

STATE OF CONNECTICUT

SITING COUNCIL

DOCKET NO. 468 - The Connecticut Light & Power Company d/b/a Eversource Energy application for a Certificate of Environmental Compatibility and Public Need for the Southwest Connecticut Reliability Project that traverses the municipalities of Bethel, Danbury, and Brookfield, which consists of (a) construction, maintenance and operation of a new 115-kV overhead electric transmission line entirely within existing Eversource right-of-way and associated facilities extending approximately 3.4 miles between Eversource's existing Plumtree Substation in the Town of Bethel to its existing Brookfield Junction in the Town of Brookfield; (b) reconfiguration of two existing 115-kV double-circuit electric transmission lines at Eversource's existing Stony Hill Substation in the Town of Brookfield; and (c) related substation modifications.

DOCKET NO. 468

September 15, 2016

**DIRECT TESTIMONY OF LOUISE F. MANGO AND PAUL M. KNAPIK
ON BEHALF OF THE CONNECTICUT LIGHT AND POWER COMPANY
DOING BUSINESS AS EVERSOURCE ENERGY
CONCERNING ENVIRONMENTAL FEATURES, IMPACTS, AND
MITIGATION MEASURES
for the
SOUTHWEST CONNECTICUT RELIABILITY PROJECT**

TABLE OF CONTENTS

	<u>Page No.</u>
1. <u>INTRODUCTION</u>	1
2. <u>ENVIRONMENTAL DATA COLLECTION APPROACH</u>	6
3. <u>ENVIRONMENTAL FEATURES ALONG AND IN THE VICINITY OF THE PROPOSED PROJECT</u>	13
4. <u>POTENTIAL ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES</u>	23
5. <u>ROLE OF THE D&M PLAN IN MITIGATING ENVIRONMENTAL EFFECTS</u>	35
6. <u>CONCLUSIONS</u>	37

1 **1. INTRODUCTION**

2 **Q. Would you each please identify yourself and summarize your**
3 **background regarding environmental matters associated with the Southwest**
4 **Connecticut Reliability Project (“the Project”)?**

5 A. **Louise Mango.** I am Louise Mango, an environmental consultant from
6 Phenix Environmental, Inc. As a consultant to The Connecticut Light and Power
7 Company doing business as Eversource Energy (“Eversource” or the “Company”), I have
8 been part of the Project team for the past year, focusing primarily on environmental
9 matters but also assisting in other aspects of the Project, including alternative route
10 analyses. I worked with others on the Project team to prepare both the Municipal
11 Consultation Filing (“MCF”) for the Project, which in April 2016 was submitted to the
12 Chief Elected Officials of each of the three municipalities traversed by the Project, and
13 the June 2016 Application to the Connecticut Siting Council (“Council”) for a Certificate
14 of Environmental Compatibility and Public Need (“Application”) that is the subject of
15 this Docket 468. A copy of my resume is provided in a separate resume volume
16 submitted by Eversource.

17 **Paul Knapik.** I am Paul M. Knapik, a Senior Environmental Scientist with the
18 BSC Group (“BSC”). A copy of my resume is provided in the separate volume of
19 resumes. I am working as a consultant to Eversource and have been part of Eversource’s
20 Project team since March 2015, focusing on environmental matters and on overall
21 coordination of the production of the MCF and Application. For the Project, I conducted
22 and/or reviewed wetland delineations and assessments, coordinated and assisted with
23 vernal pool and breeding bird surveys and assessments, oversaw the development of the

1 floodplain/floodway impact evaluation study and coordinated with Eversource on matters
2 relating to state and federal rare species. I worked with others on the Project team in
3 drafting environmental sections and preparing Project mapping for the Project's MCF
4 and Application to the Council for a Certificate of Environmental Compatibility and
5 Public Need that is the subject of this Docket 468. I also am assisting in the preparation
6 of Eversource's Army Corps of Engineers ("USACE") Section 404 and Connecticut
7 Department of Energy and Environmental Protection ("CT DEEP") Section 401 Water
8 Quality Certification permit applications for the Project.

9 **Q. Ms. Mango, have you served in a similar capacity on other Eversource**
10 **projects?**

11 A. Yes. I performed similar functions during the planning, siting, and
12 permitting phases for Interstate Reliability Project ("Interstate"), Greater Springfield
13 Reliability Project ("GSRP"), Manchester-Meekville Junction Project ("MMP"),
14 Middletown-to-Norwalk ("MN") Project, Glenbrook Cables ("Glenbrook") Project. For
15 all of those projects, I also had a role in environmental management and / or compliance
16 during construction.

17 Since the fall of 2013, I have assisted Eversource and its project management and
18 engineering consultant, Burns & McDonnell, Inc. (Burns & McDonnell) during the
19 construction of the Interstate project, serving as environmental compliance manager. For
20 the Interstate, GSRP, and MMP projects, I also worked with Burns & McDonnell to
21 design and implement environmental training programs for project construction
22 personnel and served as a consultant on the environmental compliance team for those

1 projects. I served as an independent third-party inspector during the construction of both
2 the MN and Glenbrook projects.

3 Most recently, I assisted Eversource and Burns & McDonnell in the Frost Bridge
4 to Campville 115-kV Transmission Project (working on the MCF, Application to the
5 Council, and Development and Management [“D&M”] Plans and serving as an expert
6 witness during the Council’s hearings on the project). I also assisted in the preparation of
7 D&M Plans for the Bloomfield-Windsor 115-kV Line Upgrades Project.

8 **Q. Mr. Knapik, have you served in a similar capacity on other**
9 **Eversource projects?**

10 A. Yes. I performed similar functions during the planning, siting, and
11 permitting phases for Eversource’s Pittsfield-Greenfield Area Solution Projects (PGA
12 Solution) in Massachusetts. For that suite of projects, I also had a role in environmental
13 management and compliance during construction. Additionally, while at a previous firm,
14 I assisted in the coordination and development of Eversource’s USACE Section 404 and
15 CT DEEP Section 401 Water Quality Certification permit applications and the
16 preparation of D&M Plans for the GSRP.

17 **Q. What personal responsibilities did each of you have regarding the**
18 **preparation of Eversource’s Application for this Project?**

19 A. Louise Mango. Working with others on the Project team, including BSC
20 and Commonwealth Associates, Inc. (“CAI”), I principally drafted or reviewed the
21 portions of the Application relating to the overall Project description, construction
22 methods, environmental resources, and route alternatives. I also coordinated with the
23 Project team regarding the analyses of other environmental resources and reviewed all of

1 the detailed reports concerning specific environmental resource areas that are included in
2 Application Volumes 2 and 3. In addition, I reviewed the Volume 5 maps with respect to
3 environmental features. I also conducted general field reconnaissance of the proposed
4 Project transmission line right-of-way (“ROW”) between Plumtree Substation and
5 Brookfield Junction¹, as well as of Stony Hill Substation, focusing in particular on
6 surrounding land uses and environmental features. I performed a similar field review of
7 alternative routes.

8 **Paul Knapik**. I drafted environmental portions of the Application, including
9 Volume 1, Sections 5 and 6 and the *Wetlands and Watercourses Report* (Volume 2). I
10 also assisted in the preparation of, or reviewed, the 100 and 400 scale Project mapping
11 (Volume 5), and the *Inventory and Assessment of Breeding Birds, Vernal Pool*
12 *Assessment, Visual Resources Report, and Rare Species Report* (Volume 3). In addition,
13 I reviewed the Phase 1A and Phase 1B Cultural Resources Reports prepared by Heritage
14 Consultants, LLC (“Heritage”), the Project’s cultural resources consultant.

15 **Q. Are there any other personnel who may respond to cross examination**
16 **regarding environmental matters for the Project?**

17 A. Yes. Eric Davison, a specialized consultant to BSC, will also be available to
18 respond to inquiries regarding the field investigations of habitat for state- and federal-
19 listed species and surveys conducted to conclude that no vernal pools are present near the
20 Project ROW or Stony Hill Substation. His qualifications are also provided in the
21 volume of resumes.

