

<p>DOCKET NO. 476 – Eco-Site, Inc. and T-Mobile Northeast, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 248 Hall Hill Road, Somers, Connecticut.</p>	<p>} Connecticut } Siting } Council } February 15, 2018</p>
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Findings of Fact

Introduction

1. Eco-Site, Inc. (Eco-Site) and T-Mobile Northeast, LLC (T-Mobile) (collectively, the Applicant), in accordance with provisions of Connecticut General Statutes (C.G.S.) § 16-50g, et seq, applied to the Connecticut Siting Council (Council) on July 20, 2017 for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a 180-foot monopole wireless telecommunications facility at 248 Hall Hill Road, Somers, Connecticut. (Applicant 1, p. 1)
2. Eco-Site is headquartered at 240 Leigh Farm Road, Durham, North Carolina. Eco-Site develops/builds, owns and leases numerous communications towers in the U.S. Eco-Site would construct, maintain and own the proposed facility and would be the Certificate holder. (Applicant 1, p. 3)
3. T-Mobile is a Delaware limited liability company with an office located at 35 Griffin Road, South Bloomfield, Connecticut. T-Mobile is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service to Tolland County, Connecticut. (Applicant 1, p. 3)
4. The party in this proceeding is the Applicant. (Transcript 1, November 16, 2017, 3:00 p.m. [Tr. 1], p. 5)
5. The purpose of the proposed facility is to provide wireless service to a largely residential section of western Somers including residents and travelers in the area of Hall Hill Road (Route 186), Four Bridges Road, George Wood Road, Durkee Road, and numerous other roadways and properties in the area. (Applicant 1, p. 1)
6. Pursuant to C.G.S. § 16-50/ (b), the Applicant provided public notice of the filing of the application that was published in the Journal Inquirer on July 11, 2017 and July 12, 2017. (Applicant 1, p. 5; Applicant 2, response 2)
7. Pursuant to C.G.S. § 16-50/ (b), notice of the application was provided to all abutting property owners by certified mail. Notice was unclaimed by two abutters: Carl and Sandra Silverman of 29 Old Farm Road; and Barbara Flebotte of 67 George Wood Road. The Applicant submitted a copy of the notice letter to both abutters a second time by regular mail on July 31, 2017. (Applicant 1, p. 6 and Tab 10; Applicant 2, response 1)
8. On July 19, 2017, the Applicant provided notice to all federal, state and local officials and agencies listed in C.G.S. § 16-50/ (b). (Applicant 1, p. 5 and Certification of Service)

Procedural Matters

9. Upon receipt of the application, the Council sent a letter to the Town of Somers on July 28, 2017 as notification that the application was received and is being processed, in accordance with C.G.S. § 16-50gg. (Record)
10. On August 3, 2017, the Council requested an extension of time to deem the application complete due to the cancellation of the August 17, 2017 Council meeting. On August 16, 2017, the Applicant granted an extension of time until September 1, 2017. (Council Request for Extension for Completeness Review dated August 3, 2017; Applicant Approval of Extension of Time dated August 16, 2017)
11. During a regular Council meeting on August 31, 2017, the application was deemed complete pursuant to Regulations of Connecticut State Agencies (R.C.S.A.) § 16-50/1a and the public hearing schedule was approved by the Council. (Record)
12. Pursuant to C.G.S. § 16-50m, the Council published legal notice of the date and time of the public hearing in the Journal Inquirer on September 9, 2017. (Record)
13. Pursuant to C.G.S. § 16-50m, on September 5, 2017, the Council sent a letter to the Town of Somers to provide notification of the scheduled public hearing and to invite the municipality to participate. (Record)
14. On October 18, 2017, the Council held a pre-hearing conference on procedural matters for parties and intervenors to discuss the requirements for pre-filed testimony, exhibit lists, administrative notice lists, expected witness lists, filing of pre-hearing interrogatories and the logistics of the public inspection of the site scheduled for November 16, 2017, at the Office of the Council, 10 Franklin Square, New Britain, Connecticut. (CSC Pre-Hearing Conference Memoranda, dated October 10, 2017 and October 18, 2017)
15. In compliance with R.C.S.A. § 16-50j-21, the Applicant installed a four-foot by six-foot sign at the entrance to the subject property on November 2, 2017. The sign presented information regarding the project and the Council's public hearing. However, the sign incorrectly noted the start time of the evidentiary hearing as 3:30 p.m. instead of 3:00 p.m. (Applicant 3, Sign Posting Affidavit; Tr. 1, p. 14; Council Hearing Notice dated September 5, 2017)
16. Pursuant to C.G.S. § 16-50p(a), on November 8, 2017, the Council requested consent to extend the deadline to render a decision on this application until March 2, 2018. (Council Request for Extension of Time Letter dated November 8, 2017)
17. The Council and its staff conducted an inspection of the proposed site on November 16, 2017, beginning at 2:00 p.m. During the field inspection, the Applicant flew a 3-foot diameter red balloon at the proposed site to simulate the height of the proposed tower. Weather conditions were overcast and calm between 7:00 a.m. and 9:00 a.m. Between 9:00 a.m. and 10:30 a.m., conditions included wind and rain, which caused the balloon to not reach its full height. However, by 11:00 a.m., both winds and rain had dissipated. Conditions remained calm from 11:00 a.m. onward. Thus, during the Council's field review, the balloon was very close to its full height of 180 feet above ground level (agl) measured at the bottom of the balloon*. The balloon was aloft from approximately 7:00 a.m. to 4:00 p.m. for the convenience of the public.

*The height at the top of the balloon was approximately 183 feet, which is conservative.

(Council's Hearing Notice dated September 5, 2017; Tr. 1, pp. 14-16)

18. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on November 16, 2017, beginning with the evidentiary session of the hearing at 3:00 p.m. and continuing with the public comment session at 6:30 p.m. at the Somers Town Hall, Auditorium, 600 Main Street, Somers, Connecticut. (Council's Hearing Notice dated September 5, 2017; Tr. 1, p. 1; Transcript 2 – 6:30 p.m. [Tr. 2], p. 91)
19. On December 1, 2017, the Applicant consented to extend the deadline to render a decision until March 2, 2018. (Applicant's Consent to Extension of Time Letter dated December 1, 2017)

State Agency Comment

20. Pursuant to C.G.S. § 16-50j (g), on September 5, 2017, the following State agencies were solicited by the Council to submit written comments regarding the proposed facility: Department of Energy and Environmental Protection (DEEP); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Agriculture (DOAg); Department of Transportation (DOT); Connecticut Airport Authority (CAA); Department of Emergency Services and Public Protection (DESPP); and State Historic Preservation Office (SHPO). (Record)
21. The Council received a response from the DOT's Bureau of Engineering and Construction on September 6, 2017 indicating that work performed within the Route 186 right-of-way (ROW) would require a Highway Encroachment Permit. (DOT Comments received September 6, 2017)
22. The Applicant would obtain a Highway Encroachment Permit for work within the Route 186 ROW, if necessary. (Applicant 2, response 16)
23. The Council received a response from the DPH's Drinking Water Section on October 2, 2017 indicating that the proposed project does not appear to be located in a public water supply source water area. Therefore, the Drinking Water Section has no comments at this time. (DPH Comments received October 2, 2017)
24. The following agencies did not respond with comment on the application: DEEP, CEQ, PURA, OPM, DECD, DOAg, CAA, DESPP, and SHPO. (Record)

Municipal Consultation

25. The Applicant commenced the 90-day pre-application municipal consultation process by filing a copy of the technical report with the Town of Somers on March 6, 2017. Subsequently, representatives of the Applicant met with Zoning Enforcement Officer Jennifer Roy and Town Engineer Jeff Bord to discuss the technical report submission and answer questions. (Applicant 1, p. 26)
26. Upon further discussions with various Town of Somers boards and officials, it was determined that no further consultation was required, but it was agreed that the Applicant would submit the final photosimulation package to the Town of Somers prior to filing the Application with the Council. (Applicant 1, p. 26)
27. The Applicant submitted the final revised visual analysis report to First Selectman Lisa Pellegrini of the Town of Somers on June 29, 2017. The Applicant did not receive any comments from the Town of Somers after filing the report. (Applicant 1, Tab 9; Applicant 2, response 3)

