DEVELOPMENT & MANAGEMENT PLAN

for the

DERBY JUNCTION TO ANSONIA 115-kV TRANSMISSION LINE REBUILD PROJECT

(Connecticut Siting Council Docket No. 3B)

City of Shelton, Fairfield County and Cities of Derby and Ansonia, New Haven County, Connecticut

VOLUME 1

June 2023

Prepared By:

THE UNITED ILLUMINATING COMPANY

This page intentionally left blank.

TABLE OF CONTENTS

VOLUME 1

1. INTRODUCTION 1
   - 1.1 Project Summary and Purpose of the Plan 1
   - 1.2 Organization of the D&M Plan 3

2. DESCRIPTION OF SEGMENT 1 PROJECT FACILITIES 4
   - 2.1 Transmission Line Rebuilds 4
     - 2.1.1 Structure Locations and Specifications 4
     - 2.1.2 Conductor and OPGW Specifications 7
   - 2.2 Substation and Junction Locations and Modifications 7
   - 2.3 UI Permanent Easements 8
     - 2.3.1 Overview and Summary of Expanded Easements 8
     - 2.3.2 Osbornedale State Park Expanded Easement 8

3. CONSTRUCTION MANAGEMENT AND SUPPORT AREAS 10
   - 3.1 Construction Management 10
     - 3.1.1 Overall Construction Management 10
     - 3.1.2 Contractor Contact Information 10
     - 3.1.3 Provisions for On-Site Environmental Inspection and Monitoring 11
   - 3.2 Contractor Yard and Construction Support Areas 13

4. TRANSMISSION LINE CONSTRUCTION PROCEDURES 15
   - 4.1 Standard Construction Procedures 15
     - 4.1.1 General Construction Sequence: Overview 15
     - 4.1.2 Boundary Identification 17
     - 4.1.3 Vegetation Removal 17
     - 4.1.4 Erosion and Sedimentation Controls 18
     - 4.1.5 Access Roads and Work Pads 18
     - 4.1.6 Foundation and Structure Installation 21
     - 4.1.7 Conductor, OHSW,and OPGW Installation 22
     - 4.1.8 Decommissioning and Removing Existing 115-kV Facilities 23
     - 4.1.9 Commissioning 23
     - 4.1.10 Cleanup and Restoration 23
   - 4.2 Resource-Specific Construction Procedures 24
     - 4.2.1 Erosion/Sedimentation Control and Stormwater Management 24
     - 4.2.2 Soils, Groundwater, and Materials Management 24
     - 4.2.3 Water Resource Crossings 27
     - 4.2.4 Wetland Invasive Species Control Plan 29
     - 4.2.5 Floodplains 30
     - 4.2.6 Rock Removal 31
     - 4.2.7 Protection Measures for Listed Species 31
     - 4.2.8 Air Quality Protection 33
     - 4.2.9 Site Access, CT DOT Highway and Railroad Permits, Traffic Control/Signs 34
     - 4.2.10 Cultural Resources 35
     - 4.2.11 Lighting and Noise Mitigation 36
     - 4.2.12 Construction Equipment/Vehicle Washing 37
     - 4.2.13 Utility Crossings 37
     - 4.2.14 Spill Prevention and Control 38

4.2.15 Methods to Discourage Unauthorized Use of the ROW 38
4.2.16 Winter Work and Site Stabilization 38
4.3 Procedures for Crossing Osbornedale State Park and Other Public Open Space / Recreational Areas 38

5. CONSTRUCTION PROCEDURES FOR SUBSTATION AND JUNCTION MODIFICATIONS 41
5.1 Derby Junction Substation 241
5.2 Indian Well Substation 241
5.3 Ansonia Substation 241

6. CONSTRUCTION SCHEDULE AND WORK HOURS 42

7. PERMITS AND APPROVALS 44

8. PUBLIC REVIEW AND OUTREACH 46
8.1 Genral 246
8.1 Procedures for Notifying the Public of Helicopter Use 246

9. ACRONYMS AND GLOSSARY OF TERMS 47

LIST OF TABLES

Table 1-1 Existing 115-kV Structures, by Municipality, Structure Number, Type, and Height Range 2
Table 2-1 Summary of Planned 115-kVtransmission Line Structures 4
Table 2-2 Existing and Rebuilt Structures, by Municipality and Structure Characteristics 5
Table 2-3 Summary of Existing ROW Width nad ROW Expansion (Permanent Easement) 8
Table 4-1 General Project Construction Sequence 16
Table 4-2 Summary of Project Impacts to Water Resources 27
Table 4-3 New Monopoles within FEMA 100- and 500-Year Flood Zones 30
Table 4-4 Public Open Space/Recreational Areas and Project Mitigation Measures 39
Table 7-1 Project Permits and Approvals 45

LIST OF FIGURES

Figure 1-1 General Project Location 1
Figure 6-1 Project Schedule 42

APPENDICES

A: DECOMMISSIONING PLAN FOR EXISTING STRUCTURES
B: EROSION AND SEDIMENT CONTROL PLAN
C: VEGETATION CLEARING PLAN
D: RESTORATION PLAN
E: SPILL PREVENTION AND CONTROL PLAN
F: WETLAND INVASIVE SPECIES CONTROL PLAN
G: POST-CONSTRUCTION EMF MONITORING PLAN
H: SNOW REMOVAL AND DE-ICING PROCEDURES
I: MATERIALS MANAGEMENT PLAN
J: NOTICES AND REPORTS TO THE COUNCIL
K: D & M PLAN DIRECTORY

VOLUME 2: MAPS, DRAWINGS, AND RESOURCE SPECIFICATIONS

Key Map:	U.S. Geological Survey 1”=2,000’ (1:24,000) index map identifying the Project & Segment location
Mapsheets:	1”=100’ maps showing Segment 1 facilities
Transmission Line Engineering Drawings:	Index map and cross-sections
Substation Site Plans:	Indian Well Substation Ansonia Substation
Detail Sheets and Specifications:	1. Erosion and Sedimentation Control Details 2. Construction Details 3. Typical Structure Configurations 4. Typical Foundation & Grounding Details

1. INTRODUCTION

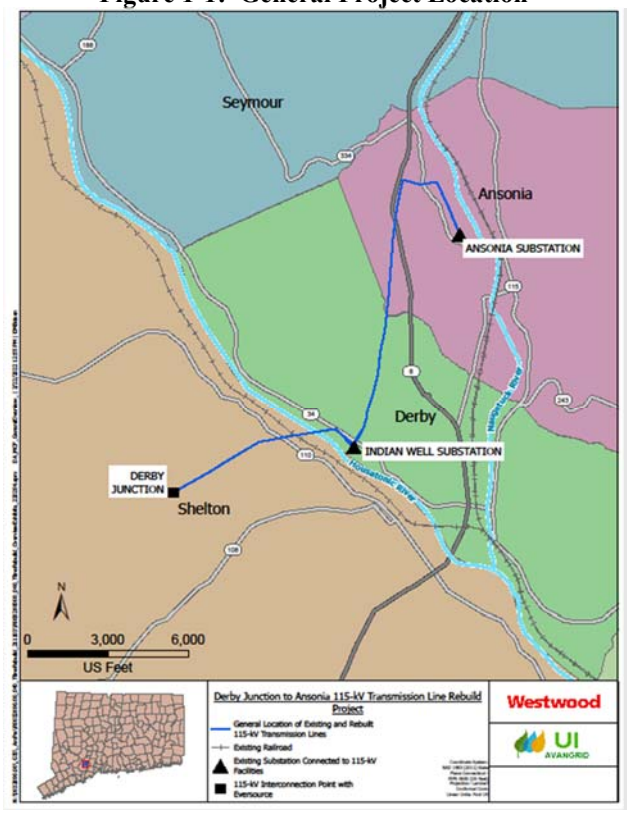
1.1 PROJECT SUMMARY AND PURPOSE OF THE PLAN

The United Illuminating Company (UI or the Company) is rebuilding three existing double-circuit 115-kilovolt (kV) overhead transmission lines located within an approximately 4.1-mile existing UI right-of-way (ROW), extending east from Derby Junction[1] in the City of Shelton (Fairfield County), across the Housatonic River to UI's Indian Well Substation in the City of Derby, through portions of Derby and the City of Ansonia, to UI's Ansonia Substation in Ansonia (New Haven County). This **Derby Junction to Ansonia 115-kV Transmission Line Rebuild Project** (Project) will rebuild the existing 115-kV lines, which consist of aging legacy lattice steel structures that date to 1924, on new modern self-supporting, steel monopole structures and one steel H-frame structure.

The new structures will support Aluminum Conductor Steel Reinforced (ACSR) conductors, transmission line insulators, optical groundwire (OPGW), overhead shield wire (OHSW), and related hardware. The existing 115-kV transmission line structures, conductors, and related hardware will be disassembled and removed from the ROW.

The Project also will interconnect the rebuilt 115-kV lines to Derby Junction, Indian Well Substation, and Ansonia Substation, making minor associated modifications within the substations to accommodate the connections to the rebuilt 115-kV lines. Similarly, the existing 115-kV line connections to Derby Junction, Indian Well Substation, and Ansonia Substation will be removed. Figure 1-1 illustrates the general Project location.

Figure 1-1: General Project Location



[1] A transmission system "junction" (sometimes also referred to as a "tap") is a location where different transmission lines intersect. At Derby Junction, two of UI's 115-kV lines connect to The Connecticut Light and Power Company dba Eversource Energy (Eversource) transmission system. Eversource is in the process of rebuilding its 115-kV transmission lines to which the UI lines connect at Derby Junction.

The existing 115-kV lines between Derby Junction and Ansonia Substation are arranged in a double-circuit configuration (for a total of approximately 8.2 circuit miles), as follows:

- 1560-3 Line: extends for approximately 4.1 miles, from Derby Junction to Ansonia Substation.
- 1808-2 Line: co-located with the 1560-3 Line for approximately 1.5 miles, from Derby Junction to Indian Well Substation.
- 1594 Line: co-located with the 1560-3 Line for approximately 2.6 miles, from Indian Well Substation to Ansonia Substation.

UI's existing 115-kV lines are supported on 40 structures: 29 lattice steel towers, four self-supporting steel monopoles, two direct-embed steel monopoles, one wide-flange column pole, and four takeoff structures at the substations.[2] Table 1-1 summarizes the location, type, and heights of the existing structures.

Table 1-1: Existing 115-kV Structures, by Municipality, Structure Number, Type, and Height Range

Municipality	Structure Nos.	Structure Types	Structure Height Range (feet)
Shelton	351-358 359 (Housatonic River crossing)	9 Steel Lattice Towers	80 feet; 140 feet at river crossing
Derby	360 (Housatonic River crossing) 361A, 361B H-Frame tubular steel take-offs at Indian Well Substation 1B, 2A, 2-9	8 Steel Lattice Towers 4 Self-Supporting Steel Poles 1 Wide-Flange Section Column 2 Tubular Steel Pole H-Frame Takeoffs	140 feet at river crossing; 45-95 feet
Ansonia	10-20, 21 20A, 20B Wide-flange A-frame take-off - Ansonia Substation	12 Steel Lattice Towers 2 Direct-Embedded Steel Pole 2 Wide-Flange A-Frame Takeoffs	50-97.5 feet

The Project will rebuild the three 115-kV lines, replacing all the legacy structures with a total of 40 new structures. The new structures will include 39 self-supporting steel poles (26 double-circuit monopoles, 13 single-circuit monopoles) and one single-circuit H-frame steel structure, which will be located near Derby Junction in the City of Shelton. UI also will install new conductors and OPGW and will interconnect the rebuilt 115-kV lines to the Eversource system at Derby Junction and to UI's Indian Well and Ansonia substations.

[2] The four takeoff structures (two each at Indian Well and Ansonia substations) will not be replaced as part of this Project.

On May 13, 2022, UI filed with the Connecticut Siting Council (CSC, Council) a Motion to Reopen and Modify (Motion) the Council's prior decisions regarding the Derby Junction to Ansonia 115-kV lines (CSC Docket No. 3B). After a public meeting and an evidentiary hearing, on October 27, 2022, the Council issued a Decision and Order approving the Project. The Decision and Order includes 13 Project-specific conditions. Condition No. 3 of the Council's Decision and Order requires that UI prepare a Development and Management (D&M) Plan, in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies (RCSA).[3] Condition No. 3 also defined 16 specific plans, procedures, and other information (Conditions 2.a - 2.p) that must be included in the Project's D&M Plan.

This Plan conforms both to the conditions of the Council's Decision and Order and to Sections 16-50j-60 through 16-50j-62 of the RCSA (*Requirements for a D&M Plan, Elements of a D&M Plan, Reporting Requirements*). Further, the Plan incorporates other Project-specific UI commitments contained in UI's Motion to the CSC or UI's responses to the CSC during the Motion review process, as well as UI's standard protocols for transmission line construction, operation, and maintenance. The D&M Plan also reflects commitments made in UI's submissions to other Federal and State regulatory agencies, including the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Connecticut Department of Energy and Environmental Protection (CT DEEP), and the State Historic Preservation Office (SHPO).

1.2 ORGANIZATION OF THE D&M PLAN

The D&M Plan consists of two volumes:

- **Volume 1** describes the Project facilities and provides information relevant to the Project work, including construction procedures, construction schedule and work hours, environmental resources and mitigation measures, regulatory requirements, and public outreach. Volume 1 also includes appendices that provide plans, as required pursuant to the CSC Decision and Order in Docket No. 3B and to Sections 16-50j-60 through 16-50j-62 of the RCSA, or in accordance with UI standards.

- **Volume 2** includes maps and drawings, including cross-sections and aerial-based map sheets (at a scale of 1"=100') showing environmental resources, land uses, property boundaries and property owners, the locations of both the existing structures to be removed and the new transmission line monopoles, and structure types and heights. Volume 2 also includes site plans for the modifications to Indian Well and Ansonia substations and specifications for erosion and sedimentation control measures.

[3] The overall purpose of a D&M Plan is to provide construction details (such as plans, maps, and drawings) that define the methods and procedures to be used during the construction and operation/maintenance of energy facilities, balancing the need for adequate and reliable utility service with the protection of the environment. Note: For the purposes of this Plan, references to Project area and Project site are synonymous and are consistent with the definition of "Site" in RCSA Section 16-50j-2a(29).

2. DESCRIPTION OF PROJECT FACILITIES

2.1 TRANSMISSION LINE REBUILDS

2.1.1 Structure Locations and Specifications

The rebuilt 115-kV lines will remain predominantly in a double-circuit configuration (as are the existing lines), with the 1560-3 Line extending the entire length from Derby Junction to Ansonia Substation. The 1808-2 Line will be co-located on new monopoles with the 1560-3 Line between Derby Junction and Indian Well Substation (approximately 1.5 miles), while the 1594 Line will be co-located on new monopoles with the remainder of the 1560-3 Line from Indian Well Substation to Ansonia Substation (approximately 2.6 miles).

In some locations as required to account for line angles or ROW/constructability constraints, the rebuilt lines will be placed on single-circuit monopoles. Specifically, from Derby Junction to Indian Well Substation, the lines will be rebuilt on 10 double circuit structures and four single-circuit structures. Between Indian Well Substation and Ansonia Substation, the rebuilt lines will include 16 double-circuit and 10 single-circuit structures.

Table 2-1 summarizes the double- and single-circuit monopoles to be installed, by municipality. Table 2-2 lists the existing and replacement structures, by municipality, structure type, and above-ground height. The Volume 2 maps illustrate the locations of the existing structures to be removed and the monopoles that will be installed.

Table 2-1: Summary of Planned 115-kV Transmission Line Structures

Municipality	Length (Approximate Miles)	Structure Configuration		
		Substation Connections	New Double-Circuit Monopole Structures (No.)	New Single-Circuit Structures (No.)
Shelton	1.2	N/A	9	1 (H-Frame)
Derby	1.4	Indian Well	9	7 (Monopoles)
Ansonia	1.5	Ansonia	8	6 (Monopoles)
Total	**4.1**	**-**	**26**	**14**

Table 2-2: Existing and Planned Rebuilt Structures, by Municipality and Structure Characteristics

Structure No.	Existing			Planned Replacements		
	Structure Type	Structure Configuration	Structure Height (Feet)	Structure Type	Structure Configuration	Structure Height (Feet)
Shelton						
350	Part of New Design Only			Single Circuit H-Frame	CUSTOM	80/50
351	Double Circuit Lattice Tower	Tangent	78.5	Double Circuit Single Monopole	Dead-End	95
352		Tangent	78.5		Tangent	100
353		Tangent	78.5		Tangent	100
354		Tangent	78.5		Tangent	100
355		Tangent	78.5		Tangent	100
356		Tangent	78.5		Tangent	100
357		Running Angle	78.5		Dead-End	95
358		Tangent	78.5		Tangent	125
359 (Housatonic River crossing)		Dead-end	140.5		Dead-End	170
Derby						
360 (Housatonic River crossing)	Double Circuit Lattice Tower	Dead-end	140.5	Double Circuit Single Monopole	Dead-End	170
1B (Indian Well Substation)	Single Circuit Steel Monopole	Dead-end	75	Single Circuit Single Monopole	Dead-end Type B (60° and Greater Angle)	80
361A (Indian Well Substation)		Dead-end	75		Dead-end Type A (0 to 60° Angle)	80
361B (Indian Well Substation)		Dead-end	65		Dead-end Type B (60° and Greater Angle)	75
2A	Single Circuit Steel Wide Flange	Tangent	92		Tangent	110
2B	Part of New Design Only			Single Circuit Single Monopole	Tangent	110
2	Single Circuit Steel Monopole	Dead-end	90	Double Circuit Single Monopole	Dead-End[4]	100
3	Double Circuit Lattice Tower	Dead-end	95	Structures 3A/B Replace this Structure		
3A	Part of New Design Only			Single Circuit Single Monopole	Dead-end Type A (0 to 60° Angle)	110
3B					Dead-end Type A (0 to 60° Angle)	110
4	Double Circuit Lattice Tower	Dead-end	82.5	Double Circuit Single Monopole	Dead-end	100
5		Dead-end	85		Dead-End	110

[4] Additional structure needed to increase clearances to adjacent building facilities on B-Street.

Structure No.	Existing			Planned Replacements		
	Structure Type	Structure Configuration	Structure Height (Feet)	Structure Type	Structure Configuration	Structure Height (Feet)
6	Double Circuit, Lattice Tower	Dead-end	75	Double Circuit Single Monopole	Dead-End	100
7		Dead-end	85		Tangent	110
8		Dead-end	80		Tangent	115
9		Dead-end	87.5		Dead-End	110
Ansonia						
10	Double Circuit, Lattice Tower	Dead-end	85	Double Circuit Single Monopole	Tangent	120
11		Dead-end	70		Tangent	120
12		Dead-end	79		Tangent	110
13		Dead-end	68		Tangent	100
14		Dead-end	86.5		Dead-End	115
15		Dead-end	84.5		Tangent	110
16		Dead-end	87.5		Tangent	125
17		Dead-end	78.5	Structures 17A/B Replaces this Structure		
17A	Part of New Design Only			Single Circuit Single Monopole	Dead-end on Davit Arms	105
17B					Dead-end on Davit Arms	105
18	Double Circuit, Lattice Tower	Dead-end	82.5	Strictures 18A/B Replaces this Structure		
18A	Part of New Design Only			Single Circuit Single Monopole	Dead-end Type A (0 to 60° Angle)	115
18B					Dead-end Type A (0 to 60° Angle)	115
19	Double Circuit, Lattice Tower	Dead-end	90	Structures 19A/B replaces this structure.		
19A	Part of New Design Only			Single Circuit Single Monopole	Dead-end Type B (60° and Greater Angle)	105
19B					Dead-end Type B (60° and Greater Angle)	105
20	Double Circuit, Lattice Tower	Dead-end	74	Double Circuit Single Monopole	Tangent	130
20A/B	Single Circuit Single Monopoles	Braced Post Tangent	90	Not needed per new design		
21 (Ansonia Substation)	Double Circuit, Lattice Tower	Dead-end	87	Double Circuit Single Monopole	Dead-End	100

2.1.2 Conductor and OPGW Specifications

The Project will involve the installation of 795 kcmil 26/7 ACSR "DRAKE" conductor, 7 No. 7 Alumoweld Shieldwire on Circuit 1560-3 (from Derby Junction to Ansonia Substation), DNO-12503 OPGW (96 fiber) on Circuit 1808-2 (from Derby Junction to Indian Well Substation), and DNO-11467 OPGW (72 fiber) on Circuit 1594 (from Indian Well Substation to Ansonia Substation).

For the Housatonic River crossing, UI will use 19 No. 8 Alumoweld Shieldwire on Circuit 1560-3 and the same DNO-12503 OPGW as the other 96 fiber count OPGW for continuity with the fiber optic system tie in at Derby Junction.

The new 795 ACSR conductor and hardware will significantly increase all line ratings (the Summer Long Term Emergency [LTE] rating will increase by approximately 85%) and will extend the integrity of the transmission lines between Derby Junction and Ansonia Substation by a minimum of 40 years.

2.2 SUBSTATION AND JUNCTION LOCATIONS AND MODIFICATIONS

Like the existing 115-kV lines, the rebuilt 115-kV lines will connect to Derby Junction, as well as to UI's Indian Well and Ansonia substations.

UI does not propose any modifications at Derby Junction, other than to connect the rebuilt 1560-3 and 1808-2 lines to the Eversource transmission system and to remove the existing UI 115-kV line connections. This work will be performed within the existing UI and Eversource ROWs at the junction. Eversource is in the process of rebuilding its transmission lines that connect to Derby Junction.[5] Accordingly, UI is coordinating with Eversource regarding the timing of the Project work at Derby Junction; Eversource's work is expected to be completed at Derby Junction before the start of UI's line rebuild activities.

At both Indian Well and Ansonia substations, UI will perform modifications within the station fence lines to link the rebuilt 115-kV lines to the substations. In addition, single-circuit monopoles will be installed directly outside each substation, as required to correctly align the phases of different circuits to the existing line terminal switches in each substation yard. Further, hardware modifications will be required on existing structures within each substation to accommodate the larger 795 kcmil conductor size, as well as the new OPGW and the associated OPGW fiber splice boxes. New underground fiber optic cable will be installed

5 The CSC approved Eversource's rebuild plans on December 8, 2022 (Petition No. 1527). As part of Eversource's rebuild project, existing Structure 1364 at Derby Junction will be removed and replaced by Structure 19624 (which will support the 1560 Line and Structure 19624A, which will support the 1808 Line. .

to connect the fiber at the OPGW splice box (either located within the substation or at a steel monopole outside, but adjacent to, the substation fence) to the control enclosure within each substation.

2.3 UI PERMANENT EASEMENTS

2.3.1 Overview and Summary of Additional Permanent Easements

At various locations along the Project route, UI will expand its existing permanent easements, as required to conform to NESC specifications and Company standards. Table 2-3 summarizes the existing widths along the 4.1-mile ROW, as well as the width of the additional permanent easement required to expand the ROW to meet current electrical clearance standards. In total, UI will acquire 9.9 acres of additional permanent easement. The Volume 2 maps illustrate the existing and expanded ROW.

Table 2-3: Summary of Existing ROW Widths and ROW Expansion (Permanent Easement)

Municipality / Structure #s	Existing ROW Width (feet)	Additional Permanent Easement (feet)
Shelton		
350-359	80	0 to 30
Shelton-Derby		
359-360 (Housatonic River Crossing)	80	30 to 180
Derby		
360-Indian Well Substation (1B, 361A/B)	80	25
Indian Well Substation to 3AB	Undefined	80
3AB-4AB	50	30
4AB-9	Undefined	80
9-10	50	30 to 70
Ansonia		
10-14	50	30-60
14-16	50	30-50
16-17A/B	40-50	30-40
17A/B-19A/B	50	30
19A/B-21 (Ansonia Substation)	50-100	0 to 50

2.3.2 Osbornedale State Park Expanded Easement

UI's existing 50-foot-wide ROW traverses approximately 1,465 feet south-north across an undeveloped portion of the eastern part of Osbornedale State Park in Derby and Ansonia. The 350-acre park is managed by the CT DEEP and provides recreational opportunities for hiking, fishing, picnicking, and wildlife viewing as well as for general environmental education (at the Kellogg Environmental Center and Osborne Homestead Museum). However, none of these recreational areas are located near the ROW.

Three lattice steel towers (Structures 10, 11, and 12), all of which date to the initial construction of the transmission lines in 1924, are presently located along the ROW in the park. The park was created in 1956, more than 30 years after UI's ROW was established.

For the Project, UI will align new Structures 10 and 12 on properties outside the park (removing the existing lattice tower Structures 10 and 12) and will rebuild Structure 11, which will remain within the park, as a double-circuit monopole.[6] To maintain conductor clearances given the steep terrain along the western portion of the ROW, UI will expand the existing 50-foot-wide ROW by approximately 60 feet to the west,[7] requiring the acquisition of approximately 1.8 acres of additional permanent easement in Osbornedale State Park.

On May 25, 2022, UI submitted to CT DEEP an Application for Review of Land Management Request on State-Owned Land for the additional permanent easement across the State Park. Based on numerous subsequent discussions with CT DEEP, in late March 2023, UI submitted to CT DEEP for review a draft agreement regarding the additional permanent easement. The agreement proposes a UI payment for use in improving the infrastructure facilities in the areas of Osbornedale State Park that are used by park patrons, as well as further coordination with CT DEEP to develop a habitat restoration and erosion control plan for the ROW in the park, consistent with UI's Project Stormwater Pollution Control Plan (SWPCP) and electric transmission line operational requirements. The application is currently being reviewed by CT DEEP representatives and their lawyers for terms and conditions.

[6] As listed in Table 2-1, the proposed Structure 11 monopole will be 120 feet tall, whereas rebuilt Structures 10 and 12, both of which will be located outside the State park, will be 120 and 110 feet in height, respectively. In comparison, the existing 100-year-old lattice steel towers at Structures 10, 11, and 12 (all presently located in the park) are 85, 70 , and 79 feet tall, respectively.

[7] The planned expanded easement width in the State park is required because of the steep, forested terrain to the west of the existing ROW. Without the expanded easement and the removal of trees within that easement, the proposed rebuilt lines will be at risk from falling trees and also non-conformance to horizontal blowout clearance requirements. The ROW cannot be expanded to the east because of residential developments that border the ROW and the State park property (refer to the options discussion).

3. CONSTRUCTION MANAGEMENT AND SUPPORT AREAS

3.1 CONSTRUCTION MANAGEMENT, ENVIRONMENTAL INSPECTION, AND CONTRACTOR CONTACT INFORMATION

3.1.1 Overall Construction Management

UI will oversee all Project construction, monitoring the construction contractors' work for conformance to this D&M Plan, UI specifications, and any other applicable safety, engineering, and environmental requirements. During construction, UI will assign inspectors to verify that the Project is developed in accordance with both regulatory requirements and UI standards and plans.

UI will require Project personnel, including UI's field supervisory staff and construction contractors, to be aware of the environmental requirements governing the construction of the Project. UI will provide environmental awareness training to the Project team's supervisory personnel. In addition, UI will give its field staff and the Project construction contractors copies of this D&M Plan, CSC decision documents, other Federal and State regulatory approvals and plans, and UI specifications.

The Project construction contractor will be directly responsible for constructing the Project in conformance with all requirements. However, the UI field team will work closely with the contractor to identify sensitive environmental resource areas and to pro-actively take measures to avoid environmental compliance issues. The construction contractor supervisors will be responsible for assuring that their field crews are aware of and trained in the Project requirements. Various methods may be used to pro-actively plan construction in order to maintain compliance with the requirements, including regular Project meetings as well as daily pre-work meetings and tailboards held by the contractor to brief field crews regarding key issues relevant to the work, including safety and environmental compliance.

3.1.2 Contractor Contact Information

UI has not yet selected a prime construction contractor for the Project. Prior to the commencement of construction, UI will provide the Council with contact information for its prime construction contractor(s) for the Project. This information will include the contractor's name, manager assigned to the Project, corporate address, telephone number, and e-mail.

3.1.3 Provisions for On-Site Environmental Inspection and Monitoring[8]

The construction of the Project must comply with various Federal and State environmental regulatory approvals and plans, as well as with UI requirements, including:

- This D&M Plan, including the plans contained in appendices to this volume.
- The Project-specific SWPCP developed pursuant to the Connecticut Department of Energy and Environmental Protection (CT DEEP) *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* (General Permit).
- Water resource permits received from the CT DEEP and the U.S. Army Corps of Engineers (USACE), including measures for the avoidance or minimization of impacts to watercourses and wetlands. In addition, refer to the General Conditions stated in the USACE Regional General Permit for the State of Connecticut.
- Permits received from the Connecticut Department of Transportation (CT DOT) for transmission line work at State road crossings, as well as from The Housatonic Railroad Company for wire pulling activities over the railroad tracks that parallel the west bank of the Housatonic River in Shelton.

