

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:

AMENDED PETITION OF T-MOBILE	:	PETITION NO. 622-A
NORTHEAST LLC ("T-MOBILE) FOR A	:	
DECLARATORY RULING ON THE NEED TO	:	
OBTAIN A SITING COUNCIL CERTIFICATE	:	
FOR THE RELOCATION OF AN EXISTING	:	
WIRELESS TELECOMMUNICATIONS FACILITY	:	
ON A HIGH TENSION POWER LINE STRUCTURE	:	
WITHIN AN EXISTING EVERSOURCE	:	
TRANSMISSION EASEMENT	:	
1975 HUNTINGTON ROAD	:	
STRATFORD, CT	:	JANUARY 10, 2018

AMENDED PETITION FOR A DECLARATORY RULING TO
RELOCATE A WIRELESS TELECOMMUNICATIONS FACILITY
FROM EXISTING EVERSOURCE TRANSMISSION TOWER #826 TO
APPROVED REPLACEMENT TRANSMISSION TOWER #826
1975 HUNTINGTON ROAD, STRATFORD, CT

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies ("R.C.S.A."), T-Mobile Northeast LLC ("T-Mobile") hereby petitions the Connecticut Siting Council (the "Council") for a declaratory ruling ("Petition") that no Certificate of Environmental Compatibility and Public Need ("Certificate") is required under Section 16-50k(a) of the Connecticut General Statutes ("C.G.S") in order to relocate an existing wireless telecommunications facility approved by the Siting Council in Petition #622. A copy of the Council's staff report in Petition 622 is annexed hereto in Attachment A. Eversource requires T-Mobile to permanently relocate from existing transmission tower structure #826 to a planned new tower that will be replaced as per the approval granted in Siting Council Petition 1291 ("Towantic Line Upgrade Project"). See Attachment B. The new transmission tower structure #826 will be located within the existing facility, 22.2 feet west of the current transmission tower located on Huntington Road in Stratford, CT (the "Site"). T-Mobile must construct its relocation ("Relocation Facility") during the necessary line outage required for installation of the Approved Tower.

II. Existing Facility and Eversource Project

The Siting Council approved the original facility in 2003 in Petition #622. The existing antennas are part of a power mount installed on existing transmission tower #826 with equipment located at grade in an existing Eversource right-of-way ("Existing Facility"). Eversource structure #826 is part of the supporting infrastructure for Eversource's Line 1730, a 115-kilovolt (kV) transmission line on Huntington Road in Stratford. The existing tower #826 is a double-circuit, steel lattice tower structure. T-Mobile's equipment is located in a fenced compound beneath the tower. Access to the Existing Facility is from an access road off of Huntington Road.

Eversource is rebuilding and reconductoring approximately 2.25 miles of its existing Nos. 1710 and 1730 115-kV transmission lines from West Devon Junction to Trumbull Junction. This portion of the project includes replacement of the existing lattice structure on Huntington Road in Stratford with a double-circuit, galvanized steel tangent monopole structure on foundation. Eversource notified T-Mobile that the Existing Facility must be removed and relocated to the planned replacement tower and T-Mobile and Eversource have since coordinated on permanent relocation plans that are incorporated into this Amended Petition for the Relocation Facility.



Figure 1 Zoom-in image capture of project area as provided by Eversource in Siting Council Petition #1201. The "Compound" area for tower #826 is outlined in orange, the existing tower location is identified in yellow while the new tower location is depicted in red.

III. T-Mobile Relocation Facility

Federal Communications Commission ("FCC") licenses T-Mobile to provide wireless services in this area of the State of Connecticut. The Existing Facility has provided T-Mobile wireless services to a large area of Stratford for 15 years. T-Mobile's proposed permanent relocation to existing transmission tower structure #826 consists of masts and antennas that together will extend to approximately 110' AGL. T-Mobile will install six (6) panel antennas, along with associated equipment, at a centerline height of approximately 110' AGL.

Access to the Relocation Facility is from an existing access road off of Huntington Road. The Replacement Facility will use existing electric and communication connections running underground from a utility pole on Huntington Road. All of the improvements are located within an existing Eversource right-of-way.

Included as Attachment C is a letter of authorization from Eversource granting T-Mobile the authority to file this Petition. Included as Attachment D are detailed drawings prepared by Centek Engineering, last revised December 28, 2017 providing plans, elevations, site details, site utility plans, abutters map and other aspects of the proposed Replacement Facility. Annexed hereto as Attachment E is a structural letter prepared by Centek Engineering dated June 26, 2017, concluding that the new pole will be adequate to support T-Mobile's proposed facility.

Adjacent land uses include the Eversource electric transmission towers and rights-of-way, and residential homes on Huntington Road, Reut Drive, Quenby Place and Post Oak Roak Road.

IV. The Relocated Facility Will Not Have a Substantial Adverse Environmental Effect

A. Site Footprint

A comparison of existing and proposed conditions as part of Petition 622 and this amendment to the approved plans reveals no substantial adverse environmental impacts associated with the mandatory relocation of T-Mobile's Existing Facility. The Relocation Facility consists of a similar power mount that will be constructed within the limits of the existing transmission line right-of-way. T-Mobile proposes no ground disturbance or tree clearing and no impacts to wetlands or other natural resources are anticipated.

B. Compliance with MPE Limits

A power density report is included in Attachment F which notes the facility will be less than 4% of the federal and state emission standards for the general public. As such, the total radio frequency power density will be well within the standards adopted by the Connecticut Department of Environmental Protection as

set forth in Section 22a-162 of the Connecticut General Statutes and the MPE limits established by the Federal Communications Commission for the public.

C. Visibility

The proposed T-Mobile installation will not significantly alter the appearance of the Approved Tower and the installed antennas will be similar in appearance to the existing facility. A picture of the existing facility is included in Attachment G. The Relocation Facility requires no FAA lighting or marking as per the TOWAIR report included in Attachment H.

D. Species and Habitat Review

Review of the Department of Energy and Environmental Protection's Natural Diversity Database mapping indicates no area of concern around the site. Please see NDDDB map included in Attachment I. T-Mobile's Replacement Facility involves little to no ground disturbance and is in essence a minor modification of the Eversource Plans for the installation of the Approved Tower.

V. Public Need

The existing facility has been part of T-Mobile's wireless network providing reliable service in this part of the Town of Stratford for approximately 15 years. While the Council does not have to find a public need for the relocation facility as part of a ruling on this Amended Petition, it is respectfully submitted that the Relocated Facility is critical to providing continued, reliable wireless service to the public living in and traveling through this area of the state. Moreover, this project is consistent with the state policy to avoid the proliferation of towers.

VI. Notice

Pursuant to R.C.S.A. Section 16-50j-40(a), notice of T-Mobile's intent to file this Amended Petition was sent to each person appearing of record as an owner of property that abuts the site, as well as the appropriate municipal officials as listed in Section 16-50e of the C.G.S. Certification of such notice, a copy of the notice and the list of property owners and municipal officials are included in Attachment J.

VII. Conclusion

As set forth above, the proposed Relocated Facility is essentially a minor modification of the Approved Tower already reviewed in Petition 1291. Shared use of such infrastructure is wholly consistent with legislative findings outlined in Section 16-50g and 16-50aa of the General Statutes of Connecticut that seek to avoid the unnecessary proliferation of towers in the State. Further, there are no known adverse environmental effects associated with the Relocation Facility. Therefore

and for all of the foregoing reasons, T-Mobile petitions the Connecticut Siting Council for an amended approval in Petition #622 and not require a Certificate of Environmental Compatibility and Public Need for the relocation and that the Council issue an order approving the Amended Petition.

Respectfully submitted

T-MOBILE NORTHEAST LLC

By: _____

Denise Sabo

Northeast Site Solutions

Agent for T-Mobile Northeast LLC

(860)209-4690

denise@northeastsitesolutions.com

cc: Mayor Laura R Hoydick, Town of Stratford
John Rusatsky, Zoning Enforcement Officer, Town of Stratford
Joel Szarkowicz, Eversource
T-Mobile

ATTACHMENT A

Petition No. 622
Omnipoint Facilities Network, 2, L.L.C.,
a subsidiary of T-Mobile, USA, Inc. (T-Mobile)
Stratford, Connecticut
Staff Report
June 3, 2003

On May 16, 2003, Connecticut Siting Council (Council) member Gerald Heffernan and S. Derek Phelps of the Council met with Omnipoint Facilities Network, 2, L.L.C. (T-Mobile) representatives at a Connecticut Light and Power (CL&P) right-of-way west of Huntington Avenue in Stratford, Connecticut for inspection of an electric transmission structure owned by CL&P. T-Mobile, with the agreement of CL&P, proposes to modify the structure by installing antennas on a pipe mount and an equipment compound for telecommunications use and is petitioning the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the modification.

T-Mobile proposes to install a ten foot six inch (10'-6") pipe mast on the existing eighty foot (80') electric transmission line structure (no. 826). Three antennas will be mounted in a cluster mount configuration extending to a top antenna height of ninety-six feet above ground level (agl). The total height of the structure would be ninety-six feet agl.

Three equipment cabinets would be installed on a 13-foot by 13-foot concrete slab enclosed within a 15-foot by 15-foot compound. A six-foot high wooden stockade fence would enclose the compound area on three sides. Access to the proposed site would be via a grassy lawn area just off of Huntington Avenue. Utility service would be provided from an underground conduit that would extend from an existing utility pole (no. 902) on Huntington Avenue through the existing CL&P right-of-way.

The tower location is in a residential area. The right of way contains transmission lines and associated tower structures. The proposed compound site is in a cleared area that would be visible from the yards of several homes that directly abut the right-of-way. In the petition, T-Mobile proposed to locate the wooden stockade fence on three sides of the compound. Immediately following discussions in the field, T-Mobile hand-delivered a copy of the application addressed to the homeowners at 60 Quenby Place, an abutting residence to the southeast with a clear view of the tower. Although T-Mobile's representative left a note inviting these abutters to contact T-Mobile for any follow-up questions, T-Mobile's representative has received no contact in response.

The worst-case power density for the telecommunications operations at the site has been calculated to be 8.14% of the applicable standard for uncontrolled environments.

The proposed project is designed to provide coverage to coverage gaps in Stratford along the Merritt Parkway from the Housatonic River toward Routes 8 and 108 and extending to the south into the center of Stratford. T-Mobile contends that the proposed modification of the structure would not cause a substantial adverse environmental impact, and would prevent the construction of a new tower in the area.

ATTACHMENT B



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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CERTIFIED MAIL RETURN RECEIPT REQUESTED

April 28, 2017

Kathleen M. Shanley
Manager-Transmission Siting
Eversource Energy
P.O. Box 270
Hartford, CT 06141-0270

RE: **PETITION NO. 1291** - Eversource Energy petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the Towantic Line Upgrades Project that includes rebuilding and reconductoring approximately 4.4 miles of its existing 115-kilovolt electric transmission lines within existing Eversource right of way between Devon 7R Substation and East Devon Junction both located in the City of Milford, Connecticut; between the West Devon Junction located in the Town of Stratford, Connecticut and Trumbull Junction located in the Town of Trumbull, Connecticut; and between Devon 7R Substation located in the City of Milford, Connecticut and West Devon Junction located in the Town of Stratford, Connecticut and related transmission line structure improvements.

Dear Ms. Shanley:

At a public meeting held on April 27, 2017, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need, with the following conditions:

1. The Petitioner shall implement protective measures for Natural Diversity Data Base (NDDB) species in consultation with the Department of Energy and Environmental Protection (DEEP);
2. Structure No. 722 shall be relocated to eliminate direct wetland impacts;
3. Any required Federal Aviation Administration (FAA) Determination Letters for the new transmission structures and temporary structures, such as cranes, shall be filed with the Council;
4. Approval of any minor project changes be delegated to Council staff;
5. The Petitioner shall submit a copy of the Soil Management Plan approved by the Department of Energy and Environmental Protection (DEEP) to the Council;
6. The Petitioner shall submit a copy of the Certificate of Permission granted by DEEP Office of Long Island Sound Programs to the Council;
7. Any structures that the petitioner intends to install outside of the former coal ash disposal area cap shall be installed in such a way so that the construction of such structures does not impact the cap;
8. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline.

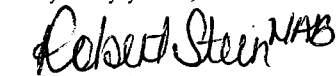
Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;

9. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the Towns of Stratford, Trumbull, and the City of Milford;
10. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
11. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;
12. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and
13. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition dated February 21, 2017 and additional information received on March 23, 2017 and April 17, 2017.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,



Robert Stein
Chairman

RS/MP/lm

Enclosure: Staff Report dated April 27, 2017

- c: The Honorable Benjamin G. Blake, Mayor, City of Milford
David Sulkis, City Planner, City of Milford
The Honorable John A. Harkins, Mayor, Town of Stratford
Jay Habansky, Planning & Zoning Administrator, Town of Stratford
The Honorable Timothy M. Herbst, First Selectman, Town of Trumbull
Rob Librandi, Land Use Planner, Town of Trumbull
Douglas Wenz, Zoning Enforcement Officer, Town of Trumbull
Devon Power, LLC



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Petition No. 1291

The Connecticut Light and Power Company d/b/a Eversource Energy Milford, Stratford and Trumbull, Connecticut

Staff Report

April 27, 2017

Introduction

On February 21, 2017, the Connecticut Siting Council (Council) received a petition (Petition) from The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for proposed upgrades of the existing #1710 and #1730 115-kilovolt (kV) transmission lines from Devon 7R Substation in Milford to West Devon Junction in Stratford and continuing to Trumbull Junction in Trumbull, Connecticut. Council member Robert Hannon and Council staff member Michael Perrone conducted a field review of the proposed project on March 24, 2017. Sue Bellion, Project Siting Specialist, Eversource; Louis Rubano, Project Manager, Burns & McDonnell; Ian Cole, Environmental, Eversource; Louise Mango, Environmental, Phenix Environmental, Inc.; Scott Janko, Construction Superintendent, Burns & McDonnell; Christopher Soderman, Lead Engineer, Eversource; Paul Bukowsky, Environmental Compliance Engineer, NRG (NRG) Devon Power LLC (Devon Power); and Bob Spooner, Regional Environmental Supervisor, NRG also attended the field review.

