avoided.

Construction activities will include the following:

- Establish field construction areas and prepare staging and lay-down areas;
- Prepare the ConnDOT ROW (including the installation of erosion and sediment (“E&S”) controls, removal of vegetation as needed, and access road improvement/installation);
- Prepare work areas (pads) at structure sites;
- Excavate and install foundations, erect new structures, and, if necessary, install guy lines and anchors;
- Install conductors and wires;
- Remove existing bonnets and associated conductors and wires from the catenary structures; and
- Perform restoration as needed within the areas that were impacted during construction.

Construction equipment such as pickup trucks, bucket trucks, front loaders, reel trailers, bulldozers, wood chippers, cranes, forklifts, side booms and dump trucks are anticipated to be involved in the Project overhead transmission line work.

### **C.3 RIGHT-OF-WAY VEGETATION CLEARING**

Vegetation to be removed is depicted on the plan drawings (over 6" dbh) in Attachment A.

UI obtained rights for transmission lines, including the right to clear vegetation within the full-defined limits of the ConnDOT ROW, and, to the extent that rights exist, to remove any tree or portion of tree outside the ROW ("danger tree") that by falling could endanger the transmission facilities. Such removal will provide for the safe and reliable operation and maintenance. ROW expansion is needed for the Project; however, for any additional clearing necessary on private property, UI will obtain the owner's approval.

For Project construction, vegetation clearing will be performed to:

- Clear overgrowth from the locations for the new structures and to provide unobstructed access to structure locations;
- Provide access between existing access roads and new structure locations, either on or off-ROW; and
- Maintain required NERC clearances.

UI will minimize vegetation clearing activities to the extent possible and will stabilize any areas disturbed by vegetation clearing as soon as practical after primary construction activities in a particular location are completed. It is anticipated that a total of 8.43 acres of vegetation will need to be cleared to safely construct and install all foundations and structures.

### **C.4 CONSTRUCTION SCHEDULE**

If the Project is approved, the planned in-service date for the Project is December 31, 2019. Construction activities are planned to commence the third quarter of 2018, starting with access road preparation and ROW vegetation clearing.

## **D. ENVIRONMENTAL EFFECTS**

The proposed Project will not result in any substantial adverse environmental impacts. Most impacts will be limited to the construction phase and thus will be temporary and highly localized to the vicinity of work sites, that are along or adjacent to the MNR corridor. All work will be performed in accordance with siting and regulatory approvals. To further minimize the potential for environmental impacts, UI will require its construction contractor to implement mitigation measures, such as the implementation of E&S controls as outlined in UI's Stormwater Pollution Control Plan ("SWPCP") and use of construction best management practices.

### **D.1 AIR QUALITY AND NOISE**

The air quality effects during the project will be minor and temporary. The effects will be a result of fugitive dust from vehicle traffic, construction activities and exhaust from vehicles. UI will maintain a high level of compliance through its best management practices ("BMPs") for construction activities. One of these best management practices is the technique of dust suppression. Should conditions arise where the active erosion and sediment controls are not effectively mitigating dust, UI will apply water or "Top Seal" as a means of suppression.

UI will comply with the Town of Stratford's Noise Ordinance. UI will abide by the document titled "Town of Stratford Noise Control Ordinance (date approved: July 28, 1981)." Any noise generated will be directly from construction activities. No permanent noise increase will result upon completion of the Project.

### **D.2 INLAND WETLANDS/WATERCOURSES AND FLOODPLAINS**

From June 28-30, 2016, BL Companies and UI performed a wetlands, watercourse and potential vernal pool survey for the presence of inland and tidal wetlands, watercourses, and floodplains/ways within the ConnDOT ROW. *See* Attachment C.