¹ In this testimony, the “transmission line ROW” or “Project ROW” refer to the Plumtree Substation and the 3.4-mile Proposed Route along Eversource’s existing ROW extending between Plumtree Substation and Brookfield Junction.

1 Further, the compilation and analysis of environmental information for the
2 Application involved several other specialized engineering and environmental
3 consultants, any of whom may be called upon to support this testimony by providing
4 responses to inquiries about particular environmental or environmental resource-related
5 topics. For example, CAI conducted construction engineering studies and field
6 constructability reviews that affect environmental planning, alternatives design, line
7 configurations, and the Project construction “footprint” (e.g., limits of vegetation
8 clearing, temporary and permanent access roads, culverts, work pads) within the Project
9 ROW and at the Stony Hill Substation.

10 In addition, as mentioned above, Heritage completed cultural resource analyses
11 for the Project. Heritage conducted cultural resource reconnaissance and field reviews of
12 the Project ROW and Stony Hill Substation.

13 Upon request, Eversource personnel responsible for the Company’s
14 environmental policies, permitting, and ROW vegetation management also will be
15 available to testify.

16 **Q. What is the purpose of your testimony?**

17 A. The purpose of this testimony is to summarize the environmental and
18 social/cultural factors that were considered during Project planning in order to avoid,
19 minimize, or mitigate adverse effects on environmental and cultural resources and to
20 describe how such environmental considerations will continue to be important as the final
21 design, certification, permitting, and construction phases of the Project.

22 **Q. How is your testimony organized?**

23 A. Our testimony is organized by the following primary topics:

- 1 • Approach used to compile baseline environmental data for the Project,
2 including field investigations.
- 3
- 4 • Review of environmental resources along the approximately 3.4-mile
5 Proposed Route between Plumtree Substation and Brookfield Junction, as
6 well as on the Eversource property at Stony Hill Substation.
- 7
- 8 • Discussion of potential environmental effects and mitigation measures for
9 the Project.
- 10
- 11 • The role of D&M Plans in environmental impact mitigation.
- 12
- 13 • Conclusions.
- 14

15 **2. ENVIRONMENTAL DATA COLLECTION APPROACH**

16 **Q. What approach was used to characterize existing environmental**
17 **conditions for the Project?**

18 A. Existing environmental and land-use features along and in the vicinity of
19 the 3.4-mile Project ROW and Stony Hill Substation were compiled and characterized in
20 accordance with the Council’s *Application Guide for Electric Transmission and Fuel*
21 *Transmission Line Facility (February 2016)*. These existing conditions were
22 characterized using a combination of baseline research, field investigations, aerial photo-
23 interpretation, and consultations with representatives of environmental agencies. Primary
24 published sources consulted were the Geographic Information System (“GIS”) database
25 maintained by the CT DEEP, soil surveys, U.S. Geological Survey (“USGS”)
26 topographic maps, Federal Emergency Management Agency (“FEMA”) maps, National
27 Wetland Inventory (“NWI”) maps published by the U.S. Fish and Wildlife Service
28 (“USFWS”), and state and town land-use and recreation plans. In addition, data
29 regarding other land use, public recreational areas, and open space was compiled
30 principally from municipal plans and other documents issued by the three municipalities

1 within the Project area: that is, the Town of Bethel, City of Danbury, and Town of
2 Brookfield. Information regarding the state’s East Swamp Wildlife Management Area
3 (“WMA”) in Bethel also was obtained from the CT DEEP.

4 **Q. Please summarize the field investigations that have been performed**
5 **along the Project ROW to characterize the existing environmental and cultural**
6 **conditions, and indicate whether the results of these studies are reflected in the**
7 **Application to the Council.**

8 A. Eversource commissioned a variety of environmental and cultural resource
9 field investigations of the Project ROW and its Stony Hill Substation property. These
10 investigations, which are summarized below, are fully reflected in the Application,
11 Volumes 1, 2, 3, and 5.

12 **Wetlands and Watercourse Delineations.** Wetlands and watercourse field
13 investigations were performed between April and May of 2015. These field
14 investigations were performed by BSC in accordance with federal and state water
15 resource delineation criteria. Volume 2 of the Application includes the *Wetlands and*
16 *Watercourses Report*.

17 **Investigations for Vernal Pools.** Vernal pool surveys were performed along the
18 Project ROW and at the Stony Hill Substation property in the spring of 2015. The
19 surveys were designed to identify candidate vernal pools within or adjacent to the ROW
20 and at Eversource’s Stony Hill Substation property. The surveys were performed in
21 accordance with methods described in the *Vernal Pool Assessment* (Section 3), presented
22 in Volume 3 of the Application. Although no vernal pools were identified in the Project
23 area during these surveys, supplemental surveys were performed in the spring of 2016.

1 The 2016 surveys confirmed the 2015 findings that no vernal pools are present in the
2 Project area. The *Vernal Pool Assessment* describes the survey methods and results.

3 **Rare Species Surveys.** After a review of data maintained by both CT DEEP and
4 the USFWS indicated that two federally-listed species and two state-listed species may
5 potentially occur in proximity to the proposed transmission line route, Eversource and
6 BSC performed field surveys in 2015 and 2016 to determine whether habitat is present
7 for these species along the ROW. These surveys revealed that: (1) either suitable habitat
8 for the two federally-listed species is not present; or (2) although suitable habitat may be
9 present, the Project would not result in a take.

10 With respect to the two state-listed species, one (a plant) was not found to be
11 present in the Project area based on the results of the field surveys. These findings were
12 provided to the CT DEEP Natural Diversity Database (“NDDB”) on August 1, 2016. On
13 August 10, 2016, Nelson DeBarros, plant ecologist with the NDDB, requested additional
14 documentation and site-specific information. Accordingly, supplemental field
15 inventories were performed the week of September 12, 2016; the results of these studies
16 are pending.

17 Habitat for the other state-listed species (a reptile) was identified along the Project
18 ROW. Consequently, Eversource has proposed measures to avoid or minimize potential
19 impacts to this species during Project construction.

20 Information regarding these analyses are contained in the *Rare Species Report*
21 (Volume 3). However, this report is not provided for public dissemination per agreement
22 with CT DEEP to protect the habitats of the listed species.

1 **Avian Surveys.** In accordance with Council guidance, a Project breeding bird
2 inventory was performed by reviewing published breeding bird literature and by
3 documenting birds observed along the Project ROW and at Stony Hill Substation during
4 field investigations. All birds seen or heard within suitable breeding habitat were noted
5 as observed in the inventory and are considered “possible” breeders. Various resources
6 were analyzed and compiled in order to develop a list of all bird species known to breed
7 in the vicinity of the Project. The primary source utilized was *The Atlas of Breeding*
8 *Birds of Connecticut (Atlas)*, which is the result of a five-year study (1982-1986) of all
9 bird species known to breed in the state. The results of the breeding bird analyses for the
10 Project are presented in the *Breeding Bird Assessment* in Volume 3 of the Application.

11 **Visual Resource Survey and Photo-Simulations (Leaf-off and Leaf-on).**

12 Areas along and in the vicinity of the Project were investigated pursuant to the Council’s
13 December 23, 2009 memorandum to routine applicants / participants, concerning, among
14 other issues, the consideration of scenic quality and aesthetic attributes of land that might
15 be affected by projects under the Council’s jurisdiction. In this memorandum, the
16 Council advised applicants to use photographs of such areas, particularly for use in
17 photo-simulations, which depict the environmental setting in the absence of deciduous
18 vegetation (i.e., under “leaf off” conditions, which would tend to represent “worst case”,
19 or maximum, views of potential project facilities).