28. On or about November 15, 2017, Tolland County Mutual Aid, the public safety answering point (PSAP) for Somers, requested space on the proposed tower for emergency services antennas. The Applicant is reviewing this co-location request. (Tr. 1, pp. 17-18, 29)

Public Need for Service

29. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)
30. In issuing cellular licenses, the Federal government has preempted the determination of public need for cellular service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. T-Mobile is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service to Tolland County, Connecticut. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996; Applicant 1, p. 3)
31. Section 253 of the Telecommunications Act of 1996 prohibits any state or local statute or regulation, or other state or local legal requirement from prohibiting or having the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)
32. Section 704 of the Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services and from prohibiting or having the effect of prohibiting the provision of personal wireless services. This section also requires state or local governments to act on applications within a reasonable period of time and to make any denial of an application in writing supported by substantial evidence in a written record. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)
33. Section 704 of the Telecommunications Act of 1996 also prohibits any state or local entity from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions, which include effects on human health and wildlife, to the extent that such towers and equipment comply with FCC’s regulations concerning such emissions. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)
34. In February 2009, as part of the American Recovery and Reinvestment Act, Congress directed the FCC to develop a National Broadband Plan to ensure every American has “access to broadband capability.” Congress also required that this plan include a detailed strategy for achieving affordability and maximizing use of broadband to advance “consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, employee training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.” (Council Administrative Notice Item No. 18 – The National Broadband Plan)
35. Section 706 of the Telecommunications Act of 1996 requires each state commission with regulatory jurisdiction over telecommunications services to encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans, including elementary and secondary schools, by utilizing regulating methods that promote competition in the local telecommunications market and remove barriers to infrastructure investment. (Council Administrative Notice Item No. 4 – Telecommunications Act of 1996)

36. In December 2009, President Barack Obama recognized cell phone towers as critical infrastructure vital to the United States. The Department of Homeland Security, in collaboration with other federal stakeholders, state, local, and tribal governments, and private sector partners, has developed the National Infrastructure Protection Plan (NIPP) to establish a framework for securing our resources and maintaining their resilience from all hazards during an event or emergency. (Council Administrative Notice Item No. 11 –Presidential Proclamation 8460, Critical Infrastructure Protection)
37. In February 2012, Congress adopted the Middle Class Tax Relief and Job Creation Act to advance wireless broadband service for both public safety and commercial users. The Act established the First Responder Network Authority to oversee the construction and operation of a nationwide public safety wireless broadband network. Section 6409 of the Act contributes to the twin goals of commercial and public safety wireless broadband deployment through several measures that promote rapid deployment of the network facilities needed for the provision of broadband wireless services. (Council Administrative Notice Item No. 8 – Middle Class Tax Relief and Job Creation Act of 2012)
38. In June 2012, President Barack Obama issued an Executive Order to accelerate broadband infrastructure deployment declaring that broadband access is a crucial resource essential to the nation’s global competitiveness, driving job creation, promoting innovation, expanding markets for American businesses and affording public safety agencies the opportunity for greater levels of effectiveness and interoperability. (Council Admin Notice Item No. 20 – FCC Wireless Infrastructure Report and Order; Council Admin Notice Item No. 12 – Presidential Executive Order 13616, Accelerating Broadband Infrastructure Development)
39. Pursuant to Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, also referred to as the Spectrum Act, a state or local government may not deny and shall approve any request for collocation, removal or replacement of equipment on an existing wireless tower provided that this does not constitute a substantial change in the physical dimensions of the tower. The Federal Communications Commission defines a substantial change in the physical dimensions of a tower as follows:
 - a) An increase in the existing height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater. Changes in height should be measured from the dimensions of the tower, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.
 - b) Adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater.
 - c) Installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four, or more than one new equipment shelter.
 - d) A change that entails any excavation or deployment outside the current site.
 - e) A change that would defeat the concealment elements of the tower.
 - f) A change that does not comply with conditions associated with the siting approval of the construction or modification of the tower, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would exceed the thresholds identified in (a) – (d).(Council Administrative Notice Item No. 8 – Middle Class Tax Relief and Job Creation Act of 2012; Council Administrative Notice Item No. 20 – FCC Wireless Infrastructure Report and Order)

40. According to state policy, if the Council finds that a request for shared use of a facility by a municipality or other person, firm, corporation or public agency is technically, legally, environmentally and economically feasible, and the Council finds that the request for shared use of a facility meets public safety concerns, the Council shall issue an order approving such shared use to avoid the unnecessary proliferation of towers in the state. (Conn. Gen. Stat. §16-50aa)
41. On September 5, 2017, the Council sent correspondence to other telecommunications carriers requesting that carriers notify the Council if they would likely seek to be located on the proposed facility in the foreseeable future. Cellco Partnership d/b/a Verizon Wireless (Cellco) responded on October 4, 2017, stating that Cellco has a need in this area, and if this area were a priority in Cellco's current build program budget, it would likely seek to co-locate at the 120-foot level of the tower, depending on various factors. (Applicant 2, response 11; Record)

Existing and Proposed Wireless Services

42. T-Mobile's proposed facility would provide both coverage and capacity. (Applicant 2, response 27)
43. T-Mobile seeks to utilize both 700 MHz and 2100 MHz spectrum on the proposed facility. T-Mobile is not considering deploying 1900 MHz spectrum at the proposed facility at this time. Since T-Mobile only holds a 5 MHz license in the 700 MHz band, the majority of the traffic would be handled by the 2100 MHz coverage layer. (Applicant 2, response 28)
44. 700 MHz and 2100 MHz would be used at the proposed facility for both voice and data traffic. (Applicant 2, response 29)
45. T-Mobile's design signal strengths thresholds for in-vehicle coverage, residential in-building coverage and commercial in-building coverage are -114 dBm, -97 dBm and -91 dBm, respectively. (Applicant 2, response 32)
46. T-Mobile's existing signal strength in the area of the proposed facility ranges from -91 dBm to well below -97 dBm. (Applicant 2, response 33)
47. T-Mobile's coverage along Route 186 and Route 190 corridors and surrounding area in Somers is below the minimum design threshold. Thus, the need for reliable coverage is the primary driver for the proposed facility. (Applicant 2, response 27)
48. The proposed facility would provide approximately 1.25 miles of coverage along Route 186 at the proposed height based on 2100 MHz. Evaluating proposed coverage at 2100 MHz is conservative because it generally provides a smaller coverage area than 700 MHz. (Applicant 2, response 37; Tr. 1, pp. 19-20)

49. T-Mobile’s proposed facility would interact with the adjacent existing facilities identified in the following table.

Site Location	Distance from Proposed Tower	Centerline Height of T-Mobile’s Antennas	Structure Type
400 Main Street, Somers	1.6 miles	166 feet	Monopole
188 Moody Road, Enfield	1.8 miles	187 feet	Monopole
37 Bacon Road, Enfield	2.5 miles	160 feet	Monopole

(Applicant 1, Tab 1 – Existing T-Mobile Sites; Applicant 2, response 30)

50. The proposed facility would provide approximately 3.21 square miles of coverage based on 2100 MHz and the residential in-building coverage threshold. (Applicant 2, response 38; Tr. 1, p. 19)
51. The minimum antenna centerline height for T-Mobile to meet its coverage objectives is 175 feet. (Applicant 2, response 31)
52. At antenna centerline heights below 175 feet, T-Mobile’s ability to cover the surrounding targeted neighborhoods including Rye Hill Circle, McCulloch Drive and Blue Ridge Drive would reduce as coverage would fall below the minimum design threshold for residential in-building service. (Applicant 2, response 31)
53. While the proposed facility would provide some capacity offload from adjacent sectors, there are currently no adjacent sectors that are nearing exhaustion with regard to capacity. The primary purpose of the proposed facility is reliable residential and commercial in-building coverage. (Applicant 2, response 35)