On May 14, 2015, the Council approved a 785-megawatt natural gas-fired power plant (Towantic Power Plant) in Oxford in Docket No. 192B. Towantic Power Plant will interconnect from an on-site switching station (Towantic Switching Station) to the #1575, #1585 and #1990 115-kV transmission lines located directly to the west in an existing right-of-way (ROW). On May 26, 2016, in Petition No. 1226, the Council approved Towantic Switching Station and associated 115-kV transmission line upgrades from Bunker Hill Substation in Waterbury southward to Towantic Switching Station and continuing south to Oxford Tap in order to accommodate the Towantic Power Plant.

In addition to the already approved transmission upgrades, ISO-NE determined that the existing #1710 and #1730 Lines within a 4.4 mile Eversource-owned ROW between Devon 7R Substation and Trumbull Junction would require upgrades to prevent line overloads associated with changing power flows due to the new Towantic Power Plant. To accommodate these line upgrades, Eversource also proposes to perform modifications to portions of another 115-kV line (i.e. #1580) in the same ROW as the #1710 and #1730 Lines between Devon 7R Substation and West Devon Junction. This proposed upgrade project would need to be completed by June 1, 2018, which is the beginning of Towantic Power Plant's 2018-2019 Capacity Commitment Period under Forward Capacity Auction No. 9. The proposed project is identified as a generator interconnection upgrade on the ISO-NE Regional System Plan Project Lists dated October 2016 and March 2017.

Devon 7R Substation to East Devon Junction Portion of the Project

This portion of the project is approximately 0.75 miles long in ROW length. Surrounding land uses include commercial, utility and railroad. In this portion of the ROW, the existing #1710 Line is located on wood H-frame structures. To the east (in the same ROW) are the existing #1580 and #1730 Lines that share double-circuit lattice structures. Further east (in the same ROW) is another set of existing conductors associated with the #1730 Line and located on double-circuit lattice structures. (The other side of such structures has an open/de-energized circuit.)



Affirmative Action / Equal Opportunity Employer

Six double-circuit lattice structures that presently support the #1730/#1580 lines would be removed, as would existing Structure No. 299A (i.e. #1730 Line wood pole tap to adjacent spur line). In addition, seven H-frame wood pole structures that support the existing #1710 Line would be removed and not replaced. At East Devon Junction, existing Structure No. 717, a steel pole dead-end, would also be removed.

To support the upgraded #1710/#1730 Lines in a double-circuit configuration, these structures would be replaced with eight new galvanized steel monopoles and one two-pole steel structure. The proposed steel monopoles for the #1710/#1730 Lines would be installed along the centerline of the existing #1580/#1730 steel lattice towers. Eversource would also reconductor the #1710 and #1730 Lines with 795 kcmil aluminum conductor steel supported (ACSS) and install optical ground wire (OPGW). New steel poles would be in the range of approximately 80 to 115 feet in height, as compared to approximately 80 feet to 85 feet for existing structures.

The existing steel lattice towers that presently support the eastern set of #1730 line conductors would remain and would be re-designated as the #1580 Line. Structure No. 299A would be rebuilt as a steel monopole supporting the #1580 and #1730 lines and reconfigured ADSS.

In order to avoid conflicts with the reconfigured 115-KV lines, the ADSS that is presently underbuilt from the #1497 line Structure No. 3801 to the #1710 Line Structure #710 would be removed and reconfigured with OPGW. The new OPGW would extend from Structure No. 3801 directly to new Structure No. 299A (as an attachment point) and then to new Structure No. 709/802 (#1710/#1730 lines).

East Devon Junction to Housatonic River Portion of the Project

This portion of the project is approximately 0.75 miles long in ROW length. Surrounding land uses include condominiums, commercial, utility, and railroad. In this portion of the ROW, Eversource would remove five existing steel lattice structures and one steel pole dead-end structure on which the #1730/#1580 lines are currently located. All six wood pole structures that currently support the #1710 Line would also be removed. Eversource would also remove the #1730 line Structure Nos. 289A and 807.5, which would not be replaced. To support the upgrades to the #1710/#1730 Lines, six galvanized steel poles (i.e. five monopoles and one two-pole structure) would be installed. New steel poles would be in the range of approximately 84 to 112 feet in height, as compared to approximately 50 to 75 feet for existing structures. Eversource would also reconductor the #1710 and #1730 lines with 795 kcmil ACSS and install OPGW. The existing lattice steel towers that presently support the eastern #1730 Line conductors would remain and such conductors would be re-designated as the #1580 Line.

Housatonic River Crossing Portion of the Project

This portion of the project is approximately 0.17 miles long in ROW length. Surrounding land uses include an undeveloped coastal zone. In this portion of the ROW, Eversource would add structural steel reinforcements to existing double-circuit lattice Structure Nos. 813, 814, 287 and 288 to support the upgraded #1710 and #1730 line conductors. After the river crossing, the #1730 Line and the #1580 Line would be relocated such that the reconducted #1710 and #1730 Lines would be supported in a double-circuit configuration on the southern set of reinforced lattice towers (i.e. Structure Nos. 813 and 814). This configuration would be consistent with the 115-kV line positions along other ROW segments and would eliminate the need for cross-overs near West Devon Junction. The former #1730 Line position on the northern set of reinforced towers (i.e. Structure Nos. 287 and 288) would be re-designated as the #1580 Line. New Federal Aviation Administration (FAA) marker balls would be added to the upgraded lines as required.

Housatonic River Crossing to West Devon Junction Portion of the Project

This portion of the project is approximately 0.5 miles long in ROW length. Surrounding land use is residential. In this portion of the ROW, Eversource would also remove five existing three-pole wood structures from the #1710/#1730 Line. Existing Structure No. 814B would be removed and not replaced. Eversource would install three galvanized steel monopoles and one two-pole steel structure, located near the existing #1710/#1730 wood pole structures to be removed, to support the rebuilt/reconductored #1730 and #1710 lines. Eversource would reconductor the #1710 and #1730 lines with 795 kcmil ACSS and install appropriate OPGW. New steel poles would be in the range of approximately 90 to 112 feet in height, as compared to approximately 59 to 89 feet for existing structures.

West Devon Junction to Trumbull Junction Portion of the Project

This portion of the project is approximately 2.25 miles long in ROW length. Surrounding land uses include single-family residential and commercial. In this portion of the ROW, the existing #1710/#1730 Lines are supported in a double-circuit configuration on 18 structures. Fourteen of these existing lattice steel structures would be replaced with thirteen new galvanized steel monopoles and one new galvanized two-pole structure. Eversource would reconductor the #1710 and #1730 Lines with 795 kcmil ACSS and install appropriate OPGW. New steel poles would be in the range of approximately 85 to 160¹ feet in height, as compared to approximately 80 to 100 feet for existing structures.

An existing wireless telecommunications facility would need to be removed from each of two existing structures and relocated to the new structures. Specifically, existing Structure Nos. 826 and 830, which support wireless telecommunications facilities would be replaced with new structures. Eversource is coordinating with the wireless telecommunications carriers regarding the relocations of such wireless telecommunications facilities and the wireless telecommunications carriers would request facility modifications from the Council.

Construction Methods

The proposed project would not require any ROW expansion and would not require new forested vegetation clearing along the ROW. Existing vegetation in the ROW is predominantly low-growth vegetation and consistent with the safe and reliable operation of overhead electric transmission line facilities. However, some vegetation within the managed ROW would be mowed or removed as required to provide access to work sites and to establish work pads. Eversource would assess and remove “danger” or “hazard” trees as necessary. Such removals could occur in the ROW or outside the ROW along access roads to facilitate the movement of construction equipment and vehicles to work sites.

Following vegetation removal, soil erosion and sedimentation controls would be installed. Erosion and sedimentation control measures (E&S controls) would be installed in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and Eversource’s Best Management Practices (Eversource BMPs). Typical E&S controls include, but are not limited to, the use of hay bales and silt fence, check dams, berms, swales, sediment basins, seeding, mulching, and straw blankets. Temporary E&S controls would remain in place until construction is complete and all disturbed areas are stabilized. Eversource would assign an environmental monitor to be on-site weekly during project construction activities.

¹ While 150 feet is the maximum structure height indicated by Eversource on Sheet XS-5, approximately ten additional feet is required for the wireless telecommunications facilities installed on Structure Nos. 826 and 830. Thus, the worst-case structure height for this portion of the project would be 160 feet.

The project would utilize existing and new permanent and temporary access roads. Permanent access road installation and improvements would generally include removing vegetation growth and grading the area to a width of approximately 16 feet wide, with approximately two-foot shoulders on both sides, for a total width of about 20 feet, if necessary. Access roads would typically be processed rock and/or gravel in upland areas.

In the southern portion of the ROW in Milford, proposed work activities would occur in the vicinity of the existing Iroquois (Iroquois) Gas Transmission pipeline. Eversource has consulted with and would continue to consult with Iroquois during construction to protect the gas pipeline and ensure worker safety. Eversource anticipates the use of timber mats or equivalent protection as necessary for work along the pipeline.

Work pads would be required at the sites of the transmission structures to be installed, removed and/or reconductored, as well as at conductor and OPGW pulling sites and locations where temporary guard structures may be erected or boom trucks positioned during conductor installation. Timber mats would act as the work pads in wetland areas, residential lawn areas, Connecticut Department of Energy and Environmental Protection (DEEP) Natural Diversity Database (NDDB) areas, culturally sensitive areas, and gas pipeline areas as noted above.

Excavations for structure foundations would be expected to be accomplished using mechanical excavators (drill rigs) and pneumatic hammers. Blasting would not be expected to be required. If blasting is required, a controlled drilling and blasting plan would be developed by a certified blasting contractor in compliance with State and local regulations.

The new structures and associated hardware would be delivered to work pads in sections, then assembled and installed with a crane. Insulators and conductor pulling blocks would be installed on most structures at this time.

The installation of new overhead line conductors, OPGW and shield wires would require the use of special pulling and tensioning equipment, which would be positioned at pre-determined pull pad locations specified by Eversource. Helicopters may be used to install the initial pulling lines at the commencement of the conductor/shield wire pulling process.

After the removal of the old conductors, transmission line structures, hardware, etc., such materials would be disposed of in accordance with Eversource BMPs.

ROW restoration activities would include the removal of construction debris, signs, flagging, and fencing, as well as the removal of temporary access roads and work pads. Materials used in temporary access road and work pad construction would either be properly disposed of or otherwise re-purposed. Areas affected by construction would be re-graded as practical and stabilized using re-vegetation or other measures.

Temporary E&S controls would be left in place and maintained until final stabilization is achieved. Steep areas may be stabilized with biodegradable, pre-made erosion and sedimentation control fabric containing seed, mulch, and fertilizer, or the equivalent.

Eversource anticipates beginning construction during August 2017 and completing construction by the end of May 2018 in order to meet the target date required for the Towantic Power Plant. Typical construction hours and days of the week would be Monday through Saturday, 7:00 a.m. to 7:00 p.m. However, non-standard work hours, including Sundays, might be necessary due to outage-related time constraints, inclement weather or other issues that could impact critical activities for the proposed project.

Environmental Effects and Mitigation Measures

Eversource's review of the DEEP NDDDB identified State-listed special-concern species in the vicinity of the proposed project area. Specifically, Eversource identified two State-listed animal Species of Special Concern and one State-listed plant Species of Special Concern. According to a data sharing agreement with DEEP, Eversource is unable to publicly identify the protected species. However, Eversource is collaborating with DEEP and, during construction of the proposed project, would adhere to measures, as agreed to with DEEP, to avoid or minimize impacts to these species.

Heritage Consultants, LLC (Heritage) performed a cultural resources review of the proposed project area. Heritage determined that no previously identified archaeological sites or National Register of Historic Places properties are located within 500 feet of the centerline of the electric transmission line ROW in the Project area. Heritage's review identified areas of moderate to high potential for archaeological sensitivity along the route, between Structure Nos. 814A and 817. Specifically, the proposed Structure Nos. 815 and 816 locations would not be expected to have a significant adverse impact on archaeological resources because they are located within existing gravel work pads and areas of pre-disturbed earth that no longer possess depositional integrity and/or archaeological sensitivity. Heritage also determined that no additional examination of the no/low sensitivity areas is recommended, as these areas no longer retain the potential to yield intact archaeological sites.