20 Accordingly, Eversource commissioned BSC to first conduct research to identify
21 potential scenic, recreational, open space, and historic properties (referred to collectively
22 for the purposes of the study as potential “visual sites”) in the vicinity of the Project and
23 subsequently to conduct “leaf off” and “leaf on” field inspections of such areas. Field

1 investigations were performed to photo-document sites under “leaf on” conditions in
2 October 2015, with follow-up field visits to the same sites to document “leaf off”
3 conditions in January 2016. BSC personnel took high resolution photographs that were
4 then used to prepare photo-simulations of sites under both “leaf off” and “leaf on”
5 conditions (refer to the *Visual Resources Report* in the Application, Volume 3).

6 **Cultural Resource Studies.** Cultural resource research and field reviews of the
7 Project area were performed by Heritage. Initially (2015), Heritage researched known
8 cultural resources in the Project area and estimated the potential for portions of the
9 Proposed Route and substation site to contain undocumented archaeological sites. The
10 Tribal Historic Preservation Officers (“THPOs”) of the Wampanoag, Mashantucket
11 Pequot, and Mohegan tribes were notified of the completion of the initial cultural
12 resource survey (Phase 1A) and, on April 27, 2016, representatives of the Wampanoag
13 and Mohegan THPOs attended a Project site review and reached agreement with
14 Eversource regarding the areas to be field-tested for the potential presence of
15 archaeological sites. Heritage conducted this additional (Phase 1B) testing in late April
16 and May 2016; the results of these surveys were submitted to the SHPO and each of the
17 three THPOs in June 2016. Based on the Heritage surveys, the Project would have no
18 adverse effect on cultural resources.

19 **Constructability Reviews.** Eversource also commissioned a constructability
20 review of the Proposed Route. The purpose of the review was to assess the proposed
21 locations and dimensions of the areas required for Project construction, including
22 construction access roads, work pads (e.g., at structure, wire pulling, and boom
23 truck/guard structure sites), taking into consideration the terrain and accessibility along

1 the Eversource ROW and recent experience with construction contractors on similar
2 recent projects. During the constructability review, proposed structure locations and
3 construction support areas (work pads, access roads) were shifted to avoid or minimize
4 impacts to environmental resources and property owners to the extent practical. The
5 constructability review also verified construction assumptions for use in estimating
6 temporary, permanent, and secondary water resource impacts. An assessment of such
7 potential water resource impacts is critical for determining appropriate mitigation, which
8 could be required by the USACE and CT DEEP.

9 **Q. In identifying and evaluating environmental resources in the Project**
10 **area, did Eversource consult with the public or representatives of the municipalities**
11 **in which the Project would be located?**

12 A. Yes. Eversource solicited public and agency input prior to, during, and
13 after the MCF process, including the submission of a Request for NDDDB review of state-
14 listed species and consultation with the USFWS on federal-listed species. As noted
15 previously in this testimony, the NDDDB requested further information regarding the
16 presence of a state-listed plant species. Eversource will provide a response to the NDDDB
17 after the completion of the additional field investigations (to be performed during the
18 week of September 12, 2016) and compilation of the resulting data.

19 Environmental resource issues identified through such venues have been and
20 would continue to be taken into consideration in the Project design and in the
21 environmental impact and mitigation analyses included in the Application (Volume 1,
22 Section 6).

1 **Q. Are there any clarifications or additions that you wish to provide**
2 **regarding the environmental information presented in the Application concerning**
3 **environmental data collection for the Project?**

4 A. Yes. Subsequent to the submission of the Application, Eversource
5 identified an additional recreational area – a public trail – in the vicinity of the Project.
6 This 5.5-mile trail, which is managed by the Bethel Land Trust and is referred to as the
7 Enchanted Trail, extends from Bennett Park south to near Wolfpits Road in the Town of
8 Bethel. Just south of Bennet Park, the trail extends around the eastern side of Plumtree
9 Substation, crosses the substation access road, and then proceeds south within
10 Eversource’s 343/1585 Line ROW before turning east to Walnut Hill Road. The Project
11 ROW does not cross the trail. However, a proposed off-ROW access road for the Project,
12 located adjacent to the south side of the substation (on Eversource property) would
13 traverse the trail. This access road, as illustrated on the Volume 5 maps (Exhibit 2B,
14 Mapsheets 1 and 1A), would extend from the Plumtree Substation access road, around
15 the south side of the substation, to the Project ROW. In addition, the portion of the trail
16 that extends across the substation access road would be crossed by Project construction
17 equipment and vehicles associated with the Plumtree Substation modifications and line
18 interconnection work.

19 As described in the Application, Volume 1, Section 6.1.4.3, to avoid or minimize
20 impacts to trail users, Eversource would consult with the Bethel Land Trust to identify
21 appropriate measures for notifying trail users of construction activities.

22

1 **3. ENVIRONMENTAL FEATURES ALONG AND IN THE VICINITY OF**
2 **THE PROPOSED PROJECT**

3 **Q. Please describe generally the proposed Project.**

4 A. The approximately 3.4-mile proposed 115-kV transmission line would
5 extend Eversource’s existing 1887 Line in an overhead configuration, from Plumtree
6 Substation (located at 16 Walnut Hill Road in the Town of Bethel), through the eastern
7 portion of the City of Danbury, to Brookfield Junction (located south of and adjacent to
8 the Housatonic Railroad tracks and west of Vail Road in the Town of Brookfield). The
9 new 115-kV line would be aligned adjacent to Eversource’s existing 1770 Line (115 kV)
10 and 321 Line (345 kV), which presently occupy Eversource’s typically 175- to 225-foot-
11 wide ROW between Plumtree Substation and Brookfield Junction. The entire route of
12 the new line (referred to as the Proposed Route) would be located within this long-
13 established existing Eversource ROW², and would traverse the three municipalities as
14 summarized in the following table.

15 **Proposed 115-kV Transmission Line ROW, by Municipality**
16

Municipality	ROW Characteristics		Volume 5, 400 Scale Mapsheet No.	Cross-Section (refer to Section 3, Volume 1, and Volume5)
	Length (Approx. Miles)	Width Range (Feet, Typical)*		
Bethel	2.2	175-225	1, 2, 3	XS-1, XS-2
Danbury	0.9	175	1, 2	XS-2
Brookfield	0.3	175	3, 4	XS-2, XS-3
Total	3.4			

17 *ROW widths vary; refer to cross-section drawings.

² Most of the ROW was acquired for utility purposes between 1935 and 1936. In the mid- late-1970s, Plumtree Substation was built and the southern portion of the ROW (extending north from Plumtree Substation) was relocated onto a new ROW, located predominantly within a wetland and floodplain area. Refer to further discussion under the floodplain/floodway section of this testimony.

1 Approximately 0.9 mile (26%) of the 3.4-mile Proposed Route for the new 115-kV line
2 would be aligned on Eversource-owned property. Another 0.8 mile (24%) of the route
3 would traverse public lands (e.g., road ROWs such as Interstate 84, or state or locally
4 owned lands such as the East Swamp Brook WMA or Town of Bethel open space).

5 The 3.4-mile extension of 1887 Line would interconnect to Plumtree Substation
6 within the existing, developed portion of the substation. No expansion of the Plumtree
7 Substation would be required for the proposed Project. The 1887 Line extension would
8 connect to the existing portion of the 1887 Line at a structure at Brookfield Junction.

9 Project activities to modify the 115-kV line connections to Stony Hill Substation
10 and the modifications to the substation would be on Eversource property.