The following methods were used to determine the presence of inland/tidal wetlands, vernal pools, waterways and floodplains/ways:

- United State Department of Agriculture ("USDA") Soil Survey Manual (1993);
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeastern Region (Version 2.0, January 2012); and
- Connecticut Department of Energy and Environmental Protection ("CT DEEP") Inland Wetlands and Watercourse Act (CGS §§ 22a-36 through 45)

Additionally, the United States Army Corps of Engineers (“ACOE”) *Highway Methodology Workbook* was utilized to better understand the functionality of each wetland. The following 13 specific functions were used to assess each of the wetlands within the Project area:

- a) Groundwater Recharge/Discharge,
- b) Floodflow Alteration
- c) Fish/Shellfish Habitat
- d) Sediment/Toxicant Retention,
- e) Nutrient Removal/Retention/Transformation,
- f) Production Export,
- g) Sediment/Shoreline Stabilization,
- h) Wildlife Habitat,
- i) Recreation,
- j) Education/Scientific Value,
- k) Uniqueness/Heritage,
- l) Visual Quality/Aesthetics, and
- m) Endangered Species.

During the delineation, six inland wetlands, two watercourses and two intermittent streams were identified within the Project footprint/ROW<sup>2</sup>. Based on the proposed Project’s construction footprint, as presently designed, approximately 7,400 square feet of wetlands would be temporarily impacted (refer to Table 1) as a result of the placement of construction mats (i.e., swamp mats) for the safe construction of work pads and/or access roads. Along with the 7,400 square feet of temporary impacts to wetlands from work pads and access roads UI also anticipates to cut approximately 20,150 square feet of wetlands type vegetation. All cutting of wetlands type vegetation will be cut to grade. In order to minimize impacts to wetlands type vegetation no grubbing will be performed in these areas. *See* Attachment A. Based on the current design UI does not anticipate having any permanent impacts to wetlands, watercourses, or vernal pools during the Project. During the build-out of work pads and access roads, UI intends to install the following preventative measures such as silt fence, hay-bales, diversionary swales, water bars, erosion blankets and the potential use of track vehicles to manage any nuisance sediment from migrating into resource areas. Based on the total square footage of

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<sup>2</sup> Palustrine emergent persistent seasonally flooded/saturated wetland; palustrine emergent wetland; palustrine unconsolidated bottom permanently flooded wetland; estuarine subtidal unconsolidated bottom watercourse riverine; lower perennial unconsolidated bottom river; and an estuarine subtidal unconsolidated bottom river.

wetland and watercourse impacts UI will be applying for the ACOE’s Self-Verification Form under Connecticut’s Programmatic General Permit (August 2016).

**Table 1 – Estimated Project Impact to Resource Areas**

Project Activity	Potential Impacts (Est. Square Feet)		
	Temporary Impact	Permanent Impact	Vegetation Clearing
Construction Pads and Access Roads	7,400	0	20,150
Structures	0	0	0

**D.3 VERNAL POOL AND AMPHIBIAN HABITAT BREEDING AREAS**

Between June 28-30, 2016, BL Companies and UI assessed the Project footprint for the presence of vernal pools and amphibian habitat breeding areas. Due to the migration of amphibians occurring earlier than usual in 2016, the certification of vernal pools was not able to be accomplished during the survey dates listed above. However, two potential vernal pools were identified within the Project footprint. To confirm if these potential vernal pools qualify as a special wetlands as defined by the ACOE, BL Companies and UI revisited these two locations within Project area(s) in April of 2017 to confirm their jurisdictional determination and observed there to be no vernal pools within the vernal pool investigation area. UI will provide clarification on the regulatory determination of these areas within the Development and Management Plan. *See Attachment C.*

**D.4 STORMWATER MANAGEMENT AND SOIL EROSION AND SEDIMENT CONTROL**

UI will register the Project under CT DEEP’s *General Permit for the Discharge of Stormwater and Remediation Wastewaters from Construction Activities* (DEEP-WPED-GP-015), and will submit a SWPCP outlining UI’s approach for managing erosion and sedimentation during construction. The SWPCP will cover everything from vegetation clearing, grading of access roads, work pad development and restoration activities. During these activities, UI will ensure the implementation of the outlined soil erosion and sediment controls identified within the SWPCP are being installed and maintained properly through weekly and when necessary rain-event inspections. UI also will comply with the CT DEEP document, “2002 Connecticut Guidelines for Soil Erosion and Sediment Control.” Some of the control measures and preventive maintenance techniques that are anticipated to be used during the Project are as follows:

**Control Measures:** Installation of silt fence, hay/straw bales, silt blankets, check dams, water bars, drainage swales, etc.