UI's approach for maintaining compliance with these environmental requirements will involve a combination of field inspections, contractor coordination/awareness training, and regular Project meetings at which environmental compliance will be a primary consideration. UI will provide copies of all Project regulatory requirements to its construction contractors.

To verify that the Project construction[9] is performed in conformance with the environmental requirements, including the inspections required pursuant to the SWPCP and General Permit, UI will perform on-site inspections using appropriately trained and qualified environmental personnel. The purpose of the on-site inspections will be to confirm that the Project is developed in accordance with State and Federal environmental regulatory requirements, including this D&M Plan, and UI specifications. UI anticipates that several environmental personnel will be assigned to monitor the Project construction.

The primary tasks that will be performed by the Project's environmental/stormwater inspectors are expected to include the following.

[8] This section addresses CSC Docket 3B Condition 3.l.
[9] Construction includes all Project tasks related to the installation of the rebuilt 115-kV lines, the removal of the existing 115-kV facilities, and substation modifications, extending through site stabilization and restoration.

Environmental / Stormwater Inspector Responsibilities

- Conduct field inspections at least weekly or potentially more often, depending on the Project construction activities and compliance with State or Federal permit obligations. The field inspections will be targeted to monitor conformance to the D&M Plan, as well as Project approvals from the USACE and CT DEEP. Environmental areas that will be covered in the inspections include vegetation removal, water resources (wetlands, watercourses), dewatering, soil erosion and sedimentation controls, threatened/endangered species avoidance/mitigation, wetland invasive species control, spill prevention/control, air quality/dust suppression, noise, materials and waste management, and site restoration.

- Provide, as necessary, additional environmental awareness training for construction contractor personnel regarding compliance with resource-specific plans.

- Coordinate closely with UI environmental and Project management, as well as with UI's construction manager and the contractors.

- Attend, as necessary, regular Project construction meetings and provide input regarding environmental inspection results and pro-actively work with the construction team to identify any environmental resource areas of concern based on contractor "look ahead" schedules.

- Provide guidance to the construction contractors, as needed, regarding environmental impact avoidance or minimization methods.

- Prepare field monitoring reports, consistent with State and Federal permit approvals, in a standard format, describing and photo-documenting the areas inspected. The reports will be provided to the UI Project Manager and construction supervisor. Any issues of potential concern (e.g., erosion and sediment controls that require maintenance) will be conveyed to the UI construction manager and construction contractor at the time of the field inspection, thereby allowing for a prompt resolution.

UI's environmental inspector(s) will perform activities described in the Project's SWPCP as specified for a Qualified Environmental Professional pursuant to the General Permit. The SWPCP inspector will specifically monitor conformance to the SWPCP, principally erosion and sedimentation control measures, water resource protection, and site stabilization; however, the areas covered by the SWPCP inspections overlap with those covered by the D&M Plan monitoring.

Among other activities as specified in the General Permit and the SWPCP, the SWPCP inspector will:

- Perform an initial inspection within 30 days of the commencement of construction activities and at least three times within the first 90 days of construction to confirm compliance with the General Permit and proper implementation of control measures designated in the SWPCP.

- Conduct routine inspections of Project sites pursuant to the SWPCP checklist.

- Perform inspections after heavy rain events, as defined in the General Permit and the schedule presented in the Project SWPCP.

- Convey any issues regarding soil erosion and sedimentation controls promptly to the UI construction manager.

- Coordinate with the UI construction manager and contractors, as necessary, to assess whether additional or different types of erosion/sedimentation controls are needed in particular areas.

- Document the results of the routine and rain event inspections on standard SWPCP inspection forms.

- Inspect site stabilization and restoration, coordinating with UI and the construction contractors to determine when temporary erosion and sedimentation controls must be maintained until stabilization is achieved and when such controls can be removed thereafter.

- Maintain SWPCP records, including contractor certifications regarding the review of the SWPCP and a Record of Revision documenting changes to the SWPCP. The SWPCP will be maintained by UI for five years following the completion of construction, as required by the General Permit.

- Perform a post-construction inspection once all post-construction stormwater measures have been installed in accordance with the General Permit. The post-construction inspection shall be conducted by a "Qualified Soil Erosion and Sediment Control Professional" or a "Qualified Professional Engineer" as defined in the General Permit.

- Perform a final stabilization inspection once final stabilization has been achieved for at least one full growing season (April through October) or two consecutive seeding seasons (April 1 through June 15 and August 15 through October 1) in the year following the end of construction. The Site will be inspected by a qualified inspector to confirm that the stabilization is maintained, as defined in the General Permit. After the inspector determines that the Project has been stabilized, UI will submit a Notice of Termination to CT DEEP to close out the General Permit for the Project.

Environmental /Stormwater Inspection Work Hours

Environmental / stormwater inspection activities may be performed outside of standard construction work hours. For example, SWPCP inspections must be performed, as required pursuant to the SWPCP and General Permit, after heavy rain events and thus may occur on Sundays. However, apart from the use of vehicles to travel to inspection sites, these monitoring/inspection activities will not generate noise or cause significant disturbance to the surrounding environment.

3.2 CONTRACTOR YARDS AND CONSTRUCTION SUPPORT AREAS

To support the Project construction, a contractor yard / staging area will be required for material laydown and staging, parking for personal vehicles and contractor equipment, construction office trailers, and the temporary storage of the components of the existing 115-kV infrastructure that will be removed.

UI's primary contractor for the Project will be responsible for identifying and establishing the appropriate staging area / contractor yard. UI will submit to the Council information about the location, size (acres), and intended use of the yard and will seek Council approval for the use of the yard. UI's contractor will not be allowed to use the yard until Council approval is received. UI also will provide information about the yard to representatives of the municipality in which the yard will be located.

In addition, UI will use portions of the Indian Well and Ansonia Substation properties to support the construction activities required to modify each facility to accommodate the rebuilt 115-kV lines and remove the existing 115-kV line infrastructure. UI also anticipates the use of 8-10 Riverside Drive, next to Ansonia Substation, as a possible equipment staging area (the Volume 2 maps illustrate the location of this area).

The Project contractor yard / staging area is generally expected to be used to:

- Store Project construction materials, equipment, tools, fuel, and supplies (including conductors, insulators, hardware, poles and construction mats);
- Park construction vehicles and equipment, as well as the personal vehicles of construction personnel;
- Perform minor maintenance on construction equipment;
- Store and assemble transmission line structure components;
- Stage fractionization (frac) tanks for water storage or treatment prior to off-site discharge or disposal;
- Store temporarily the old transmission line components removed during the work (old structures, conductor, hardware and insulators) prior to off-site removal and/or disposal; and
- Maintain and refuel construction vehicles and equipment, as necessary.

In addition, temporary office trailer(s), CONEX storage boxes, a generator (if necessary to provide power for on-site activities), and portable restrooms will be established at the contractor yard / staging area. As appropriate, erosion and sedimentation controls will be installed at the contractor yard / staging area; these controls will be maintained until the contractor completes the Project work and demobilizes from the yard.

4. TRANSMISSION LINE CONSTRUCTION PROCEDURES

UI will construct, operate, and maintain the rebuilt 115-kV transmission lines in full compliance with the D&M Plan, the latest revisions of standards of the NESC, the Institute of Electrical and Electronic Engineers (IEEE) and the American National Standards Institute (ANSI); good utility practice; and UI's technical specifications, final Project engineering plans, and the conditions of State and Federal regulatory approvals obtained for the Project. This section identifies the standard construction procedures that will apply to the Project (Section 4.1) and then describes the special procedures that will be used to avoid or minimize impacts to certain environmental resources (Section 4.2). In addition, Appendices A through I provide detailed Project plans, as specified by the CSC or in accordance with UI's requirements.

4.1 STANDARD CONSTRUCTION PROCEDURES

4.1.1 General Construction Sequence: Overview

The transmission line rebuild work will involve standard activities, as summarized in Table 4-1 and discussed in more detail in this section and in Section 4.2. However, for this Project, construction will be carefully sequenced to keep one of the 115-kV circuits between Derby Junction and Ansonia Substation energized at all times in order to maintain electric service to customers. As a result, construction will be performed as follows[10]:

- De-energize one side of the 115-kV circuits on the existing lattice towers/other structures.
- Remove the existing de-energized conductor, insulators, OHSW, and lattice cross arms from one side of the existing double-circuit structures.
- Install new structures, davit arms, conductor and OHSW/OPGW.
- Energize the rebuilt 115-kV circuit on the new structures.
- De-energize the remaining 115-kV circuit on the existing structures.
- Remove the remaining 115-kV line and associated hardware; dismantle and remove the existing structures from the ROW.
- Install the second set of new conductors, hardware, and OHSW/OPGW on the new double-circuit structures (in locations of paired single-circuit monopoles, install the second new monopole).

[10] Between Structure 360 and Indian Well Substation (in Derby), the existing UI distribution lines located along the west side of State Route 34 (Roosevelt Drive) will be relocated to the west side of the road to avoid construction conflicts and to facilitate the maintenance of the rebuilt 115-kV lines.

Table 4-1: General Project Construction Sequence

Typical Pre-Construction Activities
• Survey and stake construction work areas, edge of UI ROW, and proposed structure locations
• Confirm and re-flag environmental resource areas (e.g., wetland and watercourse boundaries) or other sensitive areas to be avoided or where special construction procedures will apply
• Identify vegetation clearing limits along the ROW
• Locate and mark utilities crossed by or along the ROW
Typical Construction Activities*
• Prepare approved laydown/material staging/contractor yard(s) to support the construction effort
• Clear vegetation along the ROW as necessary and install temporary erosion and sedimentation controls around work sites as needed
• Install temporary construction matting as needed for access across wetlands, small watercourses, agricultural areas, or other environmentally-sensitive locations
• Establish or upgrade any required access roads to provide ingress/egress to the new monopole sites and to existing structures to be removed
• Create a level work pad at each structure site, as well as at conductor pulling sites and if necessary, at guard structure sites
• Take outage on the 115-kV circuit located on one side of the existing double-circuit structures; the other 115-kV circuit will remain energized
• Remove the existing de-energized conductor, as well as associated insulators, OHSW, and cross-arm supports (as needed) from the existing double-circuit structures
• Install new structure foundations and assemble/erect new structures; new structure will be offset in transverse direction from the center of existing lattice towers to maintain adequate working clearances from the existing energized conductors
• Install new insulators, conductors, OHSW, and OPGW (for one circuit side of the new structures)
• Install rebuilt 115-kV line connections to Derby Junction and UI substations (for one circuit side)
• Energize the rebuilt 115-kV circuits (on one circuit side of the new structures) to provide service between Derby Junction, Indian Well Substation, and Ansonia Substation
• Take outage on the remaining legacy 115-kVcircuit located on the other side of the existing double-circuit structures
• Remove the remaining legacy 115-kV line wires, conductor, insulators, and OHSW from the existing double-circuit structures
• Dismantle and remove from the ROW the old lattice steel towers and other structures
• Install new insulators, conductors and OHSW/OPGW on the other side of already built new structures
• Energize the rebuilt 115-kV circuits on the remaining side of the new structures
• Remove temporary construction access roads and work pads; stabilize permanent access roads / work pads and install/upgrade permanent erosion/sedimentation controls where required
• Perform final clean-up and restore/stabilize areas affected by construction (e.g., by seeding and re-vegetating as needed)
• Maintain erosion and sedimentation controls until areas affected by construction are verified to be restored/stabilized

*Note: This list represents UI's anticipated construction tasks; actual outage and construction sequences may vary in any one location along the ROW. However, continuous 115-kV service between Derby Junction, Indian Well Substation, and Ansonia Substation will be provided throughout construction.

The Volume 2 maps and cross-section drawings illustrate the Project construction areas, identifying:

- The width of the existing and expanded UI ROW;
- Property boundaries and property owners;
- Locations of the existing 115-kV structures to be removed and the new replacement 115-kV monopoles;
- Areas of planned tree clearing;
- The locations of temporary and permanent access roads and work pads, both on- and off-ROW; and
- The proposed composition of access road and work pads, including areas where temporary construction matting will be used to minimize impacts to environmentally sensitive areas, such as wetlands and agricultural areas.

The following subsections describe UI's standard construction procedures for rebuilding the 115-kV lines and removing the existing transmission facilities.

4.1.2 Boundary Identification

Prior to the commencement of Project construction, UI survey crews and environmental resource experts will identify and mark (or remark), as necessary, the boundaries of resource areas along the ROW. The boundary markings will consist of colored flagging, exclusion fencing, stakes, or equivalent. The purpose of the markings will be to clearly demarcate sensitive environmental resource areas (including wetlands and watercourses), as well as the areas where vegetation is to be removed. In addition, UI survey crews will survey and stake the locations of access roads, work pads, and new monopoles.

4.1.3 Vegetation Removal

For Project construction, existing vegetation will be removed along access roads and at work pads, as well as to maintain required clearance between the rebuilt transmission line conductors. UI's *Vegetation Clearing Plan* for the Project is provided in Appendix C.[11]

In general, the existing vegetation that must be removed for the Project consists of both scrub-shrub species within the portions of the ROW that UI currently maintains (consistent with the Company's transmission line vegetation management procedures), as well as mature trees, most of which are located within UI's

[11] UI's *Vegetation Clearing Plan* is in accordance with Company standards, as well as CSC Conditions 3.h and 3.o.

proposed additional permanent easement. In total, UI estimates that approximately 6 acres of trees[12] will be cleared for the Project. The Volume 2 maps illustrate the areas where mature trees must be removed.

4.1.4 Erosion and Sedimentation Controls

Appendix B includes the *Erosion and Sedimentation Control Plan* for the Project.[13] UI will install and maintain erosion and sedimentation controls to avoid or minimize the potential for surface water runoff, erosion, and sedimentation to occur outside of the work limits. All erosion and sedimentation controls will be installed and maintained in accordance with Project-specific and Connecticut requirements, including the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*; the *2004 Connecticut Stormwater Quality Manual*; the CT DEEP General Permit; and the SWPCP that UI prepared for the Project, pursuant to the General Permit.[14] In June 2023, UI plans to submit the SWPCP to CT DEEP for review and approval, pursuant to the General Permit.

The SWPCP, which will be implemented by UI and its construction contractor(s) to avoid, minimize, or eliminate potential adverse environmental effects during transmission line construction, identifies measures to reduce the likelihood of sediment migration from construction sites. UI's environmental/SWPCP inspector(s) will verify that erosion and sedimentation controls are installed and maintained in accordance with the SWPCP. After the completion of the 115-kV line work, the sites affected by Project activities will be restored and permanently stabilized. As a result, the operation of the rebuilt 115-kV lines will not result in long-term adverse direct or indirect effects to soils or stormwater management.

4.1.5 Access Roads and Work Pads

The Volume 2 maps identify the locations of the access roads and work pads that UI will use for Project construction, as well as the access roads and portions of work pads that UI proposes to retain permanently to facilitate the maintenance of the rebuilt 115-kV lines. UI proposes to leave portions of the gravel work pads in place only in undeveloped, non-agricultural, upland areas.

[12] Mature trees are defined herein to consist of tall-growing vegetation typically greater than 6 inches diameter breast height (dbh). Of the 6 acres of trees to be cleared, an estimated 5.6 acres will be managed in low-growing vegetation, consistent with overhead transmission line operation; 0.4 acre will be allowed to revegetate naturally, including regrowth of trees.

[13] The *Erosion and Sediment Control Plan* is provided pursuant to CSC Condition 3.e.

[14] Pursuant to Conn. Gen. Stat. Section 22a-430b, construction activities, such as the Project, which will result in the disturbance of 1 or more total acres of land area must comply with the CT DEEP's General Permit. Pursuant to the requirements of the General Permit, prior to the start of construction, UI will submit to CT DEEP a Registration Form and will prepare a SWPCP that details stormwater management and erosion/sedimentation control measures for the Project construction.

Access Roads

To access Project work sites, UI will use a combination of public roads and proposed or existing access roads within or near the ROW. Access will be required to each new structure site, as well as to reach the existing 115-kV structures to be removed. Because portions of the 115-kV ROW are characterized by challenging topography (steep terrain, rock outcrops) that make linear construction access along UI's easement difficult, UI proposes to use off-ROW access roads, as necessary, to provide safe ingress/egress to Project work sites, while avoiding or minimizing adverse environmental impacts.

Access roads may be permanent or temporary and will consist of materials appropriate to the different characteristics of the Project areas traversed (e.g., upland, wetlands). To minimize or avoid the potential for soil to be tracked from Project work sites onto public roads, rock "aprons," track pads, or equivalent stabilization will be established at the entrances/exits to work sites from public roads.

Most access roads across wetlands and watercourses will be temporary and will be comprised of timber mats or equivalent. Access roads in uplands typically will consist of gravel, although construction mats will be used in agricultural lands. Typically, Project construction access roads will be approximately 16-20 feet wide. However, in some areas, roads will be wider to accommodate equipment turning and passing or to account for terrain. UI will also use existing access (e.g., paved or graveled areas), where available. Existing paved access is not expected to require significant upgrades, whereas existing non-paved access may require the addition of gravel or asphalt patch.

In the following locations, UI will maintain permanent access roads to provide ingress/egress for operation and maintenance work along the rebuilt 115-kV lines.[15] The locations of permanent access roads are:

- **Shelton**. (1) West of Structure 355 and leading to Structures 355-357 - final plans for permanent access will be coordinated with the landowner and will be predicated on the need to provide access for agricultural use; and (2) From Riverview Avenue leading to Structure 358, across City of Shelton property – final plans will be coordinated with the City and the access road will have a locked gate at the end of Riverview Avenue to minimize the potential for ATV use.

- **Ansonia.** Between Structures 12-13 (on UI property) and to reach Structure 19 (due to challenging terrain).

Permanent access roads typically will consist of gravel and will be approximately 12 to 16 feet wide.

[15] UI will obtain appropriate Federal and State regulatory approvals for permanent access roads that affect water resources.

Work Pads

Construction work pads will be required both to install the new monopoles and to remove the existing 115-kV structures. Work pads, which also will be required at conductor and OPGW pulling sites, will consist of construction mats (timber or equivalent) or gravel. The Volume 2 maps identify the locations and size of each work pad.

As illustrated on the Volume 2 maps, the size of each work pad varies based on location. In general, the typical work pad for installing a new monopole and removing the adjacent lattice structure will be approximately 80 feet by 150 feet; however, specific work pad dimensions vary, taking into consideration topography.

The work pads will be used to stage structure components for final on-site assembly, to provide a safe, level base for the construction equipment used to install foundations, and to erect the structures. To establish work pads, grading will be performed as needed. Construction matting will be used for work pads that must be installed (in whole or in part) within wetlands and in agricultural areas; matting also may be used in other areas, as appropriate.

Pads for conductor pulling will also be required at certain locations along the ROW (refer to the Volume 2 maps). Typically, each pull pad footprint will be approximately 80 feet by 300 feet.

In addition, temporary work sites will be established adjacent to the various roads spanned by the 115-kV lines. During conductor/wire removal and installation across roads, UI will park cranes with elevated booms ("boom trucks") or may install temporary poles (referred to as "guard structures"). The boom trucks/guard structures will be positioned to prevent the conductor/wire from reaching the ground in the event of an issue during the crossing work. Typically, boom trucks will be positioned on road shoulders or – in some cases – within a part of the road (requiring a temporary lane closure).

UI anticipates that in some upland areas, portions of the gravel work pads used during Project construction will be left in place to provide a stable base for the performance of transmission line operation and maintenance activities. Such work pads are estimated to be approximately 40 feet by 60 feet; however, actual dimensions will vary by location (refer to the Volume 2 maps.)

4.1.6 Foundation and Structure Installation

Foundation Installation

The new monopoles are expected to be installed primarily on drilled pier foundations[16]. Such foundations will average 15-35 feet in depth, although some foundations may be almost 50 feet deep. The depth of the foundations will depend on subsurface conditions and the type of structure. Spoils generated from the drilling process will be managed pursuant to UI's Materials *Management Plan* (refer to Appendix D).

Auger drilling will be used to perform the excavations for the drilled pier foundations. The size of each excavation typically will be 6-12 feet in diameter. Casings, or equivalent, may be used to provide soil support as needed to complete the excavation work and place concrete. The casing may be removed from the pier foundations as concrete is placed or soon thereafter.

In locations where groundwater inflow is considered excessive and cannot be controlled via typical dewatering processes, concrete may be placed via a slurry displacement (tremie) method.

Once the excavation is complete, steel reinforcing bars and an anchor bolt cage will be placed in the excavation and encased in concrete. The concrete will be conveyed from the mixer to the place of the final deposit by methods that will prevent the separation or loss of material. Any water displaced during the concrete pour will be managed according to standard UI procedures. Field tests of the concrete will be conducted regularly. In general, as an indication of other physical properties, the quality of the concrete being produced will be judged by the compressive strength developed within a given period.

Structure Assembly and Installation

After the structure foundation is in place and the concrete is cured, the steel transmission monopole will be assembled and erected. Structure components will be delivered to work pads and then assembled on site. Structures typically will not be erected on the concrete piers for a minimum of 28 calendar days after the concrete has been poured and until the compressive strength of the concrete has reached 4,500 pounds per square inch (psi). However, in certain locations, the structures can be installed prior to the 28-day typical minimum cure time, if the compressive strength of concrete has reached 4,500 psi.

The galvanized steel monopole structures will be either assembled on the ground and erected as a complete unit or assembled in pieces with a crane. After the structure is erected and framed with the support insulators

[16] Direct embed structures and structures supported by pile type foundations may be installed in certain locations, pending the results of further engineering analyses.

and hardware, the overhead lines can be installed. Conductor pulling blocks, which are a required tool to install the new OPGW, shield wires, and conductor, will also typically be installed at this time.

Structure Grounding

Each transmission line structure will be grounded, prior energization of the rebuilt 115-kV lines, to provide a path for the energy from lightning discharges to enter the earth and safely dissipate. The foundation of each transmission line structure will provide some natural grounding through contact with the surrounding earth. However, to provide further protection, a minimum of two ground rods, and associated ground conductor, will be buried adjacent to each foundation.

Typically, the ground rods will be installed after the completion of the foundation and before the installation of the structure. The need for and location of additional ground rods will be determined by the construction contractor.

4.1.7 Conductor, OHSW, and OPGW Installation

The installation of the overhead line conductors, OHSW, and OPGW will require the use of pulling and tensioning equipment, as well as reels of conductor, which will be positioned at temporary pulling work pads along the transmission line route. Helicopters may be used to install pulling ropes at the commencement of the conductor/OPGW pulling process, or to install marker balls on the lines across the Housatonic River.

To maintain clearance at road crossings during conductor and OPGW installation, temporary guard structures or boom trucks will be positioned adjacent to the crossings (refer to Section 4.1.5). The proposed locations of temporary pulling work pad and guard structure pads are illustrated on the Volume 2 maps.

The conductors will be pulled under tension to avoid contacting the ground and other objects. The remaining insulators and hardware will then be installed at strain and dead-end structures. Finally, the conductors, OHSW, and OPGW will be pulled to their design tensions and attached to the hardware. Linemen in bucket trucks will perform this operation.

After the wires are installed, UI will place marker balls on the transmission line segment that spans the Housatonic River. Although the FAA issued "Determinations of No Hazard to Air Navigation" for the Project (indicating that the proposed wire configuration and structures do not require any further aeronautical study or special markings/lighting), UI elected to voluntarily install marker balls on the

topmost overhead shield wires above the Housatonic River. The marker balls will make the wires more conspicuous to low-flying aircraft. Pursuant to FAA recommendations, the marker balls, which will be unlit and will be arranged in an alternating orange, white, and yellow color scheme, will be placed per FAA's Advisory Circular AC-70/7460-1M.

4.1.8 Decommissioning and Removing Existing Structures

The existing UI structures to be removed from the ROW are listed in Table 2-1 and identified on the Volume 2 maps. Access will be required to reach each of the existing 115-kV structures to be removed. Work pads also will be needed at each of these locations. UI's *Decommissioning Plan for Existing Structures,* including the 115-kV structures, wires, and hardware is included in Appendix A. [17]

4.1.9 Commissioning

UI will energize the rebuilt 115-kV transmission line facilities in accordance with standard Company procedures. The schedule for energizing the rebuilt 115-kV lines is included in Section 6.

4.1.10 Cleanup and Restoration

UI's *Restoration Plan* for the Project is presented in Appendix D.[18] The overall objective of cleanup and restoration activities will be to remove construction debris and to rehabilitate, stabilize, and restore areas affected by Project construction.

Restoration/stabilization will be performed based on the characteristics of the area affected by construction and may include scarification, adding topsoil, reseeding, adding gravel, or repaving. The seed mixes used for stabilization will be appropriate to the soil conditions (wetland, upland) and, where feasible, will include seed mixes containing plants that promote habitat for pollinators. Along the ROW in Osbornedale State Park, UI will coordinate with CT DEEP regarding the use of pollinator seed mix(es).

In areas subject to erosion, temporary erosion and sedimentation controls (installed and maintained during Project construction) will remain in place until permanent stabilization is achieved, pursuant to the requirements of the CT DEEP General Permit and the Project-specific SWPCP. UI's SWPCP inspector will verify final stabilization.

[17] This Plan is pursuant to CSC Docket 3B Condition 3.d.
[18] This Plan is pursuant to CSC Docket 3B Conditions 3.i.

4.2 RESOURCE-SPECIFIC CONSTRUCTION PROCEDURES

This section provides resource-specific protocols and procedures applicable to Project construction.

4.2.1 Erosion and Sedimentation Control and Stormwater Management

The Project construction is expected to result in minimal temporary soil disturbance, mostly associated with the establishment of access roads, work pads, pull pads, and structure foundation drilling (refer to the Volume 2 maps). As described in the Project *Erosion and Sediment Control Plan* (refer to Appendix B), UI will install and maintain erosion and sedimentation control measures during construction to avoid or minimize the potential for surface water runoff, erosion, and sedimentation to occur outside of the work limits. These measures will conform to the Project-specific SWPCP. Erosion and sediment controls will be monitored and inspected in accordance with the procedures described in Section 3.1.3.

To manage stormwater during Project construction, UI will install typical erosion and sediment controls as described in Appendix B and the SWPCP. Stormwater will be directed, as necessary, to existing stormwater features and natural drainage ditches along the ROW. In addition, to provide permanent access along the ROW for operations and maintenance purposes, UI will install two culverts to carry the flow of intermittent stream WC2 (refer to Volume 2, Map sheet 4). The water quality of runoff from the stabilized ROW is expected to be similar to or better than that of the existing runoff.

4.2.2 Soils, Groundwater, and Materials Management

As part of the Project planning process, UI performed field sampling and analyses programs to characterize soils and groundwater along the Project ROW and to identify the materials in the paints and coatings on the existing transmission line structures that will be dismantled and removed from the ROW. These studies were designed to provide information for use in both the Project design and the management of materials during Project construction.

Soil and Groundwater Management. The objective of the soils and groundwater sampling and analysis program was to assess subsurface conditions, not only for structure foundation design purposes, but also to determine the appropriate methods for managing excavated soils and groundwater encountered during construction. Materials excavated during the Project construction process will be managed in accordance with Connecticut Guidelines for Soil Waste Management and the numeric criteria in the Connecticut Remediation Standard Regulations along with UI's *Materials Management Plan*. Based on the results of

the Project-specific studies, UI anticipates that some excavated materials will be loaded directly into dump trucks and then transported for disposal or management at an approved permitted off-site location.

In some locations, topsoil or spoils may be temporarily stockpiled at work sites. Such materials will be contained within appropriate erosion and sediment controls (e.g., straw bales, silt fence) and may be covered with poly/plastic, pending off-site disposal or re-spreading over work sites as part of restoration. Soil and subsoil stockpiles also may be reseeded for temporary stabilization with an annual seed mix (e.g., annual rye or equivalent), pending final restoration. UI will protect stockpiled soils/subsoil materials in accordance with the procedures in the D&M Plan and Project SWPCP.

Materials Management: Structure Removal. The lattice steel towers that will be dismantled and removed as part of the Project are almost 100 years old. As a result, UI conducted an extensive sampling and analysis program designed specifically to characterize the paint and other coating materials, not only on the lattice towers, but also on all other structures to be removed as part of the Project. The purpose of this sampling and analysis program was to provide input to the protocols for safely dis-assembling, removing from the ROW, and recycling or otherwise disposing of the materials that comprise the existing structures (refer also to the *Decommissioning Plan for Existing Structures* [Appendix A] and the *Materials Management Plan* [Appendix I]).