11 **Q. What information does the Application provide about the principal**
12 **types of environmental and land use resources along the Project ROW and at Stony**
13 **Hill Substation?**

14 A. The existing environmental characteristics of the Project area are
15 discussed in Volume 1, Section 5 of the Application and illustrated on the maps in
16 Volume 5 of the Application. Existing environmental and land-use data identified on the
17 Volume 5 maps and/or described in the Application are:

- 18 • Locations of existing Eversource facilities, ROW, and fee-owned properties;
- 19
- 20 • Topography;
- 21
- 22 • Residential, commercial, and industrial uses;
- 23
- 24 • Municipal boundaries, property boundaries, and zoning classifications;
- 25
- 26 • Wetlands, watercourses, floodplains, and floodways;
- 27
- 28 • Public recreational, scenic, open space, and other protected areas, including
- 29 forests, parks, water supplies, and the East Swamp WMA;

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- Schools and community facilities; and
- Existing infrastructure facilities, including roads, railroads, pipelines, and cable crossings.

As the Volume 5 aerial-based maps show, the existing Eversource ROW extends through a large wetland complex near Plumtree Substation and then traverses primarily suburban / urban areas in Bethel, Danbury, and Brookfield. Land uses in the vicinity of the ROW consist predominantly of residential and commercial uses. The principal highways that intersect the transmission line ROW are U.S. Route 6 and Interstate 84. Stony Hill Substation, which abuts and is situated south of the Housatonic Railroad Company rail lines, is accessible via Stony Hill Road (Brookfield).

Q. What are the environmental characteristics of Stony Hill Substation?

A. The proposed modifications at Stony Hill Substation (e.g., the reconfiguration of the capacitor bank connection from Bus A1 to Bus A3) would occur both within the substation and on nearby Eversource property, while the proposed modifications to the 1770 and 1887 lines would involve changes to the interconnections of the lines to Stony Hill Substation and, as such, would involve work within the existing ROW immediately adjacent to and within the substation. The developed portion of the substation occupies about 1.7 acres of an 18.8-acre Eversource property. The existing 1770 and 1887 line ROWs that extend adjacent to the substation are maintained in low-growth vegetation consistent with Eversource protocols. The surrounding Eversource property is forested; single-family residential areas are located to the south and west. Although two wetlands were delineated on the 18.8-acre Eversource property, neither is

1 within the area proposed for the Project's substation and line modifications. Similarly,
2 the site encompasses no streams, FEMA-designated floodplains, or cultural resources.

3 **Q. What types of vegetation characterize the Proposed Route?**

4 A. The existing Plumtree Substation to Brookfield Junction ROW
5 encompasses approximately 95 acres, of which about 16.9 acres (17.8%) are mixed
6 deciduous forest upland and approximately 7.6 acres (8%) are palustrine forest. Along
7 the 175- to 225-foot-wide ROW, Eversource typically performs vegetation management
8 along a 100- to 150-foot-wide area to maintain clearances from the existing 321/1770
9 lines. In these managed areas, vegetation consists principally of shrubs and herbaceous
10 species. Eversource does not manage the remaining portions of the existing ROW, which
11 consists of a mix of forested land, paved surfaces (e.g. roads, driveways, parking lots),
12 and residential and commercial lawns. From Sky Edge Lane (in Bethel) north to
13 Brookfield Junction, the ROW extends across commercial/industrial areas and is
14 characterized predominantly by maintained lawns, some ornamental landscaping, and
15 paved areas.

16 **Q. Are there surface water resources located along the Proposed**
17 **Route?**

18 A. Yes. Water resources along the existing Eversource ROW include five
19 inland wetlands, seven small streams (four perennial streams, two intermittent streams,
20 and a stormwater conveyance channel), and one un-named pond, located in the Berkshire
21 Corporate Park north of Interstate 84, which is also an open-water wetland. Of the seven
22 streams, only East Swamp Brook and Limekiln Brook are named. The ROW also
23 extends across the FEMA-designated 100-year floodplain and the regulatory floodway

1 associated with East Swamp Brook and Limekiln Brook. None of the seven watercourses
2 meet the criteria for federal designation as navigable under Section 10 of the Rivers and
3 Harbors Act, and all are presently spanned by Eversource’s existing transmission lines
4 and would be spanned by the proposed overhead 115-kV line.

5 Of the wetlands found within the ROW, one – designated as Wetland W1 (refer to
6 Volume 5, 400-foot-scale Mapsheets 1-2 and 100-foot-scale Mapsheets 1-6), is a large
7 wetland complex associated with East Swamp and Limekiln brooks. The southern
8 portion of the Project ROW extends for approximately 1.3 miles through this wetland
9 complex, which is characterized (both within and outside of the Eversource ROW)
10 primarily by emergent marsh vegetation with scattered stands of wetland shrub and tree
11 species. Descriptions of all water resources along the ROW are included in the *Wetlands
12 and Watercourses Report* (Volume 2 of the Application).

13 **Q. Why were federal jurisdictional wetlands delineated?**

14 A. The boundaries of federal jurisdictional wetlands (the criteria for which
15 are slightly less stringent than the criteria for Connecticut jurisdictional wetlands) were
16 delineated as required for Eversource’s Section 404 application to the USACE, New
17 England District. The USACE issued the new General Permits (“GPs”) for the State of
18 Connecticut on August 19, 2016 for activities subject to USACE jurisdiction in waters of
19 the United States. These GPs were issued in accordance with 33 CFR 320 – 332 [see 33
20 CFR 325.5(c)(1)] and authorize activity-specific categories of work that are similar in
21 nature and cause no more than minimal individual and cumulative adverse environmental
22 impacts. The Project appears to qualify for self-verification notification under GP 6

1 (Utility Line Activities). This notification is expected to be submitted to the USACE in
2 September 2016.

3 **Q. Why does the ROW extend across the FEMA-designated floodplain**
4 **and floodway of Limekiln and East Swamp brooks?**

5 A. East Swamp Brook and Limekiln Brook share the same floodplain and, to
6 some extent, the same floodway. The Volume 5, Exhibit 1C maps illustrate these
7 floodplain and floodway boundaries, which are also shown on the 100-scale maps in
8 Volume 5, Exhibit 2.

9 Extending north from Plumtree Substation, the Eversource ROW was aligned
10 across the wetland W1 complex and floodplain/floodway in the late 1970s, pursuant to
11 the Connecticut Power Facility Evaluation Council's³ Decision and Order in Docket No.
12 5. At that time, the intent of locating the ROW within the wetland/floodplain/floodway
13 was to avoid both residential development in the Chimney Heights Road area of Bethel
14 and Meckauer Park also in Bethel.

15 All of Plumtree Substation and most of the existing access road to the substation
16 from Walnut Hill Road are located within the 100-year floodplain. Further, the northeast
17 corner of the substation is located within the mapped floodway. In addition, along the
18 ROW from Plumtree Substation north to Old Sherman Turnpike (Danbury), eight of the
19 10 existing 321/1770 line structures are located in the 100-year floodplain and two of the
20 eight structures (Structures 10261 and 10268) are located within the floodway.
21 Residential areas, public roadways, public parks, the Danbury Landfill, and a gravel mine
22 are also located within the 100-year floodplain in the vicinity of the Proposed Route.

³ The Power Facility Evaluation Council was the precursor agency to the Council.

1 Because the proposed 115-kV line must be located within the eastern portion of
2 the ROW, 12 new structures must unavoidably be located in either the 100-year
3 floodplain or the floodway. Thus, from Plumtree Substation north to near Old Sherman
4 Turnpike, 12 new structures (proposed Structures 1000—1008 and 1010-1012) would be
5 within the 100-year floodplain. Of these 12 structures, five (Structures 1004, 1006-8, and
6 1011) would be located within the mapped floodway.