The proposed project would include the installation of one new structure (i.e. Structure No. 711) in a former coal ash disposal area adjacent to the NRG Devon Power Plant. This coal ash disposal area is located near the Devon 7R Substation and on property owned by Devon Power. This coal ash disposal area is treated as a managed soil contamination area. Eversource has determined that it is not possible to relocate Structure No. 711 outside of the disposal area due to the span length. Eversource also considered not installing proposed Structure No. 711 and having a longer span between proposed Structure Nos. 710 and 712/804. However, this would require increasing the height of the adjacent proposed Structure Nos. 710 and 712/804 from approximately 95 feet to 135 feet. Additionally, it would require modification to the adjacent transmission lines to accommodate the increased blowout from this long span.

Thus, with proposed Structure No. 711 to be located in the ash disposal area, Eversource has developed a Soil Management Plan (SMP) to address the proper handling of excavated material within the capped landfill. The SMP was developed in coordination with Devon Power on April 7, 2017 and would identify the methods to be used during construction to avoid or minimize impacts associated with work in this area. NRG is currently reviewing the final SMP, which has been submitted by Eversource to NRG for its approval. As the property owner, NRG is required to submit the SMP to DEEP for its approval prior to ground disturbance within the capped landfill.

Three existing structures, known as Structure Nos. 710, 711 and 803, would be removed from this area. These structure removals would not entail below grade disturbance because Eversource would cut the structures at grade and leave the underground foundations in place.

Structure No. 722 was originally proposed to be located within wetlands, and thus, it would have resulted in direct wetland impacts. However, Eversource could relocate this structure approximately 20 feet to the north and eliminate all direct wetland impacts for the proposed project. If approved, staff recommends including a condition that Structure No. 722 be relocated to eliminate direct wetland impacts.

Temporary wetland impacts would be associated with the use of construction mats in the existing ROW. The temporary wetland impact area would total approximately 36,950 square feet for the proposed project. Any work within wetland systems would be conducted in accordance with Eversource BMPs. No vernal pools were identified within the proposed project area.

Areas with temporary wetland impacts may be stabilized with annual rye grass, a wetland seed mix (or equivalent), if necessary, to provide temporary vegetative cover until wetland species becomes re-established. No fertilizer, lime or mulch would be applied in wetlands unless specified in regulatory approvals for the proposed project.

Eight existing transmission structures associated with the proposed project are located within the 100-year flood zone. Post-construction, there would be a total of four structures within the 100-year flood zone, for a net reduction of four. The proposed structures to be located within the 100-year flood zone would be designed to withstand a 100-year flood event.

No public water supply wells or reservoirs are located in the vicinity of the proposed project. The proposed project is not located within a DEEP-designated Aquifer Protection Area.

In both the City of Milford and the Town of Stratford, Eversource's ROW crosses the Coastal Boundary associated with the Housatonic River. The proposed project would only have short-term and limited effects on coastal resources and would be limited to the construction phase. Adverse impacts would be avoided or minimized by using existing access roads and employing timber mats for work pads and access roads in wetlands, implementing BMPs for E&S controls, and adhering to the provisions of Eversource's Stormwater Pollution Control Plan. On February 9, 2017, Eversource submitted a Certificate of Permission (COP) Application Form to DEEP, Office of Long Island Sound Programs (OLISP). OLISP has 90-days or until May 9, 2017 to render a decision on the COP.

The proposed project would change electric and magnetic fields (EMF) in the transmission line ROW. The maximum existing magnetic field level is at the center of the ROW in the Devon to East Devon corridor and is approximately 164.6 milligauss (mG). Post-construction, this would reduce to approximately 139.1 mG at the center of such ROW under average annual load conditions. Thus, all projected magnetic field levels identified in Eversource's EMF Report would remain far below the International Commission on Non-Ionizing Radiation Protection acceptable exposure level of 2,000 mG for the general public as recognized in the Council's "Electric and Magnetic Field Best Management Practices for the Construction of Electric Transmission Lines in Connecticut."

Construction-related noise is exempt per DEEP noise regulations. Notwithstanding, any construction-related impacts to existing noise levels would be short-term and localized in the vicinity of the work site. Eversource does not anticipate that implosive conductor connections would be required for the proposed project at this time. However, should implosion connector technology be required, Eversource would brief municipal officials and provide notifications to nearby residents and businesses in advance of such implosions. Post-construction operation of the transmission lines is not expected to result in noise levels in excess of DEEP noise control standards.

For the 4.4-mile electric transmission line upgrade project, while the range of replacement structure heights does increase from the range of existing structure heights, the visual impact would not be expected to be significant because replacement monopole structures generally would have a more narrow visual profile than the existing lattice structures or H-frame wood structures to be replaced.

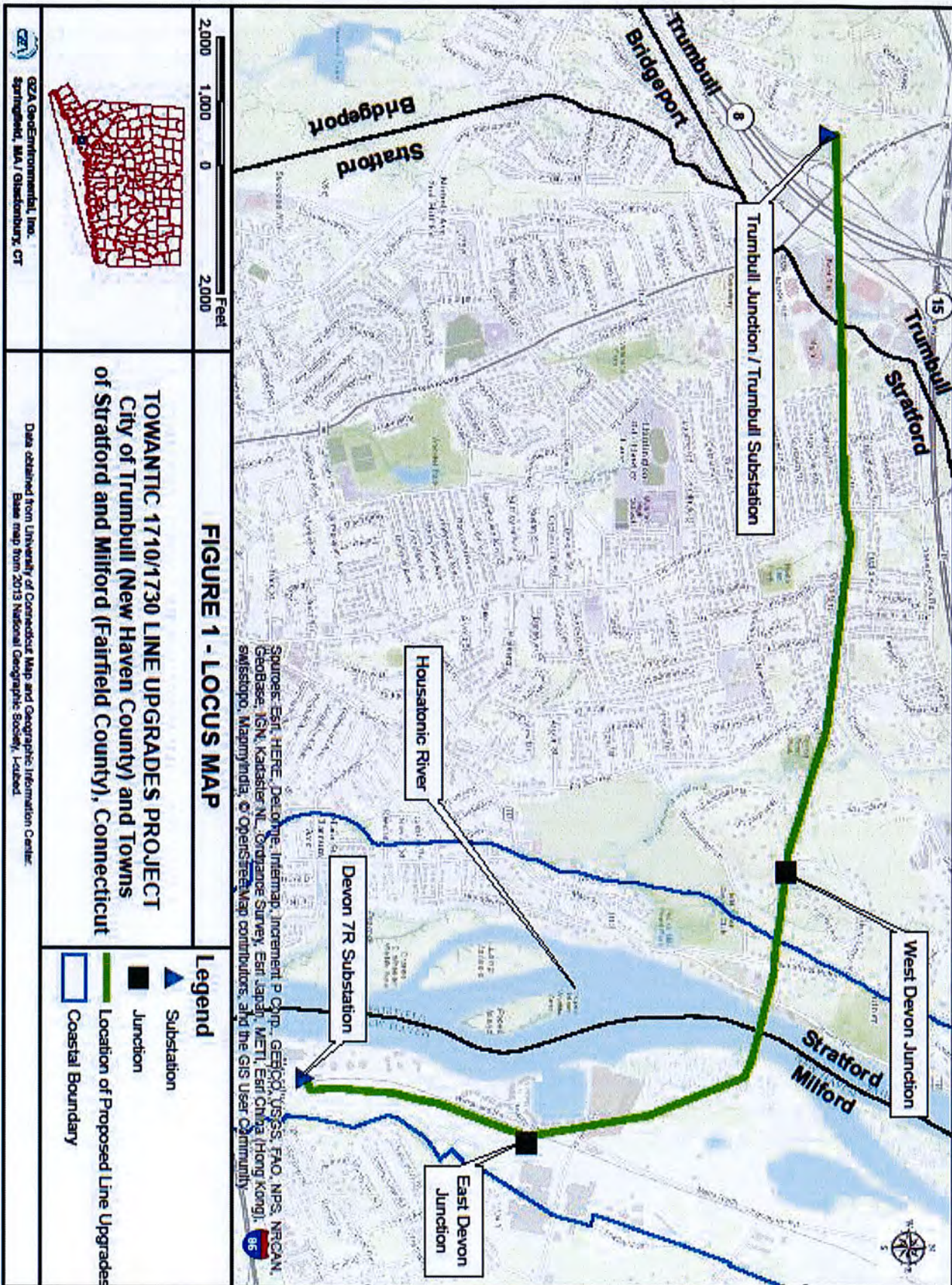
Municipal and abutter notice

Eversource met with the Towns of Stratford and Trumbull and the City of Milford collectively referred to as the Municipalities (Municipalities) to brief them on the proposed Project. During such meetings, Eversource presented an overview of the proposed Project, answered questions regarding the line upgrades, and informed municipal officials of its planned outreach to property owners in advance of filing the Petition, and pending approval, and throughout the construction and restoration process. Formal notice of the Petition was provided to the Municipalities and abutting property owners on or about February 14, 2017. The Council has not received any comments from abutters or the Municipalities to date.

Staff Recommendations

Staff recommends the following conditions:

1. The Petitioner shall implement protective measures for NDDDB species in consultation with DEEP;
2. Structure No. 722 shall be relocated to eliminate direct wetland impacts;
3. Any required FAA Determination Letters for the new transmission structures and temporary structures, such as cranes, shall be filed with the Council; and
4. Approval of any minor project changes be delegated to Council staff.



ATTACHMENT C

December 28, 2017

Mr. Mark Richard
T-Mobile
35 Griffin Rd.
Bloomfield, CT 06002

RE: T-Mobile Antenna Site, CT-11681A, 1975 Huntington Road, Stratford CT, structure 826.

Dear Mr. Richard:

We are providing electronic copies of signed, sealed drawings and structural calculations for the proposed replacement Eversource Structure 826. Final construction drawings will need to be revised upon meeting with the property owner and agreeing upon appropriate landscaping and fencing near the ground equipment for the subject site.

Please contact me if any changes need to be made, or if you need anything further to obtain Connecticut Siting Council approval prior to the currently scheduled T-Mobile relocation in March, 2018.

Please contact Christopher Gelinas (860-665-2008) to execute the lease amendment.

Sincerely,



Joel Szarkowicz
Transmission Line Engineering
Eversource Energy

ref: 1710 1730 Sabre PE Calcs 1 of 2.pdf
826_Sabre PE Calcs 2 of 2.pdf
826_structural_drawings.pdf
CT11681A-L700-Structural Letter-V1.pdf
17029.00 CT11681A CD REV 5 17.12.28 (S&S).pdf

ATTACHMENT D

..T..Mobile..

WIRELESS COMMUNICATIONS FACILITY

EVERSOURCE STRUCT. No.: 826

SITE ID: CT11681A - RELO

1975 HUNTINGTON ROAD

STRATFORD, CT 06614

GENERAL NOTES

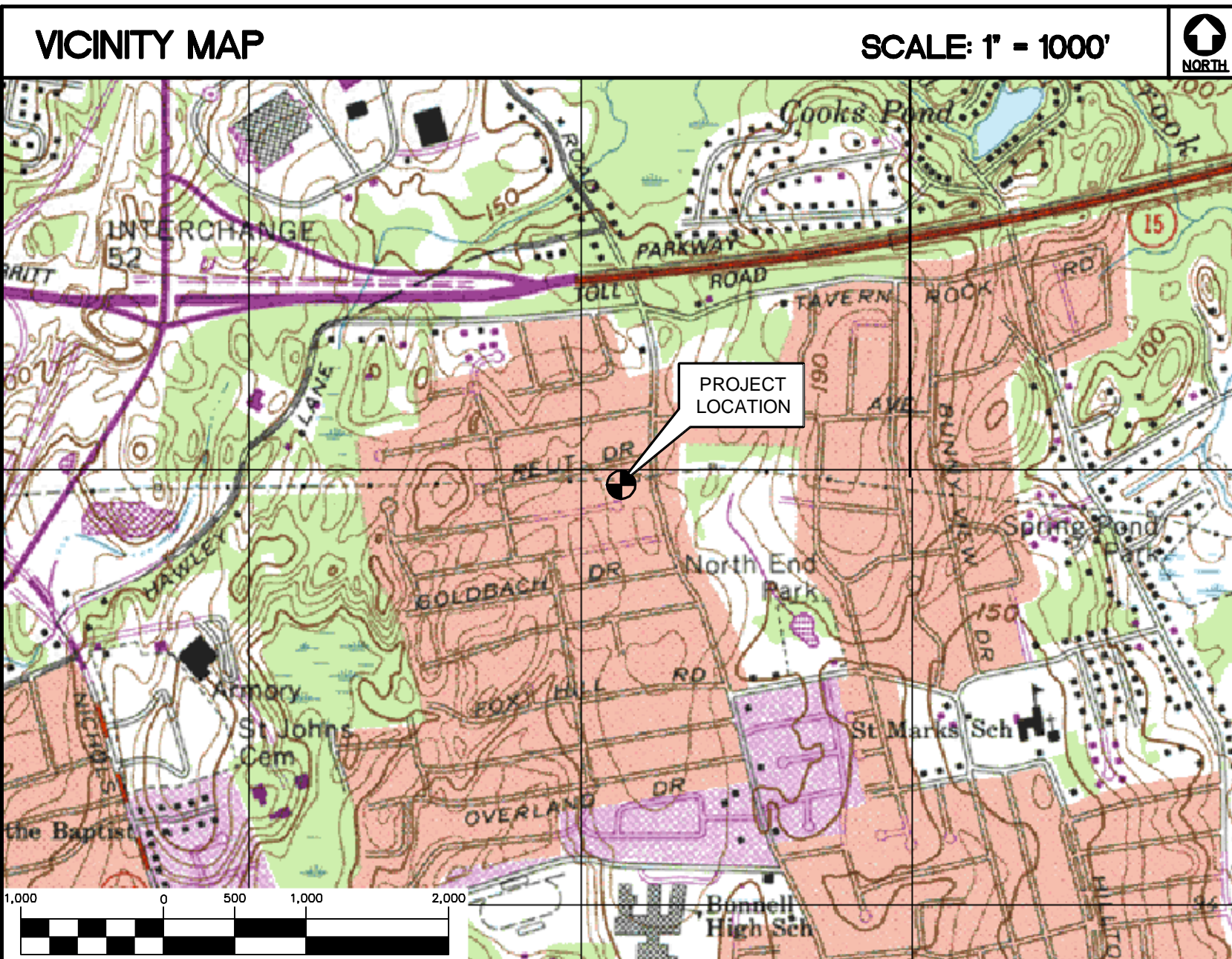
- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "G" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2016 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
- CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
- LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE T-MOBILE CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO "EXTRA" WILL BE ALLOWED FOR MISSED ITEMS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
- COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
- CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

