

March 1, 2019

Mr. James Murphy, Jr., Acting Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Docket No. 474: Greater Hartford – Central Connecticut Reliability Project
Submission of Development & Management Plans for the Underground Segment of the new
115-kilovolt (kV) Transmission Line

Dear Acting Chairman Murphy:

Pursuant to Condition 2 of the Connecticut Siting Council's (Council) February 1, 2018 Decision and Order regarding the Greater Hartford–Central Connecticut Reliability Project (Project), The Connecticut Light and Power Company doing business as Eversource Energy (Eversource) submits to the Council for review and approval a Development and Management Plan (D&M Plan or Plan) for the *New 115-kV Transmission Line – Overhead Segment*.

This plan reflects Eversource's approach to prepare three separate D&M Plans for the Project. The *New 115-kV Transmission Line – Overhead Segment* is the third and final Plan to be submitted to the Council for the Project. The D&M Plans for both the *Modifications to the Newington and Southwest Hartford Substations and Newington Tap*, and the *New 115-kV Transmission Line – Underground Segment*, including the *Project-Wide Approvals, Plans & BMPs*¹ were approved by the Council on August 30, 2018.

The D&M Plan conforms to the requirements of Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies and the specific conditions of the Council's Decision and Order for this Project.

Eversource met with officials in the towns of Newington and West Hartford and the City of Hartford. West Hartford to discuss the D&M Plan and solicit feedback. None of the municipalities identified any questions or concerns regarding the contents of this D&M Plan.

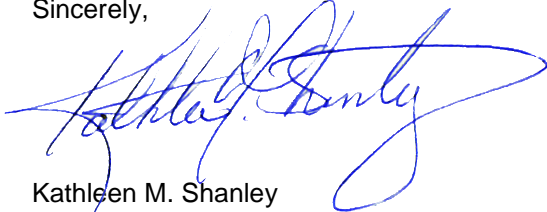
¹ The volume of the Project-Wide Approvals, Plans, and Best Management Practices is applicable to all three D&M Plans.

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The original, 15 paper copies, and an electronic copy on a DVD-ROM of the D&M Plan is submitted with this correspondence. Copies of the D&M Plan also will be provided to Newington, West Hartford and Hartford.

Should you or other Council members have any questions regarding this submission, please do not hesitate to contact me via e-mail at kathleen.shanley@eversource.com or telephone at (860) 728-4527.

Sincerely,



Kathleen M. Shanley

Enclosure

Cc: Service List



**GREATER HARTFORD-CENTRAL CONNECTICUT
RELIABILITY PROJECT**

**DEVELOPMENT & MANAGEMENT PLAN
for
NEW 115-kV TRANSMISSION LINE – OVERHEAD
SEGMENT**

(Towns of Newington and West Hartford, and City of Hartford, Hartford County, Connecticut)

VOLUME 1-OH

MARCH 2019

Prepared by:

The Connecticut Light and Power Company doing business as Eversource Energy

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1. INTRODUCTION

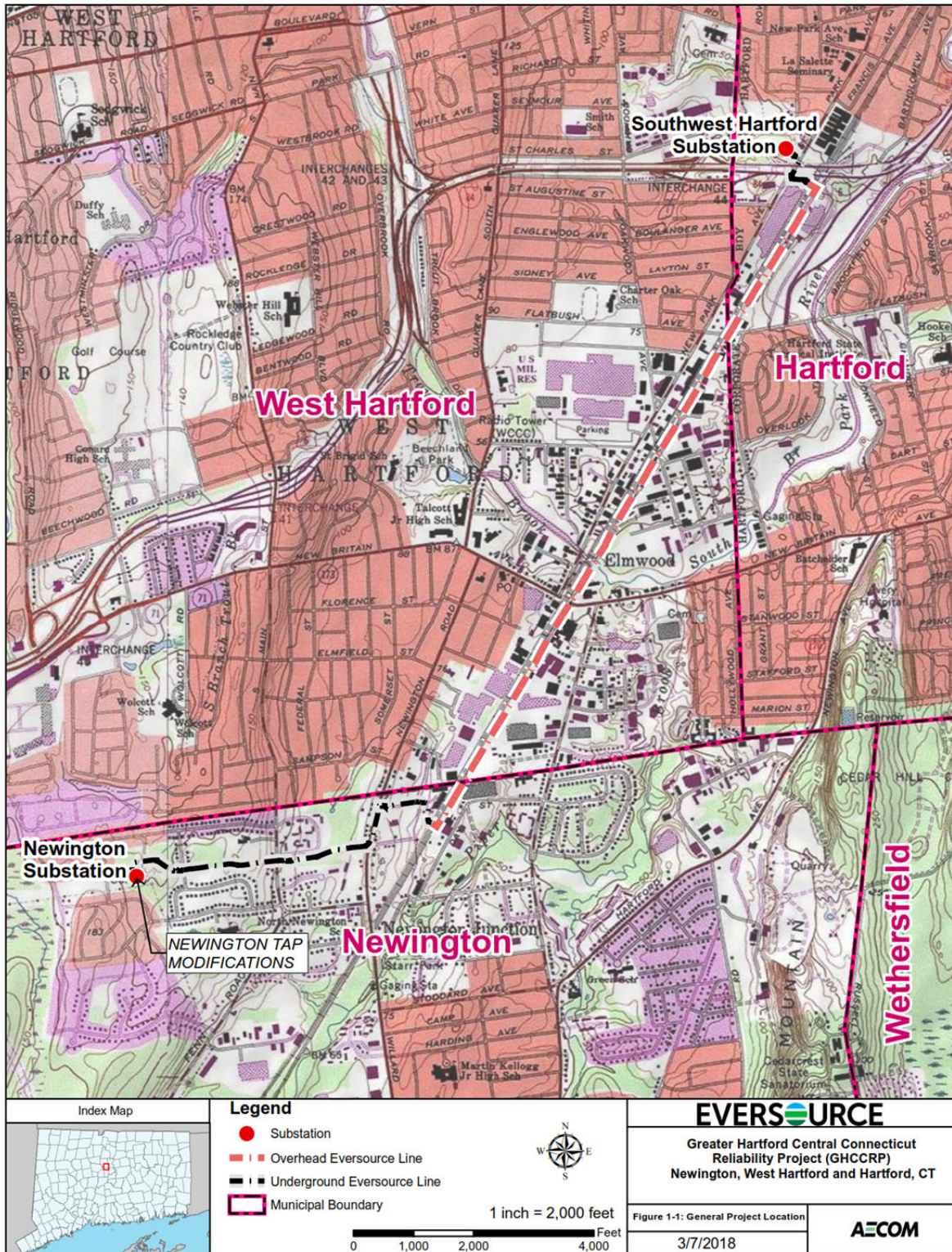
1.1 PROJECT OVERVIEW AND PURPOSE OF THE PLAN

To improve the reliability of the electric transmission system in the Greater Hartford and central Connecticut area, The Connecticut Light and Power Company doing business as Eversource Energy (Eversource or the Company) will construct, operate, and maintain a new 115-kilovolt (kV) transmission line and make related improvements to two existing substations and an existing 115-kV line tap into one of the substations. The work will be located within Hartford County. These improvements, referred to collectively as the Greater Hartford-Central Connecticut Reliability Project (GHCCRP or Project; refer to Figure 1-1), will consist of the following:

- A new approximately 3.7-mile 115-kV transmission line (to be designated the 1346 Line), consisting of both overhead and underground segments, which will extend between Eversource's existing Newington Substation in the Town of Newington, through the Town of West Hartford, to Eversource's existing Southwest Hartford Substation in the City of Hartford. The new transmission line will be aligned almost entirely along existing linear corridors, including an Eversource distribution line right-of-way (ROW), an Amtrak Railroad ROW, and state and local road ROWs. Approximately 2.4 miles of the new transmission line will be configured overhead, while approximately 1.3 miles will be underground (consisting of a 1.16-mile segment in the Town of Newington and a 0.17-mile segment in the City of Hartford).
- Modifications to both Newington and Southwest Hartford substations, including the expansion of each substation's fenced area by approximately 0.3 acre, to connect the new 115-kV line to the transmission system.
- Reconfiguration and reconductoring of a short (0.01-mile) section of the existing overhead 115-kV 1783 Line that connects to an existing terminal structure at Newington Substation. This short 115-kV line segment is referred to as the Newington Tap.

On June 7, 2017, Eversource submitted to the Connecticut Siting Council (Council or CSC) an Application for a Certificate of Environmental Compatibility and Public Need for the Project (Council Docket No. 474 or Certificate). After a public comment meeting, evidentiary hearing, and technical reviews, the Council approved the Project on February 2, 2018. Condition No. 2 of the Council's Decision and Order approving the Project requires that Eversource prepare a Development and Management Plan (D&M Plan or Plan) for the Project, in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies (RCSA; *Requirements for a D&M Plan, Elements of a D&M Plan, Reporting Requirements*).

Figure 1-1: Greater Hartford-Central Connecticut Reliability Project Location Map



Eversource elected to prepare three D&M Plans: one for the substations and Newington Tap modifications, and two for the 115-kV transmission line (one for the overhead line segment and one for the underground line segment). The substations and Newington Tap and underground line D&M Plans, referred to as Volume 1-UG and Volume 1-SS/Tap, as well as D&M Plan Volume 2, *Project-Wide Approvals, Plans, and Best Management Practices* (which applies to all Project construction activities), were submitted to the Council on July 6, 2018. The Council approved both Plans, including Volume 2, on August 30, 2018. This third and final D&M Plan addresses all construction activities for the overhead segment of the new 115-kV transmission line.