7 **Q. Is the Project in the vicinity of habitat for any federally designated**
8 **threatened or endangered species?**

9 A. No. Two federally-listed species – the northern long-eared bat (*Myotis*
10 *septentrionalis*; “NLEB”), a Federally-Threatened⁴ and State-Endangered⁵ species; and
11 bog turtle (*Glyptemys muhlenbergii*), a Federally-Threatened⁶ and State-Endangered
12 species⁷ were identified initially as potentially occurring in the Project vicinity (both
13 along the ROW and near Stony Hill Substation). However, although all of New England
14 is listed as potential habitat for NLEB, further research revealed that there are no known
15 occurrences of or hibernacula for this species on or in the vicinity of the ROW or at the
16 substation site. Accordingly, on May 20, 2016, Eversource submitted a NLEB 4(d) Rule
17 Streamlined Consultation Form, which is appropriate if proposed work is greater than
18 0.25 mile from a known hibernaculum or greater than 150-feet from a known maternity
19 roost.

⁴ USFWS listing as Federally Threatened became effective on May 4, 2015.

⁵ State listing as an endangered species became effective in August 2015.

⁶ Listed as Federally-Threatened on November 4, 1997.

⁷ The USFWS New England Regional Office. Federally Listed Endangered and Threatened Species in Connecticut (last updated February 5, 2016), identifies that bog turtle may be present in wetlands of Fairfield County in Ridgefield or Danbury.

1 Eversource commissioned field surveys in May 2016 to determine if suitable
2 habitat for the bog turtle exists along the Proposed Route. No suitable habitat was found
3 for the turtle.

4 **Q. Please summarize the status of Eversource’s consultations with CT**
5 **DEEP regarding state-listed species that may occur in the Project area.**

6 A. Based on a review of CT DEEP NDDDB data, in addition to the two
7 federally-listed species (which are also state-listed), two other state-listed species (a plant
8 and a reptile) were identified as potentially occurring within the Project area. Field
9 investigations determined that whereas the listed plant species does not occur along the
10 Eversource ROW, habitat for the listed reptile species is present along a portion of the
11 Proposed Route.

12 Eversource developed proposed protection strategies for the reptile species.
13 These strategies are included in the *Rare Species Report* in Volume 3 and were provided
14 to CT DEEP for concurrence that they are adequately protective.

15 Eversource submitted a Request for NDDDB State-listed Species Review on
16 August 1, 2016. On August 10, 2016, Nelson DeBarros, plant ecologist with the NDDDB
17 requested, via email, additional information in order to make an assessment regarding the
18 presence of and potential impacts to the State-listed plant species. Accordingly, during
19 the week of September 12, 2016, Eversource plans to perform additional field
20 investigations regarding the plant species. Subsequent to the completion of these
21 investigations, Eversource will compile and submit the requested information regarding
22 the plant species to the NDDDB.

1 **Q. Please summarize the designated public recreational use areas near or**
2 **traversed by the Project.**

3 A. No public recreational areas are located near Stony Hill Substation. The
4 Proposed Route for the 115-kV transmission line is located adjacent to or crosses seven
5 recreational or open space areas, all located in the Town of Bethel, as follows:

6

Proximity to Route	Recreational/Scenic/Open Space Feature (Refer to Volume 5 maps for parcel locations)
Crosses off-ROW access road and Plumtree Substation access road	Enchanted Trail (Bethel Land Trust) <i>(Note: trail is visible on Exhibit 2B, Mapsheet 1 but is not marked.)</i>
Crosses	East Swamp WMA (CT DEEP)
Adjacent	Land trust (Bethel Land Trust)
Adjacent	Bennett Memorial Park (Town of Bethel)
Adjacent and crosses	Meckauer Park (Town of Bethel) (Eversource ROW crosses undeveloped portions of the park)
Crosses	Unnamed protected open space (Town of Bethel)
Adjacent	Sky Edge Preserve (Bethel Land Trust)

7

8 **Q. Is the Project located within the viewshed of any designated scenic**
9 **areas or visual sites?**

10 A. No. However, as described in the *Visual Resource Study* (Volume 3), the
11 proposed 115-kV transmission line would be located within Eversource’s existing ROW
12 across or near several areas that have scenic attributes, such as protected open space or
13 parks. Stony Hill Substation is not proximate to any designated scenic sites.

14 Within the Project ROW, Eversource’s existing overhead transmission lines
15 presently extend near all of these areas and also cross the Washington-Rochambeau
16 Revolutionary Route National Historic Trail (“NHT”), a 680-mile route that extends
17 through nine eastern U.S. state and Washington, D.C. At the ROW crossing, the trail
18 coincides with, and is not distinguishable from, Stony Hill Road (U.S. Route 6). Land

1 uses near the ROW at the NHT crossing consist of various commercial developments,
2 including a Target superstore and a Best Western motel. Interstate 84 is visible to the
3 north of Stony Hill Road.

4 The impacts of the new 115-kV line on the visual environment are expected to be
5 minor, since the ROW is already occupied by the 321/1770 lines. The heights of the new
6 115-kV line structures would generally be 15-55 feet shorter than the existing 321/1770
7 line structures. In addition, Eversource has attempted to minimize visual effects to the
8 extent practical by aligning new structures generally parallel to existing structures.

9 **Q. Is the Project located within the state-designated coastal boundary?**

10 A. No.

11 **Q. Does the Project traverse any designated wild and scenic or protected**
12 **rivers?**

13 A. No.

14 **Q. Please summarize the status of the cultural resource studies for the**
15 **Project.**

16 A. In 2015, Eversource commissioned Heritage to perform a baseline
17 cultural resource assessment survey of the Proposed Route and Stony Hill Substation
18 site. The Heritage investigations consisted of a preliminary archaeological and
19 historical resources assessment (Phase 1A).

20 The Heritage study, which was submitted to the SHPO, determined that no
21 identified historic structures, known archaeological sites, or properties listed on the
22 National Register of Historic Places (“NRHP”) / State Register of Historic Places
23 (“SRHP”) are situated within 500 feet of the ROW or the proposed Stony Hill

1 Substation modifications. However, Heritage identified portions of the Proposed Route
2 as having a moderate / high potential for yielding intact cultural resource materials.

3 In late April 2016, Heritage and Eversource representatives conducted a walk-
4 down of the ROW with representatives of two of the three THPOs. Based on this review,
5 Heritage refined the areas of the ROW to be field-investigated for the presence of
6 archaeological materials. Heritage conducted the additional testing (Phase 1B) in late
7 April and May 2016. No cultural features or cultural materials (historic or prehistoric)
8 were identified during the surveys. Thus, no additional cultural resources field studies are
9 required and no impacts to cultural materials are anticipated as a result of the development
10 of the Project. Heritage's Phase 1B report, along with correspondence with the SHPO and
11 THPOs, is included in Volume 3 of the Application. This report was submitted to the
12 SHPO on June 16, 2016. To date, Eversource has not received any feedback on the
13 Phase 1B report from the SHPO.

14

15 **4. POTENTIAL ENVIRONMENTAL EFFECTS AND MITIGATION**
16 **MEASURES**

17 **Q. Please describe how the potential environmental effects of the Project**
18 **were identified and evaluated.**

19 A. The Project was evaluated in terms of the potential effects associated with
20 construction activities (typically, short-term) and the operation and management of the
21 new 115-kV transmission line and substation / related line modifications (typically, long-
22 term). Both positive and negative effects were identified and evaluated.

1 Potential Project impacts on environmental resources were estimated by applying
2 standard constructability assumptions regarding access routes through wetlands needed
3 for clearing crews, permanent and temporary on-ROW access roads, and anticipated
4 work pad (i.e., crane pads, pulling site pads, and – if required – pads for guard structures
5 or boom trucks) locations and dimensions. These constructability assumptions were
6 developed based on Eversource’s recent experiences in constructing other transmission
7 lines and taking into consideration the specific characteristics of this Project area.

8 **Q. What potential effects would the Project have on topography, geology,**
9 **and soil resources?**

10 A. The construction and operation of the new 115-kV transmission line
11 would have negligible effects on topography and geology, and only minor, generally
12 short-term, and highly localized effects on soils. These effects would be concentrated in
13 the vicinity of work sites along the ROW, or where earth-moving activities, if any, are
14 required at off-ROW Project support areas (e.g., off-ROW access roads, staging areas).