Samples were taken and analyzed from each of the existing structures. The results of the sampling and analysis revealed that the paint on the structures contains lead and other heavy metals. Paints containing these materials were historically used for various purposes, including electric transmission structure coatings. The sampling and analysis program also identified coatings with asbestos-containing materials on some of the lattice steel towers (Structures 3510359, 360 and 4).

UI will use the results of the sampling and analysis to develop protocols for structure dismantling, removal from the ROW, and appropriate recycling or disposal. Such protocols will be described in the Project's *Materials Management Plan*. In general, however, UI anticipates that each structure will be carefully dismantled into manageable pieces, which then will be lowered to the ground within the ROW adjacent to the structure site. Subsequently, the structure pieces may be further dismantled or cut for removal and transport to an approved recycling or disposal facility. This work will be performed by contractors trained and licensed in the management of materials containing the paints and coatings found on the towers. Any hazardous materials will be handled by appropriately licensed contractors.

During Project construction, UI is committed to maintaining the safety of both the public and its workers and to protecting environmental resources. UI will hire contractors licensed to dismantle and remove facilities with the paints and coatings found on the structures. UI's contractor will be required to retain an independent environmental health and safety contractor to monitor the structure removals. In addition, UI will hire a materials management oversight contractor. All work will be performed in accordance with strict protocols for maintaining community and worker safety and protecting the environment, including the use of best management practices for controlling potential air emissions and dust. During activities that may disturb the structure coatings, UI will perform air monitoring as necessary to verify the effectiveness of the structure removal procedures. Further, UI will adhere to standard protocols for properly handling, transporting, and disposing of all materials from the dismantled structures.

Materials such as soil and groundwater encountered during the construction process will be managed and, as necessary, disposed of in accordance with the procedures described in the Project *Materials Management Plan* (refer to Appendix D), which conforms to Connecticut's Waste Management guidelines. UI will manage any soil to be reused in accordance with the Connecticut Remediation Standard Regulations (RSRs).

Most soil will be direct loaded into the appropriate transportation means, however in cases where topsoil or spoil (if any) needs to be temporarily stockpiled at work sites, these materials will be contained within appropriate erosion and sediment controls (e.g., straw bales, silt fence) and may be covered with poly/plastic, pending off-site management. In areas where the characterization studies indicate that topsoil or spoil materials may be re-spread over work sites as part of restoration, stockpiles will be protected with temporary erosion and sediment controls and as appropriate, reseeded for temporary stabilization pursuant to the Project SWPCP.

Groundwater encountered during the construction of the rebuilt 115-kV lines will be dewatered in accordance with the procedures defined in the Project SWPCP and *Materials Management Plan*. Procedures for managing groundwater dewatered during the Project typically may include but will not be limited to the use of vacuum trucks and off-site management at an approved facility; temporary storage at Project sites in fractionization (frac) tanks prior to off-site disposal; discharge to a wetland filter bag and then filtered into an upland area; and/or discharge to sanitary sewers and/or surface waters, with appropriate permitting and treatment if required. All dewatering activities will be conducted in accordance with applicable local and/or State permitting requirements.

4.2.3 Water Resource Crossings

Ten watercourses (including the Housatonic River) and 10 wetlands are located along the Project ROW. No new monopoles will be located in a watercourse or wetland. However, construction activities will unavoidably be required in four wetlands and three streams, as described below and illustrated on the Volume 2 maps (refer also to Table 4-2).

All water resource crossings and other construction activities in wetlands and watercourses will be performed in accordance with the Council's requirements, the conditions of USACE and CT DEEP regulatory approvals, and Project technical plans and specifications.

Table 4-2: Summary of Project Impacts to Water Resources (all in City of Shelton)

Volume 2 Mapsheet No.	Watercourse/Wetland No.	Estimated Project Impact, by Type (Sq. Ft.)			
		Temporary Impacts[a]		Permanent Impacts (Fill)[b]	Wetland Forest Vegetation Clearing[c]
		Access Roads	Work Pads		
1, 2	W2	2,306	0	0	0
2	W3; WC1	1,520	0	0	0
3	W4; WC2 (two crossings, permanent culverts)	0	559	2,500 (1,000 = WC2) (1,500 = W4)	0
4	W5; WC3	268	0	0	350
TOTAL		4,094	559	2,500	350

[a] The placement of temporary construction matting that is not subject to federal regulatory review.
[b] Direct fill placed in wetlands and watercourses that are subject to State and Federal regulatory review. Includes approximately 1,000 square feet of permanent impacts due to the two culvert installations and 1,500 square feet of fill in adjacent wetlands.
[c] Refers to a change in wetland vegetation type (e.g., forested to shrub-scrub), but not a net reduction in wetland function or size. Wetland forested vegetation will be removed only to establish a temporary access road. Forested vegetation will be allowed to become re-established after the completion of Project construction.

Watercourse Crossings

During Project construction, temporary access, involving the installation of construction mats (timber or equivalent) will be required across three small streams. The Volume 2 maps identify the locations of watercourse crossings and indicate where temporary mat bridges or equivalent will be installed along access roads and to allow work pads to span streams, as well as the locations where a permanent access road will cross one intermittent watercourse (WC2 in Shelton) in two locations (requiring two permanent culverts). In total, the permanent culverts will result in approximately 1,000 square feet (sf) of permanent impact (fill) in the intermittent stream.

The construction techniques used at each watercourse crossing will be in accordance with Project permits and also will depend on site conditions at the time of construction and whether the crossing is permanent

or temporary. Any crossings will be placed or sized to maintain water flows and avoid or minimize the potential for flooding. UI will install the two proposed permanent culverts at the intermittent stream pursuant to the conditions of permits obtained from CT DEEP and/or USACE.

Appropriate erosion control measures will be deployed to avoid and/or minimize impacts at watercourse crossings. The rebuilt 115-kV transmission lines will span all the watercourses along the Project route.

Wetland Crossings

UI has designed the Project to avoid or minimize impacts to wetlands to the extent practical. Of the 10 wetlands within the ROW, only four will be affected by the Project as a result of tree removal, temporary access roads/work pads, and the two permanent culverts.

Tree clearing, totaling an estimated 350 square feet, will be required in one wetland (W-5 in Shelton) in order to establish a temporary off-ROW access road for Project construction. The affected 350 square feet acre of existing forested wetland vegetation will be allowed to revegetate naturally after the temporary access road is removed. The area will not be subject to future UI ROW vegetation management procedures and, as a result, the tree clearing in the wetland area is considered a temporary impact.

In addition, access roads and work pads (consisting of timber mats or equivalent) will be required across three wetlands, all in Shelton. In total, the Project will result in approximately 4,653 square feet of temporary impacts to wetlands (4,094 square feet for temporary access roads and 559 square feet for work pads). Approximately 1,500 square feet of one wetland (W4 in Shelton) will be permanently filled as part of the installation of the two permanent culverts across intermittent stream WC2.

During Project construction, UI will implement measures to protect wetlands. Accordingly, UI will install erosion and sediment controls, implement wetland invasive species control procedures, and perform environmental inspections, pursuant to the Project SWPCP, the General Permit, and as summarized in Section 3.1.3. To minimize impacts to wetlands during the Project work, UI will conduct the following best management practices:

- Watercourse and wetland boundaries will be clearly demarcated (re-flagged by a registered soil or wetland scientist) prior to the commencement of work. Construction personnel will be given this D&M Plan and the SWPCP, both of which include maps that depict wetland and watercourse boundaries in relation to Project work areas.

- Timber construction mats or equivalent will be installed across wetlands and streams; the mats will be positioned to maintain water flows. To prevent the spread of invasive or noxious species, prior to deployment on the ROW, the Project contractor will clean timber mats (or equivalent) such that they are free of soil, seeds, and plant fragments.

- Project construction contractors will be required to conform to the requirements of the USACE and CT DEEP permits and Council conditions concerning work in water resources.

- Concrete (used for structure foundations) will be mixed, placed, and disposed of to avoid or minimize the risk of concrete materials entering a watercourse or wetland.

- Installation of two new culverts for the permanent crossings of an intermittent stream (WC2) will be in accordance with the measures recommended in the CT DEEP *Stream Crossing Guidelines* as appropriate.

- Existing riparian vegetation within 25 feet of watercourse banks will be maintained or cut selectively, to the extent practical.

- Controls will be installed as needed to prevent or minimize the potential for sedimentation into watercourses or wetlands. Near / in wetlands, straw bales will be used instead of hay bales to prevent the spread of non-wetland plant seeds.

- Petroleum product management procedures will be implemented to avoid or minimize the potential for spills into water resources. To the extent possible, petroleum products will be stored in uplands more than 100 feet from wetlands, and construction equipment, except for equipment that cannot be practically moved, will be refueled only in upland areas.

- Forested wetland vegetation will be removed without removing stumps except in areas where the intact stumps pose a concern for the installation of timber mat (or equivalent) access/workspace and the safety of construction personnel.

- Wetland areas temporarily affected by Project construction will be restored and if appropriate reseeded with a wetland seed mix. No woodchip mulch or fertilizer will be applied within wetlands.

4.2.4 Wetland Invasive Species Control

Appendix F presents UI's *Wetland Invasive Species Control Plan* for the Project.[19] In general, UI will require its Project construction contractors to implement measures to control the spread of invasive wetland plants, particularly during the installation of temporary construction mats along construction access roads and at work pads. The main objectives will be to perform construction activities to minimize the spread of invasive plant species within wetlands or from wetland-to-wetland along the Project ROW, and to restore wetlands affected by the Project promptly to limit the potential for invasive species to colonize disturbed soils.

[19] This plan addresses CSC Docket 3B Condition 3.k.

4.2.5 Floodplains

Near the Housatonic and Naugatuck rivers, the Project will extend across 100- and 500-year floodplains identified by the Federal Emergency Management Agency (FEMA). Certain new monopoles will be located in these FEMA-designated floodplains. However, no new monopoles are planned for location in FEMA-designated floodways. Table 4-3 summarizes the new monopoles that will be located within floodplains.

Table 4-3: New Monopoles within FEMA 100- and 500-Year Flood Zones

Volume 2 Mapsheet No	Floodplain	New Structure Number	Within 100-year or 500-year Flood Zone	Monopole Foundations: Estimated Impact Area (SF)*	Monopole Foundation Estimated Impact (CF)*
9	Housatonic River	361A (Indian Well Substation)	100-year	38	202
9	Housatonic River	361B (Indian Well Substation)	100-year	28	
	Housatonic River	1B (Indian Well Substation)	100-year	51	239
9	Housatonic River	2	500-year	50	492
9	Housatonic River	2A	500-year	7	60
9	Housatonic River	2B	500-year	7	62
22	Naugatuck River	20	Area of Reduced Risk of Flooding	50	90
23	Naugatuck River	21	Area of Reduced Risk of Flooding	64	81

*Impact area (square feet [SF].cubic feet [CF]) estimated based on current engineering design data regarding structure foundations.

One of the four existing lattice tower footings for Structure 360 (Derby) is located in the Housatonic River designated floodway; the other three footings are in the 500-year floodplain. The rebuilt Structure 360 will be located slightly to the east and outside of the 500-year floodplain. All existing and proposed structures at and directly east of Indian Well Substation are within the river's 100- or 500-year floodplain. In Ansonia, a portion of the ROW between Structures 19A/B and 20 is within the Naugatuck River's 500-year floodplain. Ansonia Substation is west of the Naugatuck River, within an area identified by FEMA as having a reduced risk of flooding due to the presence of a levee along the river.

In locations where structures must unavoidably be located in FEMA-designated floodplains, UI has designed and will install the new monopoles with extended foundation reveals to withstand any foreseeable major flood events.

The anticipated impact of the installation of the new monopoles in the floodplains was estimated based on the following structure design information. Monopoles in a flood zone will have a foundation base diameter ranging from 6 to 9 feet.. Additionally, Structures 2A and 2B will have foundations at existing grade so a steel pole diameter of 3 feet will be in the indicated flood zone.

At the Housatonic River, the three monopoles that must unavoidably be placed in 100-year floodplain will displace approximately 590 cubic feet of total flood storage capacity, and the three monopoles installed in 500-year floodplain will displace approximately 614 cubic feet of flood storage capacity. This displacement of floodplain storage capacity will be insignificant compared to the total drainage area and flood storage capacity of the Housatonic River watershed.[20] Therefore, UI does not anticipate that the Project will have any adverse effects on flood dynamics and will not alter the floodplains or chances for flooding.

4.2.6 Rock Removal

In some areas along the ROW (particularly in Derby and Ansonia), bedrock will be encountered at shallow depths. UI expects to use mechanical measures (e.g., hoe ramming, chipping) to remove bedrock as necessary to create level work pads or access to work sites. Blasting is not expected to be required.

However, based on the depth, extent, and type of bedrock identified during detailed subsurface studies of the Project route, it is possible that UI's construction contractor would propose to use controlled blasting in some areas. If controlled blasting is necessary, UI would retain a licensed blasting contractor to develop a site-specific blasting plan. The blasting plan, which would take into consideration geological conditions and the location of nearby land uses and utilities, typically would contain information about the work to be performed, schedule, safety, noise and vibration monitoring, pre- and post-blast inspections, and traffic control measures, as warranted. The plan would comply with State and local regulations and would be provided to the municipal fire marshal and the CSC for review and approval prior to the initiation of the blasting work.

4.2.7 Protection Measures for Listed Species

To assess the potential for Federal or State listed species to inhabit the Project area, UI coordinated with the CT DEEP and the USFWS and received a CT DEEP Natural Diversity Database (NDDB) Determination

[20] The structures near the Naugatuck River will be behind the levee, where FEMA determined a reduced risk of flooding.

(No. 202200275) and an Official Species List (Project Code 2023-0057038). UI will continue to consult with the CT DEEP and USFWS as necessary during Project construction.

The Project area encompasses potential habitat for certain species identified by CT DEEP or the USFWS as endangered, of Special Concern, or Monitored. The characteristics and habitat preferences of these species are summarized as follows, along with the measures that UI proposes to avoid impacts to these species as a result of Project construction:

- ***Northern Long-eared Bat*** **(NLEB):** The NLEB, a Federally-listed Endangered species, can be found across the eastern and north central United States and in all Canadian provinces. NLEB includes tress, snags, caves, and mines. No known hibernacula for this species exists along the Project ROW. No critical habitat has been designated by the USFWS for this species. The Project area is not located within 150 feet of a known occupied maternity roost tree or within 0.25 mile of a known NLEB hibernaculum. There are currently no documented NLEB maternity roost trees in Connecticut. The nearest NLEB habitat resource to the ROW is in North Branford, over 18 miles from the Project area.

  The USFWS officially reclassified the NLEB from Threatened to Endangered status on March 31, 2023; in advance of that ruling, on March 21, 2023, the USFWS released a planning tool and interim guidance for assessing potential impacts to the bats from planned projects. The USFWS is expected to issue final guidance by April 2024. Applying the interim guidance, UI assessed the Project's potential impacts to the NLEB, which resulted in a preliminary Project determination of "may affect, not likely to affect" outcome. Based on the current USFWS guidance, this determination outcome requires no further action with respect to the NLEB. However, UI will continue to monitor the evolving USFWS guidance regarding the NLEB and, as necessary, will respond accordingly.

  However, in accordance with the Council's Condition 3.o, and in consultation with CT DEEP, UI will not perform tree clearing along the expanded UI ROW in Osbornedale State Park from June 1 through August 31, thereby eliminating any potential for impacts to roosting NLEB.

- **Monarch Butterfly:** ***Danaus plexippus***. The Monarch Butterfly was identified in December 2020 as a candidate species under consideration for listing, but not yet a Federally-listed species. Critical habitat is not listed for the species which use milkweed as a host plant.

- **Sedge Wren:** ***Cisttothorus platensis***. A State-listed Endangered species, the sedge wren nests in dense, tall growths of sedges and grasses in wet meadows, hayfields, retired croplands, upland margins of ponds and marshes, coastal marshes, and sphagnum bogs. This species, which nests between May and August, was identified as potentially inhabiting areas in the vicinity of Derby Junction. CT DEEP recommended reducing disturbance to any of these habitats in the Project area by avoiding construction during the breeding period or by conducting a species survey to determine if they are nesting in the area. As part of the planning for its 115-kV transmission line rebuild work near Derby Junction, in June 2022, Eversource conducted a survey to assess whether sedge wrens were present in the vicinity. No sedge wrens were detected (either visually or audibly). Because sedge wrens were not found in the Project area, UI does not propose any species-specific protection measures.

- **Bald Eagle:** ***Haliaeetus leucocephalus***. Habitat for the bald eagle, as State-listed Threatened species, was identified in the vicinity of the Naugatuck River. Natural year-round habitat of bald eagles includes lakes, marshes, rivers, or seacoasts, where there are tall trees nearby for nesting and roosting and plenty of fish for eating. Although bald eagles feed primarily on fish, they also are opportunistic predators and scavengers that will eat anything that can be caught easily or scavenged, such as waterfowl, small and large mammals, and livestock carrion. In addition, they have a reputation of being thieves, robbing other raptors or gulls of their catch.

  Pursuant to Con. Gen Stat. § 26-93, it is illegal to disturb bald eagles during roosting, feeding, or nesting. The critical time for nesting eagles is February 1- August 1. CT DEEP recommends a 660-foot setback with no public access from a bald eagle nest or critical roosting site. As of March 2023, no bald eagle nests or nesting activity had been observed within 660 feet of the ROW. Should future avian monitoring determine that bald eagles begin to nest in areas within 660 feet of the ROW, UI anticipates the following measures may be used to avoid or minimize potential Project-related impacts to bald eagles:

  - During the species' critical nesting period (February 1 – August 1), Project work activities will not be performed within 330 feet of active nests/roosts, in the line of sight of an active nest or roost, or otherwise within 660 feet from nests/roosts that are in the line of sight during periods of eagle use, unless monitoring demonstrates that the nest or roost is not being used.

  - Minimize cutting of large trees to the extent practical. No known bald eagle nest trees, perch trees, or roost trees will be felled or modified unless they present a danger or hazard to the operation and maintenance of the transmission lines. UI will coordinate with CT DEEP to ensure the Project does not disturb bald eagle nesting or roosting trees, or that suitable mitigation is provided.

4.2.8 Air Quality Protection (Minimization of Dust and Vehicle Idling Protocol)

Vehicle/Equipment Idling Requirements

To minimize emissions from construction equipment and vehicles, UI will require Project contractors to properly maintain equipment and to adhere to Connecticut's anti-idling requirements (RCSA § 22a-174-18). Per Connecticut requirements, the allowable idling time for vehicles of all kinds, including diesel construction equipment, is 3 minutes. However, under winter work conditions (when the ambient temperature is below 20 degrees Fahrenheit) the following apply:

- Construction equipment may require longer periods to warm up after overnight shut down or other extended periods of inactivity. Such "warm up" periods, as required to bring the equipment up to a safe operating temperature (as defined by the equipment manufacturer), are exempt from the idling time limit. However, most diesel engines take 3 minutes or less to warm up (contractors should consult the engine manufacturer's recommendations).

- Construction equipment may have to idle for longer periods to operate defrosting or heating equipment to ensure the safety or health of the driver.

Note: "Idling" is defined as the period when mobile construction equipment is not in motion or is not otherwise actively performing its designated function. Thus, "idling" does not apply to the use of

certain types of mobile construction equipment (e.g., cranes, cement mixers) that may be stationary, but is actively operating, at a work site.

Dust Minimization

Dust emissions will be controlled by applying water or equivalent substances to exposed soil on Project work sites, as necessary, per guidance provided in the SWPCP. To minimize tracking of dirt from Project construction areas onto paved roads, when used for construction access, crushed stone anti-tracking pads (or equivalent) will be installed, as necessary.

4.2.9 Site Access, CT DOT and Railroad Crossing Permits, and Traffic Control/Signs

During construction, access to Project work sites will be via the public road network combined with the use of access roads either within or near the railroad corridor. The Project ROW will span one railroad (operated by The Housatonic Railroad Company) in Shelton; the railroad, referred to as the Maybrook Line, provides freight rail service. No airports are located near the ROW and, as a result, the Federal Aviation Administration (FAA) determined that no lighting or marker balls would be required on the new monopoles.

The Project 115-kV transmission lines span State Routes 110 (Shelton), 34 (Derby), and 8 and 334 (Ansonia). The Project contractor will submit applications for encroachment permits to the Connecticut Department of Transportation (CT DOT) for these State road crossings. The resulting CT DOT encroachment permits will include specifications for notifications to CT DOT, work hours, use of specific traffic controls, detours, etc. The contractor will be required to adhere to all CT DOT road crossing requirements.[21]

To avoid or minimize the potential for traffic issues on municipal roads during construction, UI's construction contractors will implement access and traffic control measures. Such measures will include procedures for maintaining safe ingress and egress to the Project ROW from public roads for construction equipment and other vehicles, including the use of properly-placed signs indicating the presence of construction work zones. UI's construction contractor will be responsible for posting and maintaining construction warning signs, in accordance with state and local requirements, along public roads in the vicinity of the work areas. Signs will be consistent with the latest version of the federal Manual of Uniform Traffic Control Devices ([MUTCD]).[22]

[21] If the work hours specified in the catn encroachment permits differ from the expected work hours listed in Section 6, UI will inform the CSC, requesting a D&M Plan modification.
[22] Connecticut has adopted the federal MUTCDs.

Flaggers or police personnel will be used to direct traffic, as needed. UI or its construction contractor will coordinate with representatives of the municipalities as needed to implement traffic management procedures specific to each local road crossing. For construction access off or work over state roads, the construction contractor will conform to the requirements of CT DOT's encroachment permits. UI anticipates that some construction work will require the temporary closure of certain road segments.

UI will coordinate with The Housatonic Railroad Company to obtain an encroachment permit for wire removal and installation work over the railroad tracks. No construction work areas will be required directly adjacent to the railroad tracks.

4.2.10 Cultural Resources

Based on cultural resource analyses commissioned by UI and reviewed by the SHPO, the Project construction will not adversely affect either standing historic structures or known archaeological sites. Despite the results of the previously completed investigations of the ROW and the comments by the SHPO, UI understands that the unanticipated discovery of archaeological deposits is possible during construction.

In the event that potential undocumented (buried) cultural materials (including possible human remains) are discovered during the Project construction, UI will implement the following protocols:

1. Construction activities will **STOP** at the location where the materials were discovered.
2. UI's construction contractor will cordon off the area in the immediate vicinity of the find locations to keep personnel out of the area.
3. The contractors will not remove, disturb, or damage, the materials.
4. The contractor will immediately notify UI's construction manager, identifying the work site at which the find was made.
5. UI's construction manager will contact the appropriate UI environmental representative or UI's Project environmental inspector/monitor and UI Project Management, who will arrange for UI's on-call cultural resources consultant to review the information regarding unanticipated discovery, as required, to confirm the potential presence of cultural materials and, if applicable, their possible significance.
6. The on-call cultural resources consultant will perform an on-site inspection of the site of the unanticipated discovery.
    a. If the field review determines that the archaeological materials are potentially significant, the consultant and UI will coordinate with the SHPO regarding the appropriate methods for removing, documenting, or preserving the artifacts.

Construction at the site where the significant cultural materials were discovered will not resume until (i) a treatment plan is prepared and implemented (for example, the significant archaeological deposits are removed for off-site curation); and (ii) UI issues a notice for the contractor to recommence work.

b. If the field review determines that the unanticipated discovery is not a potentially significant archaeological deposit, the cultural resource consultant will notify UI. UI then will inform the construction contractor to resume work at the site.

4.2.11 Lighting and Noise Mitigation

Lighting

Project construction is expected to be performed during the daytime, when temporary lighting will not be required. In the event that nighttime work is required to perform select construction tasks (such as those that require 24/7 work), UI will require its contractors to install temporary lights such that the illumination is focused on work sites. As a result, lighting-caused glare outside of the approved construction work zones is not anticipated. The Project will not result in any long-term changes to ambient lighting along the ROW, or to the existing lighting at Indian Well and Ansonia substations.

Noise

The construction of the Project will result in short-term increases in noise associated with various construction activities, such as the movement and operation of heavy equipment (such as earth movers, jackhammers, drilling rigs, cranes) and the work to excavate areas for new structure foundations. Noise will also be generated from helicopters, if used to install new transmission line components or to dismantle the existing lattice steel towers. These construction activities will temporarily raise ambient sound levels near work sites. The noise impacts will vary based on the work being performed and will last only for the duration of Project activities in a particular location.

In general, the extent of a noise effect to humans is dependent upon a number of factors, including the change in noise level from ambient, the duration and nature of the noise, the presence of other noise sources, the number of people exposed to the noise, and the type of activity affected by the noise (e.g., sleep, recreation, conversation). Typical Project work hours will be from 7:00 AM to 7:00 PM, Monday to Saturday. Thus, construction will be performed principally in the daytime when human sensitivity to noise is generally less than during the nighttime.

Along the ROW, construction noise is expected to be comparatively more evident in nearby residential areas (where background noise levels are lower) than in adjacent commercial and industrial zones (where

the sound environment is influenced by traffic, manufacturing activities, etc.). However, such sound will be focused at and in the immediate vicinity of Project work sites and will attenuate with distance. In addition, UI will require its construction contractors to properly maintain and muffle equipment and vehicles to minimize noise emissions.

Although construction noise is exempt under the Connecticut regulations for the control of noise, (RCSA § 22a-69-1.8(h)), UI is aware that Shelton, Derby, and Ansonia have adopted noise control ordinances, which identify typical hours for construction activities. To assure that the public is aware of the Project work activities, UI will inform the involved municipalities and stakeholders of the Project schedule (refer to Section 8 for a discussion of UI's outreach efforts).

The operation of the rebuilt 115-kV lines will not cause any long-term changes to ambient noise. Further, the Project will not involve the addition of any noise-producing equipment to Indian Well or Ansonia substations.

4.2.12 Construction Equipment/Vehicle Washing

Except for concrete trucks, no construction equipment or vehicle washing will be allowed on Project work sites. Concrete truck wash-out will be allowed only in upland locations that must be selected to avoid or minimize the potential for impacts to environmental resources. All wash-out areas will include measures to control and contain wash-water and to collect the cement wash-off, such as in spin-off boxes, for off-site disposal. The Volume 2 mapsheets illustrate the anticipated location of concrete washout areas.

Erosion and sedimentation controls deployed at wash-out areas will conform to the relevant provisions of the 2002 Connecticut Guideline for Soil Erosion and Sediment Control (as amended), the 2004 Connecticut Stormwater Quality Manual, the Project SWPCP, and the CT DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities.

4.2.13 Utility Crossings

Above-ground utilities along the ROW are identified on the Volume 2 maps. UI's contractors will use "Call Before You Dig" to identify the locations of buried utilities in relation to any sub-surface work. Project construction will not involve any excavation in the vicinity of underground utilities in public roads.

4.2.14 Spill Prevention and Control

UI's *Spill Prevention and Control Plan* is included in Appendix E. The Project construction contractor(s) will be required to implement this plan during all phases of construction.

4.2.15 Methods to Prevent or Discourage Unauthorized Use of the ROW

UI generally restricts access along its transmission line ROWs. If required, UI will coordinate with the individual landowners to obtain approval for installing or enhancing existing barriers (e.g., fences, gates, boulders) as deterrents to unauthorized access. UI anticipates that such barriers will be installed, as necessary, where UI's ROW intersects with public roads.

4.2.16 Winter Work

Some Project construction activities will be conducted during the winter months. The removal of snow and ice from construction sites will be critical to maintain a safe work environment. Snow removal and the use of de-icing procedures from Project access roads and work pads, will be performed to protect worker safety and in accordance with UI's *Snow Removal and De-icing Procedures*, which incorporates the CT DEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots (refer to Appendix C).

4.3 CONSTRUCTION PROCEDURES FOR OSBORNEDALE STATE PARK AND OTHER OPEN SPACE/RECREATIONAL AREAS

The Project ROW will traverse or be located near several open space/conservation lands and designated recreational areas, as listed in Table 4-4. To avoid or minimize potential impacts to users of the recreational/open space areas along the ROW, UI will coordinate with and provide construction notifications/updates to the Connecticut Forest & Park Association (CFPA), as well as the cities of Shelton, Derby, and Ansonia. UI also will coordinate with CT DEEP and will perform construction activities along the expanded ROW across Osbornedale State Park in accordance with the Company's agreement with CT DEEP. In addition, UI will perform outreach to abutters to provide updates, as necessary, regarding the construction schedule.

Appropriate mitigation measures will be implemented at each recreational area. Such measures may include the use of temporary construction fencing (i.e., snow fence or equivalent) to demarcate construction work areas, as well as signs warning of the presence of construction work zones. During periods of active construction in or near recreational areas, UI also anticipates that flaggers will be on-site to direct the public away from work zones.