FROM:	35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002	TO:	1975 HUNTINGTON ROAD STRATFORD, CT 06614
1.	HEAD NORTH ON GRIFFIN ROAD S. TOWARD HARTMAN RD.	0.21 MI.	
2.	TAKE THE 2ND RIGHT ONTO DAY HILL RD.	3.64 MI.	
3.	MERGE ONTO I-91 S TOWARD HARTFORD	26.38 MI.	
4.	MERGE ONTO CT-15 S via EXIT 17 TOWARD E MAIN ST	30.24 MI.	
5.	TAKE THE CT-8 S EXIT, EXIT 52, TOWARD CT-108 S/BRIDGEPORT	0.64 MI.	
6.	KEEP RIGHT TO TAKE THE CT-108 RAMP TOWARD STRATFORD	0.22 MI.	
7.	TURN LEFT ONTO NICHOLS AVE/CT-108	0.27 MI.	
8.	TURN LEFT ONTO HAWLEY LN	0.96 MI.	
9.	TURN RIGHT ONTO HUNTINGTON RD	0.24 MI.	
10.	1975 HUNTINGTON RD IS ON THE RIGHT		

VICINITY MAP

SCALE: 1" = 1000'



T-MOBILE RF CONFIGURATION

1HP_704Bu

PROJECT SUMMARY

- THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
 - INSTALL SIX (6) NEW T-MOBILE ANTENNAS, (2) PER SECTOR AND SIX (6) SMART BIAS-T'S ON PROPOSED EVERSOURCE TRANSMISSION POLE.
 - REMOVE ALL EXISTING T-MOBILE EQUIPMENT FROM EXISTING EVERSOURCE TRANSMISSION TOWER AFTER THE PROPOSED EQUIPMENT IS ON AIR.
 - INSTALL THREE (3) NEW RRUS11 B12'S ON A NEW EQUIPMENT RACK WITHIN EXISTING COMPOUND.

PROJECT INFORMATION

SITE NAME:	EVERSOURCE STRUCT. No.: 826
SITE ID:	CT11681A
SITE ADDRESS:	1975 HUNTINGTON ROAD STRATFORD, CT 06614
APPLICANT:	T-MOBILE NORTHEAST, LLC 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002
CONTACT PERSON:	SHELDON FREINCLE (PROJECT MANAGER) NORTHEAST SITE SOLUTIONS (201) 776-8521
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°-13'-59.6669" N LONGITUDE: 73°-08'-23.6123" W GROUND ELEVATION: 169.5± AMSL SITE COORDINATES REFERENCED FROM NV5. GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	5
N-1	DESIGN BASIS AND SITE NOTES	5
C-1	ABUTTERS MAP	5
C-2	COMPOUND PLANS AND ELEVATION	5
C-3	TYPICAL DETAILS	5
4	TYPICAL ELECTRICAL DETAILS	5

PROFESSIONAL ENGINEER SEAL	
T-MOBILE NORTHEAST LLC WIRELESS COMMUNICATIONS FACILITY EVERSOURCE STRUCT No.: 826 SITE ID: CT11681A - RELO 1975 HUNTINGTON ROAD STRATFORD, CT 06614	
DATE: 04/26/17 SCALE: AS NOTED JOB NO. 17029.00	
TITLE SHEET	
T-1	
Sheet No. 1 of 6	

GOVERNING CODE: 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY
THE 2016 CT STATE BUILDING CODE

- GENERAL NOTES:**

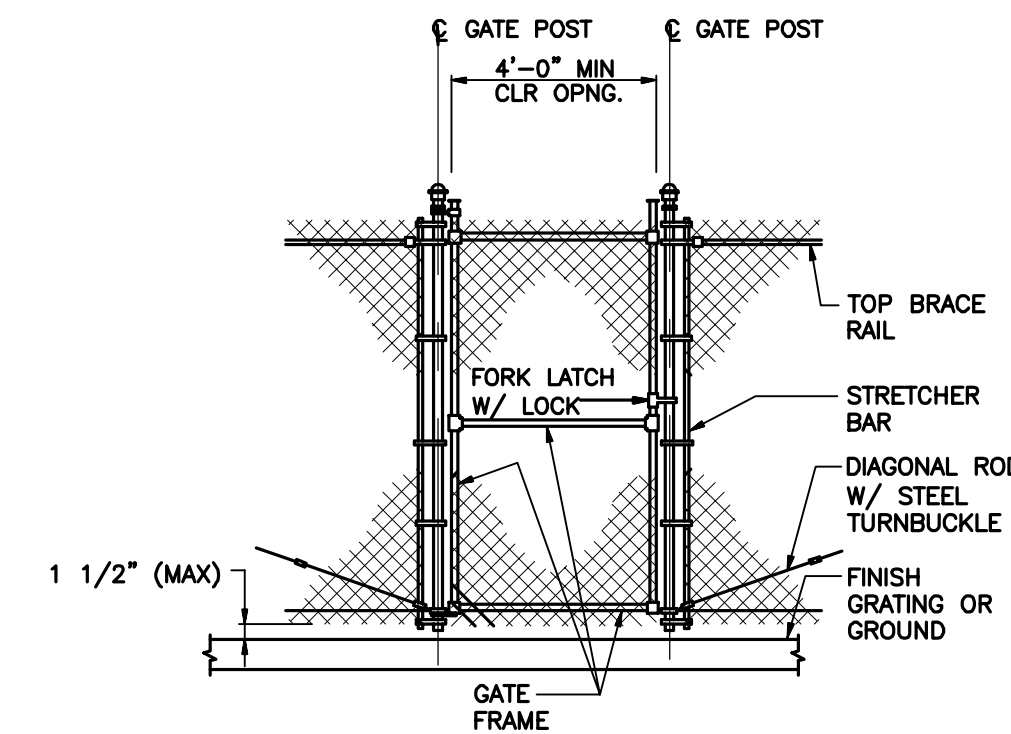
- ## STRUCTURAL STEEL

-
- Diagram illustrating a typical section of a chain link fence assembly, showing the following components and dimensions:
- CORNER, GATE, END OR PULL POST**: Indicated at the top of the vertical post.
 - 6'-0" (UNO)**: Dimension for the height of the chain link fabric.
 - CHAIN LINK FABRIC**: The main mesh material.
 - 1" CROWN**: Dimension for the crown of the fabric at the base.
 - TOP BRACE RAIL**: Horizontal rail at the top of the fabric.
 - STRETCHER BAR**: Horizontal bar within the fabric.
 - DIAGONAL ROD W/ STEEL TURNBUCKLE**: Rod used for tensioning the fabric.
 - BOTTOM TENSION WIRE**: Wire at the bottom of the fabric.
 - FINISH GRADE OR GROUND**: The surface the fence is installed on.
 - 1 1/2" MAX CLEARANCE FROM GRADE**: Dimension for the clearance between the bottom of the fabric and the ground.
 - 3" MIN**: Dimension for the clearance between the bottom of the fabric and the gravel.
 - EXTEND 6" GRAVEL SURFACE 1'-0" BEYOND FENCED COMPOUND**: Instruction for gravel extension.
 - (1'-0" MIN)**: Dimension for the minimum width of the gravel area.
 - TYPICAL SECTION**: Label for the diagram.

1
N-1

WOVEN WIRE FENCE DETAIL

NOT TO SCALE



2 WOVEN WIRE SINGLE SWING GATE

[illegible]

Sheet No. 3 of 6

EXISTING COMPOUND ACCESS GATE
TO BE REMOVED AND REPLACED.

EXISTING STOCKADE FENCE AT
PERIMETER OF COMPOUND TO
BE REMOVED AND REPLACED

EXISTING EVERSOURCE TOWER TO BE REMOVED
(BY OTHERS) CONTRACTOR TO EXERCISE CAUTION
WHEN DISMANTLING OLD STRUCTURE #26 AS
T-MOBILE'S GROUND EQUIPMENT IS REMAINING
OPERATIONAL AND IN PLACE AFTER EVERSOURCE
PROJECT COMPLETION

EXISTING T-MOBILE EQUIPMENT
ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE S-8000 EQUIPMENT
CABINET ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE COAX CABLE ICE BRIDGE

EXISTING T-MOBILE H-FRAME

EXISTING T-MOBILE RAC35 UTILITY CABINET

EXISTING T-MOBILE FIBER CABINET
ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE RBS 6102 EQUIPMENT
CABINET ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE EQUIPMENT
ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE NORTEL EQUIPMENT
CABINET ATOP OF CONC. SLAB-ON-GRADE

1 EXISTING COMPOUND PLAN
C-2 SCALE: 3/8" = 1'



PROPOSED COMPOUND ACCESS GATE

4 5
C-3 C-3 (3) PROPOSED RRUS11 B12'S
MOUNTED ON PROPOSED EQUIPMENT
RACK WITH ICE BRIDGE CANOPY

PROPOSED CHAINLINK FENCE WITH
PRIVACY SLATS AT PERIMETER OF
COMPOUND

7
C-3 PROPOSED T-MOBILE COAX
CABLE ICE BRIDGE

PROPOSED ±110' A.G.L. EVERSOURCE REPLACEMENT
TRANSMISSION POLE #826 (BY OTHERS)

EXISTING T-MOBILE EQUIPMENT
ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE S-8000 EQUIPMENT
CABINET ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE COAX CABLE ICE BRIDGE

FINAL LANDSCAPING/FENCING
PLAN TO BE DETERMINED

2 PROPOSED COMPOUND PLAN
C-2 SCALE: 3/8" = 1'



EXISTING T-MOBILE H-FRAME

EXISTING T-MOBILE RAC35 UTILITY CABINET

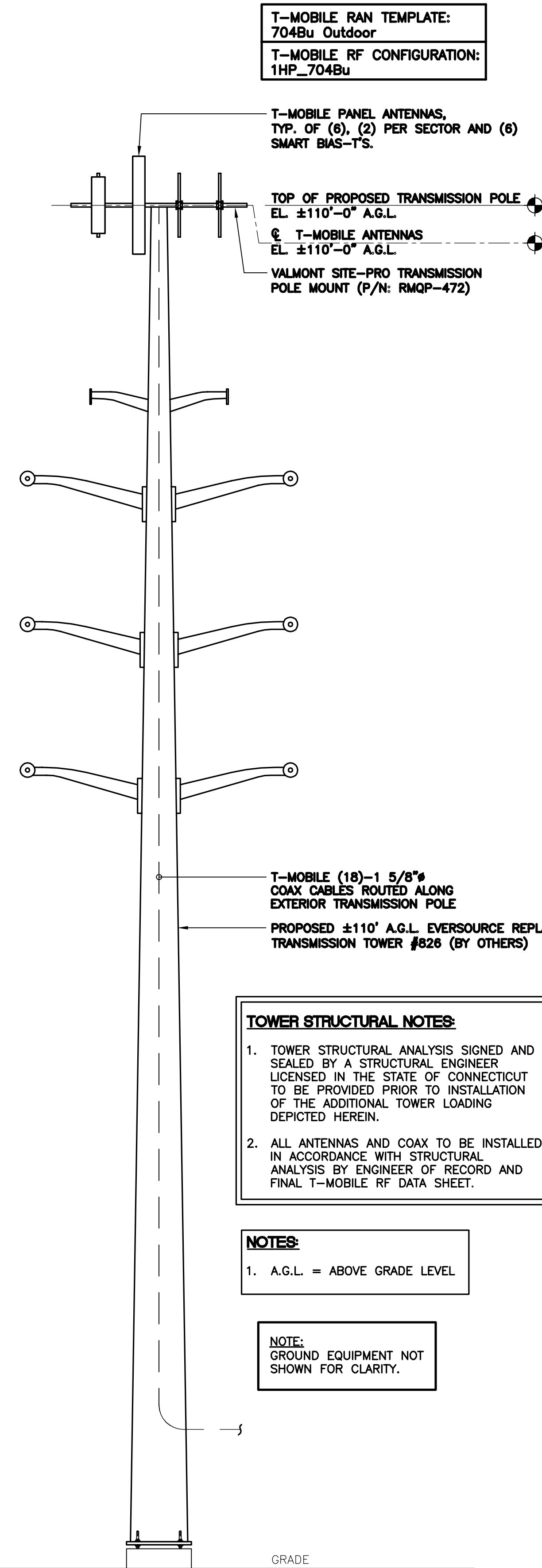
EXISTING T-MOBILE FIBER CABINET
ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE RBS 6102 EQUIPMENT
CABINET ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE EQUIPMENT
ATOP OF CONC. SLAB-ON-GRADE

EXISTING T-MOBILE NORTEL EQUIPMENT
CABINET ATOP OF CONC. SLAB-ON-GRADE

3 PROPOSED TOWER ELEVATION
C-2 SCALE: 1" = 7'-0"



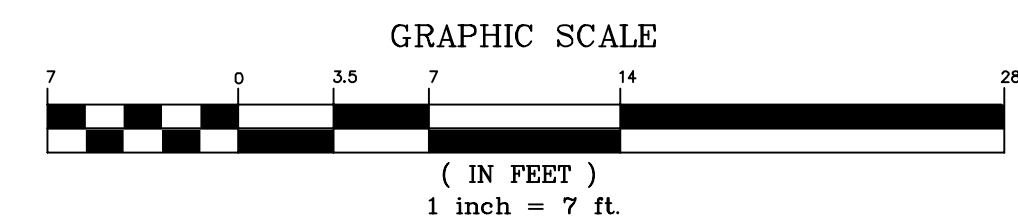
TOWER STRUCTURAL NOTES:

1. TOWER STRUCTURAL ANALYSIS SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT TO BE PROVIDED PRIOR TO INSTALLATION OF THE ADDITIONAL TOWER LOADING DEPICTED HEREIN.
2. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS BY ENGINEER OF RECORD AND FINAL T-MOBILE RF DATA SHEET.