**Techniques:**

- Minimize width of roadways and work pad/construction areas,
- Use track equipment in sensitive or resource areas,
- Use heavy equipment to compact soils in large areas,
- Use designated vehicle access points to work areas.

All sediment and erosion controls will be maintained and monitored throughout the duration of the Project per the conditions outlined in both the CT DEEP Stormwater General Permit and UI's SWPCP. Once UI completes the civil and electrical phases of the Project, an inspection of all construction sites will take place in order to identify the areas where stabilization techniques and restoration activities will need to be performed. Restoration will be achieved by restoring the disturbed area(s) with seed, mulch, reinstallation of silt fence, and diversionary swales. Inspections of the area(s) where restoration has been performed will take place once per month for a period of three months or until stabilization is achieved.

**D.5 VEGETATION**

Based on the historic and current use of the ConnDOT ROW and a review of UI's Project area, there will be no unnecessary negative impacts to vegetation. Presently, both ConnDOT/MNR and UI maintain the ROW, by applying their "Line Clearance & Vegetation Management Specification." Any large growing trees invasive to the clearance requirements on the ROW are also maintained by removing or trimming them to meet federal and state standards.

**D.6 NATURAL DIVERSITY DATABASE AND SPECIES HABITAT REVIEW**

On July 19, 2016, UI submitted a National Diversity Database ("NDDB") request to the CT DEEP Wildlife Division. On July 27, 2016, CT DEEP responded saying, "CT DEEP does not anticipate any negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB." See Attachment D.

In addition to submitting a Project Review Form to the CT DEEP Wildlife Division, UI also screened its project through USFW - IPaC Trust Resources Report. Based on the report findings which can be



found in Appendix C of Attachment C UI intends to provide both training to its workforce on potential migration of species into the work areas and measures to protect the potential habitats that may be encountered..

#### **D.7 SOIL MANAGEMENT**

From November 2, 2016 through December 21, 2016, UI and its consultant, Fuss & O’Neil, performed soil pre-characterization for the Project. The objective of the pre-characterization was a means to provide data for determining how to manage spoils from Project construction. Based on the proposed engineered design multiple locations were sampled along the MNR ROW and analyzed for hazardous/non-hazardous determination and waste profiling purposes. Based on the results of the 2016 soil sampling and characterization, all excavated material from Project construction will be managed in accordance with the Connecticut Guidelines for solid waste management. The majority of material generated from access road, work pad and drilling activities will be live loaded and removed from the MNR ROW and sent for disposal. Any material (spoil) that must be stored at work sites will be stockpiled within a hay-bale corral and covered by poly/plastic until removed from the site and transported to a permitted facility. The management of all spoils will be described in further under the cover of UI’s Soil and Groundwater Management Plan. *See Attachment I.*

In addition to the results of the pre-characterization event identifying non-Hazardous Connecticut Regulated material, UI will also need to manage a co-mingled waste stream of asbestos, polychlorinated biphenyls (“PCB”) and hazardous concentrations of lead. Based on research conducted by UI and in conversation with the Environmental Protection Agency (“EPA”) and CT DEEP this co-mingled waste stream of asbestos, PCBs and lead represent an exact fingerprint of the Raybestos waste stream deposited around this area of Stratford. Therefore, based on the concentrations of asbestos, PCBs and lead UI will need to obtain an EPA ID number for the management, transportation and disposal of this material. UI will also conduct a remedial effort within this area to comply with the Toxic Substance Control Act 40 CFR 761.61 and RCRA clean-up methodologies.

#### **D.8 GROUNDWATER RESOURCES**

From November 2, 2016 through December 21, 2016, UI and Fuss & O’Neil retrieved groundwater samples from multiple temporary monitoring wells installed on both the north and south sides of the ROW in Stratford. The samples were subsequently analyzed for comparison to the appropriate CT DEEP General Permit criterion for groundwater management. Based on the results of the

groundwater samples and proposed depths of the foundations required for the construction of the towers, UI will manage the Project wastewater/groundwater in accordance with CT DEEP's management for contaminated media. UI also intends to work with the Stratford Water Pollution Control Authority ("WPCA") for the discharge of this water.