Table 4-4: Public Open Space / Recreational Areas and Project Mitigation Measures

Recreational Facility / Municipality	Volume 2 Mapsheet No.	Type of Use and Ownership	Location in Relation to ROW	Mitigation Measures (General)
Shelton				
Paugussett Trail	1	Hiking Trail (CFPA)	Extends along and through a small portion of Eversource's ROW from Constitution Blvd. and parallels UI ROW, 0.2 mile to the north.	Coordinate with CFPA regarding construction schedule. During construction activities near Derby Junction, UI anticipates that the trail will have to be temporarily closed to the public. UI will use snow fencing, construction warning signs, and flaggers as needed.
Municipal Open Space (undeveloped)	2	City of Shelton	ROW traverses several City open space parcels, including 0.3 mile across an open space parcel (currently an agricultural/open field) between Derby Junction to just west of Meadow Street and 0.2 mile across open space parcels north and east of Ten Coat Lane and west of Howe Avenue (State Route 110). Parcels are used for farming and include some old farm roads and tracks used for hiking.	UI will post construction warning signs as appropriate and will notify nearby property owners, including condominium residents, who use some areas for hiking. UI also will coordinate with the City of Shelton regarding the construction schedule.
Derby				
Gilder Boat House		Yale University	Boat house for Yale rowing	UI will coordinate with Yale University's facilities manager at the boat house regarding the construction schedule and will attempt to time the work to minimize or avoid conflicts with the rowing schedule.
Municipal Dog Park		Cities of Derby & Ansonia	Fenced dog park is located off Coon Hollow Road; Project construction will affect the parking lot of this facility.	Construction will not affect the fenced dog park but will require temporary use of most of the parking area. UI will leave parking spaces near the road for dog park users and will maintain access to the dog park during construction except during certain Project activities (e.g., structure installation) when access to the park may be restricted to maintain public safety.
Derby/Ansonia				
Osbornedale State Park		CT DEEP	Project ROW extends approximately 1,465 feet across an undeveloped	The portion of the park affected by the Project is not used for active recreational use (no trails). Mitigation

Recreational Facility / Municipality	Volume 2 Mapsheet No.	Type of Use and Ownership	Location in Relation to ROW	Mitigation Measures (General)
			portion of the State park; the existing 50-foot-wide ROW will be permanently expanded by approximately 60 feet to the west.	will be pursuant to UI's agreement with CT DEEP.
Ansonia				
Nolan Field Athletic Complex		City of Ansonia	The ROW borders Ansonia's Nolan Field Athletic Complex, which includes baseball and football fields, as well as a track and tennis courts. The field is extensively used.	A temporary work pad for pulling the rebuilt wires will be required on part of Nolan Field and a portion of the track. UI will schedule construction to avoid the primary uses of the field (e.g., football, baseball). UI will also post construction warning signs, notify the City of Ansonia, and will fence off construction work zones.

5. CONSTRUCTON PROCEDURES FOR SUBSTATION AND JUNCTION MOFICATIONS

This section describes the construction procedures that will be required to connect the rebuilt 115-kV lines to Eversource's 115-kV lines at Derby Junction, as well as to the Indian Well and Ansonia substations, as well as to remove the existing 115-kV line connections. Volume 2 includes detailed site plans that illustrate the installations/modifications to each substation. The procedures described in Section 4 for the transmission line rebuild work also will apply, as relevant, to the Project modifications to the substations.

5.1 DERBY JUNCTION

UI's work at Derby Junction will consist of removing the existing 115-kV lines and connecting the rebuilt lines to Eversource's rebuilt Structures 1364. All work will be performed within the UI or Eversource ROWs. UI has been actively collaborating with Eversource regarding the Project plans for this critical tie-in point.

5.2 INDIAN WELL SUBSTATION

At Indian Well Substation, hardware modifications will be performed to the H-frame structures on the line termination side, up to the switch attachment location. In addition, two new fiber splice boxes will be installed to terminate the OPGW fibers for the 1594 and 1808-2 lines on two existing H-Frame structures inside the substation fence. From these structures, all dielectric self-supporting (ADSS) fiber (72 fiber for the 1594 Line and 96 fiber for the 1808-2 Line) will be encased inside separate inner ducts, which will extend to the control/switchgear enclosure through the backup cable trench. The ADSS fiber will be terminated into separate fiber patch panels in the control/switchgear enclosure.

5.3 ANSONIA SUBSTATION

At Ansonia Substation, hardware modifications will be performed to the A-frame structure on the line termination side, up to the switch attachment location. In addition, one new fiber splice box will be installed to terminate the OPGW fibers for 1594 Line on an existing A-frame structure inside the substation fence. Underground 72-fiber ADSS for the 1594 Line will be encased inside inner ducts, which will extend to through the existing (secondary) cable trench before terminating at the fiber patch panel inside the control enclosure.

6. CONSTRUCTION SCHEDULE AND WORK HOURS

As illustrated on Figure 6-1, the Project transmission line rebuild work is scheduled to begin in September 2023. All three of the 115-kV lines are expected to be in-service by the end of 2024. However, full restoration (complete site stabilization and revegetation) of the areas disturbed by construction (including the access roads and work pads along the ROW) may not be completed until the 2025 growing season. SWPCP inspections, as required to document restoration effectiveness, could continue into the 2026 growing season.[23]

Table 6-1: Segment 1 Construction Schedule

ACTIVITY	2020				2021				2022				2023				2024				2025			
Preliminary Engineering																								
Detailed Engineering																								
Permitting																								
Procurement																								
Award POs																								
Line 1560-3 Construction																								
Install New 115-kV Lines																								
Remove Exisiting 115-kV Lines																								
Line 1808-2 Construction																								
Install New 115-kV Lines																								
Remove Exisiting 115-kV Lines																								
Line 1594 Construction																								
Install New 115-kV Lines																								
Remove Exisiting 115-kV Lines																								
ROW Restoration																								
Project Closeout																								

Outages will be required for the Project construction. Outages for the Project are generally expected to be from October 2023 through May 2024.

Typical work hours for Project construction will be from 7 AM to 7 PM, Monday through Saturday. Construction personnel may arrive for and leave work outside of these times (e.g., marshalling at the laydown/material staging/contractor yard and at the substations for meetings, or at work sites along the ROW for pre-workday tailboards). However, noise-generating construction activities typically will not be performed before 7:00 AM or after 7:00 PM unless prior approval is obtained from the Council.

[23] Pursuant to the CT DEEP General Permit, the Project will be considered complete after all post-construction measures are installed, cleaned, functioning, and inspected, and the site has achieved final stabilization for at least one full growing season (April – October) after the cessation of construction activities.

UI anticipates that some extended hours and Sunday work will be necessary on a limited basis. For example, extended hours will be needed for construction work that must occur on a continuous basis (e.g., concrete pours and setting for foundations) or that must be scheduled in accordance with outage requirements.

In addition, work that involves conductor/OPGW installation or removal over State roads (e.g., State Routes 110, 34, 8, 334) will require encroachment permits from the CT DOT. Such permits may specify that Project activities be performed during non-peak travel times, such as at night or on weekends.

7. PERMITS AND APPROVALS

As part of the overall Project planning process and during the preparation of this D&M Plan, UI coordinated with representatives of various regulatory agencies, including municipal officials, CT DEEP, CT DOT, the SHPO, USFWS, FAA, and the USACE.[24] In addition to authorization from the Council for the Project, UI has obtained approvals from other State and Federal agencies. At the Federal level, the Project must comply with the Clean Water Act (CWA), the Endangered Species Act, the National Historic Preservation Act and the Federal Aviation Act.

At the State level, along with compliance with the Council's requirements, UI has obtained Project-specific permits or approvals pertaining to water resources, stormwater management, flood management, threatened and endangered species, and cultural resources. UI also submitted a petition to the Connecticut Public Utilities Regulatory Authority (PURA) regarding the Method and Manner of Project construction; UI anticipates PURA approval in July 2023.

In addition, in accordance with the Council's requirements, UI is providing a copy of this D&M Plan to the officials of the cities of Shelton, Derby, and Ansonia.

Table 7-1 summarizes the Project permits and/or approvals applicable to the Project, along with the status of each.

[24] UI also coordinated with the Federal Aviation Administration (FAA); the FAA reviewed the heights of the new monopoles and issued Determinations of No Hazard (DNH) to aviation for all structures.

Table 7-1: Project Permits and Approvals

Agency	Potential Permit/Approval Required / Activity Regulated	Application Submitted or Consultation (Date)	Status
FEDERAL			
USACE	Clean Water Act Section 404 (inland and tidal water resource crossings)	Consultation with USACE in progress	Pending. Self-Verification Notification Forms (SVNF) to be submitted late July 2023
USFWS	Consultation per Section 7 of the Endangered Species Act	Preliminary iPAC consultation for entire ROW submitted 3/17/2023.	Pending. ;iPAC consultations to be revised consistent with Federal nexus requirements (areas subject to SVNF filing)
FAA	Form 7460-1: Notice of Proposed Construction or Alteration	Consultation submitted on 02/07/2022; FAA issued Determinations of No Hazard; no marker balls or lighting required	Consultation complete. FAA coordination may be required for contractor cranes.
STATE			
CSC	Approval of Motion to Reopen Docket 3 and modification of Certificate of Environmental Compatibility and Public Need under Conn. Gen. .Stat.,. § 16-50*l*(a)(1)	May 2022	CSC approval issued October 27, 2022
	Development and Management Plan (after issuance of certificate and prior to Council's approval to start construction)	May 2023	This document, as submitted to the CSC
CT DEEP • Land and Water Resources Division (LWRD)	Water quality certification per Section 401 of the Clean Water Act; pertains to water resource crossings; SDF for conductors over Housatonic River	Filing anticipated June 2023	
• NDDB	State threatened and endangered species; special concern species and significant natural communities' consultation, survey, and review.	NDDB consultations submitted January 6, 2022	Determination response received from CT DEEP on January 18, 2022
• Stormwater & Dewatering	General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (DEEP-WPED-GP-015) and SWPCP	June 2023	General Permit / SWPCP submittal date anticipated June 2023.
• Bureau of Natural Resources and Outdoor Recreation / Office of Land Acquisition and Management	Expanded easement for ROW across Osbornedale State Park (Derby and Ansonia)	Application submitted May 2022	Consultation regarding final agreement for expanded easement in progress
CT DEEP, PURA	Approval of method and manner of transmission line construction and energization per Conn. Gen. Stat. Section 16-243	Petition submitted May 12, 2023	Approval anticipated July 2023
CT DOT	Encroachment permits for state highway crossings (State Routes 110, 34, 8, and 334)	Expected to be submitted in Q3 2023	Anticipated late 2023 – early 2024
CT SHPO	Cultural Resource Consultation under Conn. Gen. Stat. § 16-50*l*(e)	Phase 1A report submitted March 2022	SHPO clearance letter received July 26, 2022
The Housatonic Railroad Company	Encroachment permit for wire pull over the Maybrook Line railroad tracks in Shelton, adjacent to the Housatonic River	Construction contractor will apply for this encroachment permit. Expected to be submitted in Q3-Q4 2023.	Anticipated late 2023 – early 2024

8. PUBLIC REVIEW AND OUTREACH

8.1 General

In conjunction with the submission of the D&M Plan to the Council, UI will post the filed D&M Plan on the Project web site and will provide the D&M Plan to officials of Shelton, Derby, and Ansonia, as well as to those on the CSC and service list for the Project. UI also will inform the CFPA which maintains the blue-blazed Paugussett Trail near the ROW in Shelton and will coordinate with CT DEEP regarding work in Osbornedale State Park.

UI's Project web site is:
http://www.derbyjunctionansoniatransmissionlinerebuild.com/index.htm

Throughout the construction process, UI outreach representatives will be available to brief residents and businesses affected by Project construction activities and other interested stakeholders regarding the construction process, key construction stages, and expected construction timeline. Project representatives will also contact adjacent and nearby residents and businesses to notify them of upcoming construction activities and will be reachable throughout the construction process to address any specific questions or concerns.

8.2 Procedures for Notifying the Public of Helicopter Use[25]

As described in Section 4, UI's contractor may elect to use helicopters for certain construction tasks, such as to install pulling ropes at the commencement of the conductor/OPGW pulling process, to install marker balls on the lines across the Housatonic River, or to assist in the removal of the legacy lattice steel towers, etc. UI will require its construction contractor to provide a three-week advance notice of any activities that will involve helicopter use, specifying the type of work to be performed and the locations.

UI's outreach representatives will inform the affected municipalities one week prior to the planned helicopter work and will post the anticipated schedule for the work on the Project web site.

[25] These procedures are required pursuant to CSC Docket 3B, Condition 3.f.

9. ACRONYMS AND GLOSSARY OF TERMS

Acronym	Description
115-kV:	115-kilovolts or 115,000 volts
ACM:	Asbestos containing material
ACSR:	Aluminum conductors with steel reinforcement, a common type of overhead conductor
ACSS:	Aluminum Conductor with Steel Support, a common type of overhead conductor
AGH:	Above Ground Height
AGL:	Above Ground Level
ANSI:	American National Standards Institute
APA:	Aquifer Protection Area
ASCE:	American Society of Civil Engineers
BMP:	Best Management Practices
CEII:	Critical Energy/Electric Infrastructure Information
CELT:	Capacity, Energy, Loads, and Transmission Report (ISO-NE)
Certificate:	Certificate of Environmental Compatibility and Public Need (from the Connecticut Siting Council)
CFPA:	Connecticut Forest & Park Association
CIPWG	Connecticut Invasive Plant Working Group
CIRCA:	Connecticut Institute for Resiliency and Climate Adaptation
Conn. Gen. Stat.:	Connecticut General Statutes
CONVEX:	Connecticut Valley Exchange
Council (CSC):	Connecticut Siting Council
CT DEEP:	Connecticut Department of Energy and Environmental Protection
CT DOT:	Connecticut Department of Transportation
CYD:	Cubic yard
D&M Plan:	Development and Management Plan (required by the Connecticut Siting Council)
dBA:	Decibel, on the A-weighted scale
dbh:	Diameter breast height (tree trunk measurement)
DCDE:	Single pole double-circuit deadend (structure)
DCT:	Single-pole double-circuit tangent (structure)
ECC:	Energy Control Center (UI)
EMF:	Electric and magnetic field
EPA:	Environmental Protection Agency (United States)
EPRI:	Electric Power Research Institute
Eversource:	The Connecticut Light and Power Company dba Eversource Energy
FAA:	Federal Aviation Administration
FEMA:	Federal Emergency Management Agency
FIRM:	Flood Insurance Rate Map
HEPA:	High Efficiency Particulate Air (filter)
IEEE:	Institute of Electrical and Electronics Engineers
iPac:	Information for Planning and Consulting (online USFWS review tool)

Acronym	Description
ISO-NE:	Independent System Operator – New England
Hz:	Hertz (frequency)
kV:	Kilovolt; equals 1,000 volts
kV/m:	Kilovolts per meter
LBP:	Lead based paint
LE:	Linear foot (feet)
LiDAR:	Light detection and ranging (remote sensing technology)
LTE:	Long-term emergency (rating)
mG:	Milligaus (measurement of magnetic flux density)
NAAQS:	National Ambient Air Quality Standards
NAVD88:	North American Vertical Datum 1988
NDDB:	Connecticut Natural Diversity Data Base (CT DEEP)
NERC:	North American Electric Reliability Council, Inc. (initially, the National Electric Reliability Council)
NESC:	National Electrical Safety Code
NFPA:	National Fire Protection Association
NRCS:	Natural Resources Conservation Service (United States Department of Agriculture)
NLEB:	Northern Long-Eared Bat
NWI	National Wetland Inventory
OPGW:	Optical groundwire (a shieldwire containing optical glass fibers for communication purposes)
OSHW:	Overhead shield wire
Permanent Easement:	Pertains to the transmission line structures, wire clearances, access, vegetation management, limitations on structures that can be placed on the easement (e.g., buildings, pools,), and protection from excavation, all as needed for UI's installation, maintenance, operation, and repair of the utility infrastructure
Project:	Derby Junction to Ansonia Substation 115-kV Transmission Line Rebuild Project
RCRA:	Resource Conservation and Recovery Act
RCSA:	Regulations of Connecticut State Agencies
ROW:	Right-of-way
RWA:	South Central Connecticut Regional Water Authority
SCADA:	Supervisory Control and Data Acquisition System
SCDA:	Single pole single-circuit deadend type a (0 to 60° angle)
SCDB:	Single pole single-circuit deadend type b (60° and greater angle)
SF:	Square Feet
SHPO:	Connecticut State Historic Preservation Office
SMD:	Standard Market Design (ISO-NE)
SPCB:	Single pole single-circuit running angle with brackets
SPCT:	Single pole single-circuit tangent
SPCP:	Spill Prevention & Control Plan
SPDE:	Single pole single-circuit deadend on davit arms
SRHP:	State Register of Historic Places
SWPCP:	Stormwater Pollution Control Plan
Tap:	Interconnection point between transmission lines, also referred to as a junction
UI, Company:	The United Illuminating Company

Acronym	Description
USACE:	United States Army Corps of Engineers
USDA:	United States Department of Agriculture
USGS:	United States Geological Survey (U.S. Department of the Interior)
WISCP:	Wetland Invasive Species Control Plan
XS:	Cross-section (drawing)

This page intentionally left blank.

APPENDICES

APPENDIX A

DECOMMISSIONING PLAN FOR EXISTING STRUCTURES

(Per CSC Docket 3B, Condition 3.d)

This page intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION 1

2. STRUCTURE DECOMMISSIONING AND REMOVAL METHODS 4
- 2.1 General Sequence 4
- 2.2 Access Roads and Work Pads for Structure Removals 7
- 2.3 Circuit De-Energization and Conductor / OHSW Removal 7
- 2.4 Materials Management during Structure Removals 8
- 2.5 General Materials Management 9
- 2.6 Restoration 9

3. SCHEDULE 10

LIST OF TABLES

Table 1-1 Existing 115-kV Structures, by Municipality, Structure Number, Type, and Height Range 2
Table 2-1 Lattice Tower Removal: Typical Sequence of Activities 5
Table 2-2 Summary of Structure Installation and Removals, by Line Outage 6

LIST OF FIGURES

Figure 1-1 Representative Existing Lattice Steel Structures 3

This page intentionally left blank.

1. INTRODUCTION

For the Derby Junction to Ansonia 115-kV Transmission Line Rebuild Project (Project), The United Illuminating Company (UI, the Company) will decommission and remove its existing 115-kilovolt (kV) transmission line infrastructure along the approximately 4.1 miles of right-of-way (ROW) between Derby Junction in Shelton, Indian Well Substation in Derby, and Ansonia Substation in Ansonia. The existing 115-kV lines between Derby Junction and Ansonia Substation are arranged in a double-circuit configuration (for a total of approximately 8.2 circuit miles), as follows:

- 1560-3 Line: extends for approximately 4.1 miles, from Derby Junction to Ansonia Substation.
- 1808-2 Line: co-located with the 1560-3 Line for approximately 1.5 miles, from Derby Junction to Indian Well Substation.
- 1594 Line: co-located with the 1560-3 Line for approximately 2.6 miles, from Indian Well Substation to Ansonia Substation.

In total, the existing 115-kV lines are supported on 40 structures: 29 lattice steel towers, four self-supporting steel monopoles, two direct-embed steel monopoles, one wide-flange column pole, and four takeoff structures at the substation. The four takeoff structures (two each at Indian Well and Ansonia substations) will not be replaced as part of this Project. Thus, a total of 36 structures will be removed as part of the Project.

The structures along the ROW, which were originally owned and operated by the Derby Gas and Electric Company (DG&E), range in height from 65 to 140 feet. The tallest structures are located on either side of the Housatonic River crossing. The shortest structure is Structure 17 in Ansonia. The 115-kV line termination structures within Indian Well and Ansonia substations are 45-50 feet in height.

DG&E built the lattice steel towers in 1924. At that time, two lines, one on either side of the lattice towers (double circuit configuration), operated at 13.8 kV. The transmission lines were upgraded to 69 kV in the 1930s and then to 115 kV in 1967-1968.

UI purchased the structures from DG&E in 1969. The Company has subsequently operated and maintained the 115-kV lines, completing minor repairs to structure foundations in 2008-2009.

Table 1-1 summarizes the existing structures, identifying the structure numbers, type, and height range. The Volume 2 maps illustrate the location of each structure to be removed.

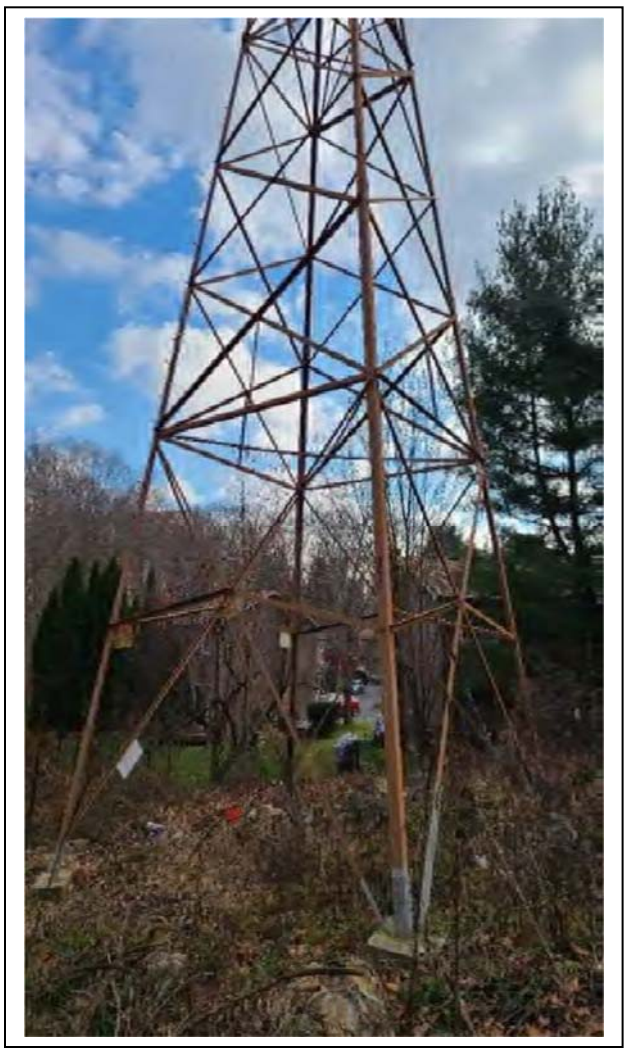
Table 1-1: Existing 115-kV Structures, by Municipality, Structure Number, Type, and Height Range

Municipality (Miles of ROW)	Structure Nos.	Structure Types	Structure Height Range (feet)
Shelton (1.2 miles)	351-358 359 (Housatonic River crossing)	9 Steel Lattice Towers	80 feet; 140 feet at river crossing
Derby (1.4 miles)	360 (Housatonic River crossing) 361A, 361B H-Frame tubular steel take-offs at Indian Well Substation 1B, 2A, 2-9	8 Steel Lattice Towers 4 Self-Supporting Steel Poles 1 Wide-Flange Section Column 2 Tubular Steel Pole H-Frame Takeoffs*	140 feet at river crossing; 45-95 feet
Ansonia (1.5 miles)	10-20, 21 20A, 20B Wide-flange A-frame take-off - Ansonia Substation	12 Steel Lattice Towers 2 Direct-Embedded Steel Pole 2 Wide-Flange A-Frame Takeoffs*	50-97.5 feet

*Take-off structures will remain.

Except for the span over the Housatonic River (between Structures 359 and 360, where the existing conductor is 336.4 (26/7) aluminum conductor with steel support (ACSS) "Linnet", the 115-kV lines currently use 7-strand 4/0 copper for both conductors and overhead shield wire (OHSW).

This *Existing Structure Decommissioning Plan* (Plan) presents UI's overall approach for removing its transmission line infrastructure (lattice steel towers and other structures, conductors, OHSW). The Plan describes the general construction sequence and procedures for removing the existing infrastructure. Overall, the construction sequencing and structure removal process is designed to maintain 115-kV in service between Derby Junction, Indian Well Substation, and Ansonia Substation at all times during construction.



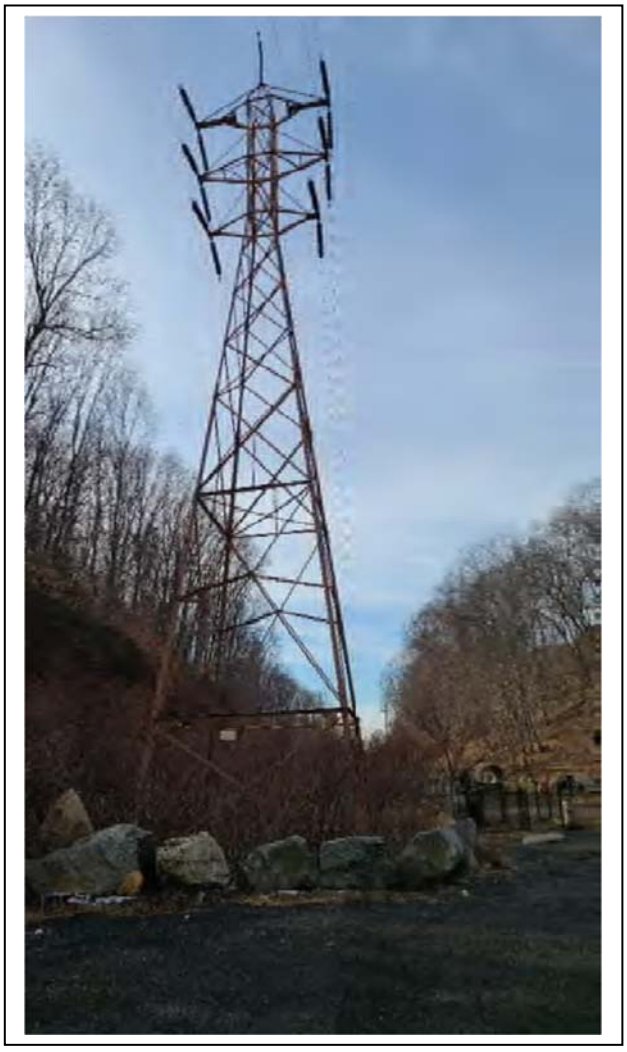


Figure 1-1: Representative Existing Lattice Steel Structures (Structures 357, Left, and 8 Below)

2. STRUCTURE DECOMMISSIONING AND REMOVAL METHODS

2.1 General Sequence

For the existing structure removal activities, special construction sequencing will be required to accommodate outage logistics, since one of the 115-kV circuits between Derby Junction, Indian Well Substation, and Ansonia Substation must remain energized at all times to maintain electric service to customers. No double-circuit outage will be allowed at any time during Project construction.

As a result, the work to remove the existing structures will be performed in several phases, corresponding to outages on each of the three 115-kV circuits and to the timing of the installation of the new monopoles and the new conductor and OHSW/OPGW.

Initially, only one of the circuits (and associated hardware) on the existing structures will be removed. Once the new structures, as well as both new conductors and associated OHSW and OPGW are installed, and the rebuilt lines energized, the existing structures will be completely dismantled and removed from the ROW.

Table 2-1 summarizes the primary sequence of tasks that will be involved in a typical double-circuit structure removal. This typical sequence is for the removal of each of the 29 lattice steel towers. However, most of the same activities also will be involved in the removal of the seven other types of existing structures.

Table 2-2 summarizes the sequence of structure removals, based on the planned timing of the outages on each of the three circuits and the installation of the new monopoles.

All activities will be performed by UI's construction contractor, under the supervision of UI's construction manager and with the input, as required, of the environmental/SWPCP inspectors. Some work tasks may vary, based on the construction contractor's selected means and methods of construction.

Table 2-1: Lattice Tower Removal: Typical Sequence of Activities

- De-energize one of the 115-kV circuits on the existing double-circuit lattice towers/other structures. (The other circuit will remain energized.)
- Remove the existing de-energized conductor, insulators, OHSW, and lattice cross arms from one side of the existing double-circuit structure.
- Install the new structures and on the de-energized side, install davit arms, conductor, and OHSW/OPGW.
- Energize the rebuilt 115-kV circuit on the new monopoles.
- De-energize the remaining 115-kV circuit on the existing structures.
- Install the second set of davit arms on the new structures, as well as new conductors and OHSW/OPGW. Energize the circuit.
- Remove the remaining 115-kV line and associated hardware.
- Prepare the structure for demolition, implementing any site-specific activities as needed pursuant to environmental requirements.
- Determine the size of the crane that will be required for the demolition process, as well as the positioning of the crane at each existing structure work pad.
- Determine the locations of steel structural cuts or bolts to be removed as required to dismantle the structure.
- Cut or unbolt steel structural members, at the pre-determined locations.
- Remove the structural components, which may be either loaded directly onto trucks for off-site disposition or first cut to manageable sizes on site (i.e., on the work pad) before being transported off site.
- Remove other scrap materials from the lattice tower site.
- Break apart lattice tower footings (foundations) to depth below grade pursuant to UI specifications.
- Remove all broken concrete and other remaining tower materials for off-site disposal.
- Backfill the foundation hole with suitable fill material and restore the former structure site per UI's standard ROW restoration specifications (which will vary based on the former structure location; refer to the Project *Restoration Plan* in Appendix D).