15 Generally, the construction of the Project would result in minor, localized changes
16 in elevation only at locations where grading and filling are required, such as at structure
17 sites where work pads must be established, or along access roads that must be improved
18 or developed to safely support construction equipment. Grading would not be required,
19 in most instances, where the terrain along the ROW is relatively level, where no access
20 road improvements or new access roads are needed, or where the conductors span the
21 underlying terrain.

22 In addition, all activities involving soil disturbance would be performed in
23 accordance with the Eversource and state requirements (including Eversource’s 2011

1 *Connecticut Best Management Practices Manual* and the *2002 Connecticut Guidelines*
2 *for Soil Erosion and Sediment Control*, as well as the CT DEEP's *General Permit for the*
3 *Discharge of Stormwater and Dewatering Wastewaters from Construction Activities*).
4 Eversource will prepare a Project-specific *Stormwater Pollution Control Plan* that would
5 incorporate these requirements, including specifications for the deployment and
6 maintenance of temporary erosion and sedimentation control measures during
7 construction and for long-term stabilization of the Project areas affected by construction.

8 Temporary erosion and sedimentation controls (e.g., silt fence, hay or straw bales,
9 water bars, or equivalent) would be installed, maintained, and routinely inspected during
10 construction. Permanent erosion and sedimentation controls, such as sedimentation
11 basins and water bars along permanent access roads, also may be installed as part of
12 access road development or during the course of construction.

13 As part of Project restoration, Eversource would typically reseed areas where soils
14 were affected by Project construction and may install permanent erosion and
15 sedimentation controls, as appropriate to site-specific conditions. The objective will be to
16 achieve final stabilization of all areas affected by construction, either by revegetation or
17 (in some cases) by maintaining permanent access roads and work pads to facilitate future
18 line work.

19 **Q. What potential effects would the Project have on water resources?**

20 A. **Wetlands.** The modifications to Stony Hill Substation would not result in
21 any direct impacts to wetlands. Along the transmission line ROW, permanent impacts
22 (fill) would result from the unavoidable placement of 11 new transmission line structures
23 in wetland W1, which extends for approximately 1.3 miles along and across the southern

1 portion of the 3.4-mile ROW and thus cannot be avoided. In total, these new structures
 2 would result in the placement of approximately 0.03 acre of fill in wetland W1.

3 Other impacts to wetlands along the ROW would result from the temporary
 4 placement of work pads and access roads in wetlands and from the removal of trees
 5 within forested wetlands (as required to allow construction and thereafter to maintain safe
 6 distances between vegetation and the transmission line conductors). The tree removal
 7 would not represent any loss of wetland habitat, but would constitute a long-term effect
 8 by converting the wetland cover type from forested to scrub-shrub and / or emergent.
 9 Tables 6-1 and 6-2 of the Application (Volume 1), reproduced below, summarize these
 10 wetland impacts.

Table 6-1: Estimated Surface Area of Wetlands Potentially Affected by the Proposed Transmission Line (Temporary and Permanent Effects)

Project Activity	Estimated Temporary Effect (Approximate Acres)	Estimated Permanent Effect (Approximate Acres)
Access Roads ¹	0.9	N/A
Work Pads and Pull Pads	3.6	N/A
Structure Foundations	N/A	0.03
Tree Clearing	N/A	2.6
Total Primary Wetland Effects (Fill)	4.5	0.03
Total Secondary Wetland Effects (Tree Removal in Forested Wetlands)	N/A	2.6 ^{2,3}

- 1 Some temporary access road impacts are associated with temporary access routes in wetlands for tree / vegetation clearing only.
- 2 Area assumes tree clearing will be required over all forested areas. In some areas, tree clearing may not be required where suitable clearance between the proposed new line and tree canopy already exists. Portions of areas to be cleared include snag trees, which would not represent a change in cover class from forested wetland to scrub-shrub or emergent habitat types.
- 3 Since the submission of the MCF in April, 2016, the limits of tree clearing have been refined based on constructability assessments of the limits of work necessary to conduct the proposed work. As a result, tree clearing in wetlands has been reduced by approximately 0.9 acre.

Table 6-2: Summary of Potential Wetland Effects along Proposed 115-kV Transmission Line ROW

Wetland ID ¹	Dominant NWI Classification ²	Type of Wetland Effect	
		Permanent ³	Temporary
Bethel			
W1	PEM	Vegetation Removal Outside of Managed ROW, 7 Structures	Work Pad and Access Road
W3	PSS	Vegetation Removal Outside of Managed ROW	Access Road
W4	PEM	Vegetation Removal Outside of Managed ROW	Access Road
Danbury			
W1	PEM	Vegetation Removal Outside of Managed ROW, 4 Structures	Work Pad and Access Road
W2	PEM	Vegetation Removal Outside of Managed ROW	Work Pad and Access Road

¹ Wetland ID refers to wetlands identified in the 2015 field surveys for wetlands in and adjacent to the Project ROW. Wetland IDs are consistent with the wetland numbering as depicted on the Volume 5 maps.

² Wetlands classifications and water regimes are characterized according to Cowardin et al 1979; PEM = Palustrine Emergent Wetland; PFO = Palustrine Forested Wetland; PSS = Palustrine Scrub-Shrub Wetland; POW = Palustrine Open Water.

³ “Vegetation Removal Outside of Managed ROW” refers to the vegetation that would have to be cleared from wetlands located within the construction footprint of the proposed 115-kV line, along the presently un-managed portions of Eversource’s ROW. In many instances, this activity would also necessitate temporary access road impacts for tree clearing (i.e., use of temporary access routes to allow clearing crews to safely reach areas in wetlands where trees must be removed).

1 **Watercourses.** All of the watercourses that would be crossed by the new 115-kV
2 line are already spanned by Eversource’s existing overhead transmission lines. However,
3 to construct the new 115-kV transmission line, temporary access roads (e.g., consisting of
4 timber mats, culverts, or equivalent) would be required across two watercourses along the
5 ROW in Bethel: East Swamp Brook (perennial stream S1, which is located between
6 proposed Structures 1004 and 1005) and the stormwater channel (designated as S7, which
7 is located to the south of new transmission line Structure 1021; refer to Volume 5,
8 Exhibit 2B, 100-scale Mapsheets 2 and 11, respectively).

9 **Floodplains and Floodways.** As noted previously, 12 new 115-kV structures
10 must be located within the 100-year floodplains of East Swamp and Limekiln brooks and,
11 of these structures, five would be located in the FEMA-designated floodway. As a part
12 of the Project application to CT DEEP for a 401 Water Quality Certificate, Eversource

1 performed hydrologic/hydraulic modeling analyses (referred to as the Hydraulic
2 Engineering Center’s River Analysis System [HEC-RAS]), to assess the potential effects
3 of these proposed Project structures on floodplains and the floodway. Based on the
4 results of these analyses, Eversource determined that the proposed structures would have
5 minimal adverse effects on flood storage capacity within the floodplain and the floodway
6 as noted in Interrogatory Response Q-CSC-005. Eversource expects to continue to
7 consult with CT DEEP regarding the floodplain/floodway and to apply mitigation /
8 compensation measures as appropriate.

9 **Mitigation Measures.** During construction, Eversource would require its
10 construction contractors to adhere to specific procedures designed to avoid or minimize
11 adverse effects to water resources, and to conform to the Project-specific conditions of
12 the Council’s Certificate, as well as the USACE and CT DEEP permits and certificates.
13 In addition to these Project-specific regulatory conditions, Eversource would require its
14 contractors to implement the mitigation measures that have been identified thus far to
15 avoid or minimize adverse effects on water resources (refer to Volume 1, Sections 4 and
16 6 of the Application).