1.2 OVERHEAD TRANSMISSION LINE SEGMENT LOCATION AND GENERAL DESCRIPTION

As illustrated on Figure 1-1, the new 1346 Line will be aligned, in an overhead configuration, along the east side of the Amtrak ROW for approximately 2.4 miles, crossing portions of the towns of Newington and West Hartford and the City of Hartford. The Amtrak ROW varies in width from about 86 feet to 155 feet and includes two Amtrak rail lines and the Connecticut Department of Transportation's (CT DOT's) CTfastrak busway. The overhead segment will connect, via transition structures, to the underground cable portions of the 115-kV line in the Town of Newington and City of Hartford; the underground cable segments will extend to the Newington and Southwest Hartford substations, respectively.

Specifically, from the transition structure located on a private industrial property (Shepard Steel) at the end of the underground cable segment in the Town Newington, the overhead segment will span the CTfastrak and Amtrak's two rail lines and then will extend north along the east side of the Amtrak ROW. South of Interstate 84 (I-84) in the City of Hartford, the overhead line will diverge west from the railroad ROW, again spanning the Amtrak rail lines and CTfastrak to another transition structure, which will be located on private property directly west of the railroad ROW and adjacent to the northeastern portion of the Bow Tie Cinema parking lot (Line List No. 5339). Of the 2.4-mile overhead alignment, about 0.2 mile will be located in the Town of Newington, 1.7 miles will be within the Town of West Hartford, and 0.5 mile will be in the City of Hartford.

The new overhead 1346 Line will consist of 49 single-circuit galvanized steel monopole structures: 43 tangent structures, four deadend structures, and two transition structures.¹ The structures will be placed at intervals of approximately 250- to 300-feet along the Amtrak ROW; the typical structure will be approximately 95 to 110 feet in height above ground and will be arranged in a vertical configuration; however, three structures (Structures 47-49) will be 135 feet in height above ground to accommodate a potential future development by CT DOT. The structure design is in accordance with an agreement between Eversource and Amtrak regarding the alignment of the transmission line within the railroad ROW. Each of the two transition structures will be 95 feet in height above ground.

Of the 49 structures, all but five will be located within the Amtrak ROW. Both transition structures (Structures 11B and 61) will be located on private commercial properties. In addition, Structure 12B in the Town of Newington will be located on private commercial property directly adjacent to the Amtrak ROW. Further, south of Flatbush Avenue in the Town of West Hartford, a small portion of the Amtrak ROW is too narrow to accommodate two of the monopole structures. In this location, the two structures (Structures 46 and 47) will also be located on private commercial property.

¹ Note: Along the overhead segment, structures are numbered 11B through 61; there are no Structure Nos. 39 or 45.

1.3 ORGANIZATION OF THE PLAN

This D&M Plan consists of two volumes:

- **Volume 1-OH** includes specific information relevant to the 2.4-mile overhead segment of the 115-kV line. The main text of Volume 1-OH (Sections 1 through 7) includes information and procedures that are pertinent to the overhead transmission line segment, including regulatory requirements, general Project construction procedures, special construction protocols and plans, construction schedule and work hours, public outreach, and glossary of terms.

Table 1-1 summarizes each of the Council's D&M Plan requirements, pursuant to RCSA Sections 16-50j-60 through 16-50j-62. Table 1-2 identifies the requirements pertaining to the transmission line as contained in the Council's Decision and Order for the Project. For each D&M Plan requirement, Tables 1-1 and 1-2 either identify the location in this D&M Plan where the requirement is addressed or state why the requirement is not relevant to the overhead segment.

Appendices to Volume 1-OH include maps and drawings, including cross-sections (XSs), of the overhead line (Appendix A), as well as best management practices (BMPs) for soil erosion and sediment control (Appendix B) relevant to the overhead segment.

- **Volume 2**, which was submitted to and approved by the Council as part of the two other D&M Plans and is incorporated herein by reference, includes approvals, permits, and BMPs pertinent to all Project construction activities, including both the underground and overhead segments of the new 115-kV transmission line and the modifications at Newington and Southwest Hartford substations and Newington Tap. In particular, Volume 2 includes:
 - Eversource's procedures for environmental compliance and notifications to the Council during the development of the Project, as required by the Council's regulations and Project-specific conditions (Attachments A.1 through A.3).
 - Wetlands and Watercourses Impact Summary Table for the Project (Attachment B).
 - Spill Prevention and Control Plan (Attachment C).
 - Snow Removal and De-Icing Procedures (Attachment D).
 - Eversource's *Best Management Practices Manual for Massachusetts and Connecticut (Construction and Maintenance Environmental Requirements), September 2016 (BMP Manual; Attachment E)*.
 - Post-Construction Electric & Magnetic Field Measurement Plan (Attachment F).

**Table 1-1:
D&M Plan Directory
Greater Hartford-Central Connecticut Reliability Project:
New 115-kV Transmission Line – Overhead Segment
(Compliance with RCSA Sections 16-50j-60,-61 and -62, as amended through September 7, 2012)**

RCSA 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 will 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 construction of the overhead segment of the new 115-kV transmission line.
(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 construction of the overhead segment of the new 115-kV transmission line.
(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 Eversource.
(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.	The D&M Plan addresses the Council’s requirements for the construction of the overhead segment of the new 115-kV transmission line.
16-50j-61	Elements of D&M Plan	
(a)	Key Map, 1”=2,000’ USGS topographic map	Volume 1-OH, Appendix A
(b)	Plan Drawings, 1”=100’ or larger, and supporting documents, which shall contain the following information:	Volume 1-OH, Appendix A
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 1-OH, Appendix A
2.	Public roads and public land crossings or adjoining the site	Volume 1-OH, Appendix A

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
3.	Approximate location of 50' contours along the site	Volume 1-OH, Appendix A
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 1-OH, Appendix A
5.	Probable points of access to the site, and the route and likely nature of access ways, including alternatives	Volume 1-OH, Appendix A
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 will remain for aesthetic and wildlife value	Volume 1-OH, Section 3.4; Appendix A maps
7.	<p>Identification of sensitive areas and conditions within and adjoining the site, including but not limited to:</p> <ul style="list-style-type: none"> A. Wetland and watercourse areas regulated under CGS Chapter 440 and any locations where construction may create drainage problems B. Areas of high erosion potential 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 D. Location of known underground utilities or resources to be crossed (electric line, fuel line, drainage systems and natural or artificial public or private water resources) E. Residences or businesses within or adjoining the site that may be disrupted during construction F. Significant environmental, historic and ecological features (significantly large or old trees, buildings, monuments, stone walls or features of local interest) 	<p>Volume 1-OH, Section 5.2; Appendix A</p> <p>Not Applicable (N/A)</p> <p>Volume 1-OH, Section 5.3</p> <p>Volume 1-OH, Appendix A, Exhibit A.6</p> <p>Volume 1-OH, Appendix A</p> <p>Volume 1-OH, Sections 5.2, 5.4; Appendix A.</p>
(c)	Supplemental Information	
1.	Plans (if any) to salvage marketable timber, restore habitat and maintain snag trees within or adjoining the site	Volume 1-OH, Section 3.4
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:	
	<ul style="list-style-type: none"> A. Construction techniques at wetland and watercourse crossings B. Sedimentation and erosion control and rehabilitation 	<p>Volume 1-OH, Section 5.2; Appendix A maps; Volume 2, Attachment E, BMPs</p> <p>Volume 1-OH, Sections 3</p>

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
	<p>procedures, consistent with the CT Guideline for Soil Erosion and Sediment Control, as updated and amended for areas of high erosion potential</p> <p>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 guideline, as amended</p> <p>D. Plans for modification and rehabilitation of surface, drainage, and other hydrologic features</p> <p>E. Plans for watercourse bank restoration in accordance with Chapter 440 of the C.G.S.</p> <p>F. Plans for the protection of historic and archaeological resources with review and comment from a state historic preservation officer of the CT Department of Economic and Community Development (DECD) or its successor agency</p>	<p>and 5.1; Appendix B; Volume 2, Attachment E, BMPs</p> <p>Volume 1-OH, Section 5.3</p> <p>Volume 1-OH, Section 5.2; Volume 2, Attachment E, BMPs</p> <p>N/A</p> <p>Volume 1-OH, Section 5.4 (No cultural resources associated with overhead transmission facility)</p>
3.	Plans for the method and type of vegetation clearing and maintenance to be used within or adjacent to the site	Volume 1-OH, Section 3.4; Appendix A
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.	N/A
5.	Plans for ultimate disposal of excess excavated material, stump removal, and periodic maintenance of the site	Volume 1-OH, Section 5.6
6.	Locations of areas where blasting is anticipated	None anticipated
7.	Rehabilitation plans, including but not limited to reseeding and topsoil restoration	Volume 1-OH, Section 3.4; Volume 2, Attachment E, BMPs
8.	Contact information for the personnel of the contractor assigned to the project	To be provided after contract award for the overhead line work
9.	Such site-specific information as the CSC may require	Refer to Table 1-2: List of requirements per Docket 474 Decision and Order and Opinion
(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,	Acknowledged

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
	if applicable, at the same time the plan, or any section thereof, is submitted to the CSC	
(e)	<p>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</p>	As applicable; refer to Volume 2, Attachment A.2 (Eversource's Change Notice process)
16-50j-62	Supplemental Reporting Requirements	
(a)	<p>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.</p>	Volume 1-OH, Section 3.3; Appendix A identifies work areas and material staging/laydown sites within and adjacent to the Amtrak ROW. If the transmission line contractor identifies other yards and/or material staging areas, such sites will be submitted to the Council for review and approval prior to use, pursuant to the Change Notice process described in Volume 2, Attachment A.2.
(b)	Notice	
1.	<p>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:</p> <ul style="list-style-type: none"> A. Clearing and access work in each successive portion of the site, and B. Facility construction in that same portion 	Acknowledged. Volume 2, Attachment A.2 summarizes notification procedures.
2.	<p>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:</p> <ul style="list-style-type: none"> A. The location of wetland or watercourse crossing B. The location of an access way 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 measure, 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 	Volume 2, Attachment A.2 includes Eversource's D&M Plan change process
3.	The Certificate Holder, or facility owner or operator, shall provide	Acknowledged