Table 2-2: Summary of Structure Installation and Removals, by Line Outage

Phase	115-kV Line Outage	No. of New Monopoles to be Installed (Structure Numbers)	No. of Existing Structures Removed (Structure Numbers)	No of Existing Cross Lattice Arms Removed (Structure Numbers)
1	1560-3	17 (351 to 360, 1B, 2, 2A, 3A, 4, 5, 6)	2 (1B, 2)	14 (351 to 360, 3, 4, 5, 6)
2	1808	3 (350, 361A, 361B)	12 (351 to 360, 361A, 361B)	0
1808 Line Rebuild Complete				
3	1594	13 (14, 15, 16, 17B, 18B, 19B, 20, 21, 2B, 3B, 7, 8, 9) 1 (Temporary Pole 9T*)	6 (Braced Monopole 20B, 2A, 3, 4, 5, 6)	11 (14, 15, 16, 17, 18, 19, 20, 21, 7, 8, 9)
4	1560-3	7 (10, 11, 12, 13, 17A, 18A, 19A)	12 (7, 8, 9, 14, 15, 16, 17, 18, 19, 20, Braced Monopole 20A, 21)	4 (10, 11, 12, 13)
1560-3 Line Rebuild Complete				
5	1594	0	4 (10, 11, 12, 13) 1 (Temporary Pole 9T**)	0
1594 Line Rebuild Complete **ALL LINES REBUIILT AND EXISTING 115-kV INFRASTRUCTURES REMOVED**				

*Temporary pole 9T is required due to height change and foundation deterioration on existing lattice Structure 10.
**Remove one temporary pole (Pole 9T) at this phase.

2.2 Access Roads and Work Pads for Structure Removals

Access will be required to reach each of the existing structures to be removed. Work pads also will be needed at each of these locations to provide space for the equipment and activities needed to remove the existing 115-kV structures. The access roads and work pads for most of the structure removals will be the same as those used for the installation of the new monopoles.

As illustrated on the Volume 2 maps, UI proposes to use temporary work pads that are sized to accommodate the activities required both to install the new monopoles and to remove the old structures. Exceptions are:

- Structure 10, which will be relocated from adjacent to Osbornedale State Park. In this area, separate work pads will be required for the installation of new Structure 10 and the removal of the old Structure 10 lattice steel tower.
- For the removals of existing braced post structures 20A and 20B located north of Ansonia Substation (these structures will not be replaced with new monopoles).

2.3 Circuit De-Energization and Conductor / OHSW Removal

On each of the 115-kV circuits, the conductors and OHSW will be removed first. The insulators and hardware associated with the removed wires also typically will be detached from the existing structures after the wire removal.

Various methods may be used to remove the OHSW and conductors. The exact method used will be determined by the contractor. For example, the wires may be unclipped from the existing structures and put in stringing blocks. Wire between multiple structures would then be pulled out using ropes and a wire reel.

Alternatively, construction crews could set up equipment at two adjacent structures and then cut the wire, allowing the wire section between the two structures to be lowered to the ground and removed. The wire that remains on the other side of these structures may be temporarily tied off and attached to the structure until removal activities are continued. If in good condition, at the contractor's discretion, the existing wires may be transferred to the new structures to be used as ropes to pull the new OPGW and conductors into position on the new monopoles.

After all wires on a circuit are removed, the insulators and hardware will be removed. The crossarms will be dismantled by either unbolting or cutting the bolts at existing connections.

Typically, this work will be performed using a combination of bucket trucks, lifts, cranes, and other typical construction equipment. However, the Project construction contractor may elect to perform some of this work via helicopter.

2.4 Materials Management during Structure Removals

In late 2021 and early 2022, UI conducted inspections, sampling and analyses of the materials and coatings on the existing lattice steel towers and other structures that will be removed as part of the Project. The purpose of these evaluations was to identify any historical coatings that require special handling, treatment, and disposal during the structure dismantling process.

The results of the analyses determined that asbestos-containing materials (ACM), consisting of paint and damp proofing, are present on Structures 351-359, 360, and 4. In addition, some of the lattice steel towers contain lead-based paint (LBP), as well as paint that contains heavy metals as defined by the Resource Conservation and Recovery Act (RCRA).

During the structure deconstruction process, UI will require its construction contractor to retain experienced personnel trained in the handling of such materials. The contractor will be required to adhere to all Federal and State requirements and UI specifications for the protection of public health, including Occupational Safety and Health regulations. Construction workers will be required to use appropriate personal protective equipment and to employ special materials handling methods. Details regarding these requirements are defined in UI's construction contract documents.

For example, UI specifications require that all designated ACM be removed in a manner so as to not render the material friable, within a regulated asbestos removal work area using wet methods. The Project construction contractor will be required to use appropriate work practices to ensure ACM/debris is controlled and does not fall onto the ground or into water. Work is anticipated to include localized paint removal from areas of the steel lattice tower that must be cut or otherwise dismantled. High efficiency particulate air (HEPA) dust collection may be used. The contractor will be responsible for removing, handling, transporting, and disposing of all ACM and will use a Connecticut Department of Public Health-licensed Asbestos Abatement Supervisor to oversee the work.

Similarly, structure dismantling activities that will affect steel components coated with paint containing RCRA metals will be performed in strict accordance with defined engineering controls and methods that will avoid exposure of such metals to the public or to workers.

2.5 General Materials Management

UI will require its contractor to remove and properly dispose of all materials from the structure removal process. Materials will be handled, transported, and disposed of in accordance with Federal and State requirements, as well as UI specifications (refer also to the *Materials Management Plan* in Appendix I). UI will recycle the structural components to the extent practical.

2.6 Restoration

After the removal of the existing 115-kV transmission line infrastructure, the former sites of the steel lattice towers and other structures will be restored as part of UI's overall Project ROW restoration process (refer to the Project *Restoration Plan* in Appendix D).

3. SCHEDULE

The structure removal schedule will be coordinated with the line outages and structure installation work. The general schedule for structure removal, by 115-kV line is as follows:

Line No.	Planned Schedule for Structure Removals
1560-3	Q4 2023 and Q2 2024
1808	Q1-Q3 2024
1594	Q2-Q4 2024

The areas from which the existing 115-kV structures will be removed will be restored as part of the overall ROW restoration, which is planned for between Q4 2024 and the end of Q2 2025.

APPENDIX B

SOIL EROSION AND SEDIMENT CONTROL PLAN

(Per CSC Docket 3B, Condition 3.e)

This page intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION 1

2. EROSION AND SEDIMENTATION CONTROL METHODS 2
- 2.1 Soil Management and Erosion Controls 2
- 2.2 Dust Controls and Anti-Tracking Measures for Sediment Control 3
- 2.3 Dewatering 4
- 2.4 Restoration 4

1. INTRODUCTION

During the construction of the Project, UI will install and maintain erosion and sedimentation control measures to avoid or minimize the potential for surface water runoff, erosion, and sedimentation to occur outside of active Project work areas. These measures will conform to applicable regulations concerning soil and erosion/sedimentation control and stormwater management, including the Connecticut Department of Energy and Environmental Protection's (CT DEEP) General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit), the *2002 Connecticut Guidelines for Sedimentation and Erosion Control* (as amended), the 2004 *Stormwater Quality Manual*, and the provisions of the Project-specific Stormwater Pollution Control Plan (SWPCP).

UI's Project SWPCP incorporates erosion and sedimentation control measures, as appropriate to the Project, referenced in the 2002 Connecticut Guidelines and the 2004 Stormwater Quality Manual. In late May 2023, UI plans to submit the Project SWPCP to CT DEEP for review and authorization, pursuant to the General Permit.

The SWPCP will be implemented by UI and its construction contractor(s) to avoid, minimize, or eliminate potential adverse environmental effects during transmission line construction, and will identify measures to reduce the likelihood of sediment migration from construction sites. After the completion of the 115-kV line work, the sites affected by Project activities will be restored and permanently stabilized. As a result, the operation of the rebuilt 115-kV lines will not result in long-term adverse direct or indirect effects to soils or stormwater management.

2. EROSION AND SEDIMENTATION CONTROL METHODS

Various Project construction activities will result in soil disturbance. Such activities include vegetation clearing with grubbing using mechanized equipment, grading for access roads and work pads, excavation for structure foundation, and general soil / spoils stockpiling. In addition, equipment movement on gravel roads could generate dust. During construction, UI will implement procedures to minimize the potential for soil erosion and sedimentation, as well as to limit the generation of fugitive dust. The objectives of these procedures will be to:

- Protect water resources (wetlands and waterbodies) during construction by preventing or minimizing the potential for the migration of sediment from work sites.
- Minimize the quantity and duration of soils exposed to potential erosion by installing appropriate erosion and sedimentation controls, removing soils from the Project area as appropriate (i.e., loading excavated soils directly into dump trucks for appropriate off-site disposal), stabilizing any soils that are temporarily stockpiled on Project work sites, and restoring work sites.
- Avoid or minimize both the generation of dust from construction vehicle movements on unpaved access roads and the tracking of dirt from Project work sites onto local roads.

The following summarizes UI's Erosion and Sediment Control Plan for the Project. Additional details are provided in the SWPCP. Applicable Project construction contractors will be given a copy of the SWPCP and will be required to certify that they have read, understand, and will comply with the SWPCP during Project construction.

2.1 Soil Management and Erosion Controls

UI will install and maintain both temporary and permanent erosion and sedimentation control measures, as appropriate, during Project construction. Permanent erosion and sedimentation control measures will be used as necessary along permanent access roads or in other areas, as required by site-specific conditions.

Temporary erosion and sedimentation controls may be installed before or after vegetation removal, depending on site-specific characteristics. More typically, such controls will be installed after vegetation removal, and will be deployed as needed around work site limits (e.g., access roads, work pads) in or near

wetlands, streams, and other sensitive environmental or land use resources, as well as along access roads and around work pads near slopes or water resources.

Temporary erosion and sedimentation controls typically will consist of straw bales, silt fence, straw wattles, coir logs, diversion swales, anti-tracking pads, temporary access matting, straw bale corrals for management of spoils or concrete washout areas, and/or erosion control blankets. Erosion control fabric will also be installed in catch basins, as needed. Erosion and sedimentation controls will be deployed in accordance with the SWPCP, the General Permit, the *2002 Connecticut Guidelines for Sedimentation and Erosion Control* (as amended), the 2004 *Stormwater Quality Manual,* and UI's construction plans and specifications. Representative illustrations of typical temporary erosion and sedimentation controls are provided in Volume 2. .

The types of erosion controls used will be appropriate to the urban/suburban areas and environmental resources in the Project area. In addition, pursuant to the General Permit and the Project SWPCP, UI's qualified environmental inspector/monitor will routinely perform monitoring to verify the effectiveness of the erosion and sedimentation controls. Based on the results of the inspections, UI may require the Project contractor to augment or modify erosion and sedimentation control methods during different construction phases.

Temporary erosion and sedimentation controls will be maintained, as necessary, throughout all phases of Project construction, until areas of disturbed soil are appropriately stabilized. (Refer to Section 2.4.)

Permanent erosion and sedimentation controls may include, among others, broad-based dips, water bars, rock swales, and plunge pools. Other permanent stabilization measures may include retaining walls, if necessary. UI will require the construction contractor to install appropriate permanent erosion and sedimentation controls, if necessary, to stabilize permanent access roads. Such permanent controls will be in accordance with the SWPCP specifications.

2.2 Dust Control and Anti-Tracking Measures for Sediment Control

Fugitive dust may be generated from Project construction activities such as vegetation removal, construction vehicle and equipment movements on non-paved access roads and work pads, excavations for structure foundations, and regrading as needed for restoration. Dirt from unpaved access roads also may be tracked onto adjacent paved surfaces.

Crushed stone (or equivalent) anti-tracking pads will be installed on Project access roads at the intersection with paved public roads. These anti-tracking gravel areas will minimize the amount of dirt tracked onto local roads by construction vehicles and equipment. In addition, UI will require its construction contractor to regularly maintain and sweep paved road surfaces to remove excess accumulations of dirt that may be unavoidably tracked onto the roads despite the anti-tracking pads.

To minimize the amount of dust generated by Project construction, standard dust minimization practices will be implemented. For example, access roads may be sprayed with water to minimize dust.

2.3 Dewatering

On-site dewatering may be required as a result of excavation activities related to the Project. Based on previous groundwater characterization, groundwater classified as "clean" may be dewatered from the excavation through an appropriate filter bag and discharged to upland areas, in a manner consistent with the SWPCP and UI's *Materials Management Plan*. Under no circumstances will the water be discharged into wetlands or watercourses. UI's construction contractor will be responsible for maintaining as needed sediment filtration measures on a daily basis, replacing such controls as necessary, and properly disposing of any sediment collected. Additional requirements for treatment and disposal of dewatering fluids may be necessary where groundwater is encountered that contains cement and/or contains drilling additives, such as polymers or bentonite, from the installation of monopole foundations.

2.4 Restoration

As the final phase of the Project, areas disturbed by construction activities will be restored. Restoration will consist of the removal of construction materials (e.g., construction mats) and debris, as well as regrading, where necessary, and seeding / mulching or otherwise stabilizing (e.g., repaving, adding gravel).

The objective of the restoration effort will be to rehabilitate work sites to be consistent with adjacent areas and with the operation and maintenance of the rebuilt overhead 115-kV transmission lines. Wetland areas affected by construction will be either allowed to revegetate naturally, reseeded with a temporary annual seed mix that will promote stabilization, or reseeded with wetland seed mixes in accordance with restoration plans approved for such use by CT DEEP and/or the U.S. Army Corps. of Engineers. Hay mulch will not be used in wetlands. With the approval of property owners and UI, certain areas deemed suitable will be restored with the application of pollinator seed mix for revegetation.

During Project restoration, temporary erosion and sedimentation controls will be maintained or reinstalled, as necessary. These controls will remain in place until the SWPCP inspector/monitor determines that final stabilization has been achieved. SWPCP inspections will continue for at least one full growing season following site stabilization, as defined by the General Permit.[1] Temporary erosion and sedimentation controls (e.g., silt fence, stakes) that are not otherwise biodegradable will be removed after Project work sites are deemed to be stabilized.

[1]. The growing season is defined as April-October, with seeding seasons within that time period consisting of April 1 to June 15 and August 15 to October 1. The growing season consists of both seeding seasons.

APPENDIX C

VEGETATION CLEARING PLAN

(Per CSC Docket 3B, Conditions 3.h and 3.o)

This page is intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION 1
1.1 Existing Vegetation to be Removed 1
1.2 VegetationClearing Schedule 1
2. VEGETATION CLEARING METHODS 2
2.1 Vegetation Clearing Boundary Marking 2
2.2 Vegetation Removal 2
2.3 Timber and Brush Disposition 3
2.4 Danger and Hazard Trees 3

LIST OF TABLES

Table 1-1 Estimated Tree Clearing, By Municipality 1

This page is intentionally left blank.

1. INTRODUCTION

This *Vegetation Clearing Plan (*Plan*)* describes the methods that UI will require its Project construction contractor to use to remove vegetation from Project work sites, including access roads and work pads. Vegetation clearing will be performed as needed to provide ingress/egress for construction equipment both within the UI ROW and along off-ROW access roads, to allow the establishment of work and pulling pads, and to maintain appropriate clearance from the rebuilt 115-kV line conductors and nearby mature trees.

1.1 Existing Vegetation to be Removed

The existing vegetation that must be removed for the Project consists of both scrub-shrub species within the portions of the ROW that UI currently maintains (consistent with the Company's transmission line vegetation management procedures), as well as mature trees, most of which are located within UI's proposed additional permanent easement. As summarized in Table 1-1, approximately 6 acres of trees[2] will be cleared for the Project. The Volume 2 maps illustrate the areas where mature trees must be removed.

Table 1-1: Estimated Tree Clearing, by Municipality

Municipality	Temporary Clearing*		Permanent Clearing**	
	Temp (SF)	Temp (Acres)	Perm (SF)	Perm (Acres)
Shelton	8,130	0.2	9,140	0.3
Derby	0	0	40,480	01.0
Ansonia	18,670	0.5	186,080	4.3
Total:	26,800	0.7	235,700	5.6

*Temporary clearing as required for temporary construction access and work pads. After the installation of the rebuilt 115-kV lines, these areas will be restored and will be allowed to fully revegetate.
**Permanent clearing is in areas within the new ROW, permanent access roads and pads. This area will be maintained by UI in accordance with their standard vegetation management practices.

1.2 Vegetation Clearing Schedule

UI plans to perform vegetation clearing for the Project principally during the fall of 2023 and winter of 2023-2024. Consequently, no trees will be cleared along the ROW in Osbornedale State Park during June, July, or August.[3]

[2] Mature trees are defined herein to consist of tall-growing vegetation typically greater than 6 inches diameter breast height (dbh).
[3] UI's schedule for tree removal is consistent with CSC Condition 3.o, which specifies that clearing in the State Park be avoided during June-August to protect roosting bat species. Although no bats are known to roost in the area, UI's commitment to perform clearing during the fall and winter eliminates any potential for inadvertent impacts to bat species.

2. VEGETATION CLEARING METHODS

2.1 Vegetation Removal Boundary Marking

Prior to the commencement of construction, UI will mark the ROW boundaries where vegetation will be cleared, as well as the areas where clearing will be required along off-ROW access roads. As necessary, UI environmental inspector(s) or other environmental specialists also will reflag or otherwise demarcate the boundaries of wetlands and watercourses.

2.2 Vegetation Removal

Vegetation clearing and grubbing will be accomplished by conventional methods, using a combination of chain saws, hand labor, and mechanized equipment. Vegetation removal activities generally will require flatbed trucks, brush hogs or other types of mowing equipment, skidders, forwarders, bucket trucks for canopy trimming, feller bunchers for mechanical tree cutting, woodchippers, log trucks, and chip vans.

Vegetation (all types) will be cleared from access roads and work pads (refer to the Volume 2 maps). In upland areas, stumps and roots will be grubbed only in areas where grading is required. Stumps/roots will not be grubbed in wetlands.

Vegetation removal will be performed in accordance with UI procedures, as follows:

- Where practical, herbaceous species will be mowed and brush will be cut close to the ground, leaving root systems and stumps, to retain soil stability.
- Trees will be directionally felled to minimize impacts.
- Crews will use matting, comprised of timber or equivalent materials, to cross agricultural lands, wetlands, and watercourses. Areas that require matting are illustrated on the Volume 2 maps. The mats will be cleaned prior to use to avoid the spread of invasive wetland species (refer also to the Project *Wetland Invasive Species Control Plan* in Appendix F).
- Cut vegetation will not be felled into watercourses.
- In wetlands, trees and brush will be cut flush with the ground surface and the stumps will be left in place unless removal is required for Project construction. All other cut vegetation will be removed from wetland areas.

- Low-impact clearing methods will be employed, as necessary, to protect water resources. Such methods may involve manually clearing vegetation and taking into consideration weather and soil conditions when scheduling vegetation clearing (e.g., avoiding work during periods of heavy rainfall).

2.3 Timber and Brush Disposition

The clearing contractor will be responsible for properly stockpiling temporarily and disposing of any vegetative materials. The following procedures will apply:

- Cut vegetation (brush and trees) will be temporarily stockpiled, if necessary, only in uplands.
- Trees and shrub vegetation cut on UI's permanent or temporary easements will be removed from the Project area, unless the property owner requests the wood or another disposition method.

Other than when wood is to be left for the landowner, UI will not dictate to the clearing contractor the means and methods for wood disposition. Typically, the clearing contractor is expected to reduce waste, minimize clean-up costs, and maximize the value of the wood resources. The following methods may be used for timber disposition (specific disposition methods will be pursuant to landowner agreements):

1. **Wood Requested by Landowners.** For landowners who request to retain timber wood that is cleared from an easement area on their property, treetops will be cut, chipped, and removed or spread in upland areas, but the timber/firewood will be piled on the edge of the UI easement (on the landowner's property), outside of any environmentally sensitive areas and away from Project construction activities.
2. **Chipped on Project areas.** Brush, treetops, limbs, and other non-marketable timber and marginally marketable trees typically will be disposed of by chipping. Chips will not be left in piles and will only be spread within upland areas of the ROW to a depth not to exceed 3 inches. Otherwise, chips will be removed from Project work areas and transported to off-site locations for appropriate use.
3. **Removed for Forest Product Use.** The harvested trees or other wood materials (e.g., wood chips) may be transported off-site for productive use. Market demand, transportation costs, and quality of the wood materials will factor into the viability of this option.

2.4 Danger or Hazard Tree Removal

"Danger trees" or "hazard trees" are trees deemed to be a potential risk to the overhead 115-kV lines. A danger tree is a tree that, due to its location and height, could cause a flashover or damage to the structures or conductors, or violate the conductor zones, if it were to fall toward the transmission lines. A hazard tree is a tree that exhibits some type of defect or damage (e.g., weakness, broken limbs, decay, infestation) that increases the risk of it falling into the transmission lines.

Danger or hazard trees may be identified after the rebuilt lines are installed. Such danger or hazard trees may be situated on property outside of UI's permanent easement. If danger or hazard trees located outside UI's permanent easement must be removed or trimmed to maintain the reliability of the transmission system, UI will coordinate as necessary with the affected property owner.

APPENDIX D

RESTORATION PLAN

(Per CSC Docket 3B, Condition 3.i)

This page is intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION 1

2. RESTORATION PROCEDUES 2
- 2.1 Construction Cleanup and Site Rehabilitation 2
- 2.2 Reseeding to Promote Pollinator Habitat 3
- 2.3 Verification of Final Restoration 5

3. LONG-TERM VEGETATION MANAGEMENT PROGRAM 6

LIST OF FIGURES

Table 3-1 Representative Illustration of Vegetation Management near 115-kV Lines 7

This page is intentionally left blank.

1. INTRODUCTION

This *Restoration Plan* (Plan) describes the general procedures that UI will implement to rehabilitate, restore, and stabilize areas affected by Project construction. The Plan also describes the typical methods that UI will use to manage the vegetation in the vicinity of the rebuilt 115-kV transmission lines, in conformance with UI and industry standards regarding clearance between tall-growing vegetation and overhead conductors.

2. RESTORATION PROCEDURES

2.1 Construction Cleanup and Re-Grading (as needed)

As the initial phase of cleanup and restoration, all temporary construction mats, as well as construction debris, signs, flagging, and fencing, will be removed from Project work areas. These materials will be properly disposed of or otherwise reused or repurposed.

The materials from the existing 115-kV facilities that will be dismantled and removed may be temporarily stockpiled at Project staging areas. Ultimately, these materials will be recycled or disposed of properly in accordance with UI's *Materials Management Plan* (refer to Appendix I).

Re-grading work, as needed, will consist of back-blading (or equivalent) to return areas affected by construction to approximate preconstruction contours, unless otherwise noted in UI's agreements with landowners. Some areas (e.g., slopes, areas of rock excavation) affected by construction activities cannot be fully restored to their original contours. Such areas will be stabilized as warranted by site-specific conditions.

Areas affected by construction, including contractor laydown/material staging yards, will be re-graded (if necessary), restored, and stabilized, as practical, to approximate pre-construction conditions. Restoration/stabilization will be performed based on the characteristics of the area affected by construction and may include scarification, adding topsoil, reseeding, adding gravel, or repaving.

In areas subject to erosion, temporary erosion and sedimentation controls (installed and maintained during Project construction) will remain in place until permanent stabilization is achieved, pursuant to the requirements of the CT DEEP General Permit and the Project-specific SWPCP. UI's SWPCP inspector will verify final stabilization.

Wetland and Watercourse Restoration

UI proposes one permanent access road in wetland W4, as well as two permanent culvert across stream WC2, which extends through wetland W4. Wetland W4 and stream WC2 are located in Shelton, near Structures 355 and 356, and cross the ROW twice (refer to Volume 2, Mapsheet 4).

All temporary work pads and access roads will be removed from wetlands. Timber mat bridges (or equivalent) used to provide construction access across small streams will similarly be removed. Wetland areas affected by construction will be either allowed to revegetate naturally or reseeded with an approved wetland seed mix. No fertilizer, lime, or hay mulch will be used in wetlands. Straw mulch may be used in wetlands, if appropriate, consistent with CT DEEP and USACE regulatory requirements.

Around wetlands, temporary erosion and sedimentation controls will be left in place and maintained until final stabilization is achieved.

In areas within the conductor clearance zones, wetland vegetation will be managed to promote low-growing wetland species consistent with the operation of the overhead 115-kV lines.

Upland Area Restoration

Materials used to construct most work pads and all temporary access roads in upland areas also will be removed, unless otherwise specified pursuant to UI's agreement with landowners. Such materials will either be properly disposed of or otherwise re-purposed.

Some gravel access roads established during Project construction will remain in place permanently to facilitate future UI operations and maintenance activities; these areas are shown on the Volume 2 maps. As part of the restoration process, these permanent access roads will be further stabilized or upgraded. Similarly, portions of gravel work pads in upland areas along the rebuilt 115-kV line route also may remain in place.

Supplemental erosion and sedimentation controls (e.g., erosion control blankets, mulch) will be used as appropriate based on site-specific conditions and the time-of-year in which final grading is performed. In some areas (e.g., slopes), permanent erosion and sedimentation controls, such as water diversion bars or crushed stone, will be installed as appropriate.

2.2 Reseeding to Promote Pollinator Habitat

In upland areas affected by Project construction, where appropriate, as part of the restoration and revegetation process, UI will use a seed mix (or mixes) designed to provide low-growing species that serve as habitat or food sources for pollinators (birds, bees, moths, butterflies, beetles, bats, etc.). In using pollinator seed mix(es), UI's objective is not only to revegetate areas disturbed by Project construction, but

also to benefit the ecosystem in the Project area by creating pollinator habitat in areas where little to none exists currently.

The seed mix(es) will include species that are compatible with the operation of the overhead 115-kV transmission lines, including the maintenance of required clearances between energized conductors and vegetation and all standards regarding minimum work distances for UI personnel working in proximity to the conductors.[4] Such species may include low-growing flowering species such as milkweed (which is the host plant for the Monarch butterfly), as well as grasses (e.g., little bluestem; which provide nesting habitat for pollinators).

The areas along the ROW where pollinator seed mixes may be used for revegetation, including in Osbornedale State Park, will be locations where the pollinator seeds are mostly likely to grow (based on general soil conditions) and where pollinator plants will be consistent with landowner agreements. Potential types and sources for pollinator plants, including seed mixes, will be identified by UI's construction contractor and approved by UI. Such seed mixes will include pollinator plants common to Connecticut. The following web link provides a summary of pollinator plant seed mixes that may be appropriate for use in restoring certain areas affected by Project construction:
https://portal.ct.gov/-/media/CAES/DOCUMENTS/Publications/pollinators/Conference-2019/Sources-for-Pollinator-Plants.pdf

The pollinator seed mix(es) will be applied as part of the restoration phase of the Project. The effectiveness of revegetation will be monitored by UI's on-site environmental inspector/monitor (refer to Section 3.3 for information about the inspection program). If the pollinator seed mix does not germinate successfully or provide a sufficient ground cover to promote initial site stabilization, UI may reseed the affected areas either with additional pollinator species or with a different seed mix containing plants known to grow successfully on UI ROWs.

After the sites disturbed by Project construction are deemed stable, UI does not propose additional pollinator plant seeding. The objective of the use of the pollinator seed mix is to promote species that will establish self-sustaining populations.

[4] Pursuant to Connecticut General Statutes Section 16-50hh.

2.3 Verification of Final Restoration

Restoration typically will be deemed successful, based on the effectiveness of stabilization measures (such as vegetative cover) as defined in accordance with the SWPCP and CT DEEP General Permit. Based on the results of post-construction inspections of site stabilization, UI will determine the appropriate timeframe for removing temporary erosion controls. Refer to Appendix B (*Erosion and Sediment Control Plan*) for further information.