Site Selection

54. The Applicant established a search ring for its facility on February 11, 2016. The search ring had a radius of 0.5 miles, and the center of the search ring was approximately located at the Northern Correctional Institute in the northeastern corner of Somers. (Applicant 2, response 23; Tr. 1, p. 16; Applicant 1, Tab 2 – Site Search Summary, p. 1)
55. There are no existing towers or other sufficiently tall structures available within T-Mobile’s search area that would meet T-Mobile’s wireless service objectives. (Applicant 1, pp. 13-14; Applicant 2, response 25)

56. After determining there were no suitable structures within the search area, Eco-Site searched for properties suitable for tower development. Eco-Site investigated eight parcels/areas, one of which was selected for site development. The seven rejected parcels/areas and reasons for their rejection are as follows:
- a) **Northern Correctional Institute, 287 Bilton Road, Somers** – This parcel was rejected because the State would not accommodate a wireless site on the premises.
 - b) **163 Bilton Road, Somers** – This parcel was rejected due to a lack of coverage in the target area.
 - c) **135 Bilton Road, Somers** – This parcel was rejected due to leasing concerns with the property owner.
 - d) **14 Bridge Path Drive, Somers** – This parcel was rejected because the property owner was not interested.
 - e) **Pratt Property, off White Oak Road, Somers** – This parcel was rejected because the property owner was not interested.
 - f) **Blake Property, 700 Hall Hill Road, Somers** – This parcel was rejected because mutual agreement on lease terms between the property owner and the Applicant could not be reached, and concerns regarding the actual location of a facility on this property could not be resolved.
 - g) **Oakridge Dairy, 122 Watchaug Road, Somers** – This parcel was rejected because the property owner was not interested.
- (Applicant 1, Tab 2 – Site Search Summary, pp. 3-4)
57. The Applicant also consulted with the Town of Somers to see if any Town-owned parcels would be available for a tower. None were identified. (Tr. 1, pp. 48-49)
58. Repeaters, microcell transmitters, distributed antenna systems and other types of transmitting technologies would not be a practicable or feasible means to provide reliable wireless service to an area such as western Somers. T-Mobile's needs could not be met with a series of small cell facilities given the nature of the area which T-Mobile seeks to serve and the limited range of small cell facilities. These technologies would be better suited for specifically defined areas where coverage and capacity are needed. Thus, there are no equally effective, feasible technological alternatives to a new tower to provide reliable personal wireless service in this area of Somers. (Applicant 1, pp. 13-14; Applicant 2, response 26)

Facility Description

59. The proposed site is located on an approximately 38.5-acre parcel at 248 Hall Hill Road in Somers. The parcel is owned by Debra Romano. The proposed site location is depicted on Figure 1. (Applicant 1, p. 1)
60. The subject property is zoned A-1 Residential and contains a single-family residence, garage and barn with accessory hay fields. The property is used for hay production by a third party. (Applicant 1, p. 1; Applicant 2, response 18)
61. The tower site is located in the eastern portion of the property, at an elevation of approximately 232 feet above mean sea level (amsl). (Applicant 1, Tab 3 – Drawings T1 and Z2E)
62. Land uses within 0.25 miles of the site include a mixture of residential and agricultural uses. Northern Correctional Institute is located to the north-northeast of the proposed site. (Applicant 1, Tab 3 – Site and Facility Description and Tab 2 – Site Search Summary, p. 3)

63. The proposed facility would consist of a 180-foot monopole within a 100-foot by 100-foot leased area. The tower would be approximately six feet in diameter at the base tapering to two feet in diameter at the top. The tower would be designed to support four levels of wireless carrier antennas (including T-Mobile). If it were determined that there was a carrier need for greater than the proposed height, the Applicant could design the tower and foundation to accommodate an increase in tower height of up to ten percent. (Applicant 1, Tab 3 – Drawings Z2, Z3 and Z4; Applicant 2, responses 13 and 15)
64. The monopole would have a grey, galvanized steel finish. (Applicant 1, p. 23; Tr. 1, p. 18)
65. T-Mobile would install up to nine panel antennas, a two-foot diameter microwave dish and nine remote radio units on low-profile T-arm mounts at a centerline height of 176 feet agl. The top of the antennas would not extend above the top of the tower*.
- * A five-foot tall lighting rod would be installed at the top of the tower.
- (Applicant 1, p. 15 and Tab 3 – Drawing Z4; Applicant 1, Tab 3 – Facilities and Equipment Specification)
66. Flush-mounting the antennas would typically result in three antennas per level. As such, flush-mounted antennas would necessitate a taller tower to accommodate multiple sets of antennas at different heights just for T-Mobile. This would also limit the number of future co-locators on the tower as each would require multiple levels of antennas as well. (Applicant 2, response 63)
67. A 50-foot by 50-foot fenced equipment compound would be established at the base of the tower. The size of the lease area would be able to accommodate the equipment of four wireless carriers (including T-Mobile). T-Mobile would install its equipment on a 10-foot by 20-foot concrete pad within the compound. (Applicant 1, Tab 3 – Sheet Z3)
68. The proposed equipment compound will be surrounded by a six-foot high chain-link fence with three strands of barbed wire on top. No privacy slats are proposed. The Applicant's proposed compound fence would have a gate that would be locked for security purposes. (Applicant 1, Tab 1 – Drawings Z3 and Z5; Applicant 2, responses 12 and 50)
69. Development of the site would require approximately 39 cubic yards of cut and 9 cubic yards of fill. The fill material would be supplied from the on-site cut material. (Applicant 2, response 7; Tr. 1, p. 24)
70. Access to the tower site would be from a new 12-foot wide and approximately 1,125-foot long gravel drive extending from an existing farm gate (to be replaced) off of Hall Hill Road across a farm field to the proposed compound. (Applicant 1, p. 2 and Tab 1 – Drawing Z2)
71. The average grade of the access drive would be approximately 1.2 percent. (Applicant 2, response 14)
72. The proposed access road would be crowned with swales on both sides for drainage. (Applicant 1, Tab 3 – Drawing Z6, Driveway Section)
73. As proposed, the access drive would connect to the west side of the proposed compound. However, it is feasible to have the access drive connect to the north side of the compound to increase the wetland buffer distance. (Tr. 1, p. 35-36)

74. Utilities would be installed underground to the site from Hall Hill Road following the proposed gravel access drive. Utilities would connect to an existing pole on the opposite side of Hall Hill Road as the subject property. The Applicant prefers an overhead utility crossing of Hall Hill Road as opposed to an underground “trenching” across Hall Hill Road, but the final design would be subject to the utility company. (Applicant 1, Tab 1 – Drawing Z2; Applicant 2, response 10)
75. The nearest property boundary from the proposed tower is approximately 280 feet to the east (Flebotte property). (Applicant 1, Tab 1 – Sheets Z2 and Z2E)
76. There are approximately 13 off-site residential structures within 1,000 feet of the proposed tower site. The nearest residence is located at 67 George Wood Road, approximately 600 feet northeast of the tower site (Flebotte residence). (Applicant 1, Tab 3 – Drawings Z2A and Z2E; Applicant 2, response 6)
77. Site preparation would commence following Council approval of a Development and Management Plan (D&M Plan) and may require a Building Permit from the Town of Somers and would be expected to be completed in four to six weeks. Installation of the monopole, antennas and associated equipment would take another two to four weeks. Thus, the duration of the total construction schedule would be approximately two to three months. After construction is completed, facility integration and system testing for carrier equipment would require an additional two weeks. (Applicant 1, p. 27)
78. The estimated cost of the proposed facility is:

Tower and Foundation	\$100,000
Site Development	65,000
Utility Installation	10,000
Subtotal: Eco-Site Cost	\$175,000
Antennas and Equipment	\$250,000
Subtotal: T-Mobile Costs	\$250,000
Total Estimated Costs	\$425,000

(Applicant 1, p. 27; Tr. 1, p. 11)

Public Safety

79. The Wireless Communications and Public Safety Act of 1999 (911 Act) was enacted by Congress to promote and enhance public safety by making 9-1-1 the universal emergency assistance number, by furthering deployment of wireless 9-1-1 capabilities, and by encouraging construction and operation of seamless ubiquitous and reliable networks for wireless services. (Council Administrative Notice Item No. 6 - Wireless Communications and Public Safety Act of 1999)
80. The proposed facility would be in compliance with the requirements of the 911 Act and would provide Enhanced 911 services. (Applicant 1, p. 12)