RCSA Section	Description	D&M Plan (Section Reference, as Applicable)
	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.	
4.	The Certificate Holder, or facility owner or operator, shall provide the CSC with written notice of completion of construction and site rehabilitation.	Acknowledged
(c)	<p>Final Report The Certificate Holder, or 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:</p> <ol style="list-style-type: none"> 1. All agreements with abutters or other property owners regarding special maintenance precautions 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: <ol style="list-style-type: none"> 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 	Acknowledged (Volume 2)
(d)	<p>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.</p>	Acknowledged

**Table 1-2:
 D&M Plan Directory of Docket No. 474 Decision and Order Requirements:
 GHCCRP Transmission Line**

Condition or Page Number	Description	D&M Plan (Section Reference, as Applicable)
Condition Number	Decision and Order	
(1)	The Certificate Holder shall construct the proposed transmission line overhead along the proposed route and perform related Project improvements, as proposed, subject to modifications during final site design and approval of the D&M Plan for the Project.	Volumes 1-OH & 2
(2)	<p>The Certificate Holder shall prepare a Development and Management (D&M) Plan for this Project that shall be in compliance with Sections 16-50j-60 through 16-50j-62 of the RCSA. The D&M Plan shall be served on the municipalities of Newington, West Hartford, and Hartford for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction. The D&M Plan shall include:</p> <p>a. Detailed site plans depicting final structure heights and showing the placement of the access roads, structure foundations, equipment and material staging areas for the overhead portion of the route;</p> <p>b. Detailed site plans depicting final transition structure heights and showing the placement of transition structures, duct banks and splice vaults for the underground portion of the route;</p> <p>c. Plans to address traffic impacts associated with underground construction;</p> <p>d. Plans for perennial stream crossing (e.g., open cut method) for underground cable;</p> <p>e Detailed site plans for equipment installation/modifications for the expanded areas at Newington Substation (including Newington Tap modifications) and Southwest Hartford Substation, including fencing details;</p> <p>f. Identification of areas for staging and equipment lay down, field office trailers, sanitary facilities, and parking;</p> <p>g. An erosion and sediment control plan, consistent with the 2002</p>	<p>Volumes 1-OH & 2</p> <p>Volumes 1-OH & 2</p> <p>Volume 1-OH, Appendix A; Refer to Underground Transmission Line D&M Plan for duct bank and splice vault details</p> <p>Refer to Underground Transmission Line D&M Plan for duct bank and splice vault details</p> <p>Refer to Underground Transmission Line D&M Plan for duct bank and splice vault details</p> <p>Refer to the Modifications to the Newington and Southwest Hartford Substations and Newington Tap D&M Plan</p> <p>Volume 1-OH, Appendix A (Additional contractor yards, as applicable, will be submitted to the Council separately)</p> <p>Volume 1-OH, Section</p>

Condition or Page Number	Description	D&M Plan (Section Reference, as Applicable)
	<p><i>Connecticut Guideline for Soil Erosion and Sediment Control</i> as amended;</p> <p>h. A stormwater management plan consistent with the <i>2004 Connecticut Stormwater Quality Manual</i>;</p> <p>i. Identification of wetland and watercourse resources, related temporary construction impacts and methods to reduce such impacts;</p> <p>j. Details of ground disturbance;</p> <p>k. Vegetative clearing plan;</p> <p>l. Wetland restoration plan;</p> <p>m. Restoration plan of disturbed areas;</p> <p>n. A spill prevention and countermeasures plan;</p> <p>o. Invasive species control plan;</p> <p>p. A schedule of construction hours;</p> <p>q. A blasting plan, if necessary;</p> <p>r. Provisions for site specific measures to reduce impacts to State listed endangered, threatened, and special concern species; and</p> <p>s. An EMF Monitoring Plan</p>	<p>5.1; Appendix A, Detail Sheets 1 and 2; Volume 2, Attachment E, BMPs</p> <p>Volume 1-OH, Section 3.4.3 (Stormwater Pollution Control Plan; approved by CT DEEP per the Construction General Permit will be filed with Council with the first quarterly report for the Project construction)</p> <p>Volume 1-OH, Section 5.2; Volume 2, Attachment B</p> <p>Volume 1-OH, Section 3.4.4; Volume 1-OH, Appendix A</p> <p>Volume 1-OH, Section 3.4.2</p> <p>N/A</p> <p>Volume 1-OH, Appendix B</p> <p>Volume 2, Attachment C</p> <p>Volume 1-OH, Section 3.4.2</p> <p>Volume 1-OH, Section 4</p> <p>N/A</p> <p>Volume 1-OH, Section 5.3 (No State listed species present along overhead segment)</p> <p>Volume 2, Attachment F</p>
(3)	<p>The Certificate Holder shall obtain necessary permits from the United States Army Corps of Engineers and the Connecticut Department of Energy and Environmental Protection and any other state or federal agency with concurrent jurisdiction prior to the commencement of construction, in areas where said permits are required.</p>	<p>Acknowledged</p>
(4)	<p>The Certificate Holder shall comply with all future electric and</p>	<p>Acknowledged</p>

Condition or Page Number	Description	D&M Plan (Section Reference, as Applicable)
	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.	
(5)	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.	Acknowledged
(6)	Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within five years of the effective date of the Decision and Order, or within five years after all appeals to this Decision and Order have been resolved. Authority to monitor or modify the 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 practicable.	Acknowledged
(7)	Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, the Towns of Newington and West Hartford, and the City of Hartford.	Acknowledged
(8)	This Certificate may be surrendered by the Certificate Holder upon written notification to the Council.	Acknowledged
(9)	The Certificate Holder shall comply with Sections 16-50j-60 through 16-50j-62 of the RCSA 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.	Acknowledged
(10)	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.	Acknowledged
(11)	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.	Acknowledged

2. REGULATORY APPROVALS AND CONSULTATIONS

2.1 REGULATORY APPROVALS AND REQUIREMENTS

This D&M Plan conforms to the specifications of 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*); incorporates Eversource's commitments as contained in the record of the Council's Docket 474 regulatory process; and reflects adherence to the conditions of the Council's Certificate for the Project and other relevant, previously received regulatory approvals. Table 2-1 lists the federal and state permits and approvals for the Project and indicates those that are relevant to the overhead line.

2.2 CONSULTATIONS

During the planning of the Project, Eversource consulted with representatives of the three municipalities traversed by the overhead segment of the 115-kV transmission line, as well as with representatives of various state and federal agencies, including the U.S. Army Corps of Engineers (USACE), New England District; U.S. Fish and Wildlife Service (USFWS); Connecticut Department of Energy and Environmental Protection (CT DEEP); State Historic Preservation Office (SHPO), and CT DOT. In addition, Eversource consulted extensively with Amtrak, communicated with municipal representatives, coordinated with private property owners adjacent to the Amtrak ROW (including those from whom easements are required), and conveyed Project information to the interested public. During these discussions, Eversource provided information regarding the Project, including the D&M Plan process, the planned construction activities, and Eversource's outreach procedures and points-of-contact.

In December 2018, Eversource submitted a draft of this D&M Plan for the 1346 Line to the chief elected officials of Newington, West Hartford, and Hartford. Eversource then met with municipal representatives to review the draft Plan. None of the municipalities identified any questions or concerns regarding the contents of the draft D&M Plan. This final D&M Plan submitted to the Council also will be provided to these municipalities, as well as to the service list for this docket. Additional information regarding Eversource's public outreach process is included in Section 6.

In addition, as specified in the D&M Plan requirements, RCSA Section 16-50j-61(c)(2)(F), Eversource consulted with representatives of the SHPO regarding the potential effects of the Project on archaeological or historic resources and the measures to mitigate such effects, as necessary. Eversource also submitted copies of the cultural resources Phase IB survey results and Addendum to the Cultural Resources Review to the involved Native American tribes² for review and concurrence. (Note: No cultural resources were identified along the overhead segment of the Project.)

² Mohegan, Mashantucket Pequot, and Wampanoag Tribal Historic Preservation Offices.

**Table 2-1:
Project Permits, Reviews, and Approvals: Status and Summary Regarding the Overhead Line**

Agency	Certificate, Permit, Review, Approval or Confirmation	Activity Regulated and Status of Approval/Relevance to the Overhead Line
FEDERAL		
USACE, New England District	Clean Water Act (CWA), Section 404, Pre-Construction Notice (PCN) per Connecticut General Permits	Work in wetlands/waters of the U.S. Permit received June 25, 2018 (No work in wetlands along overhead line)
U.S. Fish and Wildlife Service	Coordinates with USACE regarding endangered or threatened species	Activities that may affect federally-listed endangered or threatened species. Completed during USACE consultation Process. (No listed species along the overhead line)
Federal Aviation Administration (FAA)	Notice of Proposed Construction or Alteration	New transmission structures and temporary construction equipment are subject to the FAA’s notice requirements. The FAA issued a “Determination of No Hazard to Air Navigation” for all Project structures.
CONNECTICUT		
Connecticut Siting Council	Certificate of Environmental Compatibility and Public Need (Docket 474, February 2, 2018) D&M Plan approvals	General transmission line need, siting, construction, environmental compatibility, safety, and operation/maintenance and ROW management procedures. Underground and Substation/Tap D&M Plans approved August 2018.
CT DEEP	Clean Water Act, Section 401 (part of USACE PCN process).	CT DEEP 401 WQC is required for the USACE Section 404 authorization License issued February 9, 2018.
	General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Construction General Permit)	Stormwater management during construction NOI submitted May 24, 2018; Authorization of coverage issued August 24, 2018.
	Threatened, Endangered, and Special Concern Species	Activities that may affect state-listed endangered, threatened, or special concern species (no State-listed species present along overhead alignment).
SHPO	Concurrence with determination that Project will have no adverse effect on cultural resources	Protection of significant cultural resources. The Project will have no adverse effect on cultural resources SHPO correspondence (August 17, 2017, June 25, 2018)
CT DEEP Public Utilities Regulatory Authority	Approval pursuant to CGS Section 16-243	Method & Manner of Construction and Approval to Energize Line. Approved November 7, 2018.
CT DOT	Encroachment permits	Transmission line crossings of state highways (State Route 529 [New Britain Avenue, West Hartford] and CTfastrak). Pending.