#### **D.9 VISUAL RESOURCES**

UI performed a visual impact study of the proposed Project area and concluded the view shed in the vicinity of the Project will not change significantly. The structure heights along the rail will increase but will result in no significant impact to the visual characteristics of the surrounding area. *See* Attachment B.

#### **D.10 CULTURAL RESOURCES REVIEW**

In August of 2016, UI retained Heritage Consultants LLC ("Heritage") to perform a *Cultural Resource Review and Study* of the proposed Project area. This analysis consisted of the following:

1. Gathering data regarding the identification of cultural resources situated within the vicinity of the Area of Potential Impact.
2. Investigating the proposed Project area for natural and historical characteristics.
3. Identifying culturally sensitive resources.

In addition to the Cultural Resource Review a "Project Review Form" was submitted to the Connecticut State Historic Preservation Office ("CT SHPO"). To date, UI has not received a letter from the CT SHPO office stating whether or not the Project will have no adverse effects on historic properties. *See* Attachment E. The Company will immediately notify the Council of any further developments with regard to the SHPO's review of the Project.

#### **D.11 CONFIGURATION OF STRUCTURES NEAR AN AIRPORT**

The closest airport to the Project is Sikorsky Memorial Airport, located approximately 1.8 miles to the southwest, owned by the City of Bridgeport. The new structures will not be in the airplanes' glide path. In addition, since the proposed structures are below 200 feet in height, no Federal Aviation Administration ("FAA") mandated navigational strobe lights or any special painting of the proposed structures will be required. The Project is not anticipated to result in any health and safety risks to airport patrons or property.

#### **D.12 FEDERAL, STATE, AND LOCAL LAND USE PLANS**

The ConnDOT /UI existing ROW has been upheld as both a conduit for public transportation and electrical infrastructure for the past century. However, based on the need for UI to develop a more functional and secure transmission system, the existing structures and lines are to be moved into a new ROW abutting the existing corridor. Therefore, the Project's land use within the ROW is consistent with local, state and federal initiatives.

#### **D.13 ACCESS ROADS AND WORK PADS**

During the Project, UI will need to build both access roads and work pads in order to permit safe passage and implement work practices. Through the construction of the access roads and work pads UI intends to trim and remove vegetation, install E&S controls, flatten un-level ground and excavate areas where and when necessary. To minimize the footprint of construction UI anticipates access roads to be no greater than 16 feet in width. In the event where UI has to make a temporary access road through wetlands or a regulated area these roads will not exceed 12 feet in width unless of certain safety concerns such as the turning radius on large construction equipment (i.e., cranes, drill rigs, etc.). Work pad sizes will range from 900 square feet up to 9,500 square feet. Work pads range in size due to certain types of equipment needed and obstructions and or grading challenges.

UI has designed the Project so that there are only temporary impacts to regulated areas such as wetland and watercourses. As outlined in Section C.2. - Table 1, UI anticipates a total of 7,400 square feet of temporary wetland/resource area impact. Due to certain clearance requirements, there will be vegetation clearing around resources areas such as wetlands, brooks, streams and riparian areas. UI anticipates that 20,150 square feet of wetland vegetation will need to be cleared in order to safely perform construction. During the clearing of vegetation in wetlands and watercourses UI will not perform any type of grubbing or fully remove the wetland type vegetation in order to minimize any secondary impacts to these resource areas.

At the close of the civil and electrical phases of the Project, all areas that were impacted due to construction of access roads and work pads will be restored. Restoration includes, but is not limited to, seeding (upland and/or wetland), mulching and the stabilization of soils. Throughout the duration of the Project, UI will perform weekly and, when necessary, more frequent inspections of all access roads, work pads, sediment and erosion controls and restoration to ensure these functions are performing accordingly.