NOTES:

1. A.G.L. = ABOVE GRADE LEVEL

NOTE:
GROUND EQUIPMENT NOT
SHOWN FOR CLARITY.



CONSTRUCTION DRAWINGS - REVISED ICE BRIDGE DETAIL		
CONSTRUCTION DRAWINGS - REVISED GROUND EQUIPMENT LAYOUT		
CONSTRUCTION DRAWINGS - REVISED EVERSOURCE TOWER COORDINATES		
CONSTRUCTION DRAWINGS - REVISED COAX CABLE QUANTITY		
CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS		
CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION		
REV.	DATE	DESCRIPTION
5	12/28/17	CAG
4	12/04/17	CAG
3	11/09/17	CAG
2	08/17/17	KAWIR
1	08/12/17	KAWIR
0	08/07/17	KAWIR
DRAWN BY CHK'D BY		

PROFESSIONAL ENGINEER SEAL

STATE OF CONNECTICUT
JAMES M. BROWN
PROFESSIONAL ENGINEER
No. 10460

T-Mobile

CENTEK engineering
Centered on Solutions
(203) 488-0380 Fax
652 North Stratford Road
Stratford, CT 06460
www.CentekEng.com

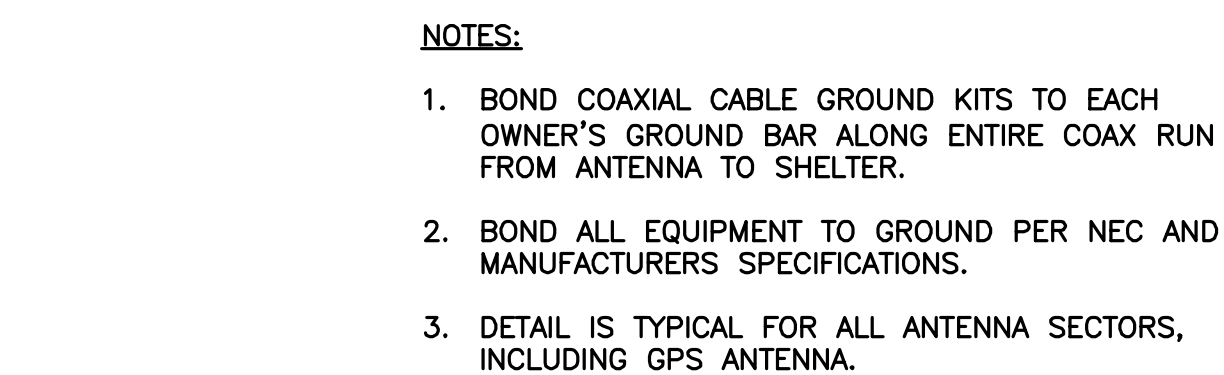
T-MOBILE NORTHEAST LLC
WIRELESS COMMUNICATIONS FACILITY
EVERSOURCE STRUCT No: 826
SITE ID: CT11681A - RELO
1975 HUNTINGTON ROAD
STRAITFORD, CT 06614

DATE: 04/26/17
SCALE: AS NOTED
JOB NO. 17029.00

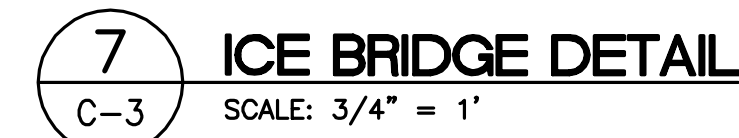
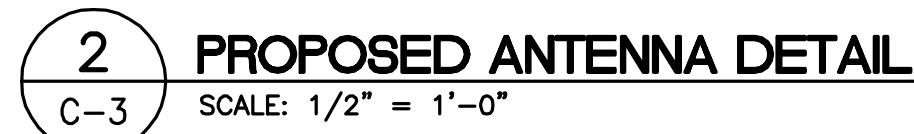
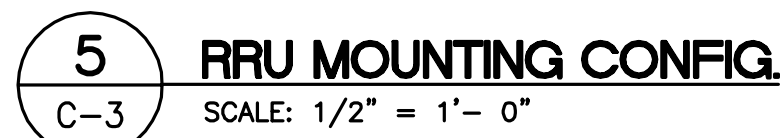
COMPOUND PLANS
AND ELEVATION

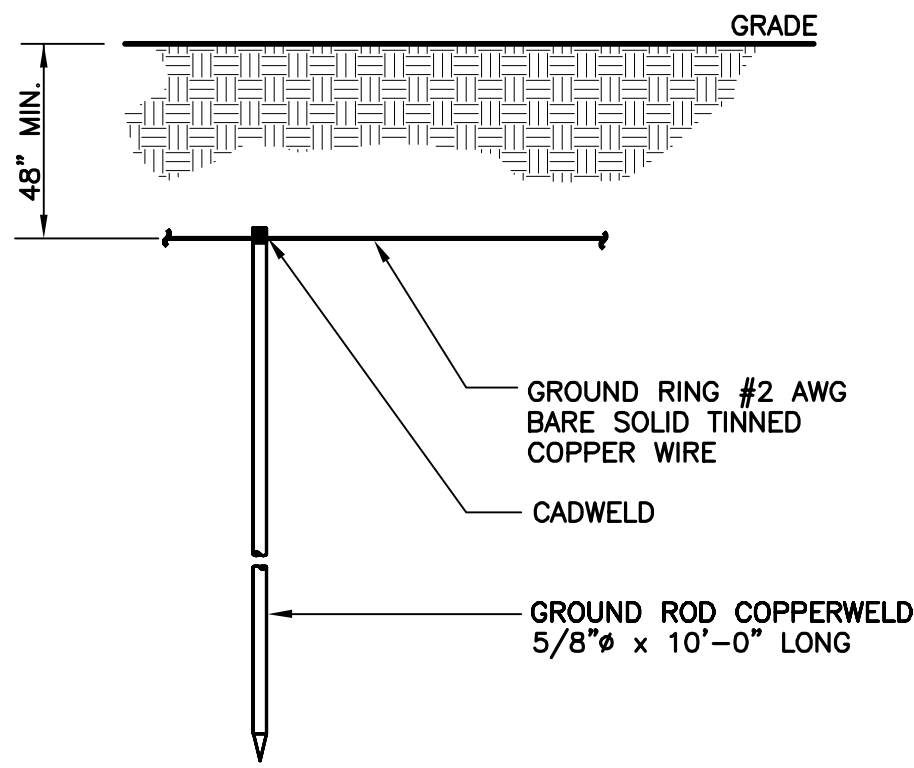
C-2

Sheet No. 4 of 6



C-3 SCALE: NONE

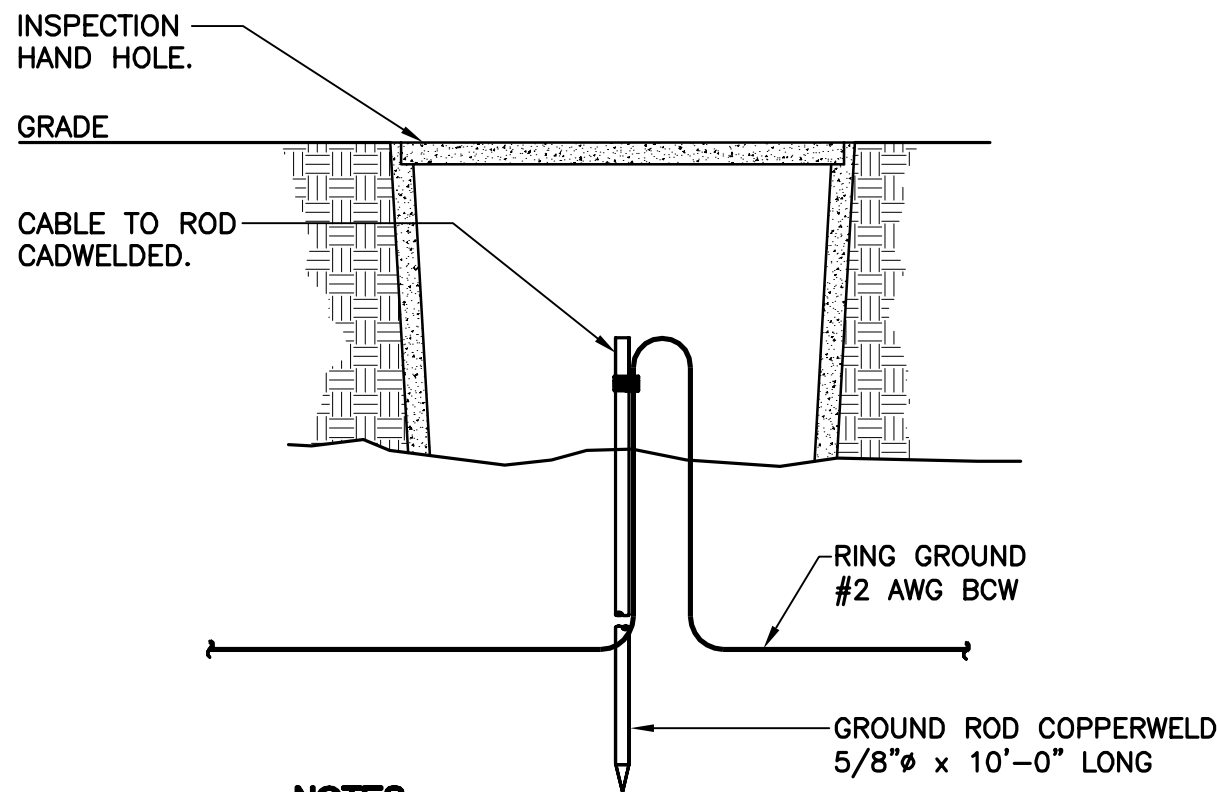
Sheet No. 5 of 6



NOTES:

1. USE GROUND PLATE DETAIL IF 10 FT. GROUND ROD DEPTH CANNOT BE ACHIEVED DUE TO LEDGE CONDITION OR IF EXISTING TOWER FOUNDATION IS ENCOUNTERED.