3. GENERAL CONSTRUCTION PROCEDURES

This section describes the typical construction procedures and plans for the overhead segment of the new 115-kV transmission line. The procedures for installing the 1346 Line will involve a phased, sequential, construction approach; however, some procedures will vary depending on specific requirements from Amtrak for work within their ROW. Sections 3.1 through 3.3 provide an overview of the overhead transmission line facilities to be constructed, information on construction management, and contractor yards/staging areas required to support the 1346 Line construction. Section 3.4 discusses procedures for the construction of the 1346 Line.

Additional special construction procedures, plans, and mitigation measures will be implemented to protect or minimize impacts to the environment and the public. These measures are described in Section 5. The Volume 1-OH, Appendix A maps include detailed site-specific construction drawings and plans, environmental features along the overhead segment, property owners, and construction work areas.

3.1 SUMMARY OF OVERHEAD TRANSMISSION LINE FACILITIES

From transition structure 11B located at the end of the underground cable segment in Newington (in the parking lot of the Shepard Steel property), the 2.4-mile overhead portion of the 1346 Line will span the CTfastrak and Amtrak's two existing rail lines and will extend north along the east side of the Amtrak ROW in Newington, West Hartford, and Hartford. South of I-84, the overhead line will turn west, again spanning the Amtrak rail lines and CTfastrak to transition structure 61 (to be located on the Bow Tie Cinema property west of the CTfastrak, adjacent to the theater parking lot). In total, 49 overhead transmission structures (including the two transition structures) will be installed.

As illustrated on the cross-sections XS-1 and XS-2 in Exhibit A.1, Appendix A, the 1346 Line transmission structures will consist of galvanized steel monopoles in a vertical configuration. Typically, the structures will be approximately 95 to 110 feet in height above ground level; however, to accommodate a potential future CT DOT development plan³, structures 47-49 will be 135 feet in height above ground. The structure design and associated clearances to railroad facilities are in accordance with the license agreement between Eversource and Amtrak. Each of the two transition structures will be a steel monopole 95 feet in height above ground level (refer to Exhibit A.2, Appendix A). The Appendix A map sheets (refer to Exhibit A.5) list the height and type, as well as location⁴, of each transmission line structure.

³ Future CT DOT railroad station at Flatbush Avenue, West Hartford (refer to the CSC's Findings of Fact No. 29b in this docket.)

⁴ The actual locations of the transmission line structures may vary slightly (up to 15 feet) from those depicted on the Appendix A maps.

3.2 CONSTRUCTION MANAGEMENT AND CONTACT INFORMATION

Eversource representatives will manage the overall construction of the Project, including all work activities relevant to the overhead transmission line. These representatives will be assigned to monitor construction activities, including adherence to safety, engineering plans issued for construction, and compliance with Project-specific siting, regulatory, and property owner requirements.

After Eversource awards construction contracts for the Project, but prior to the commencement of the contractors' on-site work, Eversource will provide the Council with contact information for the prime construction contractor(s), consisting of the name of the firms, primary contacts, corporate addresses, telephone numbers, and e-mail.

3.3 STAGING AREAS, WORK SPACES, AND ACQUISITION OF PROPERTY RIGHTS

Staging Area. To support the construction of the 1346 Line, Eversource will use an approximately 4.77-acre contractor yard and material staging area, located east of the Amtrak ROW at the end of Jansen Court in West Hartford. The contractor yard, which is located at the end of Jansen Court, was approved for use by the Council on October 12, 2018. The yard will be used to stage trailers that will be used for temporary construction field offices; store construction materials, equipment, tools, and supplies prior to deployment for the Project work; park construction vehicles and equipment; and provide a location for construction personnel to show up and park their personal vehicles while working on the Project.

Temporary Work Space and Permanent Easements on Private Properties. In addition to the Jansen Court contractor yard, because limited space is available within the Amtrak ROW next to the active rail lines, Eversource will establish temporary work areas adjacent to and east of the railroad property. These temporary work spaces will be used to facilitate construction by providing areas within which to park/store equipment and stockpile materials as needed for installation of individual transmission line structures within the vicinity of those work areas.⁵

In some locations, temporary access across private properties, typically using existing paved or graveled roads/parking lots, also will be required to reach the Amtrak ROW and temporary work space areas.

Further, Eversource will acquire permanent easements for the installation of the 1346 Line structures that cannot otherwise be accommodated within the Amtrak ROW. Specifically, in addition to the two transition structures (Structures 11B and 61) located on either end of the overhead line, Eversource will install nine structures directly east of and outside of the Amtrak ROW.⁶

⁵ The temporary work space adjacent to the Amtrak ROW will serve the same general function as the work pads that Eversource typically uses to install transmission line structures within its ROWs. For the 1346 Line, the limited width of the Amtrak ROW precludes the use of such work pads.

⁶ Structures 46, 50, 51, and 52 will be located within the railroad corridor, in areas where Amtrak has acquired easements from private landowners. Eversource will similarly acquire easements for these structures from the private landowners. Structures 12B, 43, 44, and 47 will be installed on private properties directly adjacent to the Amtrak-owned ROW and easement, while Structure 49 will be located on CT DOT property adjacent to the Amtrak ROW.

In the locations where the overhead line is aligned across private properties, Eversource has contacted and initiated negotiations with all of the involved property owners from whom the Company is seeking to acquire permanent or temporary property rights (e.g., for the installation of the new 1346 Line, temporary access, temporary work space).

Locations of Construction Support Areas. The map sheets in Exhibit A.5, Appendix A identify the locations of the Jansen Court staging area and the planned work spaces and access, as well as provide the Line List of involved property owners.

3.4 CONSTRUCTION PROCEDURES

Eversource will construct the Project's 2.4-mile overhead line in accordance with the conditions of its license agreement with Amtrak, as well as with Company and industry specifications for overhead 115-kV lines.

3.4.1 General Construction Sequence

The 1346 Line will be installed using typical construction procedures and sequencing for an overhead 115-kV line. However, pursuant to Eversource's license agreement with Amtrak⁷, construction activities will be performed to avoid or minimize conflicts with rail operations and to use the available space on the Amtrak ROW to the extent practical. As a result, temporary work space and access will be required along most of the east side of the Amtrak ROW, and construction activities will be scheduled, including during night-time hours as needed, when the rails are not in use.

In general, the 1346 Line will be constructed in several stages, some overlapping in time. The following summarizes the activities, materials, and equipment expected to be involved in the installation of the overhead transmission line:

- Survey and stake the proposed structure locations, temporary work spaces, Amtrak ROW boundaries, and the areas of tree clearing required along and adjacent to the Amtrak ROW.
- Mark the boundaries of the wetland located adjacent to structure 48.
- Establish the 4.77-acre Jansen Court staging area, typically including space for office trailer(s), equipment storage and maintenance, sanitary facilities, and parking; prepare other temporary construction support areas along/adjacent to the Amtrak ROW, where necessary.
- Perform vegetation clearing (tree removal or mowing), where necessary.
- Install erosion and sedimentation (E&S) controls, as needed, in accordance with the Stormwater Pollution Control Plan (SWPCP) developed for the Project and approved by CT DEEP, Amtrak specifications, and (as appropriate to urban areas) Eversource's BMP Manual.
- Improve or construct, access to work sites, as needed.
- Prepare level work spaces as necessary at each 115-kV structure site, as well as at conductor pulling areas, and (if necessary) at guard structure/boom truck sites⁸. Although the Amtrak ROW

⁷ Eversource will continue to coordinate with Amtrak throughout the construction of the overhead line.

⁸ Temporary guard structures or boom trucks with "bat wings" will be located at road and other utility crossings as a safety measure during conductor and optical groundwire (OPGW) installation.

is graveled, work areas for structure installation and conductor pulling will require a stable, level base; as a result, minor grading and the addition of gravel, timber mats, or equivalent may be required.

- Construct structure foundations and erect/assemble new structures.⁹ These activities will involve the use of flat-bed trucks for hauling new structure components, new hardware and augers, as well as trucks for hauling reinforcing rods. Other equipment required during structure installation will include drill rigs, cranes, concrete trucks for structures that require concrete for foundations, dump trucks for structures that require crushed rock backfill, and bucket trucks. Dump trucks also will be used to remove materials excavated from the structure foundations. If groundwater is encountered during foundation excavation, pumping (vacuum) trucks or fractionization (frac) tanks will be used to pump water from the excavated areas. Both excavated soils and groundwater will be handled and ultimately disposed of in accordance with Amtrak specifications and applicable regulatory requirements.
- Install grounding. Grounding consists of ground rings, placed around transmission line poles and counterpoise as required.
- Install OPGW and conductors. The equipment required for these activities will include conductor reels, conductor pulling and tensioner rigs, and bucket trucks. Helicopters also may be used to install the initial pulling lines for the conductors or shield wires.
- Restore construction sites. Construction materials and debris will be removed from temporary access roads, work spaces, and staging areas; such sites will then be re-graded (if necessary) or otherwise restored and stabilized. In the Project area, gravel or paving will typically be used for site restoration/stabilization.
- Maintain temporary E&S controls until vegetation is re-established or disturbed areas are otherwise stabilized with gravel or pavement. After site stabilization is achieved through establishment of vegetative cover or with gravel or pavement, all temporary E&S controls will be removed from construction sites and disposed of properly.