## **E. ELECTRIC AND MAGNETIC FIELDS**

UI retained Exponent to model the EMF levels associated with the rebuild of the northern and southern transmission lines along the MNR ROW. Based on Exponent's analysis, the EMF levels will increase as a result of the Project, but will remain well below international safety guidelines. Exponent's EMF report is included in Attachment F. The following summarizes the key results of the EMF study.

Exponent modeled the EMF with existing and proposed configurations in the following five ROW sections:

- **Section HRXB-1** represents the existing and proposed configurations of the 115-kV lines between Structures 826 and 828, north of the Two Roads Brewery on Stratford Avenue (State Route 130) and east of the Baird Substation in Stratford, Connecticut. The north line will be rebuilt on a steel monopole approximately 21 feet north of the existing centerline with 12-foot vertical conductor spacing. In Section HRXB-1, the south line has previously been rebuilt on a delta monopole south of MNR catenary support structure (to remain). The width of the ROW in section HRXB-1 is 120 feet.
- **Section HRXB-2** includes the spans of the 115-kV lines between Structures 828 to 840, where the ROW is 118 feet wide. The north line will be rebuilt approximately 30 feet north of its existing centerline, and the south circuit will be moved approximately 6.5 feet south of its existing centerline. The rebuilt circuits are each supported by single-circuit monopoles with 12-foot vertical conductor spacing.
- **Section HRXB-3** includes the span around the Stratford MNR Station, between Structures 840 and 841. In the existing configuration, the north and south circuits are supported in a delta configuration on separate "bonnet" structures having 12-foot conductor separation. This same delta configuration will persist in the proposed configuration, with the conductors of the south circuit repositioned to the south by approximately 14 feet and raised by approximately 7 feet. The ROW width in section HRXB-3 is 274 feet.
- **Section HRXB-4** includes one ROW configuration with two distinct loadings:
  1. A first set of loadings between Structure 841 and 846 (in spans southwest of the Barnum Substation interconnection); and
  2. A second set of loadings between Structure 847 and 853 (northeast of the Barnum Substation interconnection).

In Section HRXB-4, the north circuit will be rebuilt on a vertical steel monopole approximately 16.5 feet north of its existing centerline, and the south circuit will be rebuilt on a vertical steel monopole within approximately 14 feet south of its existing centerline. In the rebuilt configuration, both circuits have 12-foot vertical spacing. The ROW width in section HRXB-4 is 191 feet.

- **Section HRXB-5** includes the remaining spans east of structure 853 to the Housatonic River crossing, where the existing ROW has width of 127 feet. The north circuit will be rebuilt outside of the existing ROW on a vertical steel monopole approximately 38 feet north of its existing centerline. The south circuit will also be rebuilt outside of the existing ROW, on a vertical steel monopole approximately 10 feet south of its existing centerline. In the rebuilt configuration, both circuits will have 12-foot vertical conductor spacing.

Table 2 summarizes the calculated electric-field levels on the ROW and ROW edges. Table 3 summarizes the calculated magnetic-field levels on the ROW and ROW edges for average-load conditions, and Table 4 includes the calculated magnetic-field levels at the same reporting locations for peak-load conditions.

In conclusion, the calculated EMF levels associated with the Project are far below the international safety-and-health-based standards for EMF. Further, as the engineering design, and other activities initiated by UI demonstrate compliance with the Connecticut Siting Council’s EMF Best Management Practices, the relatively minor increase in EMF levels does not constitute an adverse environmental effect. See Attachment F for the full EMF report.

**Table 2: Calculated electric-field levels**

Section	Configuration	Electric Field (kV/m)				
		100 feet north of -ROW edge	North edge of ROW	Max on profile	South edge of ROW	100 feet south of +ROW edge
HRXB-1	Existing	0.01	0.45	0.61	0.60	0.04
	Proposed	0.03	0.70	0.72	0.55	0.04
HRXB-2	Existing	0.01	0.39	0.60	0.43	0.02
	Proposed	0.02	0.62	0.69	0.64	0.03
HRXB-3	Existing	0.01	0.07	0.63	0.07	0.01
	Proposed	0.01	0.06	0.49	0.12	0.01
HRXB-4	Existing	0.01	0.44	0.65	0.03	<0.01
	Proposed	0.03	0.64	0.89	0.03	0.03
HRXB-5	Existing	0.01	0.47	0.56	0.33	0.03
	Proposed	0.02	0.55	0.71	0.57	0.02