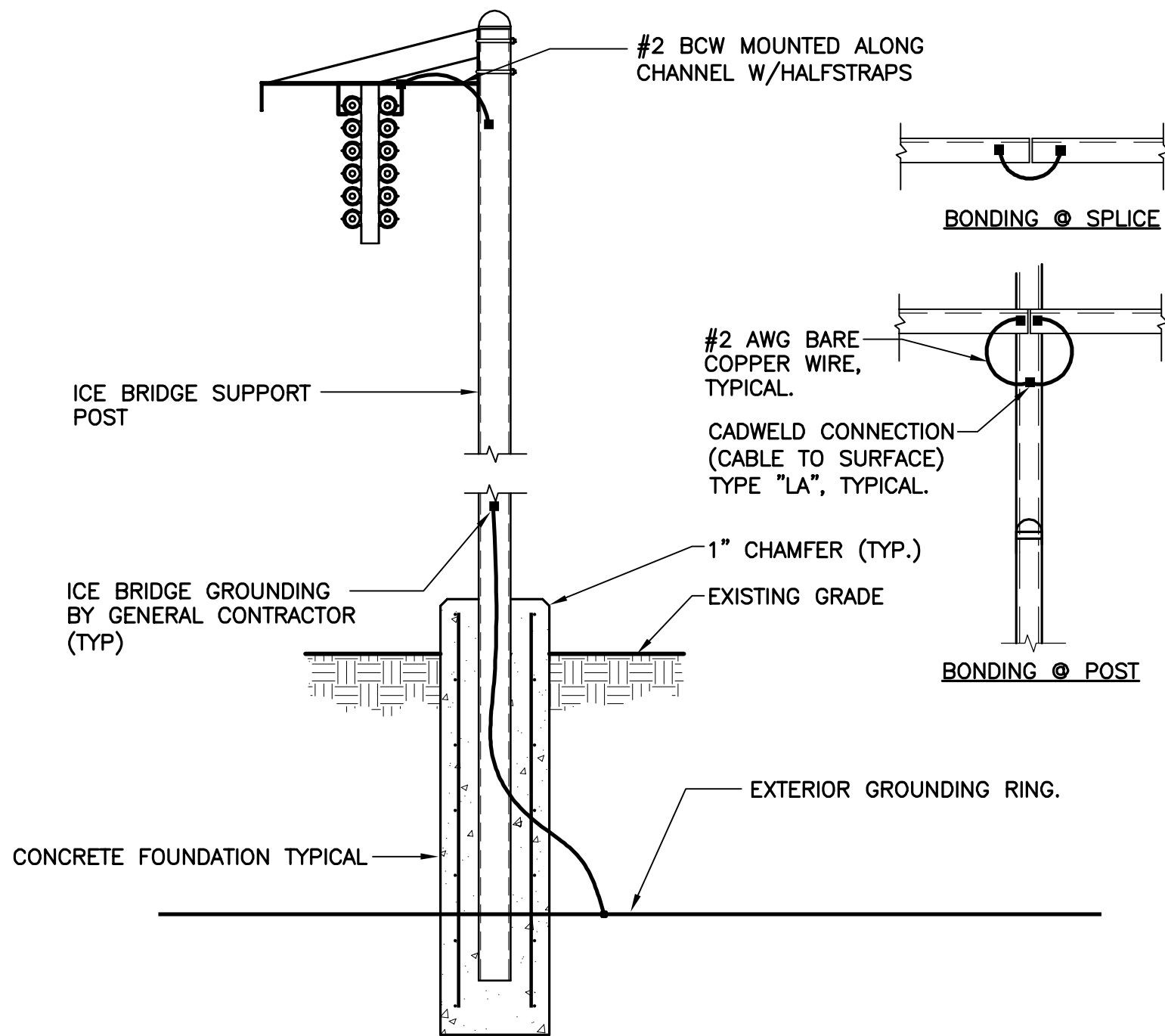
1 GROUND ROD DETAIL
E-1 NOT TO SCALE



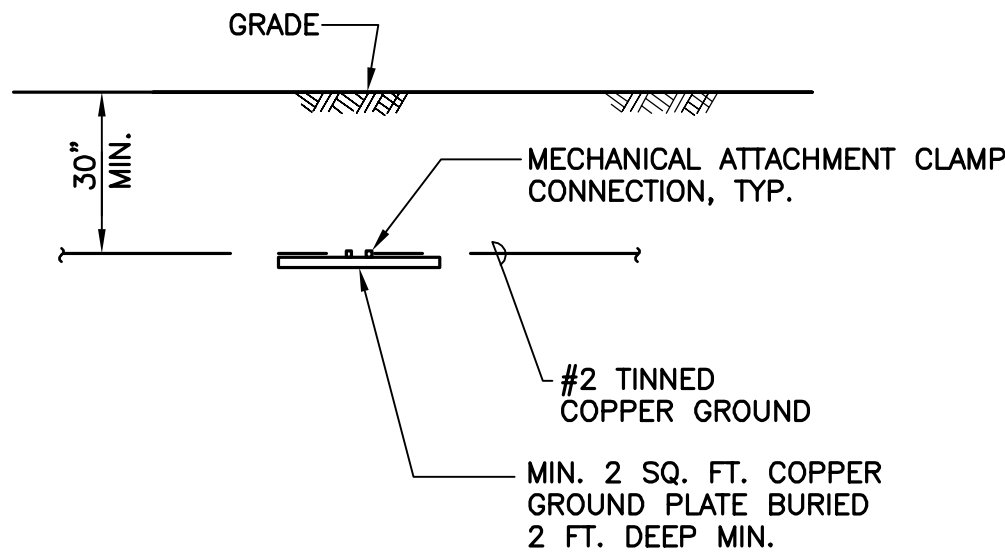
NOTES:

1. INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 12" DIA x 18" DEEP.

2 GROUND ROD WITH ACCESS DETAIL
E-1 NOT TO SCALE



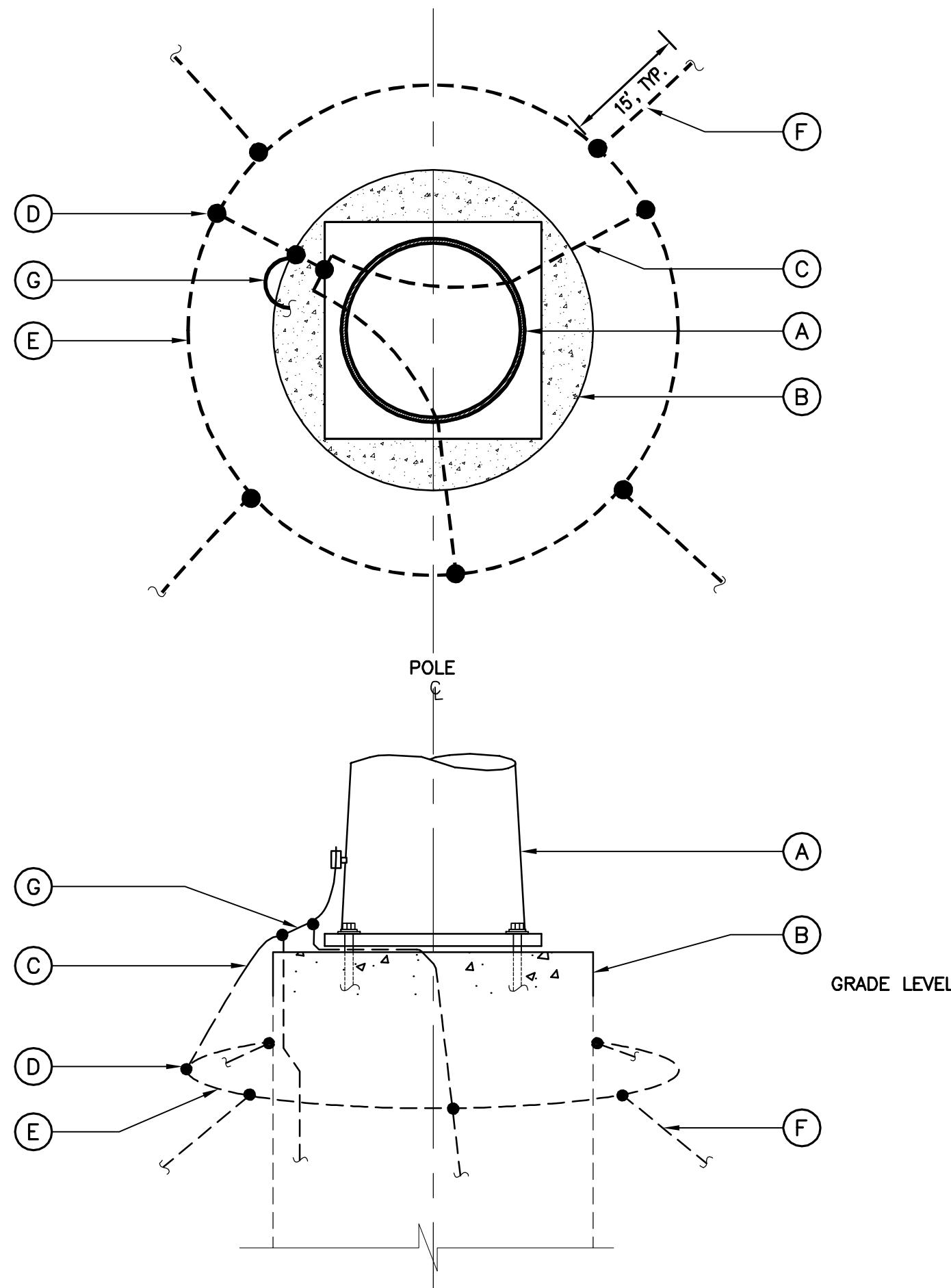
3 ICE BRIDGE BONDING DETAIL
E-1 NOT TO SCALE



NOTES:

1. GROUND PLATE DETAIL TO BE USED ONLY IF 10 FT. GROUND ROD DEPTH CANNOT BE ACHIEVED DUE TO LEDGE CONDITION OR IF EXISTING TOWER FOUNDATION IS ENCOUNTERED.

1A GROUND PLATE DETAIL
E-1 NOT TO SCALE



4 EVERSOURCE TOWER GROUNDING DETAIL
E-1 NOT TO SCALE

EVERSOURCE TOWER GROUNDING NOTES:

(EVERSOURCE REQUIREMENTS)

- (A) STEEL HYBRID POLE.
- (B) CONCRETE CAISSON TYPE FOUNDATION.
- (C) STRANDED COPPERWELD SPOKE FROM POLE GROUND TO GRADING RING. SPOKES ARE A CONTINUATION OF STRANDED COPPERWELD COUNTERPOISE CONNECTING GRADING RING TO POLE GROUND. SPOKES TO SLOPE ON STRAIGHT LINE FROM GROUND LEVEL TO GRADING RING.
- (D) PARALLEL GROVE CONNECTOR, NU SC190052.
- (E) GRADING RING Ø 18" MINIMUM BELOW GRADE AND 24" TO 30" FROM TOWER FOUNDATION. GRADING RING TO BE 3 NO. 8 STRANDED ANNEALED COPPERWELD.
- (F) COUNTERPOISE, 3 NO. 8 STRANDED ANNEALED COPPERWELD (TYPICAL).
- (G) COPPERWELD POLE GROUND.

GENERAL NOTES:

1. THE INFORMATION ON THIS SHEET REPRESENTS TYPICAL EVERSOURCE GROUNDING REQUIREMENTS. CONTRACTOR MUST COORDINATE WITH EVERSOURCE SITE MANAGER FOR SPECIFIC (AND CURRENT) GROUNDING REQUIREMENTS AT THIS SITE.

EVERSOURCE - TOWER GROUNDING SYSTEM NOTES

GENERAL-

1. THE OWNER WILL FURNISH THE WIRE, CONNECTORS, AND MISCELLANEOUS MATERIAL ASSOCIATED WITH THE COUNTERPOISE GROUNDING SYSTEM.
2. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL THE GROUNDING SYSTEM AND TO REHABILITATE THE RIGHT-OF-WAY AS CLOSE AS POSSIBLE TO ITS ORIGINAL CONDITION.
3. THE CONTRACTOR SHALL HANDLE AND TRANSPORT THE OWNER SUPPLIED MATERIAL FROM THE OWNER'S STOREROOMS AND YARDS TO THE JOB SITE AND SHALL RETURN SURPLUS MATERIAL AND EMPTY REELS TO DESIGNATED STOREROOMS AND YARDS UPON COMPLETION OF THE CONTRACT.

4. EVERSOURCE WILL BE RESPONSIBLE FOR PERFORMING TESTS FOR SURGE IMPEDANCE AND WAVE IMPEDENCE.

INSTALLATION-

1. UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE, COUNTERPOISE SHALL BE BURIED A MINIMUM OF 24" IN CULTIVATED AREAS AND 18" IN WOODED OR OTHER AREAS. IN ROCKY AREAS OR WHERE OBSTRUCTIONS ARE ENCOUNTERED, THE COUNTERPOISE SHALL BE DIVERTED AROUND SUCH OBSTRUCTIONS. ALL INSTALLATIONS SHALL INCLUDE CONNECTIONS TO EXISTING OR PROPOSED STRUCTURES, AND SUCH CONNECTIONS SHALL BE MADE BELOW GROUND USING BOLTED PARALLEL GROVE CONNECTORS.
2. WHERE MULTIPLE STRUCTURE GROUNDS EXIST AT MULTI POLE STRUCTURES, THEY SHALL BE CONNECTED TOGETHER WITH BURIED COPPERWELD WIRE, BUT ONLY IF SUCH GROUNDS HAVE METALLIC CONNECTIONS UP THE POLES TO THE SHIELD WIRE(S). AT STRUCTURES THAT HAVE PALE GROUNDS AND ALSO POLE GUY GROUNDS, CONNECTIONS SHALL BE MADE ONLY TO THE POLE GROUNDS, AND THE MINIMUM SPACING BETWEEN THE COUNTERPOISE AND ANCHOR RODS SHALL BE 10". AT WOOD POLE STRUCTURES WHERE NO SUCH POLE GROUND EXISTS, COUNTERPOISE CONNECTIONS SHALL BE MADE TO THE POLE TOP GUYS.
3. FOR SINGLE CONTINUOUS (TYPE A) AND SINGLE BROKEN (TYPE B) COUNTERPOISE, THE WIRE SHALL IN GENERAL BE LAYED AT THE CENTERLINE OF THE TRANSMISSION LINE. FOR DOUBLE CONTINUOUS (TYPE C) AND DOUBLE BROKEN (TYPE D) COUNTERPOISE, THE WIRES SHALL IN GENERAL SHALL BE LAYED UNDER THE OUTSIDE PHASE WIRES OF THE TRANSMISSION LINE. COUNTERPOISE SHALL NOT BE INSTALLED ACROSS BROOKS, RIVERS, HIGHWAYS, RAILROADS, OR IN THE VICINITY OF TELEPHONE CABLES OR PIPELINES.