3. LONG-TERM VEGETATION MANAGEMENT PROGRAM

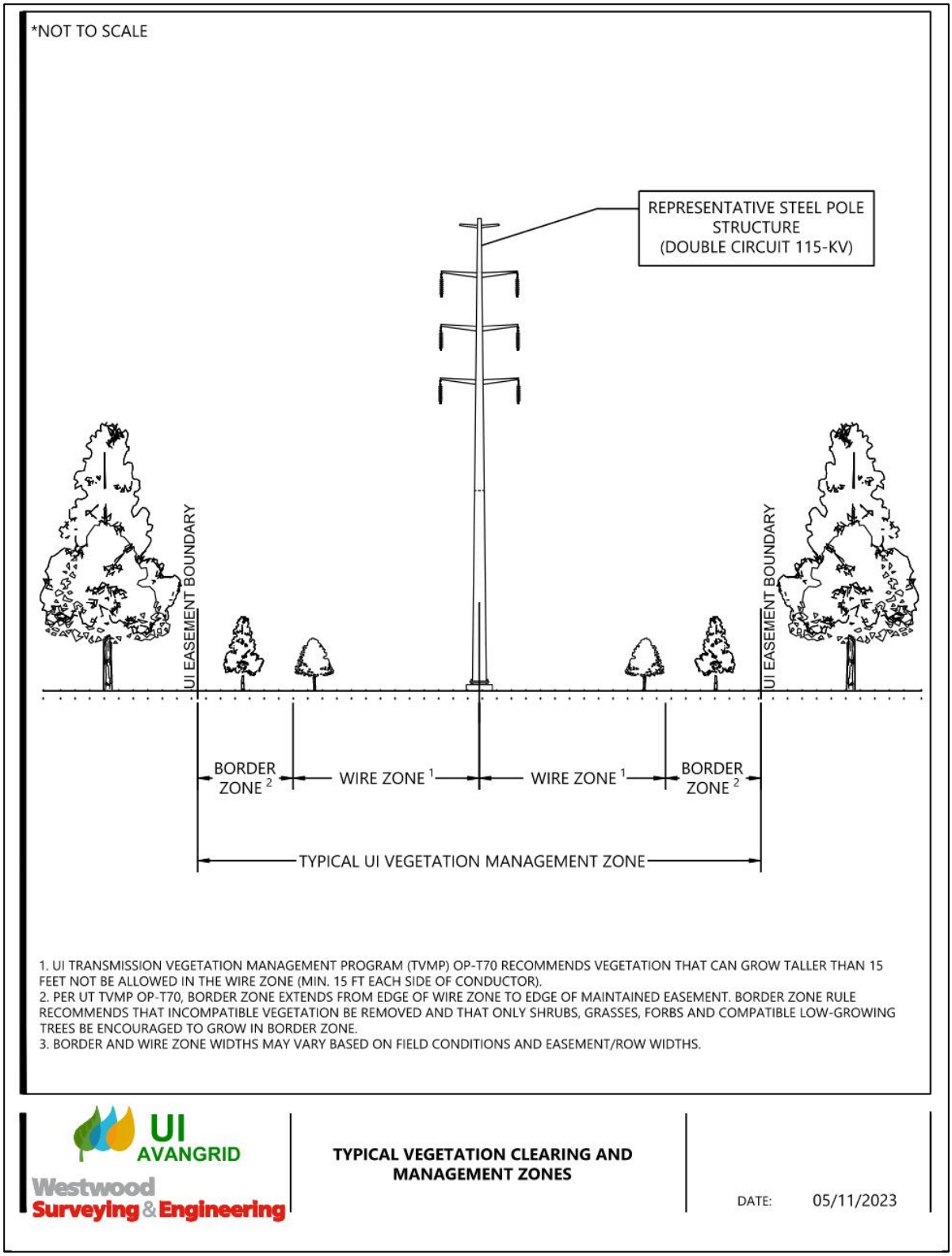
Within the Project ROW, UI will promote the re-growth of desirable species by implementing vegetation management practices to control tall-growing trees and, where practicable, undesirable invasive species. This vegetative management approach will promote the potential for low-growing native plants (consistent with requirements for maintaining clearance from the 115-kV circuits) to colonize the ROW. These practices will be applied in uplands that are suitable for such vegetation management (e.g., areas that are not graveled, paved, or otherwise developed).

UI will manage vegetation in the vicinity of the rebuilt 115-kV transmission lines (within 25 feet from the conductors at rest) in accordance with its "Transmission and Vegetation Management Operating Procedure", as well as industry standards and practices, including:

- OHSA 29 Code of Federal Regulations 1910.269 Electric Power Generation, Transmission and Distribution
- ANSI Z133.3, "Pruning, Trimming, Repairing, Maintaining, and Removing Trees, and Cutting Brush Requirements"
- ANSI A300 Part 1, "Tree, Shrub, and other Woody Plant Maintenance – Standard Practices"
- ANSI A300 Part 7, "Integrated Vegetation Management, Electric Utility Rights-of-Way"
- NESC Rule 218

Figure 3-1 provides a general illustration of UI's approach for low-growth vegetation management near the 115-kV lines. The types of acceptable low growth vegetation species that UI will allow in the vicinity of the rebuilt 115-kV transmission lines are listed in "Trees with short mature heights and selected shrubs suitable for planting near utilities", published by the State of Connecticut Vegetation Management Task Force: refer to: https://portal.ct.gov/-/media/DEEP/forestry/VMTF/Final_Report/PartFivecpdf.pdf

Figure 3-1: Representative Illustration of Vegetation Management near 115-kV Lines



This page intentionally left blank.

APPENDIX E

SPILL PREVENTION AND CONTROL PLAN

(Per CSC Docket 3B, Condition 3.j)

This page is intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION 1
1.1 Purpose of the Plan 1
1.2 Materials Subject to this SPCP 1
1.3 Designation of Connecticut-Licensed Spill Response and Cleanup Contractor 1

2. SPILL PREVENTION AND MANAGEMENT PRACTICES 2

3. SPILL EQUIPMENT, RESPONSE, CONTROL, AND CLEANUP 5
3.1 Spill Containment and Cleanup Equipment 5
3.2 Spill Response and Control 6
3.3 Spill Notifications 6
3.3.1 Notifications to Federal, State, and Local Agencies 6
3.3.2 Notification and Reporting to UI 7
3.4 Spill Cleanup 8
3.5 Penalties for Non-Reporting 8

LIST OF TABLES

Table 3-1 Typical Spill Containment and Cleanup Equipment and Supplies 5

ATTACHMENTS

E.1: Spill Report Form

This page is intentionally left blank.

1. INTRODUCTION

1.1 Purpose of the Plan

The purpose of this Spill Prevention and Control Plan (SPCP) is to:

- Describe measures to minimize the potential for a spill of petroleum products or a hazardous or toxic substance; and

- Should a spill occur, to contain and control the release to minimize the effects.

During Project construction, UI will require all construction contractors to adhere to the procedures presented in this SPCP. as well as to the Release Reporting Regulations as contained in the Regulations of Connecticut State Agencies §§22a-450-1 to 22a-450-6. The SPCP applies to all elements of the construction of the Project, including work sites and access roads, off-site access roads, and contractor yards/staging areas that are used to support the Project construction.

1.2 Materials Subject to this SPCP

The principal materials used during Project construction are petroleum products, such as fuels, lubricants, fluids, and related materials used for the operation of construction vehicles and equipment. Small amounts of other substances classified as hazardous materials or toxic also may be used during construction. UI will work with their contractor to minimize when possible the use of hazardous materials.

Each construction contractor will compile and maintain a list of the petroleum products and hazardous / toxic substances to be used in the performance of Project work, along with a Safety Data Sheet (SDS) for each such material. During construction, the SDSs will be available either on-site (e.g., at the construction contractor's Project office trailer at the Project construction staging area/yard), in the contractor's construction field office, or electronically. The list of products and associated SDSs will be made available to UI upon request.

Due to the different types of petroleum products and other regulated materials typically used during construction, different handling and storage procedures may apply. Construction contractors are required to adhere to all manufacturers' directions and warnings for products used during the Project.

1.3 Designation of Connecticut-Licensed Spill Response and Cleanup Contractor

Before the start of construction, each primary Project construction contractor must identify a licensed spill response contractor who can respond promptly, if required, during construction as detailed in Section 3.4 of this SPCP.

2. SPILL PREVENTION AND MANAGEMENT PRACTICES

Key measures to avoid or minimize the potential for spills during construction include training construction personnel in spill prevention techniques, properly maintaining construction equipment, keeping appropriate spill kits on equipment and/or at work sites, and effectively managing the storage and use of petroleum and hazardous/toxic substances. If a spill does occur, construction personnel will be trained in the techniques to promptly and properly contain, clean up, and report the spill or – in the event of a major release – to promptly contact the designated spill response and cleanup firm.

Spill Prevention Protocols. Project contractors will be required to implement procedures aimed at minimizing the potential for spills and for promptly responding to and reporting spills, should they occur. Examples of such procedures are:

a. Prior to construction, implement employee awareness / training regarding the handling of fuels and, as applicable, hazardous or toxic materials.
b. Inspect, operate, and maintain equipment to minimize the potential for the accidental discharge or release of fuel, oil, or lubricants to the environment, including routine inspections of hydraulic lines, valves, and other hoses and promptly repairing any equipment leaks or faulty equipment.
c. Inspect routinely and maintain in good condition all containers, valves, pipes, hoses, and other components of storage areas for fuels and lubricants.
d. Perform refueling in uplands to minimize the potential for a release to the environment and sensitive resources. (If equipment refueling must unavoidably be performed on a work pad in a wetland – such as for foundation drilling equipment that cannot easily be moved to an upland, additional spill prevention precautions must be implemented.)
e. Provide appropriately sized and provisioned spill containment kits to construction crews and replenish such supplies.
f. Maintain stockpiles of spill cleanup materials at easily accessible locations.
g. Conform to regulatory requirements and Project specifications regarding equipment operation, refueling, and the use of petroleum products near water resources.
h. In the event of a spill, promptly respond and follow required reporting procedures.

Project contractors will also be responsible for providing portable toilets at construction sites. The construction contractor will be responsible for properly locating portable toilets in upland areas, away from any water resources, sensitive environmental resources, drainage systems, or other restricted areas, and for arranging for routine cleaning and maintenance of these facilities to avoid or minimize the potential for a biohazard release to the environment.

Fuel and Material Storage. Project construction contractors will be required to implement the following procedures when storing fuels and hazardous / toxic substances at Project sites. These procedures are intended to limit the potential for spills and to minimize the impact of releases that may accidentally occur:

a. No bulk quantities of hazardous substances, toxic materials, or petroleum products will be stored, unless approved by UI, within 100 feet of any waterbody, wetland, water supply well, spring, drainage system, or other water resource. Such materials typically will be stored in upland areas.

b. At Project staging and support sites, contractors will make efforts to store only enough products required to complete the job;

c. Materials will be stored in a neat, orderly manner, in appropriate containers, and, where appropriate, under a roof or enclosure;

d. Chemical and/or petroleum products will be kept in original containers with the original manufacturer's label. Fuels that need to be kept in portable containers will be stored in tightly sealed containers designed to hold such fuels and will be clearly labeled. Preferably, the containers will be stored in a covered truck or trailer that provides secondary containment for the products;

e. Substances will not be mixed unless approved by the manufacturer;

f. Whenever possible, all of a product will be used before disposing of the container;

g. Manufacturer's recommendations for proper use and disposal of a product will be followed; and

h. If surplus product must be disposed, the manufacturer's or state-recommended methods for proper disposal will be followed.

Any containment area for the storage of petroleum products will have a minimum capacity of 110% (1.1 times) the combined maximum volume of all containers within the containment area. The containment must have sufficient freeboard to accommodate the maximum precipitation from a 25-year, 24-hour storm event.

Storage areas will not have drains unless such drains lead to a containment area or vessel of sufficient size to contain and recover a full release of all stored products. A berm, or other suitable containment device, will be installed around any storage shed housing materials that are potentially hazardous to the environment. Bulk storage tanks having a capacity of more than 55 gallons will be provided with appropriately sized secondary containment.

After each rainfall, the contractor will inspect all containment areas for excess water:

- If no sheen is visible, the contractor can pump the collected water to the ground in a manner that does not cause scouring.
- If a sheen is present, liquids, sludge or solid with any sheen must be cleaned up, stored in an appropriate container and disposed of appropriately.

Equipment Refueling and Parking. During construction of the Project, UI anticipates that contractor vehicles and most construction equipment (e.g., dump trucks, water trucks) will be refueled at local gas stations. However, the contractor may store fuel supplies at the Project construction yard(s) and some

equipment may be refueled there. In addition, certain large, less mobile equipment (such as drill rigs and cranes) will be refueled at Project work sites.

Contractors will implement the following measures when refueling equipment and when parking equipment on Project sites:

a. Refueling equipment will be manned throughout the refueling operation.

b. Spill kits will be on hand during all refueling operations.

c. Equipment refueling will not be performed within 50 feet of any waterbody or wetland unless temporary containment is provided.

d. During refueling, precautions will be taken to avoid or minimize the potential for an accidental spill. Appropriate spill kits / absorbent materials will be available at all refueling sites.

e. Except for equipment that cannot be practically moved (e.g., cranes, drill rigs), construction equipment and vehicles will not typically be serviced or parked overnight on access roads or work pads within wetlands. If equipment must remain in a wetland overnight, secondary containment will be provided.

3. SPILL EQUIPMENT, RESPONSE, CONTROL, AND CLEANUP

3.1 Spill Containment and Cleanup Equipment

Contractors are required to provide appropriate spill containment and cleanup equipment for use as needed during Project construction. Table 3-1 lists the typical spill containment and cleanup materials to be kept on-site, as well as at contractor yards, during construction. In response to a spill, the contractor will use equipment and control/cleanup measures appropriate to contain and clean up the spilled material, taking into consideration the environmental characteristics of the area affected by the release.

Table 3-1: Typical Spill Containment and Cleanup Equipment and Supplies

For General Construction in Upland Areas:

- Sorbents (e.g., pillows, socks, and wipe sheets) for containment and pick-up of spilled liquids;
- Pre-packaged, self-contained spill kits containing a variety of sorbents for small to large release (e.g., kits that can be stored on equipment with the capacity of absorbing up to 5 gallons);
- Structures such as gutters, culverts, and dikes for immediate spill containment;
- Shovels, backhoes, etc., for excavating contaminated materials;
- Sumps and collection system; and
- Drums, barrels, and temporary storage bags to clean up and transport contaminated materials.

For General Construction in or Near Water Resource Areas:

All of the above (for upland sites) and the following:

- Oil containment booms and the related equipment needed for rapid deployment; and
- Equipment to remove petroleum-based products from water.

For Storage of Products and Equipment Refueling:

- Sorbent pads and/or mats, containment equipment, or equivalent protective measures (e.g., kiddie pools or basins to be placed on the ground beneath equipment before refueling or maintenance activities). (The quantity and capabilities of the mats will be sufficient to capture the largest foreseeable spill given workspace characteristics, crankcase size, and other fuel vessel capacities.)
- Dedicated sorbent / spill response kits or functional equivalent to be kept on major pieces of construction equipment (e.g., pumps, cranes, drill rigs, hydraulic lifts) that must be routinely refueled or maintained on Project sites because movement of such equipment to designated refueling or maintenance yards is impractical or inefficient.

3.2 Spill Response and Control

If a spill occurs, the immediate priority is to stop and contain the release. Project construction contractor(s) will take immediate action to minimize the impact of the spill (containment) and to implement appropriate cleanup action. Cleanup procedures will begin immediately after a release is contained. In the event of a spill, the contractor will typically take the following actions:

- Stop the spill at the source.
- If the spill impacts a water resource, contain the spill through the use of appropriately deployed containment materials (e.g., sorbent booms, absorbent pads, constructing dikes) and then collect the sorbent materials and skim off water surfaces with booms. Excavate any contaminated soil.
- If the spill occurs in an upland, excavate the contaminated soil.
- Properly store, handle, and dispose of waste materials, using the contractor's designated spill response firm as appropriate.
- Restore the areas affected by the spill (if necessary, post-cleanup samples will be taken and provided to UI to verify that the spilled material has been successfully removed).

3.3 Spill Notifications

3.3.1 Notifications to Federal, State, and Local Agencies

In Connecticut, a spill, as defined in Connecticut General Statutes (CGS) Section 22a-450, means the discharge, spillage, uncontrolled loss, seepage, or filtrations of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous waste that poses a potential threat to human health or the environment. **All such spills are reportable.**

Project construction contractors are responsible for reporting spills of any amount to CT DEEP. Spills must be reported immediately (24/7) to:

CT DEEP Emergency Response and Spill Prevention Division
860-424-3338 or toll free at 866-337-7745 (866-DEP-SPIL)

If the above numbers are unavailable for any reason, call 860-424-3333

When notifying CT DEEP, obtain the CT DEEP representative's badge number and record the Spill Identification Number assigned to the incident by CT DEEP. Provide the following information:

- Location of spill;
- Quantity and type of substance, material, or waste released;
- Date and cause of the incident;
- Water resources (river, stream, wetland, drainage swale) affected (if applicable);
- Name and address of the owner;

- Name and address of the person making the report, and their relationship to the owner.

In addition to the notification to CT DEEP, some spills may be reportable to the Federal government. An oil spill must be reported to the Federal government if the spill is to a navigable waterbody (in the Project area, only the Housatonic River is considered navigable); water quality standards could be violated; the spill causes a sheen or discoloration; or the spill causes a sludge or emulsion. Spills of hazardous chemicals must also be reported to the Federal government, depending on the quantity of the material spilled and if the release could threaten human health.

The Federal reportable spill quantities for hazardous materials are listed in 40 CFR, Part 302.4 (refer to the table entitled "List of Hazardous Substances and Reportable Quantities")[1]. Incidents that are required to be reported under the Federal Emergency Planning and Community Right-to-Know Act or other prevailing/applicable Federal law are reportable to:

- The State Emergency Response Commission (CT DEEP at 860-424-3338);
- The National Response Center at 800-424-8802; and,
- The local community emergency coordinator.

A report by the Project construction contractor to the local fire department is also recommended (911 throughout Connecticut).

3.3.2 Notification and Reporting to UI

In addition to notifying the CT DEEP, the construction contractor or other Project personnel who first observe a spill will, first, provide immediate verbal notification to UI[2]. Within 24 hours of a spill, the construction contractor will prepare and submit to UI a *Spill Report Form* (refer to Attachment E.1). This form must include the following information regarding the spill, along with any relevant supporting information (such as maps) and representative photographs:

- Date, time, and location of the spill;
- The quantity and type of the substance, material, or waste spilled;
- Circumstances that caused the spill;
- List of water resources affected or potentially affected by the release (if applicable);
- Statement verifying whether a sheen is present;
- Size of the affected area;
- Estimate of the depth that the material has reached in water or in soil;
- Determination of whether the release has or will migrate off Project work areas;
- Determination of whether the release is under control;
- Status of the cleanup effort and a description of the methods used (or to be used) to clean up the release;

[1] Available online at: http://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol27/pdf/CFR-2010-title40-vol27-sec302-4.pdf

- Name(s), company affiliation(s), and address(es) of the personnel who identified the release;
- List of any soil and water samples taken;
- Names of contacts made to federal, state, and local agencies, as applicable, and time of report (include, at minimum, CT DEEP representative's badge number and the CT DEEP-assigned spill identification number); and
- Name, address, and company affiliation of the person who completed the *Spill Report Form*.

3.4 Spill Cleanup

The Project construction contractors, or the contractor's licensed spill response firm, will clean up all spills promptly using appropriate containment and cleanup measures.

Small spills may be contained and cleaned up by Project construction crews using the on-site spill containment and cleanup materials. In such cases, all contaminated materials will be properly handled, contained, and transported in secure containment to a staging area for pick-up and ultimate disposal by the construction contractor's designated and pre-approved spill response firm**.**

In no case will spilled or contaminated materials (including waste oils) be buried or otherwise disposed of on Project sites.

If the Project construction contractor determines that a release cannot be adequately excavated and disposed of by its construction crews alone, the contractor will contact the designated, licensed spill response firm. Any such cleanup must be performed by a licensed spill response contractor, as required by CGS Section 22a-454. The Project construction contractor will work with the spill response contractor(s) and will verify that all excavated waste is handled correctly and transported to a licensed disposal facility.

3.5 Penalties for Non-Reporting

Any person who fails to report incidents as required by CGS Section 22a-450 may be fined by CT DEEP not more than $1,000 and the employer of such person not more than $5,000, except that any person who fails to make a report relating to the discharge, spillage, uncontrolled loss, seepage or filtration of gasoline shall be fined not more than $5,000 and the employer of such person may be fined not more than $10,000. Failure to report incidents, as required by the Project, can result in removal from the Project or termination.

ATTACHMENT E.1

Spill Report Form

This page is intentionally left blank.

SPILL REPORT FORM
UI DERBY JUNCTION TO ANSONIA TRANSMISSION LINE REBUILD PROJECT

Date: _____ **Time of Spill Occurrence: _____**

Name/Address of the Owner:_____

Name/Title/Address of the Reporter / Observer:_____

Relationship to the Owner: _____

Regulatory Agencies Notified / Time & Date of Notification (use reverse side if needed; include CT DEEP representative badge number and CT DEEP-assigned spill identification number): _____

_____

Location of Spill: Line List No. _____Municipality _____(Fairfield / New Haven County)

Nearest Public Road: _____Nearest Transmission Structure No.: _____

Nearest Street Address or landmark: _____

Attachments (circle all that apply): map photographs other_____

Type of material spilled: _____

Quantity spilled (circle one): 10 gals. or less 10 - 1,000 gals. Over 1,000 gals.

Specify approximate amount spilled: _____

Circumstances causing spill: _____

_____

Size of area affected by spill: _____ Estimate depth of spilled material on water or soil: _____

If spill is into water, is a sheen present? (**circle one**): YES NO

(if applicable) Name of Water Resource:_____

Does spill extend off Project work areas? (**circle one**): YES NO

Is spill under control? (circle one): YES NO*

*If NO, is there a potential for the spill to leave the UI ROW? Staging area? (**circle one**): YES NO

Has spill cleanup begun? (circle one): YES** NO

**If YES, what methods are being or will be used?: _____

_____

Have soil and/or water samples been taken? (circle one) YES*** NO

***If YES, list sample types: _____

_____ _____

Print Name/Title of Reporter **Print Name/Title of Designated Project Representative**

_____ _____

Signature of Reporter/Date **Signature of Designated Project Representative/Date**

This page is intentionally left blank.

APPENDIX F

WETLAND INVASIVE SPECIES CONTROL PLAN

(Per CSC Docket 3B Condition 3.k)

Note: This page intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION 1

2. EXISTING WETLAND CHARACTERISTICS 2

3. AVOIDANCE AND MINIMIZATION MEASURES 3
   3.1 Pre-Construction 3
   3.2 General Construction 3
   3.3 BMPs for Wetland Invasive Species Conrol 4

LIST OF TABLES

Table 2-1: Summary of Wetlands along the Project ROW 2
Table 2-2: Common Wetland Invasive Plant Species 2

This page is intentionally left blank.

1. INTRODUCTION

This *Wetland Invasive Species Control Plan* (WISCP, Plan) describes the procedures that UI will apply to avoid or minimize the potential for the spread of invasive plant species in wetlands affected by Project construction activities. The Plan describes the methods that UI will require its Project construction contractors to follow when crossing or working in wetlands in the Project area.

The Plan applies to all Project construction activities, including both the installation of the new 115-kV monopoles and the removal of UI's existing 115-kV facilities.

The wetland invasive species targeted in this Plan are derived from data maintained by the Connecticut Invasive Plant Working Group (CIPWG). CIPWG maintains a list of invasive and potentially invasive plant species (upland and wetland) as determined by the Connecticut Invasive Species Council in accordance with Connecticut General Statutes §22a-381a through §22a-381d.[7] Various invasive plant species, as listed by CIPWG, are common in wetlands in the Project vicinity.

UI will require its Project construction contractors to implement measures to control the spread of invasive wetland plants, particularly during the installation of temporary construction mats along construction access roads and at work pads. The main objectives will be to perform construction activities to minimize the spread of invasive plant species within wetlands or from wetland-to-wetland along the Project route, and to restore wetlands affected by the Project promptly to limit the potential for invasive species to colonize disturbed soils.

To achieve these goals, both pre-construction phase planning and construction-phase measures will be implemented, including construction best management practices (BMPs) for work in wetlands containing invasive plants.

Whereas UI will require its construction contractors to comply with this Plan, for wetlands that extend beyond the boundaries of UI's Project work areas, attempts to control invasive species that are already well-established may prove unproductive and are beyond the scope of this Plan.

[7] https://cipwg.uconn.edu/invasive_plant_list/

2. EXISTING WETLAND CHARACTERISTICS

The Project ROW crosses 10 wetlands, as identified in Table 2-1, by location and National Wetland Indicator (NWI) classification. UI identified these wetland resources based on the results of desktop research, followed by field surveys, which were initially conducted in 2016 and verified in 2020.

Table 2-1: Summary of Wetlands along the Project ROW

City / Volume 2 Mapsheet No.	Wetland / Watercourse ID*	NWI Classification	Location along ROW (by Structure No.)
Shelton			
1, 2	W1	PSS1	West of Derby Jct. Str. 1364
1, 2	W2	PSS1	Between Str. 351 & 352
2	W3	PSS1	Between Str. 352 & 353
3, 4	W4	PEM2/SS1	Between Str. 354 & 356
4	W5	PSS1/PFO	Between Str.357 & 358; access road
Derby			
8	W6	PEM2/UB4	Between Str. 6 & 7
9	W7	PEM2/SS1	Between Str. 6 & 8
Ansonia			
13	W8	PSS1	Between Str. 15 & 16
14, 15	W9/W10[a]	PEM1/SS1	Between Str.19 & 20

[a] W9 is a State-jurisdictional wetland (floodplain soil) only. W10 is a State (poorly drained soil) and Federal (hydric) jurisdictional wetland.

UI has designed and planned the construction of the Project to avoid impacts to wetlands to the extent practical. As a result, Project construction activities (tree clearing, temporary or permanent access roads or work pads, new monopole foundations) will be required in only four of the 10 wetlands. All four wetlands (Wetlands W2, W3, W4 and W5) are located along the ROW in Shelton. Table 2-2 lists common wetland invasive species found in the Project area, along with the NWI wetland indicator status of each.

Table 2-2: Common Wetland Invasive Plant Species

Common Name	Scientific Name	NWI Wetland Indicator Status
Purple loosestrife*	*Lythrum salicaria L.*	FACW
Common reed*	*Phragmites australis*	FACW
Multiflora rose*	*Rosa multiflora*	FACU
Japanese barberry*	*Berberis thunbergii*	FACU
Tatarian honeysuckle*	*Lonicera tatarica*	FACU
Reed canary grass*	*Phalaris arundinacea L.*	FACW
Japanese knotweed	*Polygonum cuspidatum*	FACU
Japanese honeysuckle*	*Lonicera japonica*	FACU

NOTES:
FACW: Usually occur in wetlands (probability: 67-99%), but occasionally found in non-wetlands.
FACU: Usually occur in non-wetlands (probability: 67-99%), but occasionally found in wetlands (probability: 1-33%)
*Per the CIPWG, indicates that some commercially-available cultivars of the species may not be invasive.

3. AVOIDANCE AND MINIMIZATION MEASURES

UI will require its Project construction contractors to implement measures to control the spread of invasive wetland plants, particularly during the installation of temporary construction mats along construction access roads and at work pads. The main objectives will be to perform construction activities to minimize the spread of invasive plant species within wetlands or from wetland-to-wetland along the Project route, and to restore wetlands affected by the Project promptly to limit the potential for invasive species to colonize disturbed soils.

To achieve these goals, both pre-construction phase planning and construction-phase measures will be implemented, including construction best management practices (BMPs) for work in wetlands containing invasive plants. These measures are discussed in the following subsections.

3.1 Pre-Construction Measures

The invasive species control measures included in this Plan will be incorporated into Project construction contracts. In the contractor kick-off meeting prior to the commencement of Project construction, UI will emphasize these requirements. The construction contractors will be responsible for implementing the invasive species BMPs in all work performed in and around wetland areas.

3.2 General Construction Measures

During construction, UI will reinforce to Project construction personnel the importance of adherence to this Plan, including the recognition of wetland areas in relation to the ROW and Project work areas. In addition, UI's environmental inspector/monitor will perform site inspections during construction to verify the contractors' compliance with the invasive species control BMPs.

Wetland invasive species control efforts will be important throughout Project construction. However, particular focus will be on the following construction activities that involve work directly in wetlands and thus will have the greatest potential for construction equipment or materials to come into contact with invasive species:

- Clearing vegetation;
- Installing and removing construction (timber) mats used for temporary access roads and work pads;

- Moving equipment and vehicles through areas containing invasive species, such as for the installation, maintenance, and final removal of temporary soil erosion and sedimentation controls; and

- Restoring wetland areas affected by construction.