81. Wireless carriers have voluntarily begun supporting text-to-911 services nationwide in areas where municipal Public Safety Answering Points (PSAP) support text-to-911 technology. Text-to-911 will extend emergency services to those who are deaf, hard of hearing, have a speech disability, or are in situations where a voice call to 911 may be dangerous or impossible. However, even after a carrier upgrades its network, a user's ability to text to 911 is limited by the ability of the local 911 call center to accept a text message. The FCC does not have the authority to regulate 911 call centers; therefore, it cannot require them to accept text messages. (Council Admin. Notice No. 19 – FCC Text-to-911: Quick Facts & FAQs)
82. T-Mobile's facility would be capable of supporting text-to-911 service without additional equipment. There are currently no PSAPs that accept text-to-911 in the area; however, it is T-Mobile's understanding that text-to-911 service should be available in Connecticut in the near future. (Applicant 2, responses 48 and 49)
83. Pursuant to the Warning, Alert and Response Network Act of 2006, "Wireless Emergency Alerts" (WEA) is a public safety system that allows customers who own certain wireless phone models and other enabled mobile devices to receive geographically-targeted, text-like messages alerting them of imminent threats to safety in their area. WEA complements the existing Emergency Alert System that is implemented by the FCC and FEMA at the federal level through broadcasters and other media service providers, including wireless carriers. (Council Administrative Notice No. 5 – FCC WARN Act)
84. Pursuant to CGS §16-50p(a)(3)(G), the tower would be constructed in accordance with the American National Standards Institute "Structural Standards for Steel Antenna Towers and Antenna Support Structures" Revision G, the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code. (Applicant 1, Tab 3 – Facilities Equipment Specification)
85. The Applicant would need to provide notice to the Federal Aviation Administration (FAA) at least 45 days prior to construction of the proposed tower. No obstruction marking or lighting is proposed. (Applicant 1, p. 23 and Tab 4 – FAA Notice Criteria Tool output; Applicant 2, response 41)
86. T-Mobile's equipment would have alarms to notify T-Mobile in the event of any equipment tampering. (Applicant 2, response 50)
87. The tower would be located a distance greater than its height from the nearest property line. (Applicant 1, Tab 3, Drawing Z2)

88. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of T-Mobile's proposed antennas* is 0.69% of the standard for the General Public/Uncontrolled Maximum Permissible Exposure, as adopted by the FCC, using a 10-dB reduction to account for the antenna pattern. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) that assumes all channels would be operating simultaneously, which creates the highest possible power density levels. Under normal operation, the antennas would be oriented outward, directing radio frequency emissions away from the tower, thus resulting in significantly lower power density levels in areas around the tower.

*This is based on T-Mobile's proposed panel antennas. T-Mobile's proposed microwave dish would have a negligible effect on power density on the ground.

(Applicant 1, Tab 8 – RF Report dated February 2, 2017; Applicant 2, response 39; Council Administrative Notice Item No. 2 – FCC OET Bulletin No. 65)

Emergency Backup Power

89. In response to two significant storm events in 2011, Governor Malloy formed a Two Storm Panel (Panel) that was charged with an objective review and evaluation of Connecticut's approach to the prevention, planning and mitigation of impacts associated with emergencies and natural disasters that can reasonably be anticipated to impact the state. (Final Report of the Two Storm Panel, Council Administrative Notice Item No. 44)
90. In response to the findings and recommendations of the Panel, and in accordance with C.G.S. §16-50//, the Council, in consultation and coordination with the Department of Energy and Environmental Protection, the Department of Emergency Services and Public Protection and the Public Utilities Regulatory Authority (PURA), studied the feasibility of requiring backup power for telecommunications towers and antennas as the reliability of such telecommunications service is considered to be in the public interest and necessary for the public health and safety. The study was completed on January 24, 2013. (Council Administrative Notice Item No. 24 – Council Docket No. 432)
91. The Council reached the following conclusions in the study:
- a) "Sharing a backup source is feasible for CMRS providers, within certain limits. Going forward, the Council will explore this option in applications for new tower facilities;" and
 - b) "The Council will continue to urge reassessment and implementation of new technologies to improve network operations overall, including improvements in backup power."
- (Council Administrative Notice Item No. 24 – Council Docket No. 432)
92. For backup power, the Applicant proposes to install a 7.5-kilowatt propane-fueled generator for T-Mobile's own use. The Applicant would also install an approximately 120-gallon vertical propane fuel tank to provide approximately 80 hours of run time (at average load conditions) before it requires refueling. If approved, the final details of the proposed backup generator would be included in the D&M Plan. (Applicant 5; Tr. 1, p. 28; Applicant 2, responses 46 and 47)
93. While T-Mobile's propane-fueled backup generator would be for its own use, the proposed compound could be expanded to up to the 100-foot by 100-foot lease area in the future which would allow space for a future shared generator if necessary. (Applicant 2, response 46; Applicant 5)
94. T-Mobile would also have a battery backup in order to avoid a "re-boot" condition during the generator start-up delay period. The battery backup system alone could provide up to eight hours of backup power. (Applicant 2, response 47)

95. According to R.C.S.A. §22a-69-1.8, noise created as a result of, or relating to, an emergency, such as an emergency backup generator, is exempt from the State Noise Control Regulations. (R.C.S.A. §22a-69-1.8)
96. Pursuant to R.C.S.A. §22a-174-3b, the generator would be required to comply with DEEP's "permit by rule" criteria, therefore the generator would be exempt from general air permit requirements. (R.C.S.A. §22a-174-3b)

Environmental Considerations

97. The subject property contains Connecticut Prime Farmland soils. However, the location of the proposed compound is not in active agricultural use. The total prime soil disturbance area for the proposed compound and access drive would be approximately 0.37 acre. (Applicant 2, response 19; Tr. 1, pp. 25, 73-74)
98. The State of Connecticut Department of Agriculture does not retain development rights at the proposed site. (Applicant 2, response 17)
99. Long term impacts to soil productivity would not be expected as the access drive would be gravel, and if necessary, the facility could be removed at the end of its useful life. (Applicant 2, response 20)
100. No historic properties would be affected by the proposed facility. (SHPO Filing dated February 21, 2017)
101. The Inland Wetlands and Watercourses Act (IWWA), CGS §22a-36, *et seq.*, contains a specific legislative finding that the inland wetlands and watercourses of the state are an indispensable and irreplaceable but fragile natural resource with which the citizens of the state have been endowed, and the preservation and protection of the wetlands and watercourses from random, unnecessary, undesirable and unregulated uses, disturbance or destruction is in the public interest and is essential to the health, welfare and safety of the citizens of the state. (CGS §22a-36, *et seq.*)
102. The IWWA grants regulatory agencies with the authority to regulate upland review areas in its discretion if it finds such regulations necessary to protect wetlands or watercourses from activity that will likely affect those areas. (CGS §22a-42a)
103. The IWWA forbids regulatory agencies from issuing a permit for a regulated activity unless it finds on the basis of the record that a feasible and prudent alternative does not exist. (CGS §22a-41)
104. There would be no direct wetland impacts. The proposed erosion and sedimentation controls would protect against indirect wetland impacts. (Applicant 1, Tab 6; Tr. 1, p. 23)
105. A presently dry ditch located in hedgerow parallels part of the proposed access road. This ditch contains very stony, well-drained soils and does not contain wetland vegetation or hydric soils. Any water that reaches this ditch from adjacent fields flows in a southerly direction to a pond, which was completely dry at the time of wetland delineation on December 7, 2016. (Applicant 1, Tab 6 – Wetland Delineation)
106. A seasonal dry pond (and also a delineated wetland) is located approximately 348 feet southwest of the proposed fenced tower compound, and it could potentially be a vernal pool. Thus, as a precaution, the Applicant would adhere to a seasonal restriction to avoid construction during the February 15th through April 15th time period to avoid impacts to vernal pool species. (Tr. 1, pp. 37, 71, 85; Applicant 1, Tab 6 – Lease Exhibit Drawing)