4. AT STEEL POLE STRUCTURES, A BURIED GRADING RING AND SPOKES SHALL ALSO BE INSTALLED AROUND THE STRUCTURE UNLESS THE STRUCTURE HAS A PAD AND PIER FOUNDATION OR UNLESS A RING ALREADY EXISTS. COUNTERPOISE WIRE SHALL BE CONNECTED AT TWO PLACES TO EACH RING, AND COPPERWELD SPOKES SHALL SLOPE LINEARLY UP TO THE STRUCTURE GROUND.

5. AT WOOD POLE STRUCTURES, AN 8' LENGTH OF PLASTIC MOLDING SHALL BE STAPLED OVER THE BOTTOM WITH 8' OF DOWNLEAD.

GROUND RODS-

1. WHERE GROUND RODS ARE REQUIRED, THEY SHALL BE SINGLE OR SECTIONAL WITH THE LENGTH SPECIFIED. THEY SHALL BE DRIVEN VERTICALLY INTO THE GROUND TO A DEPTH WHICH WILL LEAVE THE TOP OF THE ROD AT LEAST 12" BELOW GRADE. ALL RODS SHALL BE CONNECTED TO COUNTERPOISE OR TO POLE GROUNDS USING BOLTED CONNECTORS.

REHABILITATION-

1. SELECTIVE CLEARING PROCEDURES WERE USED IN THE DEVELOPMENT OF THE RIGHT-OF-WAY, AND GROWTH OF SELECTED SPECIES HAS BEEN SAVED. THE CONTRACTOR SHALL NOT VIOLATE THE OWNER'S INTENT TO SAVE SELECTIVE SPECIES AND IMPOSE THE MINIMUM ENVIRONMENTAL IMPACT ON THE RIGHT OF WAY DURING THE EXECUTION OF THE WORK. THE CONTRACTOR SHALL REVIEW THE ROUTING OF EACH SECTION OF COUNTERPOISE WITH THE OWNER'S REPRESENTATIVE PRIOR TO ITS FIELD SPECIFIED LOCATION. THE CONTRACTOR IS RESPONSIBLE TO THE OWNER FOR DAMAGES TO THE RIGHT-OF-WAY IN OTHER THAN THE FIELD SPECIFIED LOCATIONS.
2. ANY BRUSH ALONG THE FIELD SPECIFIED COUNTERPOISE ROUTES WHICH IS LEFT IN AN UNSIGHTLY CONDITION BY THE INSTALLATION WORK WILL BE CUT TO THE GROUND BY THE CONTRACTOR AND LEFT IN SMALL, NEAT PILES IN PLACE WHERE CUT.
3. IN LOCATIONS WHERE EXCAVATION FOR THE INSTALLATION OF COUNTERPOISE BRINGS TO THE SURFACE ANY SMALL BOULDERS, THEY WILL BE BACKFILLED BELOW GRADE OR DISPERSED ON THE RIGHT-OF-WAY AS THE OWNER'S REPRESENTATIVE MAY DIRECT. INSTALLATION OF THE COUNTERPOISE SHALL NOT RESULT IN A PATH OF SMALL BOULDERS ON THE FINISHED SURFACE.
4. THE OWNER ANTICIPATES THAT SEASONAL CONDITIONS MAY NOT ALLOW PERMANENT REHABILITATION OF WORK SITES AND THE RIGHT-OF-WAY UPON COMPLETION OF THE INSTALLATION OF THE COUNTERPOISE. WHERE TEMPORARY REHABILITATION HAS BEEN COMPLETED IN ADVERSE SEASON, THE CONTRACTOR SHALL TAKE THE FOLLOWING STEPS:
 - A. WATERBARS WILL BE CONSTRUCTED ON ACCESS ROADS AND TRENCH LINES TO SHUNT WATER OFF THIS LINE OF DISTURBED SURFACES AND CONTROL EROSION ALONG THE DISTURBED SURFACE.
 - B. ALL DISTURBED SURFACES OF FOUNDATION SITES OR ALONG TRENCH LINES OR ACCESS ROADS WILL BE GRADED AND COVERED WITH HAY MULCH. SUCH DISTURBED SURFACES ON SLOPES GREATER THAN ONE (VERTICAL) ON FOUR (HORIZONTAL) SHALL BE COVERED WITH WOOD CHIPS.

5. AS DRYING CONDITIONS PERMIT IN THE SPRING, FOLLOWING COMPLETION OF THE INSTALLATION OF COUNTERPOISE, PERMANENT REHABILITATION OF ALL DISTURBED OR ERODED SURFACES SHALL BE ACCOMPLISHED AS FOLLOWS:
 - A. LAWS, GOLF COURSES, CEMETERIES AND OTHER SIMILAR OCCUPANCIES SHALL BE LOAMED, GRADED, FERTILIZED, SEEDED AND WHERE APPROPRIATE, MULCHED, TO ESTABLISH A REHABILITATION CONSISTENT WITH THE USE ESTABLISHED BY THE OCCUPANT.
 - B. GARDENS, OTHER CULTIVATED AREAS AND PASTURES, SHALL BE GRADED AND TOPSOILED TO RESTORE THE DEPTH OF FERTILE SOIL COMMON TO THE ADJACENT GROUND. WHERE APPROPRIATE, SEEDING SHALL BE DONE IN ACCORDANCE WITH STEP C BELOW.
 - C. THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS ALONG THE NEW COUNTERPOISE ROUTES. SEED SHALL BE SPREAD AT THE RATE OF 100 LBS. PER ACRE AND SHALL BE AS FOLLOWS OR APPROVED EQUAL:

	% BY WEIGHT	% BY GERMINATION	% BY PURITY
CREeping RED FESCUE	30	85	98
DOMESTIC RYE	20	90	98
KENTUCKY TALL FESCUE	50	--	--
	100		

- D. ALL OTHER DISTURBED AREAS INCLUDING REMAINING FOUNDATION SITES, ACCESS ROADS, AND REPAIR OF EROSION OF SITUATION SHALL BE SEEDED WITH MIXED SPECIFICATION ABOVE. IN REMOTE AREAS, A CONSERVATION MIX, AS USED BY THE CONNECTICUT STATE PARKS AND FOREST COMMISSION MAY BE SUBSTITUTED. ALL AREAS WHICH EXPERIENCED EROSION DAMAGE AND ALL SLOPES OVER ONE (VERTICAL) AND FOUR (HORIZONTAL) WHERE TEMPORARY REHABILITATION WORK HAS BEEN DONE SHALL BE REMULCHED.

6. IT IS IMPERATIVE THAT PERMANENT REHABILITATION BE ACCOMPLISHED IN GOOD TIME, WHICH WILL ALLOW THE OCCUPANT FULL AND UNDISTURBED USE OF THE SITE IN THE SUCCEEDING SEASON, AND TO PREVENT UNNECESSARY AND UNREASONABLE SPREADING OF CONTINUATION OF DISTURBED SURFACES.

7. ANY BRUSH ALONG THE ACCESS ROADS WHICH IS LEFT IN AN UNSIGHTLY CONDITION BY THE WORK CONDUCTED, SHALL BE CUT TO THE GROUND BY THE CONTRACTOR AND LEFT IN SMALL NEAT PILES IN PLACE WHERE CUT.

CONSTRUCTION DRAWINGS - REVISED ICE BRIDGE DETAIL
CONSTRUCTION DRAWINGS - REVISED GROUNDING EQUIPMENT LAYOUT
CONSTRUCTION DRAWINGS - REVISED EVERSOURCE TOWER COORDINATES
CONSTRUCTION DRAWINGS - REVISED COAX CABLE QUANTITY
CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL
STATE OF CONNECTICUT
ENGINEER
JAMES J. T. - Mobile
CENTEK engineering
Centered on Solutions
(203) 488-0380 Fax
(203) 488-8387
632 North Branford Road
Branford, CT 06405
www.CentekEng.com

T-MOBILE NORTHEAST LLC
WIRELESS COMMUNICATIONS FACILITY
EVERSOURCE STRUCT No.: 826
SITE ID: CT11681A - RELO
1975 HUNTINGTON ROAD
STRAITFORD, CT 06614

DATE: 04/26/17
SCALE: AS NOTED
JOB NO. 17029.00

TYPICAL ELECTRICAL DETAILS
E-1
Sheet No. 6 of 6

ATTACHMENT E

June 26, 2017

Mr. Sheldon Freinkle
Project Manager
Northeast Site Solutions
199 Brickyard Road
Farmington, CT 06032

Re: *Structural Letter*
T-Mobile – Site Ref: CT11681A
Eversource Structure No. 826
1975 Huntington Road
Stratford, CT 06614

Centek Project No. 17029.00

Dear Mr. Freinkle,

Centek Engineering, Inc. has reviewed the proposed T-Mobile antenna installation at the above referenced site. The purpose of the review is to determine if the proposed Sabre tower design, as performed by Sabre Industries, P.O. no. 17-11465, dated April 21, 2017 (Rev. 2), incorporates T-Mobile's proposed antenna configuration.

The proposed T-Mobile loading consists of the following installed at a RAD center elevation of 110-ft above grade level based on a T-Mobile RFDS, dated October 25, 2016:

- **T-MOBILE (Proposed Final Configuration):**
Appurtenances: Three (3) Andrew LNX-6515DS panel antennas, three (3) RFS APX16DWV-16DWVS panel antennas and six (6) Andrew ATSBT-TOP-FM-4G Smart Bias Tees mounted on three (3) SitePro transmission pole mounts (P/N RMQP-472).
Coax Cables: Eighteen (18) 1-5/8" Ø coax cables mounted to the outside of the pole.

Based on our review of the tower design documents, it is our opinion that the proposed loading has been incorporated within the design of the replacement Eversource structure No. 826.

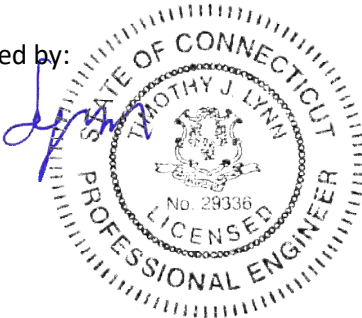
It is noted that our review does not constitute a design, nor is it all-inclusive; the responsibility for the structural design remains with the proposed tower manufacturer's structural engineer of record.

This completes the independent structural engineering review for this project. Should you have any questions, please do not hesitate to contact us.

Respectfully Submitted by:



Timothy J. Lynn, PE
Structural Engineer



ATTACHMENT F

**RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS**

T-Mobile Existing Facility

Site ID: CT11681A

**Eversource Struct. No.: 826
1975 Huntington Road
Stratford, CT 06616**

June 29, 2017

EBI Project Number: 6217002731

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	3.75 %

June 29, 2017

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11681A – Eversource Struct. No.: 826**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1975 Huntington Road, Stratford, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the 700 MHz Band is approximately 467 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **1975 Huntington Road, Stratford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel
- 5) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

- 6) Since all radios are ground mounted there are additional cabling losses accounted for. For each ground mounted RF path the following losses were calculated. 0.65 dB of additional cable loss for all ground mounted 700 MHz Channels, 1.18 dB of additional cable loss for all ground mounted 1900 MHz channels and 1.22 dB of additional cable loss for all ground mounted 2100 MHz channels were factored into the calculations used for this analysis. This is based on manufacturers Specifications for 115 feet of 1-5/8" coax cable on each path.
- 7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 8) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antennas used in this modeling are the **RFS APX16DWV-16DWVS-E-A20** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-A1M** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **RFS APX16DWV-16DWVS-E-A20** has a maximum gain of **16.3 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Commscope LNX-6515DS-A1M** has a maximum gain of **14.6 dBd** at its main lobe at 700 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 10) The antenna mounting height centerline of the proposed antennas is **110 feet** above ground level (AGL).
- 11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 12) All calculations were done with respect to uncontrolled / general public threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APX16DWV- 16DWVS-E-A20	Make / Model:	RFS APX16DWV- 16DWVS-E-A20	Make / Model:	RFS APX16DWV- 16DWVS-E-A20
Gain:	16.3 dBd	Gain:	16.3 dBd	Gain:	16.3 dBd
Height (AGL):	110	Height (AGL):	110	Height (AGL):	110
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	300	Total TX Power(W):	300	Total TX Power(W):	300
ERP (W):	9,698.97	ERP (W):	9,698.97	ERP (W):	9,698.97
Antenna A1 MPE%	3.22	Antenna B1 MPE%	3.22	Antenna C1 MPE%	3.22
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	110	Height (AGL):	110	Height (AGL):	110
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power(W):	30	Total TX Power(W):	30	Total TX Power(W):	30
ERP (W):	744.94	ERP (W):	744.94	ERP (W):	744.94
Antenna A2 MPE%	0.53	Antenna B2 MPE%	0.53	Antenna C2 MPE%	0.53

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	3.75 %
No Additional Carriers	NA
Site Total MPE %:	3.75 %

T-Mobile Sector A Total:	3.75 %
T-Mobile Sector B Total:	3.75 %
T-Mobile Sector C Total:	3.75 %
Site Total:	3.75 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile PCS - 1900 MHz UMTS	2	975.26	110	6.48	PCS - 1900 MHz	1000	0.65%
T-Mobile PCS - 1900 MHz GSM	2	975.26	110	6.48	PCS - 1900 MHz	1000	0.65%
T-Mobile AWS - 2100 MHz UMTS	2	966.32	110	6.42	AWS - 2100 MHz	1000	0.64%
T-Mobile AWS - 2100 MHz LTE	2	1,932.64	110	12.85	AWS - 2100 MHz	1000	1.28%
T-Mobile 700 MHz LTE	1	744.94	110	2.48	700 MHz	467	0.53%
						Total:	3.75%

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	3.75 %
Sector B:	3.75 %
Sector C:	3.75 %
T-Mobile Per Sector Maximum:	3.75 %
Site Total:	3.75 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **3.75%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

ATTACHMENT G



ATTACHMENT H

TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7639.81 MTRS (7.63980 KM) AWAY

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	41-09-58.00N	073-07-12.00W	IGOR I SIKORSKY MEMORIAL	FAIRFIELD BRIDGEPORT, CT	2.0	1451.2

PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7466.68 MTRS (7.46670 KM) AWAY

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	41-09-58.00N	073-08-06.00W	IGOR I SIKORSKY MEMORIAL	FAIRFIELD BRIDGEPORT, CT	2.0	1451.2

Your Specifications

NAD83 Coordinates

Latitude 41-13-59.7 north

Longitude 073-08-23.6 west

Measurements (Meters)

Overall Structure Height (AGL) 34.7

Support Structure Height (AGL) 33.5

Site Elevation (AMSL) 52.1

Structure Type

MTOWER - Monopole

Tower Construction Notifications


Notify Tribes and Historic Preservation Officers of your plans to build a tower.