Other construction activities (e.g., structure foundation work in uplands, structure installation, conductor and wire stringing, removal of existing UI structures) will not require work outside of pre-established access roads and work pads. As a result, the equipment and vehicles involved in these activities are not expected to come into contact with wetland soils or plant materials.

3.3 BMPs for Wetland Invasive Species Control

To avoid or minimize the potential for spreading wetland invasive plant species during Project construction, UI will require its construction contractor(s) to implement the BMPs described below, as appropriate to the construction activity being performed:

a. All construction equipment, vehicles, and materials (including timber – or equivalent - construction mats) must be clean and free of excess soil, debris, and vegetation before being mobilized to Project contractor/laydown yards and to work sites along the transmission line route.

b. Timber (or equivalent) construction mats will be installed at all locations where Project work in wetlands is required, including to provide support for vegetation clearing equipment and to create temporary access roads and work pads for the installation of the new 115-kV monopoles and the removal of the existing UI structures. Prior to initial deployment, as well as before removing mats for relocation to other work sites, all timber (or equivalent) construction mats must be cleaned and demonstrably free of debris/invasive plant material.

c. To minimize the potential for spreading invasive plant species from wetland-to-wetland along the ROW, any equipment working in or traversing a wetland will be cleaned, as necessary, prior to relocating to another work site. Equipment that traverses exclusively on timber matting will be inspected prior to being relocated and may be excluded from this requirement, at UI's discretion. Cleaning of vehicles and other equipment (including the equipment tracks and tires) will involve removal of visible dirt, debris and vegetation through the use of brooms, shovels, and, if needed, compressed air. Equipment cleaning, if required, will be performed only in uplands; cleaning in or near waterways or wetlands is prohibited.

d. Timber (or equivalent) construction mats deployed in wetlands to provide access or support at work pads will be periodically swept (with the removed material placed in upland areas).

e. After construction mats are installed in wetlands (i.e., for access roads, work pads), all Project construction vehicles and equipment will travel and operate only on the designated access roads/work pads, thereby avoiding any direct contact with wetland plant materials.

f. Mats used in wetlands will be cleaned prior to relocation to other work areas or wetlands. Mat cleaning may involve dropping mats one on top of another to shake loose any sediment and debris

and then sweeping or brushing the mats to remove loose soil and any plant material. Compressed air also may be used. Based on field conditions at the time of construction, other methods for mat cleaning may be implemented by the Project contractors, after approved by UI. Mat cleaning will be performed in upland areas.

g. As part of wetland restoration, all construction mats will be removed and the wetland areas affected by construction will be promptly restored and stabilized in accordance with this D&M Plan, the Project SWPCP, any Project-specific permit requirements issued by the CT DEEP and USACE.

This page is intentionally left blank.

APPENDIX G

EMF MONITORING PLAN

(Per CSC Docket 3B, Condition 3.p)

This page intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION AND PURPOSE 1
2. SUMMARY OF PREVIOUS EMF MEASUREMENTS AND MODELIING 1
3. POST-CONSTRUCTION EMFMONITORING LOCATIONS 1
4. MEASUREMENT METHODS AND INSTRUMENTATION 3
   4.1 Verification Measurements 4
   4.2 Site Measurements 4
5. REPORTING 5

LIST OF TABLES

Table 1-1 EMF Monitoring Locations for the Project 3

ATTACHMENTS

G.1: Aerial Views of Proposed EMF Monitoring Locations

This page intentionally left blank.

1. INTRODUCTION AND PURPOSE

The United Illuminating Company (UI, the Company) is submitting this *Post-Construction Electric and Magnetic field (EMF) Monitoring Plan* (Plan) for the Derby Junction to Ansonia115-kV Rebuild Project (the Project). The Plan was prepared by Exponent, a company with specialized expertise in such evaluations.

Exponent conducted pre-construction EMF measurements of UI's 115-kilovolt (kV) transmission lines that extend from Derby Junction to Indian Well and Ansonia substations. This Plan describes how Exponent, on behalf of UI, will conduct field measurement of EMF following energization of the rebuilt 115-kV lines, and then will compare the field measurements to modeled values presented in the UI's submission to the CSC in Docket No. 3B.

2. SUMMARY OF PREVIOUS EMF MEASUREMENTS AND MODELING

Detailed information regarding the pre-Project EMF measurements and calculations of expected post-Project EMF levels is included in Appendix E of UI's Motion to Reopen and Modify the Council's prior decision regarding the Derby Junction to Ansonia Substation 115-kV lines (CSC Docket 3B), hereafter the Exponent EMF Modeling Report.

In summary, to assess EMF from existing sources under pre-Project conditions, Exponent took measurements of the existing UI transmission lines and other sources of EMF on or near the existing UI Project ROW between Derby Junction, Indian Well Substation, and . Ansonia Substation. The purpose of these measurements was to characterize existing EMF levels along the existing transmission lines and adjacent areas. Exponent also modeled EMF levels for the existing and proposed configurations of the 115-kV lines, assuming peak and peak daily average loading in 2021 and projected peak and peak daily average load anticipated after the Project is scheduled to be completed in 2029.

3. POST-CONSTRUCTION EMF MONITORING LOCATIONS

Two types of measurements are proposed in this plan: "Verification" and "Site" measurements. The Verification measurements are proposed to demonstrate the efficacy of the modeling approach used in the Exponent EMF Modeling Report. The profile measurements are proposed to document the rate of decrease in magnetic-field level moving away from the ROW.

As shown in Figure 1 of Exponent's EMF Modeling Report (and associated discussion), there are two primary physical configurations of the transmission lines; the first between Derby Junction and the Indian Well Substation, supporting the 1560-3 and 1808-2 Lines, and the second between Indian Well and Ansonia substations, supporting the 1660-3 and 1594 Lines. Since there are two dominant configurations of the transmission lines (Derby Junction to Indian Well Substation and Indian Well Substation to Ansonia Substation), Verification can be performed at two transect measurements, each one representing the respective portion of the route.

These Verification sites are selected to be free from other sources of EMF (e.g., overhead lines, underground cables, etc.), other facilities (e.g., water or sewer pipes, gas pipelines), underbrush, trees and other conductive structures such as fences, etc. that can influence electric field levels. Additionally, it is beneficial to have an area with flat, level terrain beneath the transmission lines where measurements can be taken in a transect perpendicular to the ROW.

The best location for these Verification measurements between Derby Junction and the Indian Well Substation was identified to be between Structures 351 and 352 in Shelton because the ground is relatively flat and confounding factors of adjacent distribution lines and other conductive objects are reduced to the extent possible. The best location for measurements between Indian Well and Ansonia substations has not yet been conclusively identified but is anticipated to be along Coon Hollow Road in Derby or Silver Hill Road in Ansonia. Additional on-site investigation will be required to determine a specific location best suited for EMF measurements – that is, a location as free as possible from other sources of EMF and other conductive objects such as buildings, trees, and light poles.

In addition to the Verification measurement, specific Site measurements are proposed to document EMF levels at locations identified in the CSC Decision and Order in Docket No. 3B (i.e., Yale's Guilder Boathouse and Derby High School), as well as in residential areas near the Project ROW.

Verification measurement locations and Site measurement locations are summarized in Table 1. Attachment G.1 provides aerial photograph views of each of the eight monitoring locations in relation to the rebuilt 115-kV transmission lines and Derby-Ansonia ROW (including two OPTIONS for Verification Transect 2 in Ansonia).

Table 1: EMF Monitoring Locations for the Project

EMF Monitoring Site No.	Municipality	Location Type	Location
1	Derby	Verification (Transect 1)	Field, Between Str 351 and 352
2A	Ansonia	Verification (Transect 2) OPTION A	Near Coon Hollow Road
2B	Ansonia	Verification (Transect 2) OPTION B	Near Silver Hill Road
3	Derby	Public Site	Glider Boathouse
4	Derby	Public Site	Derby High School
5	Ansonia	Public Site	Nolan Athletic Complex
6	Shelton	Residential Site	Mayflower Lane / Meadow Street
7	Derby	Residential Site	Coppola Terrace / Coon Hollow Road
8	Ansonia	Residential Site	Hull St / Willow Street

4. MEASUREMENT METHODS AND INSTRUMENTATION

The Company will record all electric and magnetic field measurements at a height of approximately one meter (3.28 feet) above ground in accordance with the industry standard protocol for taking measurements near power lines (IEEE Std. 644-2019).

The resultant magnetic field will be measured with a 3-axis, recording digital meter (EMDEX II) and attached to a survey wheel to simultaneously measure magnetic-field magnitude distance. Electric fields will be measured with an E-Probe attachment accessory to the EMDEX II meter. This accessory enables the EMDEX II to make single-axis measurements of the electric field.

In addition, at each measurement site, the Company will place an additional magnetic-field meter (EMDEX LITE) at ground level as close to the center of the transmission line structure centerline and set to continuously record fluctuations in the magnetic field that were due to changes in current flow on the lines above. The data from this sensor will be used to evaluate if there is a large change in loading during the time that measurements are taken. The time and date of the field measurements will be noted so that the loading on each of the lines at the time of field measurements can be matched. Both the EMDEX II magnetic field meter and the E-probe accessory meet the IEEE instrumentation standard for obtaining valid and accurate field measurements at power line frequencies (IEEE Std. 1308-1994).

4.1 Verification Measurements

At the Verification measurement sites, the Company will photograph the conditions of the Project ROW and transmission lines and lay a long measuring tape on the ground beneath the lines to identify the horizontal location of the overhead line conductors. The vertical height of each conductor will be measured and recorded. Magnetic-field measurements will be recorded at intervals of approximately 1 to 3 feet using the measurement system of the EMDEX II and survey wheel, while electric-field measurements will be performed at 5- to 25-foot intervals with a minimum of five measurement locations performed in the immediate vicinity of each transmission line in accordance with IEEE Standard 644-2019.[8]

The Company will use the recorded conductor position and height of each transmission line obtained during measurements, as well as voltage and loading information provided by the SCADA system to develop an "as-measured model" to represent the operation of the lines at the site at the time of measurements. This as-measured model also will include information from UI's Docket 3B Motion , such as the phasing configuration and conductor type and checked against 'as built' design drawings. This as-measured model will be used to assess the match between the measured EMF levels and a model constructed using the same input parameters as those present at the location and time of measurements. The EMF levels for models will be calculated using the computer algorithms developed by the Bonneville Power Administration, which also were used for the modeling of EMF levels in the Docket 3B Motion.[9]

4.2 Site Measurements

At the Site measurement locations, the Company will photograph the conditions of the Derby Junction - Ansonia Substation ROW and surrounding area, moving away from the ROW edge. A survey wheel will be used in conjunction with the magnetic field EMDEX II meter to simultaneously measure magnetic-field level and distance from and document the rate of decrease in magnetic-field levels with distance from the ROW edge. No modeling is proposed for these sites. Along portions of the transmission line route (e.g., near the Derby High School) where the area moving away from the ROW toward the school is too steep to safely access, measurements will be made in the area as close to the lines as possible and moving away from the lines to document rate of field change.

[8] At locations far from the transmission lines, the distance between successive electric-field measurements may be larger (approximately 25 feet). Nearer to the transmission lines, the distance between successive measurement locations will be smaller (approximately 5 to 10 feet).

[9] Bonneville Power Administration (BPA). Corona and Field Effects Computer Program. Portland, OR: Bonneville Power Administration (BPA), 1991.

5. REPORTING

Within 12 months of the Project in-service date (that is, the energization of all the rebuilt 115-kV lines), UI will provide to the Council a report on the EMF measurements described above in Section 4 of this protocol along with the as-measured model comparisons to predicted values post construction.

The report also will include aerial photographs from GoogleEarth™ to mark each measurement location. For each magnetic field measurement, the coincident transmission line currents, as recorded by the SCADA system, will be noted and reported.

This page intentionally left blank.

ATTACHMENT G.1

AERIAL VIEWS OF PROPOSED EMF MONITORING LOCATIONS FOR THE DERBY JUNCTION TO ANSONIA 115-kV LINE PROJECT

Figure 1 –Verification Transect 1: between Str 351 and 352

Figure 2A – Verification Transect 2 (OPTION A) along Coon Hollow Road

Figure 2B – Verification Transect 2 (OPTION B) near Silver Hill Road

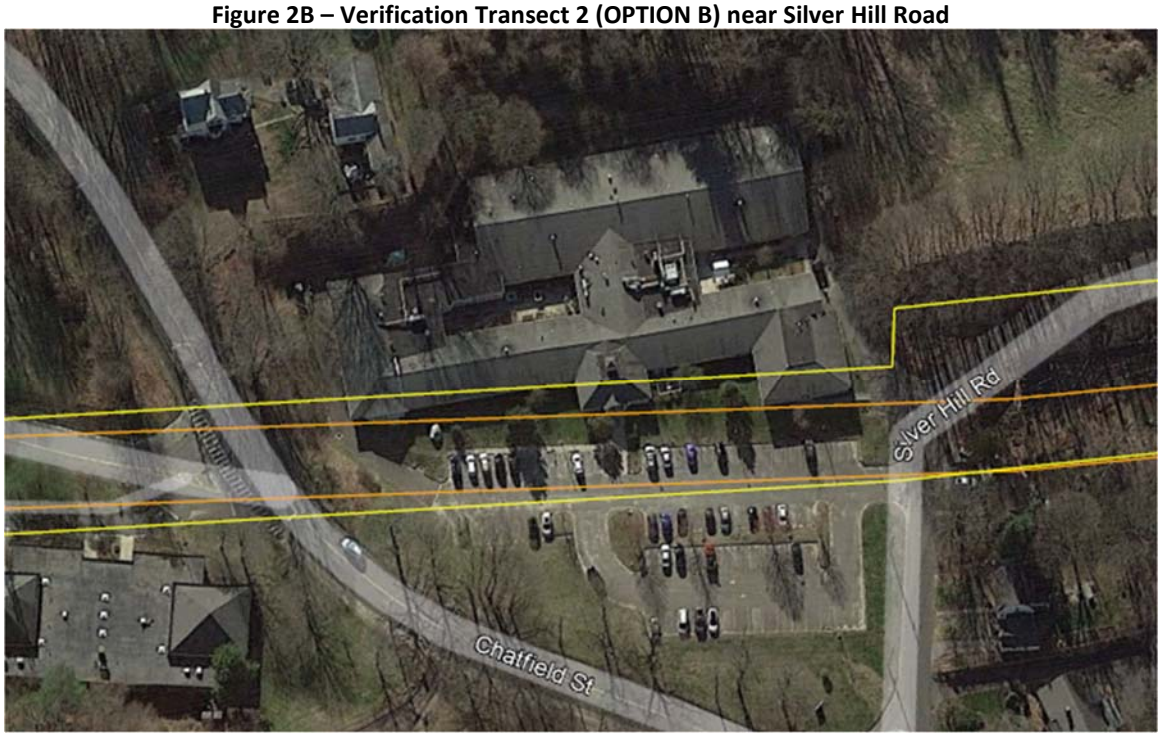


Figure 3 – Site measurement at the Glider Boathouse

Figure 4 – Site measurement Near Derby High School

Figure 5 – Site measurement at Nolan Athletic Complex

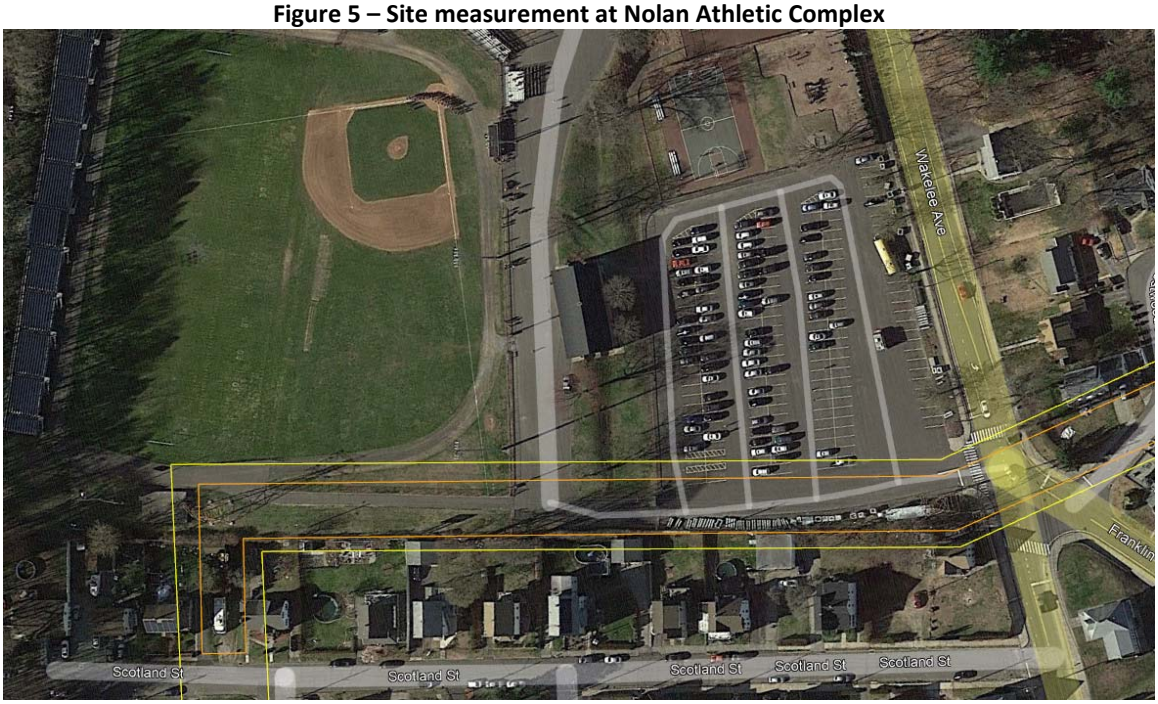


Figure 6 – Site measurement Near Mayflower Lane / Meadow Street

Figure 7 – Site measurement at Coppola Terrace / Coon Hollow Road

Figure 8 –Site measurement at Hull Street / Willow Street

This page intentionally left blank.

APPENDIX H

SNOW REMOVAL AND DE-ICING METHODS

This page is intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION 1
1.1 Applicability 1
1.2 Responsibility 1
2. SNOW AND ICE REMOVAL FROM WORK SITES 2
3. SNOW ACCUMULATION DISPOSAL AREAS 3
3.1 General 3
3.2 Typical Snow Accumulation Disposal Areas 3
3.3 Snow Disposal Options When Identified Accumulation Areas Are Fully Utilized 4

ATTACHMENTS

H.1 CT DEEP Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots

This page is intentionally left blank.

1. INTRODUCTION

1.1 Applicability

Project construction activities will require work during the winter, when periods of snow and ice will occur. The removal of ice and snow from work sites, including access roads, work pads, and the staging area/contractor yards, will be critical to allow construction activities to proceed safely. However, snow removal and de-icing must be performed to protect the environment, in accordance with regulatory requirements. This document presents the procedures that will apply during construction when snow or ice must be removed from Project work sites. The procedures:

(a) Define responsibility for snow removal and disposal (Section 1.2);

(b) Describe the typical methods for removing snow and ice from work sites safely and in conformance with environmental requirements (Section 2); and

(c) Identify protocols for the removal of snow accumulations to appropriate disposal sites, if needed (Section 3).

In addition, snow removal and disposal activities must be in accordance with the applicable provisions of the Connecticut Department of Energy and Environmental Protection's (CT DEEP's) Best Management Practices (BMPs) for disposal of snow accumulations from roadways and parking lots. The CT DEEP BMPs are included in Attachment H.1 and also can be found on the CT DEEP website at: www.ct.gov/deep/snowremoval. Under most circumstances, snow and ice are expected to be removed in accordance with the typical procedures described in Section 2. However, if winter weather conditions result in large snowfall amounts, snow accumulated and removed from Project work sites and access roads may have to be transported to designated disposal sites; in such cases, the procedures identified in Section 3 will be followed.

1.2 Responsibility

The Project construction contractor(s) will be responsible for implementing these snow removal and de-icing procedures. Each construction contractor must identify and/or review designated snow disposal locations with UI, prior to use, to verify conformance to this plan. Any proposed deviations from these procedures must be justified by the contractor and will require UI's advance approval.

2. SNOW AND ICE REMOVAL FROM WORK SITES

The following procedures apply to the removal of snow and ice from Project work sites:

1. Snow may be removed by plowing (blading) and windrowing, or snow blowing, depending on the amount and type of snow, the area that must be cleared, and the site location.

2. Snow may be bladed level (rather than removed) along access roads to improve driving conditions. If appropriate, this technique also may be used at work pads and staging areas.

3. When removing or blading snow from access roads or work pads, contractors will attempt to avoid plowing up topsoil, subsoil, or gravel.

4. Any erosion and sedimentation controls damaged during the snow removal process will be repaired or replaced as soon as practical, taking into consideration snow depth and frozen ground. (Note: Winter weather conditions may preclude the re-establishment of damaged erosion and sedimentation controls until a thaw occurs or until spring.)

5. Sand, salt, sand/salt mix, or Calcium Magnesium Acetate (CMA) may be applied for traction and de-icing along all access roads, on work pads, and at staging areas / contractor yards. CMA will be applied according to product specifications.

6. Where timber mats (or equivalent) are placed in and around wetlands (that is along access roads or as part of work pads), used to span small streams, or in other environmentally sensitive areas:

    - Project construction contractors will use the minimum amount of sand, salt, sand/salt mix, or CMA necessary to melt ice and to maintain safe working conditions.

    - When snowfall amounts exceed 4 inches, to clear snow from timber mats (or equivalent), the construction contractors will push or blow clean snow off the mats, down to approximately 3 inches. This clean snow will be windrowed along either side of the mated area (work pad or access road). The bottom 3 inches of snow, which is likely to be mixed with sand, salt, or dirt from general construction activities, will either be carefully plowed into a small stockpile on the mats or loaded into a truck or equivalent for removal from the timber mats and transported to an upland area.

    - When snowfall amounts are less that approximately 4 inches, all snow will be either carefully plowed into a small stockpile and contained on the mats or scraped off the timber mats and moved to upland areas.

    - The sand/dirt that may be left after the small stockpiles of snow melt on the construction mats will be swept and disposed of properly.

During extreme weather events, this protocol may be amended as needed to address immediate worker safety issues or to prevent significant damage to property.

3. SNOW ACCUMULATION DISPOSAL AREAS

3.1 General

Snow will typically be plowed from access roads, work pads, and other work sites pursuant to the procedures described in Section 2. However, in some cases, accumulated snow may need to be removed from work sites (using front-end loaders, trucks, or equivalent equipment) and transported to snow accumulation areas for disposal. Such snow accumulation disposal areas must be located in uplands or on other Project staging and support sites. UI must approve, in advance, the use of any site for accumulated snow disposal. With the pre-approval of UI and the property owner, accumulated snow may be stockpiled on flat, paved, or graveled parking areas, provided the conditions of these procedures are otherwise met.

Accumulated snow will NOT be disposed of in the following areas*:

1. **In any water resources (e.g., wetlands, ponds, watercourses, ditches, swales). ***
2. **On top of stormwater catch basins or in stormwater drainage swales or ditches. ***
3. **On private property immediately adjacent to a residential area without the prior approval of the property owner.**

**unless authorized by government officials*

Snow accumulations placed on pervious surfaces must be located to allow snow melt water to infiltrate into the soil, without causing sedimentation into water resources. Any access road or work pad materials that are inadvertently mixed with the snow accumulations must be collected and removed from the Project area, when possible, after snow melt in the spring. Snow stored on asphalt or concrete must not be piled on top of manholes or catch basins.

3.2 Typical Snow Accumulation Disposal Areas

Snow accumulation sites typically will be located near Project access roads, on CT DOT property or along UI's permanent easement, at least 50 feet from water resources, in non-environmentally sensitive areas, and/or in Project-approved designated staging areas.

If accumulated snow must be disposed of in other locations (e.g., municipally-approved snow disposal sites), UI's Project construction contractor must obtain and provide documentation to UI of all applicable approvals and any conditions relating to the use of the disposal site(s).

3.3 Snow Disposal Options when Identified Accumulation Areas are Fully Utilized

Depending on snowfall amounts, it is possible that all snow accumulation disposal areas adjacent to Project work pads and access roads in uplands could be fully utilized and that additional accumulation sites or other snow disposal options will need to be considered. Under such circumstances, Project contractors must coordinate with UI to define the most appropriate option. New snow accumulation sites must be pre-approved by UI and will likely require prior coordination with and/or approval from private landowners or municipal authorities.

ATTACHMENT H.1

Connecticut Department of Energy and Environmental Protection

Best Management Practice for Disposal of Snow Accumulations from Roadways and Parking Lots

This page is intentionally left blank.

Connecticut Department of Energy & Environmental Protection

Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots

Purpose: These guidelines have been developed to clarify DEEP recommendations to state and municipal officials, and others regarding the removal and disposal of snow accumulations from roadways and parking lots. For purposes of this guidance snow accumulations refers to snow banks and snow piles that are removed by front-end loader or by loading on trucks for disposal. This guidance does not apply to normal snow plowing operations that must, inevitably, discharge some snow into wetlands and watercourses.

Implementation: While following these guidelines does not constitute a permit or authorization, the Department recognizes there is a considerable need for flexibility in implementation of this policy, particularly in emergency situations. There is no intent to interfere with snow plowing operations. Where trucking and snow dumping operations are undertaken the Department recommends these guidelines be followed.

Problem: Current road maintenance activities include removal of snow accumulations from bridges, roads and parking areas for the purpose of providing more space for subsequent snow storms and for ease of travel and parking. Sometimes this snow is moved by truck or with a front-end loader and deposited directly into surface waters of the state including streams, wetlands and Long Island Sound. This practice is not recommended due to the presence of dirt, salt, litter and other debris, which are routinely mixed in the accumulated snow.

Under normal conditions of snowmelt, the majority of these contaminants remains on or next to the paved surface or may be captured in stormwater catch basins. These contaminants can then be swept from streets and bridges or vacuumed from catch basin sumps. However, when accumulated snow is collected and dumped into surface waters, this mixture of snow, sand and debris may smother aquatic life in the bottom of streams and rivers and degrade the aesthetics of the surface water with silt plumes and litter. Large quantities of snow (and the sand and debris) may also cause blockage of storm drainage systems, resulting in increased chance for localized flooding.

Recommended Management Practice: Snow accumulations removed from roadways, bridges, and parking lots should be placed in upland areas only, where sand and other debris will remain after snowmelt for later removal. Care must be exercised not to deposit snow in the following areas:

- freshwater or tidal wetlands or in areas immediately adjacent to such areas where sand and debris may be flushed during rainstorms;
- on top of storm drain catch basins;
- in storm drainage swales;
- on stream or river banks which slope toward the water, where sand and debris can get into the watercourse; and
- in areas immediately adjacent (within at least 100 feet) of private or public drinking water well supplies (due to the possible presence of road salt).

For Governmental Entities: In normal winter conditions, governmental entities should follow the recommended management practices outlined above. In extraordinary winter conditions, the commissioner may, upon public notification, offer governmental entities the flexibility of limited in-water disposal. When such flexibility is offered, governmental entities who have determined that extraordinary circumstances exist where all upland, land-based disposal options have been fully exhausted (i.e., disposal capacity is not available) and snow needs to be removed to meet public safety demands (i.e., clear access ways for police, emergency medical and fire responders), may use certain waterways for snow disposal in accordance with the following conditions:

- Upland storage and disposal of snow (i.e., athletic fields, parks and other flat, open-field sites) and other snow management methods (i.e., snow melting equipment) must be the first alternatives explored and exhausted. Environmentally sensitive areas must be avoided;
- This guidance applies only to snow and ice which is not visibly contaminated with material other than salt and sand from road clearing activities;
- For coastal communities, preference should be given to snow disposal in salt water where available;

- Disposal in rivers or streams must be limited to those water bodies that have adequate flow and mixing and are not prone to ice jams;
- The disposal must occur only in open water in areas that will not interfere with navigation;
- Disposal must be conducted in a manner so as to prevent ice dam formation or damage to bridges, docks or other structures;
- Disposal in ponds and lakes is discouraged;
- There shall be no disposal in coastal or freshwater wetlands, eelgrass beds, vegetated shallows, vernal pools, shellfish beds mudflats, public water supply reservoirs and their tributaries, or other areas designated as being environmentally sensitive;
- The activity must comply with local laws and requirements;
- Precautions must be taken to avoid shoreline or stream bank damage or erosion from truck/equipment activity; and
- Governmental entities must notify the Department by email (address email to dahlia.gordon@ct.gov) prior to disposing of snow and ice in waterways or, if advance notification is not possible, then the Department must be contacted as soon as possible after snow disposal has begun.