3.4.2 Vegetation Clearing and Management

Along the Amtrak ROW and adjacent to the various industrial/commercial uses that abut the railroad, vegetation is limited. However, as illustrated on the Appendix A maps, some vegetation, consisting of scattered shrubs and trees, is present within and adjacent to certain portions of the railroad corridor, as well as adjacent to transition structure 61 located on the Bow Tie Cinema property. In these areas, tree and vegetation clearing will be required in order to provide work space for construction activities, as well as to maintain minimum clearance distances from the new 115-kV conductor during operation of the new overhead line. In total, approximately 0.9 acre of trees, all in upland areas, will be removed for the construction of the overhead line.

This minor tree clearing and vegetation removal will be performed in accordance with Eversource specifications, Amtrak protocols, and – for vegetation clearing/removal on private properties where work space is required – pursuant to property owner agreements. Eversource has incorporated into the Project’s vegetation clearing contract relevant specifications for access and vegetation removal methods.

⁹ At several locations along the Amtrak ROW, adjacent distribution lines/poles will be modified/removed in order to construct the 1346 Line. Distribution line work is expected near structures 12B, 27-28, and 52-57. Eversource will coordinate with the affected property owners for all distribution line work.

Eversource's clearing contractor will use standard vegetation clearing methods and equipment, appropriate to the type of vegetation being removed. In general, vegetation removal will be accomplished using mechanical methods, although manual methods (e.g., climbing crews with chain saws) may be used in some locations.

In addition, Eversource will require the contractor to use low-impact tree clearing means and methods to the extent practical. Low-impact tree clearing, which incorporates approaches, techniques, and equipment to minimize site disturbance and to protect soils, may include felling trees to minimize impacts to residual vegetation (where practical), stockpiling cut timber and brush only in uplands prior to removal/disposal from work areas, etc.

Any vegetation removed within the Amtrak ROW will be in accordance with Eversource's agreement with Amtrak. Similarly, timber and brush removed from private property will be removed and disposed of in accordance with Eversource's agreement with the property owner, consistent with any applicable regulatory approvals.

Temporary E&S controls may be installed before vegetation removal, depending on site-specific characteristics. After vegetation removal, E&S controls typically will be installed as needed at work spaces in the vicinity of wetlands and streams (refer to Section 3.4.3 and to the typical drawings of E&S control measures in the BMP Manual and in Appendix B, Detail Sheet 2).

Following completion of the Project, the vegetation in the vicinity of the new 1346 Line will be managed in accordance with Eversource's well-established vegetation management program and standards.

3.4.3 Erosion and Sedimentation Controls, Stormwater Management, and Water Resource Protection

To minimize the potential for erosion and sedimentation outside of designated construction work areas, the following general construction best management practices will be used:

- a. Temporary erosion controls consistent with the *2002 Connecticut Guidelines for Erosion and Sediment Control* (Connecticut Guidelines) will be installed as appropriate to site-specific conditions, and will be inspected on a routine basis, in accordance with regulatory requirements (refer to Volume 2, Attachment E).
- b. Structure foundation excavation dewatering will be handled in accordance with Eversource BMPs and Amtrak specifications, where applicable. No water will be discharged within 25 feet of a wetland or watercourse, unless a frac tank or similar engineering controls for sediment containment are employed. Water may be discharged on work sites into an appropriate sediment control basin or into a dewatering bag; pumped into a frac tank and then discharged into a municipal stormwater system (if in accordance with local requirements); or pumped into a tanker truck for disposal at appropriate wastewater treatment facilities.
- c. Residual silt/sediment collected at the bottom of the frac tanks will be disposed off-site at an appropriately designated disposal facility.
- d. Catch basin inlet protection will be installed as needed to prevent sediment and construction debris from entering storm water systems.
- e. Construction activities will adhere to the requirements of the Project's Spill Prevention and Control Plan (refer to Volume 2, Attachment C). For example, equipment will not be refueled

within 25 feet of any wetland or watercourse, unless appropriate containment procedures are in place; petroleum products will not be stored, mixed, or loaded within 25 feet of a wetland or watercourse; any spills will be reported to CT DEEP.

In addition, all construction activities will comply with Eversource's BMP Manual (refer to Volume 2, Attachment E), which is consistent with the Connecticut Guidelines, as well as with the water resource protection protocols and E&S control details included in Appendix B. Additional information related to E&S controls for construction of the overhead segment is provided in Section 5.1.

Pursuant to Connecticut General Statutes (CGS) Section 22a-430b, construction activities, such as the Project, must comply with the CT DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities* (Construction General Permit)¹⁰. In accordance with the requirements of this Construction General Permit, on May 24, 2018, Eversource submitted to CT DEEP a Registration Form and prepared a Project-specific SWPCP¹¹. The SWPCP, which addresses stormwater management during the Project construction, was prepared in accordance with sound engineering practices, and is consistent with the Connecticut Guidelines, Eversource's BMP Manual, and the *2004 Connecticut Stormwater Quality Manual*. Eversource will provide the Council with a copy of the SWPCP approved by CT DEEP through the Construction General Permit registration process with the first quarterly report for the Project construction.

Pursuant to the SWPCP, Eversource's construction contractor will deploy temporary E&S controls, where necessary, around construction work areas. Such controls may include silt fence, straw/hay bales, wattles, diversion swales, and anti-tracking pads, among other measures. In addition, as required by the Construction General Permit, during construction (until site stabilization is achieved), Eversource will perform inspections to verify the effectiveness of the measures deployed based on the SWPCP and, if necessary, to recommend modifications to the E&S controls. In accordance with the General Permit, the following types of inspections will be performed:

- Initial inspection by a Qualified Environmental Professional, as defined by the General Permit.
- Weekly inspections during construction.
- Monthly turbidity monitoring at dedicated discharge points.
- Inspections (within) 24-hour period after rain events.
- Once the overhead line is installed and sites affected by construction are deemed to be restored and stabilized, sites will be inspected once a month for three months to verify stabilization.

3.4.4 Access Roads and Temporary Work Space

The Appendix A maps illustrate the planned locations of access roads and work spaces for the 1346 Line construction. For construction activities within the Amtrak ROW, Eversource's construction contractor

¹⁰ Available online at: www.ct.gov/Deep/cwp/view.asp?a=2721&q=558612&DEEPNav_GID=1654

¹¹ In compliance with Docket No. 474 Decision & Order Condition 2.h., the SWPCP developed for the Project will serve as the Stormwater Management Plan.

will obtain a temporary permit from Amtrak; as a result, the actual access roads and work spaces used during construction on Amtrak property may vary slightly from those shown on the Appendix A maps.

3.4.4.1 Access Roads

Access will be required to each transmission structure during construction. The existing Amtrak access road that is aligned east of and parallel to the railroad tracks will be used for construction, as will other existing access used by Amtrak for rail line maintenance. Access to the transition structures on either end of the overhead line will be via public roads and the parking areas of commercial/industrial facilities that border the Amtrak ROW (refer to the Appendix A maps.)

Within the Amtrak ROW, the existing Amtrak access roads may need to be improved, widened, or otherwise modified for use during the 1346 Line construction. Depending on site-specific conditions, grading may be required to develop or to improve access along the railroad corridor. In such cases, the access roads will be graveled or timber matting will be used. Any improvements to existing Amtrak roads will be coordinated with and approved by Amtrak. To provide access across a graveled drainage ditch that extends along the Amtrak ROW, temporary timber mats or culverts surrounded by gravel fill will be used as applicable (refer to BMP Manual Section 3.4.4.1 Tabs 3B and 3C in Volume 2, Attachment E for engineering typical drawings illustrating these crossing types).

In addition to the access on Amtrak property, Eversource will use various public roads and private driveways and parking lots to provide access to the transition structures and Amtrak ROW. (Refer to the map sheets in Appendix A for access road locations.) Most of these existing access roads are already paved or graveled. In some areas, however, Eversource will develop or improve access roads, typically using gravel.

In the vicinity of the construction sites, Eversource's contractor will periodically sweep public roads and commercial parking lot areas, if necessary, to remove dirt tracked from work sites by construction vehicles.

3.4.4.2 Work Space

Work space will be required at each new transmission structure location, as well as at conductor and OPGW pulling sites and at locations where temporary equipment (boom trucks) must be placed at road and other crossings during conductor and OPGW installation. These areas will provide a safe, level work base for construction equipment to install structure foundations and erect the structures; in addition, work spaces will be used to stage structure components for final on-site assembly.

At the transition structure location in the Shepard Steel paved/gravel parking area in Newington, no work space improvements will be needed since construction equipment can safely operate on the existing level pavement/gravel surface. However, a graveled work pad will be required for the transition structure site in Hartford, which is located in a landscaped area near the back of the Bow Tie Cinemas parking lot. Similarly, along the Amtrak ROW where there is a stable gravel base from which the construction equipment can operate, minimal work space improvements will be required.

However, the installation of the 1346 Line within the comparatively narrow space along Amtrak ROW poses certain constraints for the use of typically-sized 115-kV line work pads. As a result, all unoccupied

portions of the Amtrak ROW east of the railroad track may be used during the construction of the 1346 Line. Additionally, a graveled work area will be installed adjacent to the Amtrak ROW to facilitate construction of Structure 47.