17 **Q. What effects would the Project have on vegetation?**

18 A. The clearing and removal of additional forested vegetation along the
19 existing Eversource ROW, as required to construct and operate the new 115-kV line,
20 would constitute a long-term change in habitat. As noted in the Application (Volume 1,
21 Section 6.1.3.1.1, p. 6-16), Eversource estimates that approximately 8.4 acres (5.8 acres
22 of upland and 2.6 acres of forested wetland) of the 24.5 acres of forest vegetation within
23 the ROW would be removed for the Project. Most of the forested vegetation removed

1 would be trees with diameter at breast heights of greater than 5 to 6 inches. However, the
2 resulting conversion of such forested areas to shrubland, and the continued management
3 of the ROW for such shrubland, would have a long-term positive effect on the species
4 that rely on this habitat type for food, cover, and nesting.

5 The modifications at Stony Hill Substation would not require any significant
6 forested vegetation removal. Only a small patch of trees (less than 0.02 acre) would have
7 to be removed to accommodate the work pads for structure removal and replacement
8 outside of the substation.

9 **Q. How would the conversion of forested areas to shrubland or other**
10 **low-growing vegetation affect vegetation and wildlife resources?**

11 A. The effect on vegetation would be the conversion of forest to
12 predominantly shrubland habitat. The effect on wildlife would vary depending on a
13 particular species' habitat preferences. However as described in the *Inventory and*
14 *Assessment of Breeding Birds*, shrubland and other early-successional bird species would
15 benefit from the conversion of forest to shrubland.

16 Statewide, transmission corridors remain critical habitat for shrubland and other
17 early-successional birds. Vegetation management of transmission line corridors is
18 recommended as part of the regional and national conservation strategy to reverse
19 declines of priority shrubland birds in the eastern region. In the Connecticut Audubon
20 Society's 2009 *State of the Birds* report (p.44), it was noted that "...*shrubland birds are*
21 *benefitting from maintenance of powerline corridors by utility companies which remove*
22 *tall-growing trees from the vicinity of wires, creating a habitat dominated by shrubs,*
23 *grass and herbs.*"

1 **Q. What effect would the Project have on vernal pools?**

2 A. None. There are no vernal pools in the Project area.

3 **Q. In your opinion, does the probable environmental impact of the**
4 **Project facilities conflict with the policies of the state concerning the natural**
5 **environment, ecological balance, public health and safety, scenic, historic and**
6 **recreational values, forests and parks, air and water purity and fish, aquaculture**
7 **and wildlife?**

8 A. No, for the reasons discussed in this testimony and in the Application.

9
10 **Q. Would the proposed Project be consistent with land use plans and**
11 **policies?**

12 A. Yes.

13 **Q. Have you reviewed the consistency of the Project with the Federal**
14 **Power Commission’s (now the Federal Energy Regulatory Commission’s)**
15 **“Guidelines for the Protection of Natural Historic Scenic and Recreational Values in**
16 **the Design and Location of Rights-of-way and Transmission Facilities”?**

17 A. Yes. The Guidelines advocate the collocation of new transmission lines
18 on existing ROWs; the avoidance or minimization of environmental impacts where
19 practical; and the use of good utility practice in the design and construction of overhead
20 transmission lines. The proposed Project is consistent with these guidelines, which are
21 incorporated into the Council’s regulations and standards adopted pursuant to
22 Connecticut General Statutes Section 16-50t.

23 **Q. How would Eversource minimize effects on public recreational areas**
24 **located near or along the 115-kV line ROW as a result of the Project construction**
25 **and operation?**

1 A. Except for the crossings of the Enchanted Trail along the off-ROW access
2 road adjacent to the southern fence line at Plumtree Substation and at the substation main
3 access road, the 115-kV line ROW does not traverse the developed portions of any
4 designated public recreational use areas. For example, the ROW crosses an undeveloped
5 portion of Meckauer Park, and thus would not affect the use of the park's recreational
6 areas (e.g., playground, hiking trail, pavilion). Similarly, the ROW does not cross
7 Bennett Park. Thus, no direct effects to these public recreational areas would occur.
8 Potential impacts to the Enchanted Trail would be avoided or mitigated based on
9 consultations with Bethel Land Trust. Any portions of the trail that are temporarily
10 disrupted as a result of the use of the off-ROW access road would be restored following
11 the completion of the new line installation and ROW restoration work.

12 The ROW crosses a portion of the CT DEEP's East Swamp WMA, which is used
13 primarily for hunting and hiking. The proposed transmission line would be consistent
14 with the existing utility use of the ROW that already extends across this area.

15 Potential indirect and short-term impacts may occur as a result of construction-
16 related traffic on local roads, which could cause delays in the time required to access to
17 local parks, or construction-related noise, which could be audible from the parks.
18 However, these impacts would be very localized and short-term.

19 The operation and maintenance of the new transmission line would not alter the
20 use of the recreational areas traversed by the ROW. Further, the expansion of shrubland
21 habitat could benefit some recreational activities, such as hunting within the East Swamp
22 WMA by providing additional habitat to small game species such as Woodcock.

1 As discussed in the Application, Eversource would coordinate with
2 representatives of the nearby recreational areas to identify site-specific mitigation
3 measures that could be used to avoid conflicts with recreational users. Eversource would
4 typically provide an anticipated construction schedule to representatives of each
5 recreational use area. The schedule would define Eversource's proposed plans for
6 minimizing disruptions to recreational uses during construction, such as proposed
7 temporary road or trail closures, detours/re-routes, signs in public use areas identifying
8 work zones, etc.

9 **Q. What effects would the Project have on the visual sites identified in**
10 **the Application?**

11 A. As described in detail in the Application (Volume 1, Sections 5 and 6;
12 Volume 3), in general, the impact of the new line on the visual environment would be
13 minor because the proposed Project would be aligned along an existing ROW, where the
14 overhead 321/1770 lines have been part of the landscape for decades. Further, the new
15 115-kV structures would typically be shorter than the existing 321/1770 line structures.
16 Also, as illustrated by the photo-simulations in Volume 3, for the most part, long views of
17 the proposed transmission line structures would be limited as a result of the combination
18 of topography, vegetative cover, and/or intervening land development.

19 **Q. What is your opinion regarding the visual effects of the Project?**

20 A. Changes to the landscape are largely a matter of individual perceptions
21 and value judgments. However, the new 115-kV transmission line would alter views
22 from certain specific locations, particularly where the ROW crosses public roads.
23 Vegetation clearing required for the new 115-kV line would make portions of the existing

1 and new transmission line structures more visible in some locations. During the growing
2 season, when trees are leafed out, the structures would generally be less visible than in
3 the winter months. Generally, however, due to the location of the existing ROW, and the
4 screening afforded by topography and vegetation, the new 115-kV transmission line
5 would not be apparent as a dominant new landscape element.

6 **Q. What effect would the construction and operation of the Project have**
7 **on transportation and traffic patterns?**

8 A. The construction of the Project would result in limited and localized
9 effects on transportation patterns associated with the movement of construction
10 equipment and vehicles to and from the ROW, Plumtree Substation, and Stony Hill
11 Substation. The operation of the Project would have no effect on transportation patterns
12 or traffic.

13 For the most part, the public road network in the Project region affords access to
14 the ROW for construction vehicles and equipment. Eversource would seek a permit from
15 the Connecticut Department of Transportation (“ConnDOT”) in connection with the
16 crossings of U.S. Route 6 and Interstate 84. During the construction period, construction
17 workers traveling to and from work sites, as well as the movement of construction
18 equipment, would cause temporary and localized increases in traffic volumes on local
19 roads near the transmission line ROW. Eversource would require its construction
20 contractors to employ personnel as necessary to direct traffic at construction work sites
21 where the ROW crosses public roads, as needed, and to erect appropriate traffic signs to
22 indicate the presence of construction work zones.