107. The proposed project would comply with the *2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control*. (Applicant 1, p. 19)
108. The site is located in the Federal Emergency Management Agency (unshaded) Zone X, an area outside of the 100-year and 500-year flood zones. (Applicant 2, response 59; Tr. 1, p. 23)
109. The shaded area of the DEEP Natural Diversity Database represents the approximate known locations of Endangered, Threatened and Special Concern Species. The proposed project would not be located within such shaded area. (Council Administrative Notice Item No. 58; Tr. 1, p. 22)
110. One federally-listed Threatened Species, the northern long-eared bat (also a state-listed endangered species), is documented in the vicinity of the subject property. On December 21, 2016, the Applicant submitted a Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form to the U.S. Fish and Wildlife Service (USFWS). Per the form, if USFWS does not respond within 30 days, it may be presumed that the project responsibilities have been fulfilled. The Applicant did not receive any response from USFWS. (Applicant 1, Tab 5 - Natural Resources Checklist & Exemption Review, p. 2; Applicant 2, response 53)
111. The proposed project would not be located within 0.25 mile of a known NLEB hibernaculum or within 150 feet of a known maternity roost tree. (Applicant 1, Tab 5 - Natural Resources Checklist & Exemption Review, p. 3)
112. Approximately 33 trees with a diameter greater than six inches would be removed as a result of the proposed project. (Applicant 2, response 9)
113. There are no known Important Bird Areas, as designated by the National Audubon Society, in Tolland County. (Applicant 2, response 51)
114. The proposed facility would comply with applicable USFWS guidelines for minimizing the potential for telecommunications towers to impact bird species. (Applicant 2, response 52)
115. The Applicant does not anticipate the need for blasting at the proposed site. If necessary, chipping would be the primary option for rock removal. (Applicant 2, response 8)
116. The proposed project would comply with DEEP Noise Control Regulations at the property boundaries. (Tr. 1, p. 26)

Visibility

117. The proposed tower would be visible from approximately 740 acres within a two-mile radius of the site (refer to Figure 7). (Applicant 1, Tab 7 – Visual Resource Assessment, p. 3)
118. The proposed tower would be visible from approximately 30 to 35 residential structures* within a ½-mile study area. This would include 8 to 10 residences on George Wood Road, 9 to 12 residences on Hall Hill Road, 1 or 2 residences on Old Farm Road, 4 to 5 residential structures on Highland View Crossing and other isolated properties. However, views of the proposed project would be substantially screened in most areas by roadside vegetation.

*This total number of residences with potential views of the tower would increase by an additional 38 to 43 if the study area is increased to a two-mile radius for a total of 68 to 78 residences with potential views of the tower.

(Applicant 1, Tab 7 – Visual Resource Assessment, pp. 5-6; Applicant 2, response 64)

119. Pursuant to CGS § 16-50p(a)(3)(F), the nearest school is the Nathan Hale School approximately 1.70 miles southwest of the proposed facility. The nearest commercial child day care facility is the Lego Creative Child Care Center approximately 1.51 miles west-northwest of the proposed facility. (Applicant 1, Tab 3 – Drawings T1 and Z2E; Applicant 2, response 5)

120. Visibility of the proposed tower from specific locations within a two-mile radius of the site is presented in the table below:

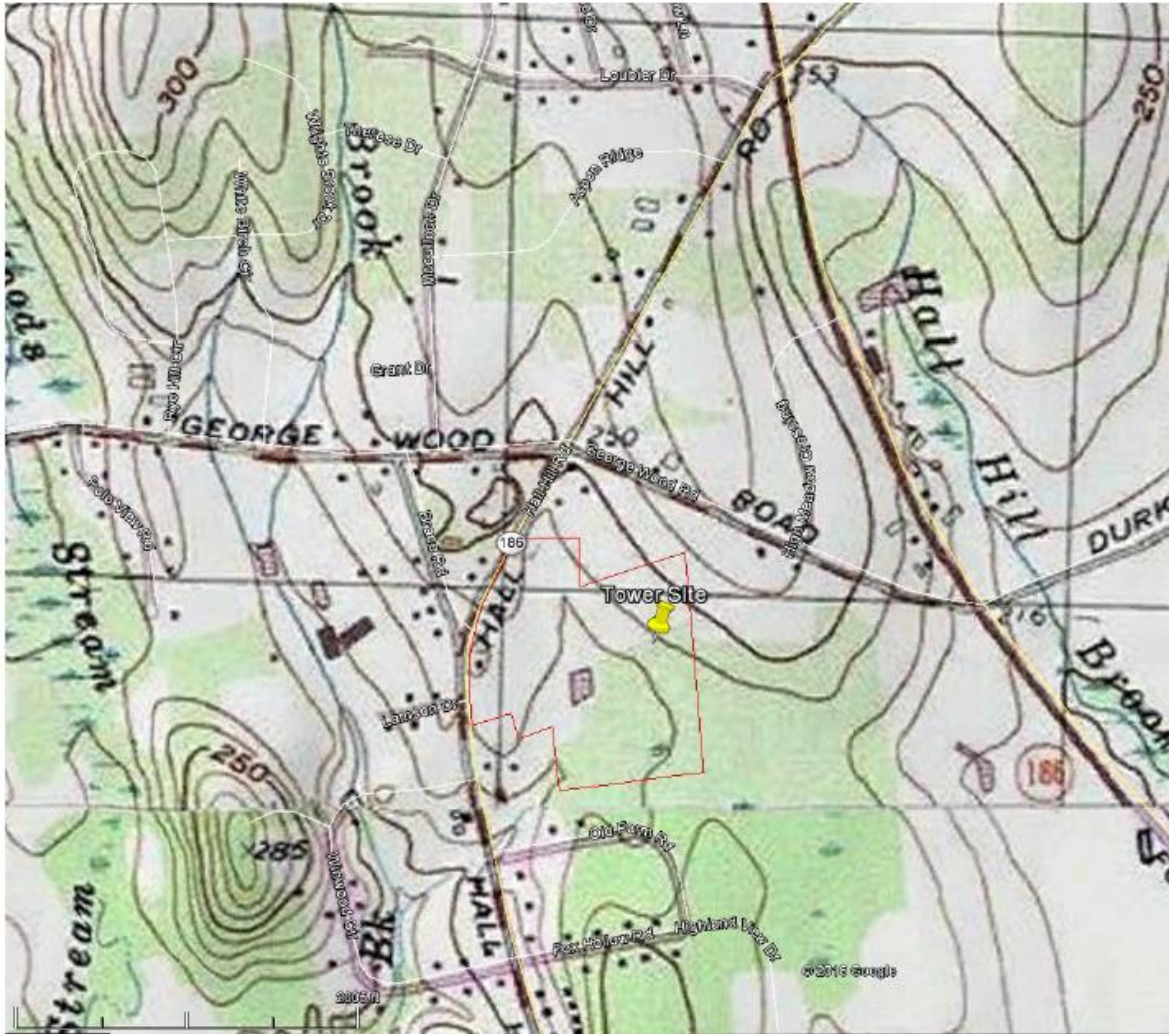
Specific Location	Photo location on Map	Approx. Portion of Facility Visible	Approx. Distance & Direction to Tower
Hall Hill Road (Route 186) at Lampson Acres	1	Year-round – approx. 111 feet	0.21 mile east-northeast
Winwood Court at Bittersweet Hill	2	Not visible	0.38 mile east-northeast
Hall Hill Road (Route 186) at Winwood Court	3	Year-round – top of tower	0.24 mile northeast
Old Farm Road	4	Not visible	0.21 mile north
Highland View Drive (north end)	5	Not visible	0.35 mile north-northwest
Highland View Drive (south end)	6	Not visible	0.94 mile north-northwest
Main Street (Route 190)	7	Not visible	1.16 mile north-northwest
Hurlburt Street at Four Bridges Road	8	Year-round – top of tower	0.84 mile northwest
Four Bridges Road near George Wood Road	9	Seasonal – behind trees	0.41 mile west
Four Bridges Road near High Meadow	10	Whole tower visible	0.39 mile southwest
High Meadow Crossing	11	Year-round – approx. 56 feet	0.27 mile southwest
George Wood Road at High Meadow Crossing	12	Year-round – approx. 128 feet	0.19 mile southwest
Hall Hill Road (Route 186) at George Wood Road	13	Year-round – approx. 47 feet	0.26 mile south-southeast
George Wood Road near McCullough Drive	14	Seasonal – visible through trees with leaf-off	0.30 mile southeast
Polo View Road	15	Seasonal – behind trees	0.36 mile east-southeast
Hall Hill Road (Route 186) near Brace Road	16	Year-round – approx. 135 feet	0.19 mile east-southeast
Somers Road	17	Not visible	0.95 mile east-northeast
Shaker Road	18	Not visible	0.83 mile northeast