**Table 3** Calculated magnetic-field levels, average load case

Section	Configuration	Magnetic Field (mG)				
		100 feet north of -ROW edge	North edge of ROW	Max on profile	South edge of ROW	100 feet south of +ROW edge
HRXB-1	Existing	3.1	40.1	72.5	49.6	5.7
	Proposed	10.3	46.0	46.1	39.7	9.1
HRXB-2	Existing	3.1	36.7	59.4	48.7	3.8
	Proposed	13.3	36.5	43.1	43.0	10.5
HRXB-3	Existing	1.9	7.8	53.5	10.4	2.2
	Proposed	2.7	9.2	36.7	14.6	3.5
HRXB-4	Existing	3.2	42.1	63.6	5.5	1.1
	Proposed	9.9	44.2	60.4	15.5	4.4
HRXB-4 (north of Barnum)	Existing	3.5	46.2	69.8	6.1	1.2
	Proposed	10.8	48.6	66.3	17.0	4.8
HRXB-5	Existing	4.7	54.7	70.1	62.3	6.4
	Proposed	16.0	41.1	49.7	37.4	12.9

**Table 4** Calculated magnetic-field levels, peak load case

Section	Configuration	Magnetic Field (mG)				
		100 feet north of -ROW edge	North edge of ROW	Max on profile	South edge of ROW	100 feet south of +ROW edge
HRXB-1	Existing	2.7	35.6	64.5	44.1	5.1
	Proposed	9.1	40.8	40.9	35.3	8.0
HRXB-2	Existing	2.7	32.6	52.8	43.3	3.4
	Proposed	11.8	32.3	38.3	38.2	9.3
HRXB-3	Existing	1.7	6.9	47.5	9.2	1.9
	Proposed	2.4	8.2	32.6	12.9	3.1
HRXB-4	Existing	2.8	37.4	56.6	4.9	1.0
	Proposed	8.8	39.3	53.7	13.8	3.9
HRXB-4 (north of Barnum)	Existing	3.2	41.7	63.1	5.5	1.1
	Proposed	9.8	43.8	59.7	15.3	4.4
HRXB-5	Existing	4.2	49.4	63.3	56.3	5.8
	Proposed	14.4	37.1	44.9	33.7	11.6

**F. MUNICIPAL AND COMMUNITY OUTREACH**

As a part of the Project planning process, UI has regularly corresponded to and coordinated with representatives of the Town of Stratford and property abutters. UI representatives have met with Stratford Mayor John Harkins, on several occasions, to discuss the proposed Project. Subsequently, UI received a letter of endorsement from Mayor Harkins regarding the proposed Project; this letter is included in Attachment H.

**G. CONCLUSION**

Based on the foregoing, UI respectfully submits that the Project will not have an adverse environmental effect and, therefore, does not require a Certificate of Environmental Compatibility and Public Need pursuant to CGS § 16-50k(a).



The name, title, address and telephone number of the person to whom correspondence and communication in regard to this petition are to be addressed is:

Amy S. Hicks  
Analyst – Public Outreach & Permitting  
The United Illuminating Company  
180 Marsh Hill Road  
M/S AD-1C  
Orange, CT 06477  
Telephone: 203.499.2586  
Email: amy.hicks@uinet.com

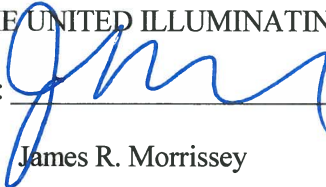
The name, address, and telephone of UI's attorney is:

James R. Morrissey  
Attorney  
UIL Holdings Corporation  
157 Church Street  
P.O. Box 1564  
New Haven, CT 06506-0901  
Telephone: 203.499.2864  
Email: james.morrissey@uinet.com

Very truly yours,

THE UNITED ILLUMINATING COMPANY

By: \_\_\_\_\_



James R. Morrissey