1 In general, equipment and vehicular movements along the ROW would be via on-
2 ROW access roads, along with some off-ROW access roads. The Volume 5 maps
3 illustrate potential access roads identified to date for the Project construction.

4 The proposed transmission line conductors (wires) would span all roads. None of
5 these overhead spans would affect traffic patterns, except possibly during the limited
6 times when the conductors are installed. To install the conductors over public roads
7 safely, boom trucks or guard structures would be positioned temporarily on either side of
8 the crossings.

9 **Q. How would Eversource minimize impacts to cultural resources if**
10 **archaeological materials are unearthed during construction?**

11 A. Although no cultural sites were found during surveys of the Project area,
12 Eversource would include in the D&M Plans for the Project protocols for its contractors
13 to follow in the event of the unanticipated discovery of cultural materials during Project
14 construction.

15 **Q. Please summarize how potential noise effects would be minimized**
16 **during the construction and operation of the Project.**

17 A. The construction of the Project would result in short-term and highly
18 localized increases in sound levels associated primarily with the operation of construction
19 equipment, truck movements, earth-moving activities, structure foundation preparation,
20 structure installation, and work associated with the modifications to the Stony Hill
21 Substation. Such construction-generated noise would be localized to the vicinity of
22 construction work sites and typically would occur during the daytime. Construction
23 contractors would be required to properly maintain vehicles to prevent excessive noise

1 emissions. However, some construction activities, such as heavy equipment operation in
2 general and the use of imploding connectors (if any) in certain areas would result in
3 short-term and localized increased in ambient sound levels.

4

5 **5. ROLE OF THE D&M PLAN IN MITIGATING ENVIRONMENTAL EFFECTS**

6 **Q. How would the impact mitigation measures identified in Section 6 of**
7 **the Application be incorporated into the construction plans for the Project?**

8 A. The Council requires the preparation of a D&M Plan as a condition of its
9 certification process. Accordingly, after certification of the Project, Eversource would
10 prepare Project-specific D&M Plans, consistent with the Council's requirements.
11 Eversource expects to prepare separate D&M Plans for the new 115-kV transmission line
12 (and connections to Plumtree Substation and Brookfield Junction) and for the Stony Hill
13 Substation modifications. Separate D&M Plans are proposed to facilitate focus on the
14 different environmental features and construction measures that would be required for the
15 new 115-kV transmission line vs. the Stony Hill Substation modifications. The D&M
16 Plans would include details regarding environmental mitigation measures and would
17 reflect the incorporation of conditions of the Council's approval of the Project. Each
18 D&M Plan would be submitted to the Council for review and approval.

19 **Q. What other information would be included in the D&M Plans?**

20 A. Each D&M Plan would conform to the Council's D&M Plan requirements
21 and would reflect the Council's Decision and Order for the Project. Typically, each
22 D&M Plan can be expected to include information concerning the Project facilities and
23 land requirements; construction procedures; land uses and environmentally-sensitive

1 resource areas (e.g., locations of wetlands and watercourses, areas where protection
2 measures for species of concern are to be implemented); procedures for access road
3 development and water resource crossings; general construction procedures; construction
4 scheduling; work site and public safety during construction; traffic control at road
5 crossings; requirements for erosion and sedimentation controls; requirements for
6 excavation dewatering; and procedures for excess spoil disposition, among other topics.

7 The D&M Plans may be prepared in advance of the receipt of Project-specific
8 permits and approvals from other state and federal agencies, such as the CT DEEP and
9 USACE. However, approvals from these and other agencies (as applicable) would be
10 part of construction contracts for the Project.

11 **Q. How would environmental compliance with the D&M Plans be**
12 **monitored?**

13 A. Eversource representatives would be assigned to monitor the conformance
14 of Project construction activities to the D&M Plans and other state and federal regulatory
15 requirements. Eversource also would expect to coordinate with construction contractors
16 to pro-actively plan construction tasks to avoid or minimize potential environmental and
17 land use impacts base on site-specific conditions and to address issues as they may arise.
18 In addition, Eversource would expect to use an approach to environmental compliance
19 that would incorporate methods such as:

- 20
- 21 • Using signs, flagging, snow fencing, etc. to clearly demarcate the boundaries of
22 environmental features (e.g., wetlands, streams) and limits of work (e.g., edge of
23 vegetation clearing).
 - 24
 - 25 • Conducting basic environmental training to inform construction managers of
26 Project-specific environmental and land use features and regulatory requirements,
27 including the D&M Plans.

- 1
2 • Providing copies of regulatory requirements, including D&M Plans (text and
3 maps), to construction contractors and key Project personnel.
4

5 Eversource also would be willing to hire, if directed by the Council, an
6 independent environmental inspector to conduct periodic (typically weekly) inspections
7 of environmental aspects of Project construction, as detailed in the D&M Plans.
8

9 **6. CONCLUSIONS**

10 **Q. Based on your past experience with transmission line construction**
11 **projects and analyses and knowledge of the Project ROW and Stony Hill Substation**
12 **site, what are your conclusions regarding the potential environmental effects of the**
13 **Project as proposed by Eversource?**

14 A. As proposed, the new 115-kV transmission line and associated Stony Hill
15 Substation modifications would be located entirely within an existing ROW or on
16 Eversource-owned property that is presently and has historically been dedicated to utility
17 use.

18 No significant adverse environmental or cultural resource impacts would result
19 from the construction or operation of the proposed Stony Hill Substation modifications.

20 Considerable effort has been devoted to designing and planning the construction
21 of the new 115-kV line to avoid or minimize adverse effects on environmental resources.
22 Permanent environmental impacts (e.g., fill in wetlands, floodplains) have been avoided
23 or minimized wherever practical. However, due to the location of the southern portion of
24 the ROW in Bethel within the large wetland complex associated with East Swamp and
25 Limekiln brooks, certain impacts to wetlands and to the floodplain/floodway of the

1 brooks would be unavoidable. Eversource has designed the proposed 115-kV line to
2 minimize such impacts to the extent practical and would coordinate with the CT DEEP
3 and USACE to define further mitigation measures as appropriate.

4 Further, environmental impacts have been balanced with land use and safety
5 considerations, taking into account the location of the Project within urban / suburban
6 areas of Bethel, Danbury, and Brookfield, and the need to provide appropriately-
7 dimensioned access roads and work pads for the safe operation of construction equipment
8 and the maintenance of appropriate clearances from the adjacent live overhead
9 transmission lines. The work pad and access road dimensions that were used successfully
10 to construct other recent Eversource projects with no significant environmental issues
11 were used as a template for this Project.

12 Compensatory mitigation could be used to offset any unavoidable adverse effects
13 to water resources, such as permanent filling in wetlands as a result of structure
14 foundations, etc. Eversource anticipates that the in-lieu fee program could be used in
15 order to mitigate for unavoidable Project wetland impacts.

16 During construction of the new 115-kV line, Eversource would minimize impacts
17 to nearby residential, commercial, and industrial uses by adhering to the work hours
18 specified by the Council and by coordinating with the affected municipalities and
19 property owners.

20 Overall, the Project would result in minimal permanent or long-term adverse
21 environmental impacts and no significant adverse impacts to cultural resources. Short-
22 term (temporary) impacts would be minimized by adherence to Project-specific plans, the
23 conditions of certificate and permit requirements, and Eversource's *Best Management*

1 *Practices* for construction. Soil erosion and sedimentation would be avoided or
2 minimized by adherence to Project-specific plans and conformance to CT DEEP permit
3 requirements for stormwater management during construction. Similarly, Eversource
4 would implement avoidance and minimization measures to mitigate impacts to the state-
5 listed species determined to occur along portions of the Project ROW; for this species,
6 Eversource would continue to consult with CT DEEP to refine mitigation measures,
7 which would be implemented during construction.

8 **Q. Does this conclude your testimony?**

9 A. Yes.