(Applicant 1, Tab 7 – Visual Resource Assessment)

121. There are no Connecticut blue-blaze or other designated hiking trails located within a two-mile study area. (Applicant 2, response 61)

122. There are no state or locally-designated scenic roads located within a one-half mile study area. (Applicant 1, Tab 7 – Visual Resource Assessment)
123. Regarding possible stealth tower designs, given the height of the tower and lack of surrounding features, a monopine (i.e. “tree tower”) or silo would be out of context and incongruous with the surroundings. While feasible, such approaches would not mitigate the visibility of the tower and may even increase visual impact. (Applicant 2, response 62; Applicant 1, p. 23)
124. No landscaping is proposed at this time because of existing wooded areas around the proposed compound. (Tr. 1, pp. 25-26; Applicant 1, Tab 3 – Drawing Z3)

Figure 1 – Site Location

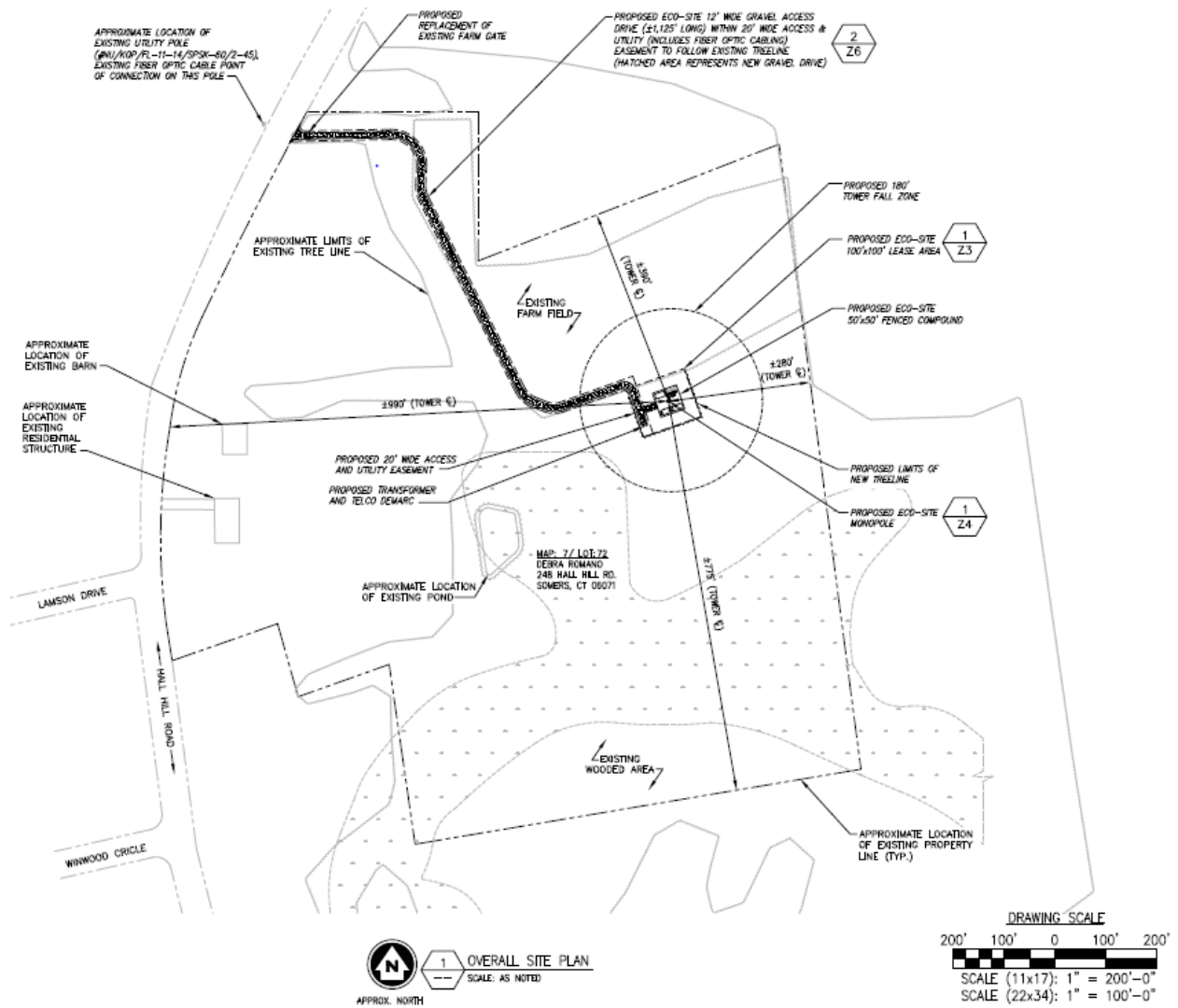


(Applicant 1, Tab 3)



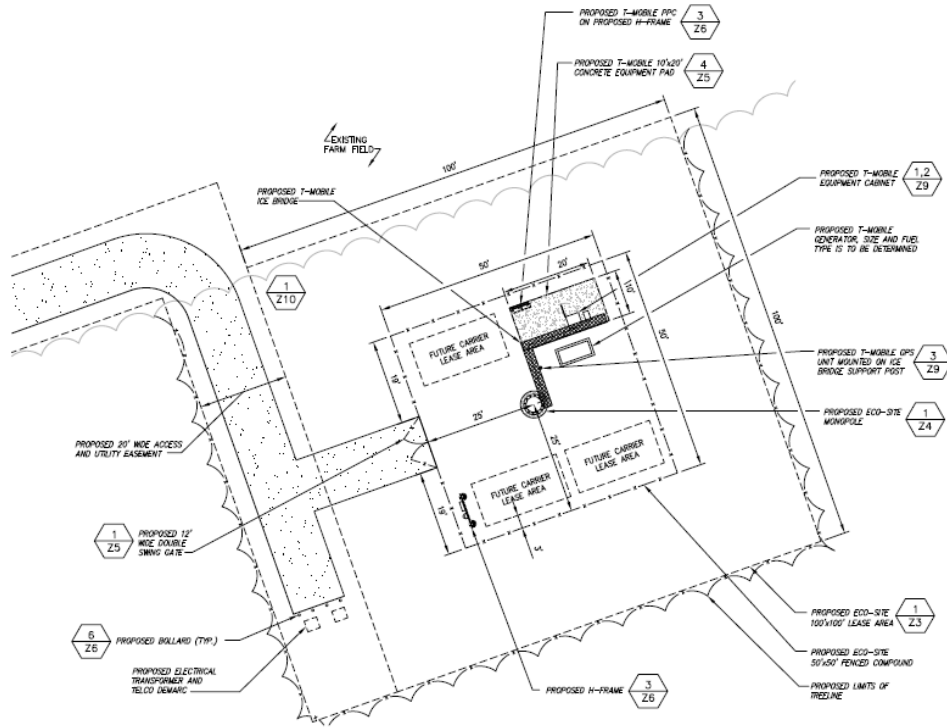
APPROX. NORTH

Figure 2 – Site Plan

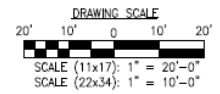


(Applicant 1, Tab 3 – Drawing Z2)