Pulling areas, which will be required in certain locations for conductor and OPGW installation, will be determined in accordance with Eversource requirements, factoring in the constraints posed by the width of the Amtrak ROW. Pulling areas will be located within the temporary work spaces required for construction. (Refer to the additional discussion of conductor installation in Section 3.4.6.)

During conductor and OPGW installation, temporary work space to accommodate a boom truck with arms (which will serve as a “guard” to prevent the conductors and OPGW from sagging or reaching the ground) will be required at road crossings, as well as at the two locations where the overhead line will cross the Amtrak rail lines and CTfastrak busway. Boom trucks will be stationed within the temporary work spaces shown on the Appendix A maps.

3.4.5 Foundations and Structure Installation

3.4.5.1 Foundation Types and Excavation

The 1346 Line structures will be supported on either vibratory steel caisson or drilled shaft concrete foundations. The tangent structures will typically be supported on vibratory steel caisson foundations. Deadend and transition structures will have a drilled shaft foundation. The monopole structure foundations will be excavated using drill rigs and pneumatic hammers. During non-working hours, fencing or other barricades will be placed around and over open foundation excavations.

Geotechnical investigations performed along the transmission line route indicate bedrock is deep and is not likely to be encountered during structure foundation installation. If encountered, rock will typically be removed using mechanical methods, or mechanical methods supplemented by controlled drilling. Excavated rock will be transported from work sites to a suitable final disposal site (rock may be stockpiled temporarily at work sites or contractor staging areas prior to final off-site disposal).

As a result, blasting is not expected to be required to install the 1346 Line structures. However, if site-specific subsurface conditions (encountered at the time of construction) warrant blasting, a controlled drilling and blasting plan will be developed by a certified blasting contractor in conformance with Amtrak approval and procedures, and with state and local regulations. A copy of the plan would be provided to the Council. Owners of nearby properties would be contacted in advance of the blasting, and pre-blast surveys will be performed as appropriate.

3.4.5.2 Structure Assembly and Grounding

The structures will be delivered to staging areas and work areas in sections, then assembled, and installed in their final position using a crane. Insulators and connecting hardware also will be installed on the structures.

In addition, grounding will be installed on the structures. Such grounding will consist of a ground ring and sometimes counterpoise. Where required, counterpoise wires will extend longitudinally from the ground rings around the transmission structures. Small equipment (e.g., a ditch witch, small excavator, or

equivalent) will typically be used to bury the counterpoise wires; such equipment will excavate a narrow (approximately 12-inch wide) trench, into which the counterpoise wire will be fed. Ground rods, which may be used in conjunction with counterpoise, will typically be buried between or near the ground rings. The type of grounding at each structure will depend on the electrical characteristics of the soil and additional grounding requirements (if any) specified by Amtrak.

Lightning arresters also will be installed on every fifth structure on the new 1346 Line as appropriate to provide additional protection of the line. The lightning arresters, which will be attached to the transmission structure, will not increase the above-ground structure height.

3.4.6 Conductor Installation

The installation of conductors and shield wires requires the use of special pulling and tensioning equipment, which will be positioned at pre-determined locations along the overhead transmission line. At the commencement of the conductor/shield wire pulling processes, helicopters may be used to install the initial pulling lines.

The wires will be pulled under tension to avoid contacting the ground and other objects. The insulators and hardware will then be installed at the structures. Finally, in accordance with industry standards and design specifications, the conductors and shield wires will be pulled to their design tensions and attached to the structure in their final configuration.

The selection of conductor pulling sites will be based on a variety of factors, including: accessibility, angles within the line sections where the conductors will be pulled, the locations of deadend structures (which keep installed conductors under high tension), the length of conductors and OPGW to be pulled, puller capacity, and snub structure loads. Other considerations include the placement of pullers, tensioners, conductor anchors, and other associated pulling equipment, including the installation of a temporary grounding system. Conductor pulling sites will be determined based on the consideration of these factors, and the design load of the structures. Helicopters also may be used to install the initial pulling lines for the conductors or shield wires.

3.4.7 Cleanup and Restoration

Cleanup will include the removal or restoration of temporary access roads and temporary work spaces, as well as the removal of construction materials and debris, signs, flagging, and fencing. Such materials will be removed and properly disposed of or otherwise re-purposed. Some areas affected by construction will be re-graded as practical and stabilized by seeding or with gravel or paving, depending on the location.

Most of the overhead line construction will involve work on existing graveled or paved areas. Along the Amtrak ROW, gravel or equivalent materials used to improve existing access roads or work areas will either remain in place or will be removed in accordance with Eversource's agreement with Amtrak. Paved areas, if affected by Project construction, will be repaved as necessary. Timber mats and other materials used for temporary access roads/work spaces will be removed and areas affected by construction will be re-graded (back-bladed), if necessary, to match the approximate contours of the land outside the construction zone.

In some areas (e.g., slopes), construction activities may affect localized topography such that original contours cannot be restored. In such situations, the affected areas will be stabilized as warranted based on site-specific conditions.

After grading, upland areas affected by construction that are to be revegetated will be seeded with the appropriate seed mix and fertilized, if necessary. Seed mix(es) will be selected by Eversource to recolonize the disturbed area. In conjunction with the seeding, E&S controls (e.g., erosion control blankets, mulch) will be installed, as appropriate based on site-specific conditions and the time-of-year in which final grading is performed. Steep areas may be stabilized with bio-degradable, pre-made erosion and sedimentation control fabric containing seed, mulch, and fertilizer, or the equivalent. Temporary E&S controls will be left in place and maintained until final stabilization is achieved.

Where warranted to stabilize areas affected by construction, permanent E&S controls, such as rip-rap or crushed stone, will be installed.

Flagging (or equivalent markers) denoting work area boundaries, wetlands, streams, and other resource avoidance or protection areas will be maintained (and reflagged or marked as needed), typically until the completion of restoration.

Restoration typically will be deemed successful, based on the effectiveness of stabilization measures (such as application of gravel, paving, or revegetation), as defined in accordance with Project-specific permits and certificates. When the disturbed areas are appropriately revegetated or otherwise stabilized, Eversource will remove the associated temporary E&S controls.

In the long-term, Eversource will implement its standard vegetation management practices to control tall-growing trees within the conductor clearance zone. Amtrak will continue to prevent or otherwise manage vegetation growth within its ROW.

4. CONSTRUCTION SCHEDULE AND WORK HOURS

4.1 CONSTRUCTION SCHEDULE

Eversource is required to and will closely coordinate with Amtrak regarding the schedule for the installation of the overhead line, which must take into account Amtrak’s train movements and availability of track outages (i.e., times when service on the eastern-most track can be temporarily suspended to facilitate transmission line construction). As currently planned, the general schedule for the construction of the overhead line is:

General Construction Dates*	Overhead Transmission Line Construction Activity
Quarter 1, 2019	Construction contracts awarded; establish material laydown yards and field offices, begin receiving materials. Contractor mobilization, commence vegetation clearing, access road and work space preparation.
Quarter 1, 2019 through Quarter 4, 2019	Perform construction (vegetation clearing, access road/work space installation, structure foundations, structure installation, conductor installation, ROW clean-up and restoration**, etc.), as summarized in Section 3.
Quarter 4, 2019	Connect the new overhead 115-kV transmission line (via the underground line) at Newington and Southwest Hartford substations. Perform line testing, energization, continue ROW cleanup and restoration.** Final ROW revegetation and verification of final stabilization pursuant to regulatory requirements could extend into Quarter 2 of 2020.

* Construction schedule for the overhead line is dependent on the receipt of D&M Plan approval from the Council and Amtrak’s approval of site-specific plans within Amtrak ROW.

** Where feasible, restoration may begin on some portions of the Project work space when line installation work is completed. Final ROW cleanup and stabilization pursuant to regulatory requirements could extend into Quarter 2, 2020.

After Eversource retains a construction contractor for the overhead line and defines structure-specific work hours with Amtrak, this construction schedule may be modified accordingly.

4.2 WORK HOURS

Construction work hours for the overhead line will typically be between 7:00 AM and 7:00 PM, six days per week (Monday through Saturday). Although construction workers may arrive for work and leave work just outside of these times, no noise-generating on-site construction activities will occur beyond these prescribed hours. Construction workers may arrive for and leave work outside of these times. Further, Eversource compliance monitors may be on Project sites outside of these typical work hours in order to perform activities in compliance with regulatory requirements, such as SWPCP inspections after rainfall events.

In addition, to conform to Amtrak specifications for work within the railroad ROW and to minimize impacts to business operations, some construction activities must occur during non-typical hours – that is, between 7:00 PM and 7:00 AM, as well as on Sundays. Work hours will be determined on a structure-by-structure basis, taking into consideration Amtrak’s rail schedule and the need for track outages. Because the overhead line is aligned along the Amtrak ROW through commercial/industrial areas, such non-typical night-time and Sunday work is not expected to pose any conflicts with land uses.

5. SPECIAL CONSTRUCTION PROTOCOLS AND PROCEDURES

This section provides resource-specific protocols and procedures applicable to the construction of the overhead line. Volume 2 includes standard BMPs, as well as plans and guidance applicable to Project-wide construction activities (e.g., *Spill Prevention and Control Plan*; *Snow Removal and De-Icing Plan*).

Construction of the overhead line does not involve any work in or near vernal pools, threatened or endangered species habitat, aquifer protection areas, active farmlands, or known culturally-sensitive areas. Similarly, no work is required within any wetlands or watercourses (the only water resources along the overhead segment are Trout Brook, which the new line will span, and Wetland WH-3, which is located near Structure 48 and will be avoided¹²). Neither blasting nor implosive connections are expected to be required for the overhead transmission line installation. As a result, no special construction procedures pertaining to these topics are included in this D&M Plan.