ATTACHMENT I

Natural Diversity Data Base Areas

STRATFORD, CT

December 2017

 State and Federal Listed Species
& Significant Natural Communities

 Town Boundary

NOTE: This map shows general locations of State and Federal Listed Species and Significant Natural Communities. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a number of data sources. Exact locations of species have been buffered to produce the general locations. Exact locations of species and communities occur somewhere in the shaded areas, not necessarily in the center. A new mapping format is being employed that more accurately models important riparian and aquatic areas and eliminates the need for the upstream/downstream searches required in previous versions.

This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a shaded area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

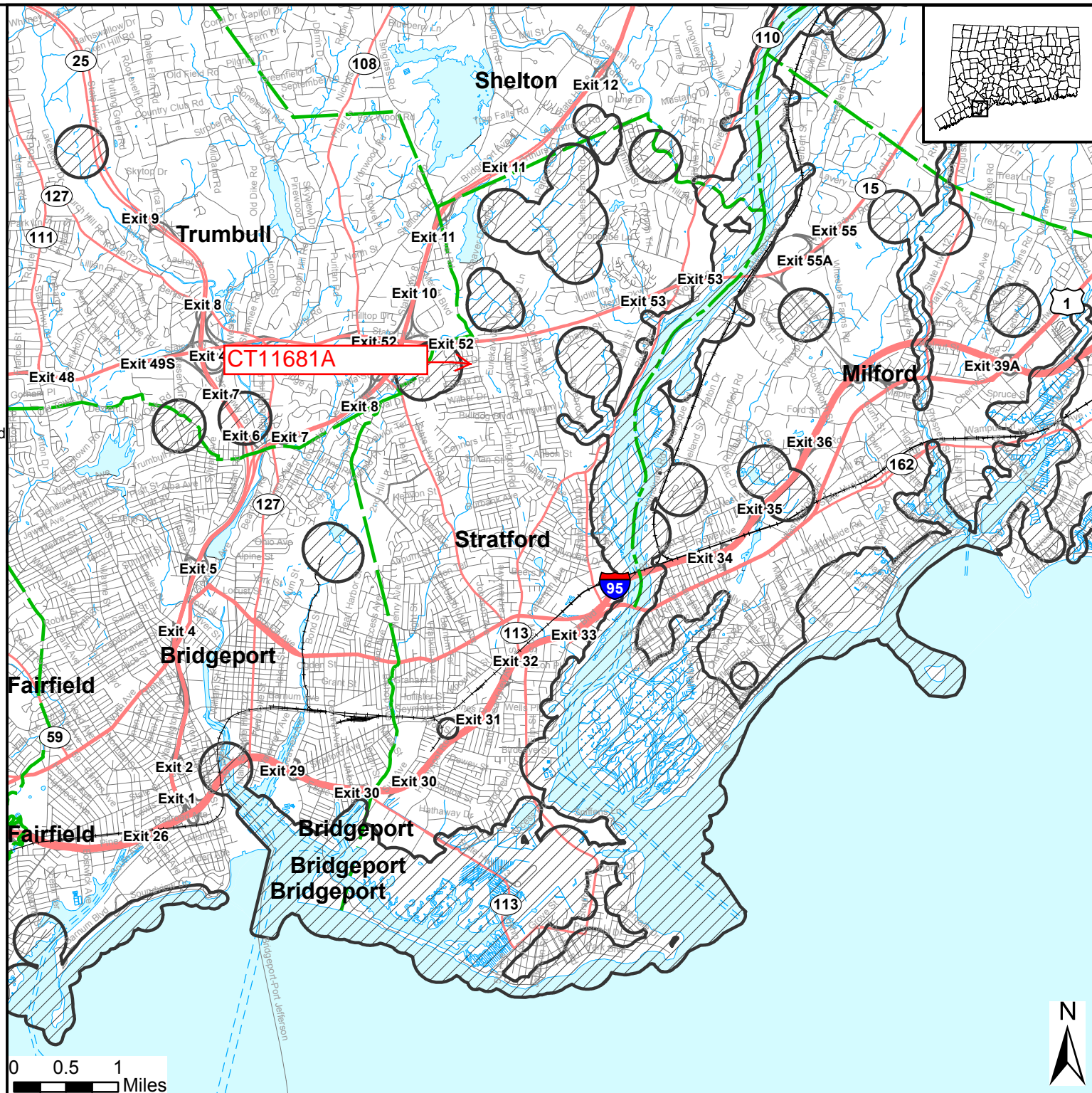
www.ct.gov/deep/nddbrequest

Use the CTECO Interactive Map Viewers at www.cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St., Hartford CT 06106
Phone (860) 424-3011



Connecticut Department of
Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division



ATTACHMENT J

January 9, 2018

VIA USPS CERTIFIED MAIL/
RETURN RECEIPT REQUESTED

<<Name_and_Address>>

RE: T-Mobile Northeast LLC ("T-Mobile")
Proposed Replacement Facility on Eversource Tower
Huntington Road, Stratford, CT

Dear Sir or Madam

We are writing to you on behalf of our client T-Mobile Northeast LLC ("T-Mobile") with respect to the above referenced matter and our client's intent to file a petition with the State of Connecticut Siting Council for approval of a proposed wireless communications tower facility (the "Facility") within the Town of Stratford.

State law requires that record owners of property abutting a parcel on which a facility is proposed be sent notice of an applicant's intent to file a petition with the Siting Council.

Included with this letter please find a Notice of this submission and details of the proposal. The location, height and other features of the Facility are subject to review and potential change by the Connecticut Siting Council under the provisions of Connecticut General Statutes § 16-50g et seq.

If you have any questions concerning this petition, please contact the Connecticut Siting Council or the undersigned after January 16, 2018, the date that the petition is expected to be on file.

Sincerely,

Denise Sabo
Enclosure

NOTICE

Notice is hereby given, pursuant to Section 16-50j-40(a) of the Regulations of Connecticut State Agencies of a Petition to be file with the Connecticut Siting Council ("Siting Council" on or after January 16, 2018 by T-Mobile Northeast LLC ("T-Mobile") the ("Petitioner"). T-Mobile seeks a declaratory ruling that replacement of an existing wireless facility does not have significant adverse environmental effects that might otherwise require a certificate of environmental compatibility and public need ("Certificate").

T-Mobile currently maintains an operational facility on an existing electrical transmission tower #826 off of Huntington Road in Stratford. Eversource recently received approval to replace this and several other transmission towers from West Devon Junction to Trumbull Junction in Stratford as part of a necessary upgrade project (Siting Council Petition 1291). Accordingly, T-Mobile must permanently relocate from existing transmission structure #826 to the newly approved tower.

If feasible, T-Mobile will coordinate with Eversource to construct the Relocation Facility at the same time Eversource is replacing the tower and during the necessary transmission line outage.

The Petition will provide details of the Relocation Facility and explain why it represents no significant adverse environmental effects. The location, height and other features of the facility are subject to review and potential change under provisions of the Connecticut General Statutes Sections 16-50g et. seq.

Copies of the Petition will be available for review during normal business hours on or after January 16, 2018 at the following:

Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Town of Stratford
Zoning Office
2725 Main Street
Stratford, CT 06615

at the offices of the undersigned. All inquiries should be addressed to the Connecticut Siting Council or to the undersigned.

Denise Sabo
Northeast Site Solutions
420 Main Street #4
Sturbridge, MA 01566
(860)209-4690

CERTIFICATION OF SERVICE

I hereby certify that on the 10th of January 2018, a copy of the foregoing letter and notice were mailed by certified mail, return receipt requested to each of the abutting property owners on the accompanying list.

Denise Sabo

Date 1-10-18

Denise Sabo
Northeast Site Solutions
420 Main Street #4
Sturbridge, MA 01566

Agent for T-Mobile Northeast LLC

<u>ADDRESSEE</u>	<u>MAILING ADDRESS</u>	<u>CITY</u>	<u>STATE</u>	<u>ZIP</u>
HARRINGTON KEITH A & HARRINGTON ARLENE G & SV	2025 HUNTINGTON RD	STRATFORD	CT	06614
NOGUEIRA LAURINDO & NOGUEIRA ZUREYDEN	55 REUT DRIVE	STRATFORD	CT	06614
SWITTER MARGUERITE L	60 QUENBY PL	STRATFORD	CT	06614-1833
GABRIEL LISA	65 QUENBY PL	STRATFORD	CT	06614
STARRATT MALCOLM A & LENORE E SV	1955 HUNTINGTON RD	STRATFORD	CT	06614-1974
BELL JOHNNIE & VIRGINIA	2020 HUNTINGTON RD	STRATFORD	CT	06614
WHILBY LORENZO S & HUTCHINSON-WHILBY LUDIA &	2016 HUNTINGTON RD	STRATFORD	CT	06614
ROSS ANTHONY EST C/O SUE MCNAMARA	3548 MAIN ST	STRATFORD	CT	06614
EVANS SEAN & BALDWIN TOYA	1996 HUNTINGTON RD	STRATFORD	CT	06614
ERNST ROBERT S & SUSAN A	1950 HUNTINGTON RD	STRATFORD	CT	06614-1949

Instructions

1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. **DO NOT PHOTO COPY OR ALTER LABEL.**
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, **DO NOT TAPE OVER BARCODE.** Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

Signature Confirmation™ / Insurance Number:

9407 8036 9930 0037 2459 15

Trans. #:	424701413	Priority Mail® Postage:	\$6.65
Print Date:	01/10/2018	Insurance Fee	\$0.00
Ship Date:	01/10/2018	Signature Confirmation	\$2.45
Expected		(Electronic Rate)	
Delivery Date:	01/12/2018	Total	\$9.10
Insured Value:	\$1.00		

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS, LLC
420 MAIN ST STE 2
STURBRIDGE MA 01566-1359

To: JOEL SZARKOWICZ
EVERSOURCE
56 PROSPECT ST
HARTFORD CT 06103-2818

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Cut on dotted line.

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Click-N-Ship® Label Record

USPS TRACKING # / Insurance Number:

9405 8036 9930 0574 6280 68

Trans. #:	424701413	Priority Mail® Postage:	\$6.65
Print Date:	01/10/2018	Insurance Fee	\$0.00
Ship Date:	01/10/2018	Total	\$6.65
Expected			
Delivery Date:	01/12/2018		
Insured Value:	\$1.00		

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS, LLC
420 MAIN ST STE 2
STURBRIDGE MA 01566-1359

To: SAM S
T-MOBILE
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

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Click-N-Ship® Label Record

Signature Confirmation™ / Insurance Number:

9407 8036 9930 0037 2459 39

Trans. #:	424701413	Priority Mail® Postage:	\$6.65
Print Date:	01/10/2018	Insurance Fee	\$0.00
Ship Date:	01/10/2018	Signature Confirmation	\$2.45
Expected		(Electronic Rate)	
Delivery Date:	01/12/2018	Total	\$9.10
Insured Value:	\$1.00		

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS, LLC
420 MAIN ST STE 2
STURBRIDGE MA 01566-1359

To: JOHN RUSATSKY
ZONING ENFORCEMENT OFFICER
2725 MAIN ST
STRATFORD CT 06615-5818

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Cut on dotted line.

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Click-N-Ship® Label Record

Signature Confirmation™ / Insurance Number:

9407 8036 9930 0037 2459 22

Trans. #:	424701413	Priority Mail® Postage:	\$6.65
Print Date:	01/10/2018	Insurance Fee	\$0.00
Ship Date:	01/10/2018	Signature Confirmation	\$2.45
Expected		(Electronic Rate)	
Delivery Date:	01/12/2018	Total	\$9.10
Insured Value:	\$1.00		

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS, LLC
420 MAIN ST STE 2
STURBRIDGE MA 01566-1359

To: LAURA HOYDICK
MAYOR OF STRATFORD
2725 MAIN ST
STRATFORD CT 06615-5818

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