Figure 3 – Compound Plan

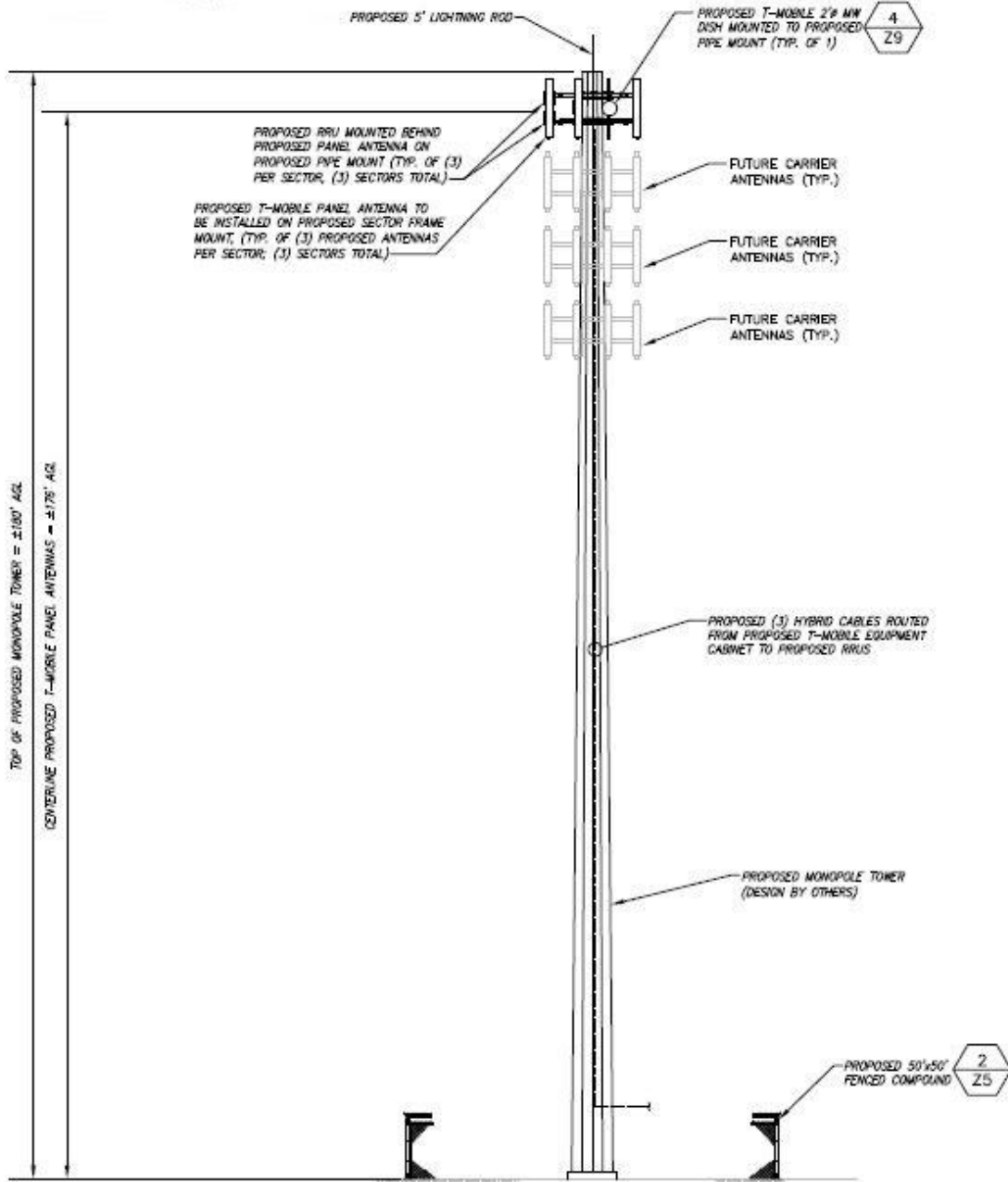


1 DETAILED SITE LAYOUT
SCALE AS NOTED



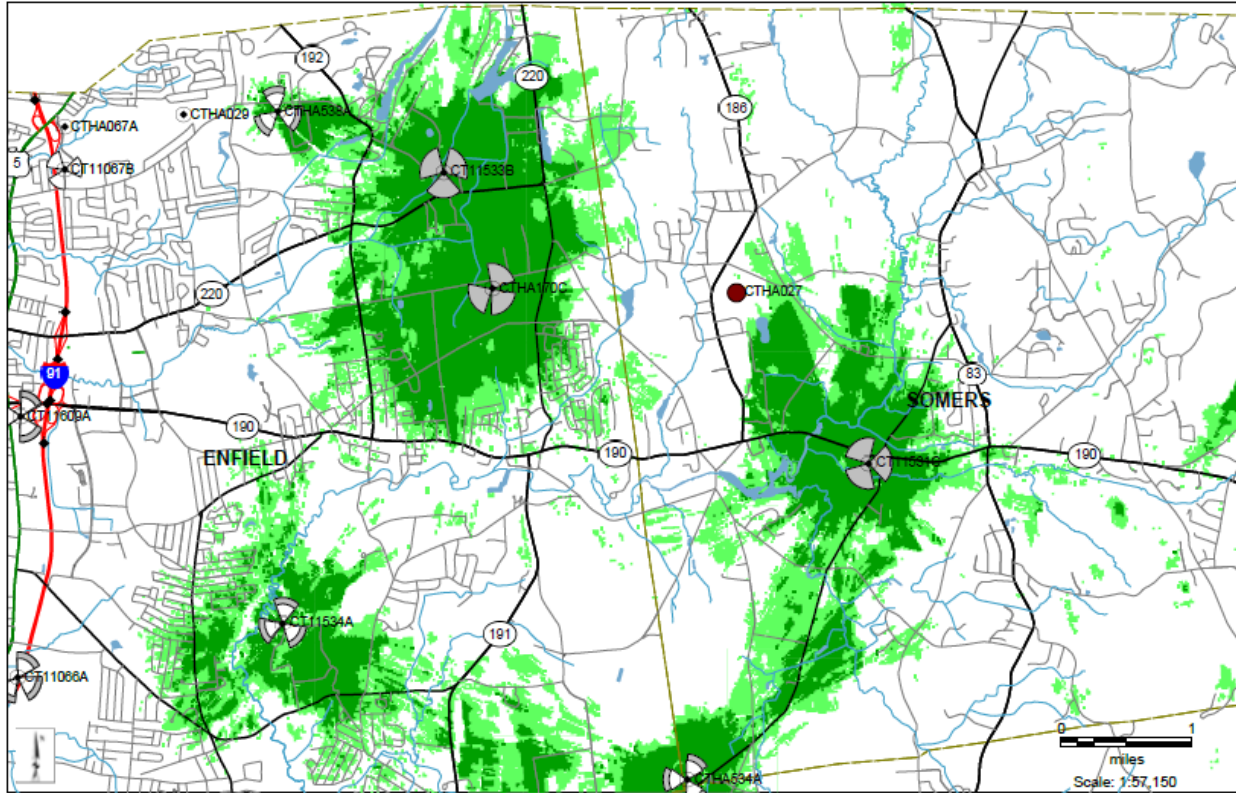
(Applicant 1, Tab 3 – Drawing Z3)

Figure 4 – Tower Profile Drawing



(Applicant 1, Tab 3 – Drawing Z4)