5.1 EROSION AND SEDIMENTATION CONTROL PLAN

Eversource will install E&S control measures during construction to avoid or minimize the potential for surface water runoff, erosion and sedimentation to occur outside of work limits. These measures will comply with Eversource's BMP Manual, which incorporates, and is consistent with the Connecticut Guidelines (refer to Volume 2, Attachment E, pp. 1-5 for a list of the guidance documents used in preparing Eversource's BMPs) and CT DEEP and USACE permit conditions. Appendix B includes typical protocols and drawings regarding E&S control measures (refer to Detail Sheets 1 and 2).

Pursuant to CGS Section 22a-430b, construction activities must comply with the CT DEEP's Construction General Permit. In accordance with the requirements of this Construction General Permit, Eversource submitted to CT DEEP a Registration Form and prepared a SWPCP¹³ specific to the Project. On August 24, 2018 the CT DEEP approved the Project for coverage under the Construction General Permit (Refer to Section 3.4.3 above for further information on the Construction General Permit and SWPCP requirements.)

Permanent stabilization will consist of the application of gravel, paving, or – in limited areas used for temporary access and staging – reseeded (e.g., at the transition structure work area adjacent to the Bow Tie Cinema parking lot). After final stabilization is achieved through establishment of vegetated cover or through application of gravel or pavement, all temporary E&S controls will be removed and disposed of properly.

¹² Access to Transition Structure 12B in the Town of Newington will be via an existing paved access road that extends over a small stream (PS-1) and Wetland N-5; the overhead line construction will not affect either the stream or the wetland, which are discussed in the D&M Plan for the underground line segment.

¹³ In compliance with Docket No. 474 Decision & Order Condition 2.h., the SWPCP developed for the Project will serve as the Stormwater Management Plan.

5.2 WATER RESOURCES

5.2.1 Surface Water Resources

The overhead line extends through commercial/industrial areas in which few water resources are present. As shown on the Appendix A maps, the 1346 Line will span only one watercourse (Trout Brook in West Hartford) and will be aligned near, but will not traverse or otherwise affect, three wetlands. No permanent or temporary access roads or work areas will be located in any of these water resources. As a result, the construction and operation of the overhead line will have no impacts on water resources.¹⁴

5.2.2 Flood Zones

The Federal Emergency Management Agency (FEMA) classifies Special Flood Hazard Areas for insurance and floodplain management purposes and has prepared maps designating certain areas according to the frequency of flooding. An area mapped within the 100-year flood designation has a 1% chance of flooding each year or is expected to flood at least once every 100 years. An area within the 500-year flood designation has a 0.2% chance of flooding each year.

The 1346 Line will completely span the FEMA-designated 100-year flood zone associated with Trout Brook (refer to Appendix A, Exhibit A.5). However, no new transmission structures will be located within the floodplain; similarly, no Project construction activities, with the exception of vegetation clearing, will be required in the floodplain. The limited vegetation clearing that will be required within the floodplain will be performed from adjacent uplands and tree stumps will be left in place. Because no temporary or permanent fill will be placed in the Trout Brook floodplain, the overhead line will have no effect on the flood storage capacity.

5.2.3 Drainage

As illustrated on the Appendix A map sheets, a drainage ditch extends along the east side of the Amtrak ROW and culverts are located along this ditch. To avoid or minimize erosion and sedimentation and to maintain hydrology and drainage patterns, Eversource will require its construction contractors to install temporary timber mat (or equivalent) crossings of the ditch or install a culvert pipe surrounded by gravel fill to allow stormwater to flow below the work areas (refer to BMP Manual Section 3.4.4.1 Tabs 3B and 3C in Volume 2, Attachment E for engineering typical drawings illustrating these crossing types). Additionally, Eversource will implement BMPs as appropriate to site-specific situations to control erosion and prevent sedimentation to the stormwater ditch. Eversource also will require its contractors to work in accordance with Eversource's BMP Manual and the conditions in the CT DEEP Construction General Permit that pertain to stormwater management and drainage.

¹⁴ Permitted water resource impacts due to Project construction activities as a whole (e.g., for the underground line segment and the substation/Newington Tap modifications) are tabulated on Volume 2, Attachment B.

5.3 PROTECTION MEASURES FOR STATE-LISTED SPECIES

As part of the Project planning process, Eversource consulted with the CT DEEP Natural Diversity Data Base (NDDDB) program regarding the potential for state-listed species to occur in the Project area. Based on these consultations, no habitat for any state-listed species is found along the overhead line.¹⁵

5.4 CULTURAL RESOURCES

The SHPO has determined that no adverse effects will occur to any cultural resources as a result of the Project. It is also unlikely that cultural materials will be discovered during construction of the 1346 Line, which extends through areas previously disturbed by extensive commercial/industrial/transportation uses. However, Eversource will brief Project construction contractor managers regarding the procedures to be followed should unanticipated potential cultural materials be discovered during construction. Specifically, construction personnel will be instructed to stop the task that resulted in the potential discovery and inform Eversource. Construction work at the potential cultural resource discovery site will not resume until authorized by Eversource, after review and approval by a professional archaeologist retained by Eversource.

5.5 AIR QUALITY PROTECTION (MINIMIZATION OF DUST AND VEHICLE IDLING PROTOCOL)

5.5.1 Dust Suppression

Most of the construction activities will be performed on existing graveled or paved surfaces. To minimize short-term adverse effects to air quality during construction activities on non-paved or non-graveled areas, access roads and staging areas will typically be graveled¹⁶ and may be watered, as necessary, to suppress fugitive dust emissions. Paved roads at the intersection with Project access roads will be periodically swept, as necessary to remove excess dirt tracked onto the pavement from construction work sites. Active work areas may also be watered, as necessary, to suppress fugitive dust emissions.

5.5.2 Construction Equipment: Idling vs. Warm-up during Cold Weather

Vehicle emissions will be limited by requiring contractors to properly maintain construction equipment and vehicles, and by minimizing the idling time of equipment and vehicles, including diesel construction equipment, in accordance with regulatory standards. Idling requirements are as follows:

- Unnecessary construction equipment and vehicle idling expends fuel, increases costs, and causes air pollution. For the Project, pursuant to Connecticut requirements (RCSA 22a-174-18), the allowable idling time for vehicles of all kinds, including diesel construction equipment, is 3 minutes.

¹⁵ Consultations with CT DEEP NDDDB program and Eversource's subsequent field surveys identified a state-listed species as occurring along other portions of the Project in Newington (e.g., Newington Substation/Tap and part of the nearby underground segment). The protection measures to be implemented for this species are discussed in the other D&M Plans (Volume 1-SS/Tap and Volume 1-UG).

¹⁶ Except where timber mats are used to avoid impacting ground surfaces.

- 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 actively operating, at a work site.

5.6 SOILS AND MATERIALS HANDLING AND DISPOSITION

Eversource’s construction contractors will be responsible for the proper handling and disposal of all excess soils, groundwater, recyclable materials, and other wastes generated during the construction process. These waste products will be handled and disposed of in accordance with regulatory requirements (depending on the type of material), any requirements during construction from Amtrak, and Eversource’s BMP procedures.

Excess excavated soil and groundwater (if encountered) will be handled and disposed of in accordance with regulatory requirements (depending on the type of material), any requirements during construction from Amtrak, and Eversource’s BMPs. Excess soil materials will typically be removed for off-site disposal at an appropriate receiving facility. If encountered during structure foundation excavation, groundwater typically will be pumped into a frac tank or tanker truck for disposal at appropriate facilities.

The contractor also will be responsible for reporting and properly handling and disposing of any contaminated soils and groundwater, if encountered or generated during construction activities. If encountered, polluted or contaminated soil or groundwater must be reported to Eversource and handled in accordance with the applicable regulatory requirements. For example, contaminated soils will be temporarily stockpiled on and covered by polyethylene sheeting prior to final characterization and disposal. Shheeting used to cover the stockpile will be weighted to prevent the wind migration of contaminated dust. The materials will be tested to determine appropriate handling and disposition. Potentially contaminated groundwater, if encountered, will be addressed on a case-by-case basis and may involve pumping to a frac tank prior to off-site disposal or the use of other measures.

5.7 LIGHTING AND NOISE MITIGATION

The construction activities will result in localized and short-term increases in ambient noise levels in the vicinity of work sites. In addition, lighting will be required when performing construction activities during night-time hours, pursuant to Amtrak requirements.

Construction-related noise will occur as a result of the operation of equipment and vehicles, including vegetation clearing equipment, jackhammers, drilling rigs, and cranes. Eversource will require its contractors to properly maintain mufflers on equipment and vehicles to minimize noise emissions. The lighting required during night-time construction will be focused on work sites and at construction staging areas, all of which are located along or adjacent to the Amtrak ROW.

The 1346 Line extends through a predominantly commercial/industrial area where the ambient sound environment and night-time illumination is presently influenced by such land uses, as well as by train movements and traffic on the CTfastrak and I-84. As a result, the short-term construction-related noise and lighting is expected to have only minimal effects.

5.8 SITE ACCESS, TRAFFIC CONTROL, AND CONSTRUCTION SIGNS

During construction, access will be via the public road network. From the public road network, access roads will provide direct ingress/egress to construction work sites, as illustrated on the Appendix A maps.

Eversource and its contractor will coordinate with Amtrak to define specific railroad schedules and transmission line construction work hours, as well as to arrange for the presence of qualified railroad flaggers during active work along the railroad ROW. To minimize the potential for vehicular traffic issues during construction, Eversource will require its construction contractor to implement access and traffic control measures, working with representatives of the affected municipalities, Amtrak, and CT DOT. Such measures will include procedures for safe ingress and egress to the Amtrak ROW and contractor yards for construction equipment and other vehicles and for informing the public of construction work zones. For example, along the public roads that intersect with Project access roads, signs will be erected to indicate the presence of construction work zones; flaggers or police personnel may be used to direct traffic, as needed.