Notification: Notification can be made by addressing an email to Kevin Sowa at: dahlia.gordon@ct.gov. The notification must include the following: (1) the name of the governmental entity making the notification; (2) contact information for the governmental entity including name, email address and phone number; (3) the street address where the snow disposal activity will occur; (4) the name of the waterbody where the snow will be disposed; (5) the estimated quantity of snow to be disposed; (6) the dates during which the disposal activity will occur; and (7) a statement that the governmental entity has exhausted all disposal alternatives and snow management methods and will make best efforts to adhere to these snow disposal guidelines.

Information: For further information please call the Water Permitting and Enforcement Division Engineer of the Day at 860-424-3025.

Updated February 2020

APPENDIX I

MATERIALS MANAGEMENT PLAN

This page is intentionally left blank.

TABLE OF CONTENTS

1. INTRODUCTION 1

2. PRE-CONSTRUCTION SOIL AND GROUNDWATER STUDIES 2

3. MATERIALS MANAGEMENT DURING CONSTRUCTION 4
   3.1 Soils Management 4
   3.2 Groundwater Management 5
   3.3 Other Materials 6

LIST OF TABLES

Table 2-1: Soil and Groundwater Categories Identified along the Project Route 3

This page is intentionally left blank.

1. INTRODUCTION

During the construction of the Project, the effective management of excess soil, spoil, solids, groundwater, and old transmission infrastructure materials will be a key consideration. UI will require its Project construction contractors to comply with this Materials Management Plan (Plan), which describes practices for proper materials handling, storage, transportation to appropriate disposal sites, and/or reuse or recycling, as well as other, more detailed specifications that UI will include in Project contractual documents.

Excess soil, spoil, rock, and groundwater will result from Project construction activities such as grading for the installation of access roads and work pads and excavations for structure foundations. These or other construction activities also may uncover materials (such as spoils, concrete, etc.) that will require on-site management or off-site management, recycling or disposal. In addition, dismantling and removing UI's existing transmission line facilities will result in various materials that will require recycling or proper off-site disposal.

This Plan summarizes the analyses that UI conducted to assess soil and groundwater conditions in the Project area and reviews the procedures that Project construction contractors must follow regarding the handling of excess soil, spoil, solids, and groundwater encountered during or generated by Project construction. The Plan also includes requirements for handling, recycling, or otherwise disposing of other Project materials, such as the components of the existing lattice steel towers.

Project construction contractors must comply with these practices and, as applicable, the CT DEEP Remediation Standard Regulations (RSRs), the U.S. Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA), and the conditions of Project permits from the CT DEEP. Soil and groundwater management practices also must comply with the CT DEEP General Permit and UI's Project SWPCP. During Project construction, UI will assign an environmental scientist or field engineer, working under the supervision of a Licensed Environmental Professional and reporting to UI, as warranted, to perform oversight inspections of the construction contractors' implementation of the practices defined in this Plan. Oversight activities, among others, may include the review of on-site materials management, soil reuse, soil and groundwater quantity tracking to the approved off-site disposal or and recycling facilities, and metals/materials management.

2. PRE-CONSTRUCTION SOIL AND GROUNDWATER STUDIES

As part of the Project planning and design process, UI performed geotechnical borings and took samples of the soils and groundwater (where encountered) at Project work sites. UI commissioned laboratory analyses of the samples to characterize soils and groundwater for the presence/absence of contaminants. To date, UI has sampled and received analytical results related to soil and groundwater at all but one of the new monopole locations (Structure 13 in Ansonia). Due to access issues, borings at Structure 13 will be completed during Project construction (before foundation excavation).

The Project is not subject to CT DEEP remedial programs. However, UI will use State and Federal criteria, such as the CT DEEP RSRs, as guidance during the materials management activities for the Project. The guidance RSR criteria for soil that apply to the Project are the Residential Direct Exposure Criteria (ResDEC), Industrial/Commercial Direct Exposure Criteria (ICDEC) and the Pollutant Mobility Criteria (PMC) for both GA areas (GA PMC) and GB areas (GB PMC), as dictated by the groundwater classification of the specific Project area.[10]

The CT DEEP RSR criteria used to evaluate groundwater data include the Groundwater Protection Criteria (GWPC) and the Surface Water Protection Criteria (SWPC). Additional numerical criteria required by any CT DEEP wastewater discharge permits will also be used to evaluate the dewatered groundwater as it relates to determining appropriate handling and disposal procedures.

The analyses found that, in certain portions of the Project area, both soils and groundwater contain contaminants at concentrations above the CT DEEP RSR criteria. These contaminants include extractable total petroleum hydrocarbons, semi-volatile organic compounds, and/or heavy metals (arsenic and lead). Based on the analytical results, UI grouped areas along the Project route into soils and groundwater categories, which form the basis for defining the appropriate handling and disposal methods for these materials during construction. This information will be provided to Project contractors as part of the construction specifications. These categories are summarized in Table 2-1.

[10] Per CT DEEP, areas of groundwater classified as GA refer to existing private and potential public or private supplies of water suitable for drinking without treatment; baseflow for hydraulically connected surface water bodies. The GB classification refers to groundwater that is presumed not suitable for human consumption without treatment; industrial process water and cooling waters; baseflow for hydraulically connected surface water bodies. (Note: In the Project area, groundwater does not serve as a potable water supply; instead, potable water is provided by the South Central Connecticut Regional Water Authority.

Table 2-1: Soil and Groundwater Categories Identified along the Project Route

Soils

1. **Clean Soil**: Soil in which the analytical constituents are not detected above laboratory reporting limits or that the concentrations of the detected constituents are indicative of background conditions.

2. **Polluted Soil**: Soil that contains detected contaminants of concern above background concentrations, but below the RSR soil standards. Background conditions are defined as naturally occurring constituents that have been detected at similar concentrations throughout the Project.

3. **Contaminated Soil**: Soils that contain detected contaminants of concern at concentrations above the RSR soil criteria.

4. **Potentially Hazardous Soil**: Soils that have been yielded in exceedance of the RCRA hazardous soil standards, possibly meeting the definition of hazardous waste. Based on the soil data collected to date, no potentially hazardous soil has been identified at the Project; remaining monopole locations will be sampled during Project construction.

Groundwater

1. **Treatment Not Required**: Groundwater that may contain detected contaminants of concern at concentrations above background levels but below the CT RSR criteria for groundwater and any additional criteria associated with required wastewater permits.
2. **Containment, Treatment, and/or Disposal Required**: Groundwater that contains contaminants of concern at concentrations above the RSR criteria and/or additional criteria associated with required wastewater permits.

3. MATERIALS MANAGEMENT DURING CONSTRUCTION

The pre-construction study results were used to identify areas along the Project transmission line route where special soils or groundwater management techniques are required and to develop soil and groundwater management strategies for contractor implementation during construction. Proper management of soil and groundwater will avoid or minimize the potential for environmental impacts during construction and for the public or workers to be exposed to any contaminants. Similarly, construction contractors will be required to properly handle, temporarily store, and transport for off-site disposal or recycling the materials from the removal of UI's existing transmission line infrastructure, as well as any other waste materials that may be encountered during the Project construction process.

The following subsections present UI's overall approach for materials management during Project construction. UI will also include more detailed specifications for materials management in Project contractual documents.

3.1 Soils Management

UI will manage any soil in accordance with the Connecticut RSRs and when necessary Federal guidelines. Based on the results of the Project studies, UI anticipates that most excavated materials will be transported for disposal or management at an approved off-site location.

However, the category of soil at each work site will determine the applicable soil management approach. In certain cases, and pending UI approval, soil categorized as clean or polluted may be reused onsite at the location where generated. Otherwise, clean or polluted soil, along with contaminated soil, will be staged in a pre-determined stockpile area for additional sampling and characterization, if required. Any other categorized soil encountered during Project construction will be transported to pre-determined and approved off-site permitted reuse, management or disposal facilities.

Off-site reuse, management or disposal facilities will be identified based on the soil designation from the pre-construction or any additional soil characterization. The handling, manifesting, transport, and

ultimate disposal of the soil material will be in accordance with the regulatory requirements governing the soil characteristics.

Topsoil or spoils (if any) that will be temporarily stockpiled at work sites will be contained within appropriate erosion and sediment controls (e.g., straw bales, silt fence) and may be covered with poly/plastic. In areas where the characterization studies indicate that soil may be re-spread over work sites as part of restoration, stockpiles may be reseeded for additional temporary stabilization, depending on site-specific conditions.

3.2 Groundwater Management

Management methods for groundwater dewatered during the Project may include, but will not be limited to:

- The use of vacuum trucks to remove water from excavation sites and then transport it off-site, for management at an approved facility;
- Temporary storage at Project work sites in fractionization (frac) tanks[11] prior to off-site disposal;
- Discharge to temporary discharge basins, constructed of hay bales and filter bags (or equivalent), and then via infiltration to upland areas along the Project route; and/or
- Discharge to sanitary sewers and/or surface waters, with appropriate treatment and permitting.

All dewatering activities will be conducted in accordance with applicable local and/or State permitting requirements. Direct discharge to wetlands or watercourses is prohibited, .

Residual silt/sediment collected at the bottom of any frac tanks will be disposed off-site at an appropriately designated disposal facility or spread back on the ground surface in the vicinity from which it was generated based on the soil characterization for the specific work site where the dewatering was performed.

[11] Depending on site-specific conditions (e.g., the amount of groundwater encountered), frac tanks may be positioned at Project work sites (e.g., along access roads / work pads), where groundwater can be pumped directly into the frac tank or staged at Project contractor laydown yards. Vacuum trucks will be used to remove groundwater from work excavations and transport it to the frac tanks, if staged at the contractor yard(s).

3.3 Other Materials

Other excess or waste materials generated by or encountered during construction also will be managed in accordance with applicable regulations and UI standards. Such materials will include the components of the existing UI infrastructure to be removed, solid wastes found on work sites during Project construction (if encountered), and miscellaneous solid waste generated during construction (e.g., concrete spoils, packaging materials, wrapping, pallets).

APPENDIX J

NOTICES AND REPORTS TO THE COUNCIL

(Per CSC Docket 3B, Conditions 7 and 9, and 11, as well as Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies)

This page intentionally left blank

TABLE OF CONTENTS

1. INTRODUCTION 1

2. NOTICES AND REPORTS TO THE COUNCIL 1

3. MODIFICATIONS TO THE D&M PLAN 3

This page intentionally left blank.

1. INTRODUCTION

This Appendix lists the notices and reports that are required pursuant to Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies (RCSA) and Conditions 7, 9, and 11 of the Connecticut Siting Council (CSC, Council) Decision and Order in Docket No. 3B for the Project. The appendix also identifies the circumstances under which changes to the D&M Plan requires notification to and approval of the CSC prior to implementation.

2. NOTICES AND REPORTS TO THE COUNCIL

As required by the CSC, UI will provide the notifications identified below, as applicable, to the Council.

a) ***Advance Written Notice Prior to the Commencement of Construction Activities*** – Pursuant to Condition 11 of the Docket No. 3B Decision and Order, UI will provide the CSC with **written advance notice two weeks before the commencement of Project construction**.

b) ***Notice of the Location and Size of Staging Areas*** – Pursuant to RSCA Section 16-50j-62(a), UI will provide, for the CSC's approval, written notice of the location and size of all areas to be accessed or used for Project staging that are not otherwise identified in this D&M Plan.

c) ***Quarterly Progress Report*** – Pursuant to Condition 11 of the Decision and Order in Docket No. 3B, UI will provide the CSC with a quarterly construction progress report.

d) ***Written Notice of Completion of Construction and Commencement of Project Operation*** – Pursuant to Condition 11 of the CSC Decision and Order for the Project, UI will provide the Council with written notice of:

(1) The completion of Project construction activities; and
(2) The commencement of Project operation.

e) ***Final Report*** – Pursuant to RSCA Section 16-50j-62(c)(1-5), within 180 days after completion of all Project construction and site rehabilitation, UI will provide the CSC with a final report that will identify the following:

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 property rights or underlying and adjoining owners or for other reasons.

3 The location of construction materials that have been left in place, including but not limited to, culverts, erosion control structures along watercourses and steep slopes, and corduroy roads in regulated wetlands.

4 The location of areas where special plantings and reseeding have been performed.

5 The actual construction cost of the facility, including but not limited to the following costs:

a. Clearing and access;

b. Construction of the facility and associated equipment;

c. Rehabilitation; and

d. Property acquisition for the site or access to the site.

f) ***Year-After Report*** - Pursuant to Condition 7 of the Decision and Order in Docket No. 3B, within three months after the conclusion of the first year of operation of all Project facilities, UI will provide to the Council an operating report that includes information relevant to the overall condition, safety, reliability, and operation of the transmission lines.

3. MODIFICATIONS TO THE D&M PLAN

Pursuant to RCSA Section 16-50j-62(b)(2), the Council must approve any significant changes to the Project D&M Plans. No significant changes to the D&M Plans will be implemented without Council approval.

Accordingly, if any significant changes to the D&M Plan is required, UI will submit advance written notice (letter, e-mail) of such proposed changes to the CSC. If advance written notice is impractical, verbal notice will be provided to the CSC immediately, followed up by written notice not less than 48 hours after the verbal notice. Significant D&M Plan changes, as defined in the RCSA, may include but not be limited to modifications to Project construction plans such as:

- The location of a wetland or watercourse crossing.
- The location of an accessway or structure in a regulated wetland or watercourse area.
- The construction or placement of any temporary structures or equipment.
- Transmission line structure type or location including, but not limited to, towers, guy wires, associated equipment, or other structures.
- Use of additional mitigation measures or elimination of mitigation measures.

Pursuant to RCSA Section 16-50j-61(d), notice of a filing of a change to the D&M Plan that require Council approval will be provided to the service list and the property owner of record, if applicable, at the time that the filing is made with the Council.

APPENDIX K

D&M PLAN DIRECTORY AND CROSS-REFERENCES TO CSC CONDITIONS IN DOCKET NO. 3B

This page intentionally left blank.

Table 1-1: D&M Plan Directory (Pursuant to RCSA Section 16-50j-60)

R.C.S.A Section	Description	D&M Plan (Section Reference, as Applicable)
16-50j-60	**Requirements for a D&M Plan**	
(a)	**Purpose.** The Council may require the preparation of full or partial D&M Plans for proposed energy facilities, modifications to existing energy facilities, or where the preparation of such a plan would help significantly in balancing the need for adequate and reliable utility services at the lowest reasonable cost to consumers with the need to protect the environment and the ecology of the state.	This D&M Plan applies to the replacement of the Project overhead transmission lines and associated substation upgrades.
(b)	**When required.** A partial or full D&M plan shall be prepared in accordance with this regulation and shall include the information described in RCSA Sections 16-50j-61 to 16-50j-62, inclusive, for any proposed energy facility for which the Council issues a certificate of environmental compatibility and public need, except where the Council provides otherwise at the time it issues the certificate. Relevant information in the Council's record may be referenced.	This D&M Plan includes all information applicable to the installation of the rebuilt 115-kV transmission lines, removal of the existing 115-kV facilities and associated line connections to Derby Junction, as well as Indian Well and Ansonia substations.
(c)	**Procedure for preparation.** The D&M plan shall be prepared by the certificate holder or the owner or operator of the proposed facility or modification to an existing facility. The preparer may consult with the staff of the Council to prepare the D&M plan.	This D&M Plan was prepared by UI.
(d)	**Timing of plan.** The D&M plan shall be submitted to the Council in one or more sections, and the Council shall approve, modify, or disapprove each section of the plan not later than 60 days after receipt of it. If the Council does not act to approve, modify or disapprove the plan or a section thereof within 60 days after receipt of it, the plan shall be deemed approved. Except as otherwise authorized by the Council, no clearing or construction shall begin prior to approval of applicable sections of the D&M plan by the Council.	This D&M Plan (Volumes 1 and 2) covers all Project activities.
16-50j-61	**Elements of D&M Plan**	
(a)	**Key Map.** 1"=2,000' USGS topographic map	Volume 2
(b)	**Plan Drawings.** 1"=40' or larger, and supporting documents, which shall contain the following information:	Maps and cross-sections are included in Volume 2.
1.	Edges of the proposed site and any existing site contiguous to or crossing the site, portions of the site owned by the company in fee, and the identity of property owners of record of the portions of the site not owned by the company in fee	Volume 2.
2.	Public roads and public land crossings or adjoining the site	Volume 2
3.	Location of 50' contours along the site	Volume 2
4.	Probable location, type, and height of the proposed facility and components including each new transmission structure, position of guys, description of foundations, and locations of any utility or other structures to remain on the site or to be removed	Volume 2, maps and cross-sections.
5.	Probable points of access to the site, and the route and likely nature of accessways, including alternatives	Volume 2 maps
6.	Edges of existing and proposed clearing areas, the type of proposed clearing along each part of the site, and the location and species identification of vegetation that would remain for aesthetic and wildlife value	Volume I, Appendix C; Volume 2
7.	Identification of sensitive areas and conditions within and adjoining the site, including but not limited to:	

R.C.S.A Section	Description	D&M Plan (Section Reference, as Applicable)
	A. Wetland and watercourse areas regulated under C.G.S. Chapter 440 and any locations where construction may create drainage problems	Volume 1, Section 4.2.3; Volume 2 maps
	B. Areas of high erosion potential	Volume 1, Sections 4.2.1, 4.2.2; Volume 2 maps
	C. Critical habitats or areas identified as having rare, endangered, or threatened, or special concern plant or animal species listed by the state or federal government	Volume 1, Sections 4.2.7; Volume 2 maps
	D. Location of known underground utilities or resources to be crossed (electric lines, fuel lines, drainage systems and natural or artificial public or private water resources)	Volume 2
	E. Residences or businesses within or adjoining the site that may be disrupted during construction	Volume 2
	F. Significant environmental, historic and ecological features (significantly large or old trees, buildings, monuments, stone walls or features of local interest)	Volume 2
(c)	**Supplemental Information**	
1.	Plans (if any) to salvage marketable timber, restore habitat and maintain snag trees within or adjoining the site	Volume 1, Section 4.1.3, Appendix C
2.	All construction and rehabilitation procedures with reasonable mitigation that shall be taken to protect areas and conditions identified in 7(b), above, including but not limited to:	
	A. Construction techniques at wetland and watercourse crossings	Volume 1, Section 4.2.3 and Appendix F; Volume 2
	B. S&E control and rehabilitation procedures, consistent with the CT Guidelines for Soil Erosion and Sediment Control, as updated and amended for areas of high erosion potential	Volume 1, Sections 4.2.1; Volume 2,
	C. Precautions and all reasonable mitigation measures to be taken in areas within or adjoining the site to minimize any adverse impacts of such actions or modifications endangered, threatened, or special concern plant or animal species listed by federal or state agencies and critical habitats that are in compliance with federal and state recommended standards and guidelines, as amended	Volume 1, Section 4.2.7
	D. Plans for modification and rehabilitation of surface, drainage, and other hydrologic features	Volume I, Section 4.2.3; Volume 2
3.	Plans for the method and type of vegetation clearing and maintenance to be used within or adjacent to the site	Volume I, Section 4.1.3
4.	Location of public recreation areas or activities known to exist or being proposed in or adjacent to the site, together with copies of agreements between the company and public agencies authorizing the public recreation use of the site to the extent of the company's rights thereto	Volume 1, Section 4.3; Volume 2 maps
5.	Plans for ultimate disposal of excess excavated material, stump removal, and periodic maintenance of the site	Volume I, Sections 4.1.10, 4.2.2, Appendices D and I
6.	Locations of areas where blasting is anticipated	None
7.	Rehabilitation plans, including but not limited to reseeding and topsoil restoration	Volume I, Section 4.1.10 and Appendix D
8.	Contact information for the personnel of the contractor assigned to the project	To be provided upon contract award
9.	Such site-specific information as the CSC may require	

R.C.S.A Section	Description	D&M Plan (Section Reference, as Applicable)
(d)	**Notice** A copy, or notice of the filing, of the D&M Plan, or a copy, or notice of the filing of any changes to the D&M Plan, or any section thereof, shall be provided to the service list and the property owner of record, if applicable, at the same time the plan, or any section thereof, is submitted to the CSC	Volume 1, Section 8
(e)	**Changes to the Plan** The CSC may order changes to the D&M plan, including but not limited to vegetative screening, paint color, or fence design at any time during the preparation of the plan	Volume 1, Appendix J
16-50j-62	**Supplemental Reporting Requirements**	
(a)	**Site Testing and Staging Areas.** The certificate holder, or facility owner or operator, shall provide the CSC with written notice of the location and size of all areas to be accessed or used for site testing or staging areas. If such an area is to be used prior to approval of the D&M plan, the CSC may approve such use on terms as it deems appropriate.	Contractor staging yard to be provided to the Council for review and approval prior to use.
(b)	**Notice.**	
1.	The certificate holder, or facility owner or operator, shall provide the CSC, in writing with a minimum of two weeks advance notice of the beginning of:	Volume 1, Appendix J
	A. Clearing and access work in each successive portion of the site, and	
	B. Facility construction in that same portion	
2.	The certificate holder, or facility owner or operator, shall provide the CSC with advance written notice whenever a significant change of the approved D&M plan is necessary. If advance written notice is impractical, verbal notice shall be provided to the CSC immediately and shall be followed by written notice not later than 48 hours after the verbal notice. Significant changes to the approved D&M plan shall include, but not be limited to, the following:	Volume 1, Appendix J
	A. The location of wetland or watercourse crossing	
	B. The location of an accessway or structure in a regulated wetland or watercourse area	
	C. The construction or placement of any temporary structures or equipment	
	D. A change in structure type or location including, but not limited to, towers, guy wires, associated equipment or other facility structures	
	E. Utilization of additional mitigation measures, or elimination of mitigation measures. The CSC or its designee shall promptly review the changes and shall approve, modify, or disapprove the changes in accordance with subsection (d) of Section 16-50j-60 of the RCSA	
3.	The certificate holder, or facility owner or operator, shall provide the CSC with a monthly construction progress report or a construction progress report at intervals determined by the CSC or its designee, indicating changes and deviations from the approved D&M Plan. The CSC may approve changes and deviations, request corrections, or require mitigation measures.	Volume 1, Appendix J
4.	The certificate holder, or facility owner or operator, shall provide the CSC with written notice of completion of construction and site rehabilitation.	Volume 1, Appendix J
(c)	**Final Report** The certificate holder, facility owner or operator, shall provide the CSC with a final report for the facility not later than 180 days after completion of all site construction and site rehabilitation. The report shall identify:	Volume 1, Appendix J
1.	All agreements with abutters or other property owners regarding special maintenance precautions	

R.C.S.A Section	Description	D&M Plan (Section Reference, as Applicable)
2.	Significant changes of the D&M plan that were required because of property rights of underlying and adjoining owners for other reasons	
3.	The location of construction materials which have been left in place including, but not limited to, culverts, erosion control structures along watercourses and steep slopes, and corduroy roads in regulated wetlands	
4.	The location of areas where special planting and reseeding have been done	
5.	The actual construction cost of the facility, including but not limited to the following costs:	
	A. Clearing and access	
	B. Construction of the facility and associated equipment	
	C. Rehabilitation; and	
	D. Property acquisition for the site or access to the site	
(d)	**Protective Order** The certificate holder, or facility owner or operator, may file a motion for protective order pertaining to commercial or financial information related to the site or access to the site.	N/A

Table 1-2
D&M Plan Directory of Docket No. 508 Decision and Order and Opinion Requirements

CSC Condition Number	Decision and Order	D&M Plan (Section Reference, as Applicable)
(1)	The Certificate Holder shall construct the rebuilt electric transmission line along the proposed route utilizing the Alternative 1 Configuration and perform related Project improvements, as proposed, subject to modifications during final site design and approval of the Development and Management (D&M Plan) for the Project.	Volumes 1 and 2
(2)	The Certificate Holder shall submit to the Council for review and approval any alternative configurations to Osbornedale State Park (OSP) Option 1 that may result from consultation between the Certificate Holder and CT DEEP prior to commencement of construction at the OSP Segment.	N/A; Option 1 (as presented in the Motion) will be used
(3)	The Certificate Holder shall prepare a D&M Plan for this Project. The D&M Plan shall be in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies. The D&M Plan shall be provided to the service list and submitted to and approved by the Council prior to the commencement of facility construction and shall include:	Volumes 1 and 2
	a. Detailed site plans depicting final transmission line structure heights and identification of locations for access roads, structure foundations, equipment laydown areas, material staging areas, field office trailers, sanitary facilities, and parking;	Volume 2 maps
	b. Review and consideration of double-circuit monopole configurations for Structure Nos. 17 and 18, including a cost estimate;	Complete. Submitted separately
	c. Detailed site plans for equipment installation/modifications at Ansonia and Indian Well substations;	Volume 1, Section 5; Volume 2
	d. Decommissioning plan for existing structures;	Volume 1, Appendix A
	e. An erosion and sediment control plan, consistent with the 2002 *Connecticut Guideline for Soil Erosion and Sediment Control* as amended;	Volume 1, Section 4.2.1 and Appendix B; Volume 2 Specifications
	f. A plan to notify the public when helicopters would be used for Project construction;	Volume 1, Section 8
	g. Identification of wetland and watercourse resources, related temporary construction impacts and methods to reduce such impacts;	Volume 1, Sections 4.1 and 4.2.3, Volume 2
	h. Vegetative clearing plan;	Volume 1, Section 4.1.3 and Appendix C; Volume 2 maps
	i. Restoration plan of disturbed areas, including incorporation of areas for pollinator habitat consistent with C.G.S. §16-50hh, if feasible;	Volume 1, Section 4.1.10 and Appendix D
	j. A spill prevention and countermeasures plan for the petroleum storage site and plans to locate the storage site at least 100 feet from wetlands;	Volume 1, Appendix E (no petroleum storage sites will be located within 100 feet of wetlands)
	k. Wetland invasive species control plan;	Volume 1, Section 4.2.4 and Appendix F

CSC Condition Number	Decision and Order	D&M Plan (Section Reference, as Applicable)
	l. Provisions for on-site environmental inspection and monitoring of the ROW and substations during construction; m. A schedule of construction hours; n. A blasting plan, if necessary;	Volume 1, Section 3.1.3 Volume 1, Section 6 Volume 1, Section 4.2.6; UI does not currently propose to use blasting to remove rock during Project construction.
	o. Plans to comply with DEEP Natural Diversity Database recommendations to reduce impacts to state-listed endangered, threatened, and special concern species, including but not limited to plans to avoid tree cutting during the months of June, July, and August on the western side of the ROW at OSP to protect tree roosting bat species; and p. EMF Monitoring Plan.	Volume 1, Section 4.2.7; no State- or Federally-listed species will be affected by the Project. Clearing in Osbornedale State Park will not be performed during June through August. Refer to Volume 1, Appendix C. Volume 1, Appendix G
(4)	The Certificate Holder shall comply with the state ban on the use of Class B firefighting foam containing perfluoralkyl substances (PFAS) under Public Act 21-191.	UI complies with this requirement
(5)	The Certificate Holder shall obtain necessary permits from the United States Army Corps of Engineers and the Connecticut Department of Energy and Environmental Protection prior to the commencement of construction, in areas where said permits are required.	Volume 1, Section 7
(6)	The Certificate Holder shall comply with all future electric and magnetic field standards promulgated by State or federal regulatory agencies. Upon the establishment of any new standards, the facilities granted in this Decision and Order shall be brought into compliance with such standards.	Volume 1
(7)	The Certificate Holder shall provide to the Council an operating report within three months after the conclusion of the first year of operation of all facilities herein with information relevant to the overall condition, safety, reliability, and operation of the new transmission line.	Volume 1, Appendix J
(8)	Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within five years after all appeals to this Decision and Order have been resolved. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as practical.	Volume 1, Appendix J
(9)	Any request for extension of the time period referred to in Condition 8 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be service on all parties and intervenors, as listed in the service list, the Cities of West Haven, Milford and New Haven, and the Town of Orange.	Agree
(10)	This Certificate may be surrendered by the Certificate Holder upon written notification to the Council.	Agree

CSC Condition Number	Decision and Order	D&M Plan (Section Reference, as Applicable)
(11)	The Certificate Holder shall comply with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies and submit quarterly construction progress reports. The Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.	Volume 1, Appendix J
(12)	The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under CGS §16-50v.	Agree
(13)	This Certificate may be transferred in accordance with CGS §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under CGS §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide to the Council a written agreement as to the entity responsible for any quarterly assessment charges under CGS §16-50v(b)2 that may be associated with this facility.	N/A