Figure 5 – Existing 2100 MHz Coverage

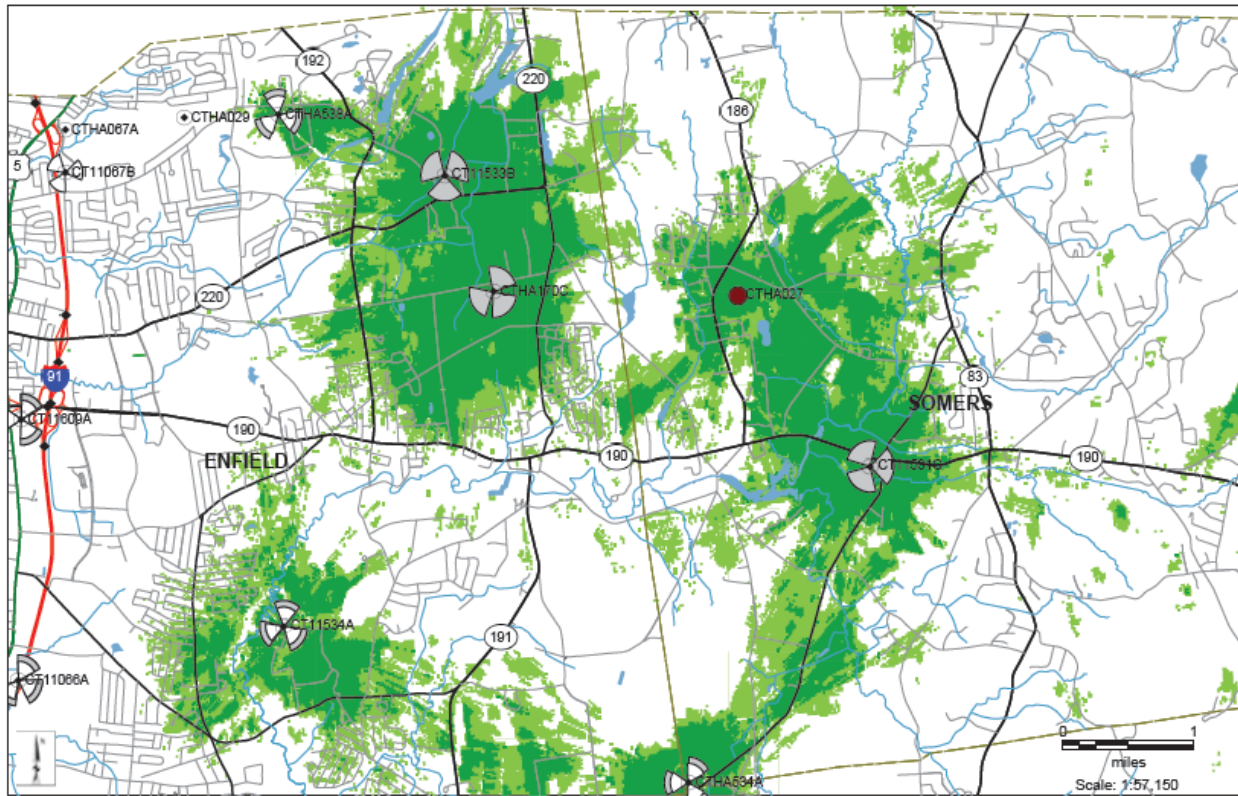


On-Air Coverage of Existing T-Mobile Sites

Planned Site CTHA027 at 175'AGL
Coverage Thresholds
Dark Green-In Building Residential Coverage
Light Green-In Building Commercial Coverage
COVERAGE
In-Building Residential In-Building Commercial
-91 dB -87 dB

(Applicant 1, Tab 1; Applicant 2, response 36)

Figure 6 – Existing and Proposed 2100 MHz Coverage at 175 feet

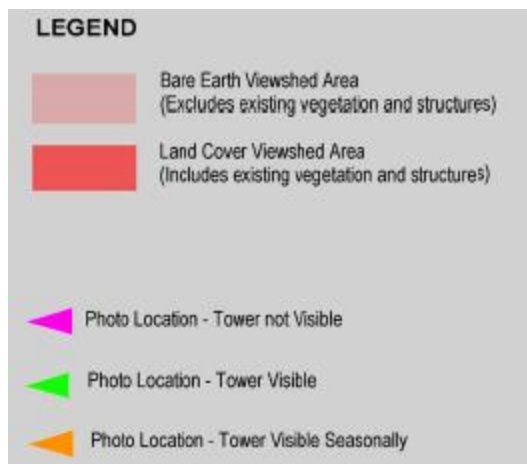
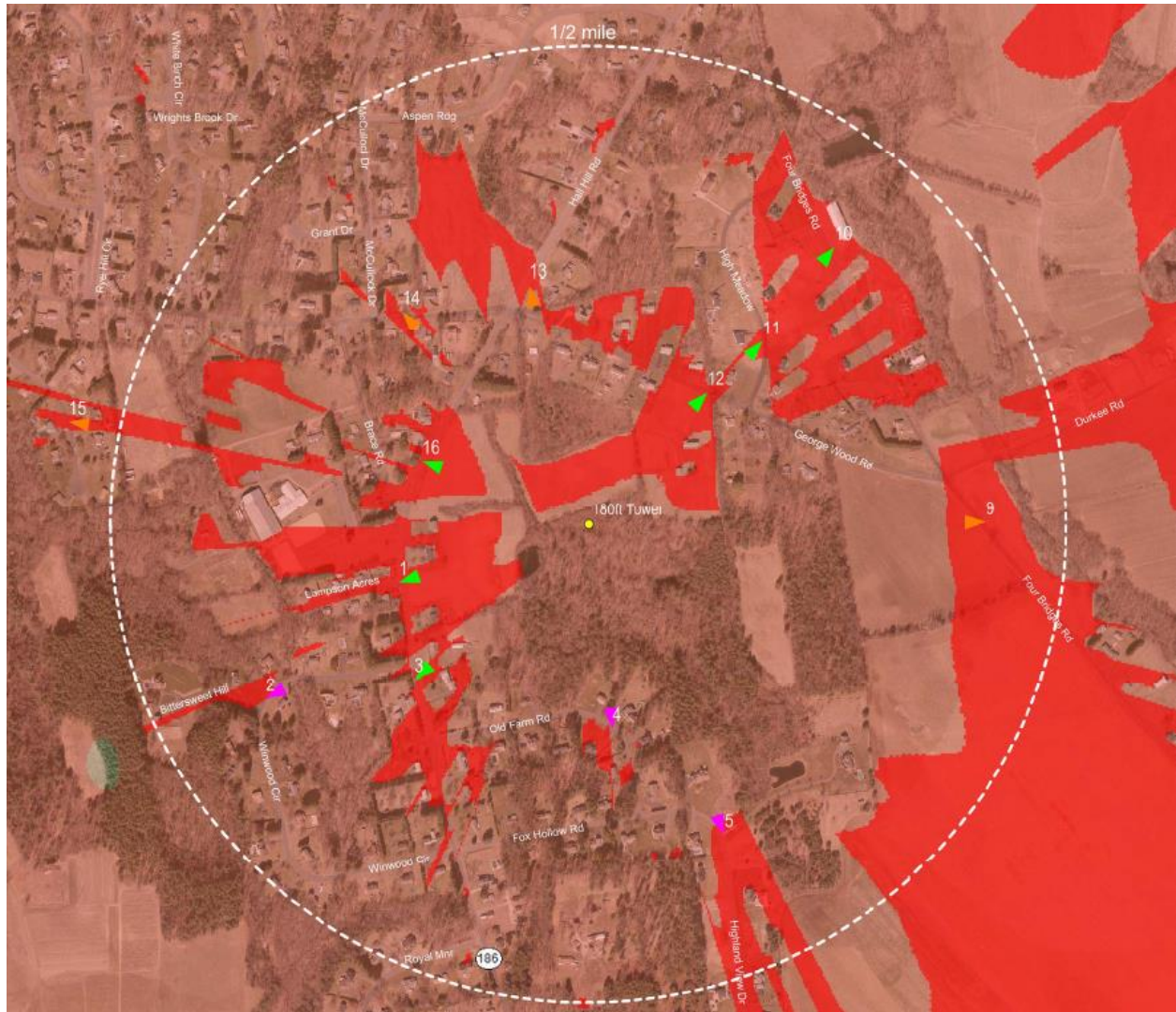


On-Air Coverage of Existing With Proposed Coverage
For T-Mobile Site CTHA027 at 175' AGL

Planned Site CTHA027 at 175'AGL
Coverage Thresholds
Dark Green-In Building Residential Coverage
Light Green-In Building Commercial Coverage
COVERAGE
In-Building Residential In-Building Commercial
-91 dB -87 dB

(Applicant 1, Tab 1; Applicant 2, response 36)

Figure 7 – Visibility Analysis



(Applicant 1, Tab 7 – Viewshed Map)