Eversource'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 along the ROW. Signs will be consistent with the federal *Manual of Uniform Traffic Control Devices* ([MUTCD], 2009 edition, as revised May 2012, or the latest version)¹⁷.

5.9 CONSTRUCTION EQUIPMENT/VEHICLE WASHING AND CLEANING

With the exception of concrete trucks, no construction equipment or vehicle washing will be allowed on the Amtrak ROW or at staging areas/work spaces. Concrete truck wash-out will be allowed only in designated upland locations, which will be identified by Eversource representatives, working with the Project contractor, to minimize the potential for off-site environmental impacts. All wash-out areas will include measures to control and contain wash-water and to collect the cement wash-off for off-site disposal.

E&S controls deployed at wash-out areas will conform to the relevant provisions of the Connecticut Guidelines, Eversource's BMP Manual (refer to Volume 2, Attachment E), and the CT DEEP's Construction General Permit.

¹⁷ Connecticut has adopted the federal MUTCDs.

5.10 UTILITY CROSSINGS

Above-ground utilities and marked underground utilities are identified on the Appendix A, Exhibit A.6 Plan and Profile Drawings. Eversource will complete “Call Before You Dig” submissions and will identify the locations of all known buried utilities in relation to proposed sub-surface construction activities. Additionally, Eversource has coordinated with utility owners through the Connecticut Public Utilities Regulatory Authority process.

5.11 WINTER WORK

If required, snow removal and the use of de-icing procedures at construction sites will be implemented in accordance with the *Snow Removal and De-Icing Plan* (Volume 2, Attachment D).

5.12 POST-CONSTRUCTION EMF MONITORING PLAN

Pursuant to Condition 2.s of the Council’s Decision and Order, Eversource prepared a post-construction electric and magnetic field (EMF) monitoring plan for the 115-kV transmission line. This plan is included in Volume 2, Attachment F.

6. PUBLIC REVIEW AND OUTREACH

As part of the overall Project planning process, including the development of the Application to the Council and the D&M Plans, Eversource consulted with the officials of the three municipalities traversed by the Project and provided opportunities for municipal representatives, other agencies (e.g., CT DOT, CT DEEP), and the public to comment on the Project. Prior to the submission of this D&M Plan to the Council and service list, Eversource also provided draft copies of the Plan, for review and comment, to representatives of the Town of Newington, Town of West Hartford, and City of Hartford.

Eversource extended an invitation to meet with municipal officials to review the Plan. Accordingly, Eversource consulted with municipal officials from the Town of Newington on December 11, 2018, the Town of West Hartford on January 11, 2019, and the City of Hartford on January 29, 2019.

During the meetings with the municipalities, Eversource provided information regarding the general construction process for the overhead line work, addressing topics such as construction sequence, vegetation clearing; the size and locations of work spaces, locations of temporary access roads, work hours, overhead transmission line design and structure locations, planned work hours, and expected schedule for construction in each municipality. None of the municipalities identified any questions or concerns regarding the contents of the draft D&M Plan.

In conjunction with the submission of this D&M Plan to the Council, Eversource will post the filed D&M Plan on the Project website. This website is accessible from the Eversource homepage (www.eversource.com). From this homepage, Project information can be accessed by clicking the “About” tab, then the “Projects and Infrastructure” tab, then select “Connecticut Transmission Projects” to view a list of the Company’s ongoing and proposed projects, including this Project. Included on the website is an e-mail address (transmissioninfo@eversource.com) and a telephone number (800-793-2202) to contact Eversource for more Project information or to provide comments about the Project.

Throughout the Project’s planning and the Council’s siting processes, Eversource conducted extensive community outreach, including direct coordination and meetings with abutting property and business owners, business groups and homeowner organizations, and municipal officials. In addition, Eversource held two public open houses regarding the Project during the Municipal Consultation phase of the siting process. Eversource will continue its outreach efforts throughout the Project’s construction and will notify affected stakeholders of upcoming construction activities.

As referenced in Section 6.1, the public can access the Project website to obtain an overview of the Project, a map of the Project facilities, and Eversource’s information line and email address. The website will continue to be maintained as the primary means for residents, businesses, and other stakeholders to contact Project representatives throughout Project construction.

In addition, Eversource representatives will be available to brief residents and businesses affected by the 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 available throughout the construction process to address any specific questions or concerns.

7. GLOSSARY OF TERMS

TERM / ACRONYM	DEFINITION
Access Road:	A road that provides access into and out of the stations, staging areas, or ROW.
BMP:	Best Management Practice
BMP Manual:	Eversource’s <i>Best Management Practices Manual for Massachusetts and Connecticut (Construction and Maintenance Environmental Requirements)</i> September 2016
Certificate:	Certificate of Environmental Compatibility and Public Need (from the Connecticut Siting Council)
CGS:	Connecticut General Statutes
Conductor:	A metallic wire, busbar, rod, tube or cable that serves as a path for electric current flow.
CONVEX	Connecticut Valley Electric Exchange
CT DOT:	Connecticut Department of Transportation
Council or CSC:	Connecticut Siting Council
CWA:	Clean Water Act
CT DEEP:	Connecticut Department of Energy and Environmental Protection
Counterpoise:	Part of grounding system.
D&M Plan:	Development and Management Plan (required by the Connecticut Siting Council)
Deadend Structure:	A line structure that is designed to have the capacity to hold the lateral strain of the conductor in one direction.
DECD:	Connecticut Department of Economic and Community Development
Direct Embed:	Structure installation type in which the bottom section of each pole is placed in an excavated hole. Does not require the use of foundations or concrete. H-frame and guyed pole structures are typically direct embedded.
Docket 474:	Council Docket number for the application proceeding concerning the Project.
Drilled Shaft Foundation:	Structure foundation type involving the use of drilling rigs and pneumatic hammers to excavate an area for the structure foundation. Concrete is used for the foundation.
During Construction:	Construction refers to Project activities commencing with work site / staging area preparation through final restoration and site stabilization.
Electric Transmission:	The facilities (69 kV+) that transport electrical energy from generating plants to distribution substations.
EMF:	Electric and magnetic fields.
FEMA:	Federal Emergency Management Agency

TERM / ACRONYM	DEFINITION
Frac Tank:	Fractionization tank, used to temporarily hold water pumped from Project excavations or otherwise used during Project construction activities
GHCCRP:	Greater Hartford-Central Connecticut Reliability Project
Grounding System:	Consists of ground rings, placed around transmission line poles and counterpoise as required.
Ground Wire:	Cable/wire used to connect wires and metallic structure parts to the earth. Sometimes used to describe the lightning shield wire.
Idling:	The period when mobile construction equipment is not in motion or is not otherwise actively performing its designated function.
kV:	Kilovolt, equals 1,000 volts
Lightning Shield Wire:	Electric cable located above conductors to prevent lightning from striking transmission circuit conductors.
Line:	A series of overhead transmission structures that support one or more circuits; or in the case of underground construction, a duct bank housing one or more cable circuits.
Magnetic Field:	Produced by the flow of electric currents; however, unlike electric fields, most materials do not readily block magnetic fields. The level of a magnetic field is commonly expressed as magnetic flux density in units called gauss (G), or in milligauss (mG), where 1 G = 1,000 mG.
Monopole Structure:	A transmission line structure consisting of a single vertical pole and foundation to support transmission line conductors. A monopole structure has a reduced structure footprint compared to H-frame or multipole structures, which consist of multiple poles and foundations for each structure.
MUTCD:	Manual of Uniform Traffic Control Devices
NDDB:	Connecticut Natural Diversity Data Base (CT DEEP)
OPGW:	Optical groundwire (a shield wire containing optical glass fibers for communication purposes)
PEM:	Palustrine emergent marsh (wetlands)
Project:	Greater Hartford-Central Connecticut Reliability Project
PSS:	Palustrine scrub-shrub (wetlands)
RCSA:	Regulations of Connecticut State Agencies
ROW:	Right-of-Way
Shield Wire:	See Lightning Shield Wire
SHPO:	State Historic Preservation Office (Connecticut)
Stormwater Pollution Control Plan (SWPCP):	A sediment and erosion control plan that also describes all the construction site operator's activities to prevent stormwater contamination, control sedimentation and erosion, and comply with the requirements of the Clean Water Act.

TERM / ACRONYM	DEFINITION
Substation:	Part of the electric transmission system, a high-voltage electrical facility with a fenced-in yard containing switches, transformers, line-terminal structures, and other equipment enclosures and structures to regulate and distribute electrical energy, such as receiving power from a generating facility, changing voltage levels, limiting power surges, etc. Adjustments of voltage, monitoring of circuits and other service functions take place in this installation.
Terminal Structure:	Structure typically within a substation that ends a section of transmission line.
Transmission Line:	Any line operating at 69,000 or more volts.
USACE:	United States Army Corps of Engineers
USFWS:	United States Fish and Wildlife Service
USGS:	United States Geological Survey (U.S. Department of the Interior).
Vegetation Clearing:	Removal of forest vegetation, as well as mowing of grass/brush. Within the vegetation clearing limits for construction, other types of vegetation (e.g., shrubland) also will be removed as needed for transmission line construction.
Vibratory Steel Caisson	A vibratory steel caisson is an open-end cylindrical tubular steel section installed with a vibratory hammer and utilized as foundation support for a transmission line structure. A vibratory caisson can be installed into the ground without excavation.
Watercourse:	Rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, public or private.
Wetland:	Is an area of land consisting of soil that is saturated with moisture, such as a swamp, marsh, or bog. CT DEEP and the USACE have formal definitions of state and federal jurisdictional wetlands, respectively.
XS:	Cross section (drawing)

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