

DOCKET NO. 454 – Tower Holdings, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at Farmington Tax Assessor Parcel ID Maps 25 and 26, Lots 3A and 3B, 199 Brickyard Road, Farmington, Connecticut.

Connecticut

Siting

Council

June 11, 2015

Findings of Fact

Introduction

1. Tower Holdings, LLC, (Applicant) in accordance with provisions of Connecticut General Statutes (C.G.S.) § 16-50g, et seq, applied to the Connecticut Siting Council (Council) on November 7, 2014 for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a 180-foot lattice wireless telecommunications facility/tower training facility at 199 Brickyard Road in Farmington, Connecticut (refer to Figure 1). (Applicant 1, pp. 1-2)
2. Tower Holdings, LLC is a limited liability company with an office at 199 Brickyard Road, Farmington, Connecticut. (Applicant 1, p. 3)
3. The tower is being constructed for telecommunications use by New Cingular Wireless PCS LLC (AT&T), and for training purposes for Northeast Towers (NET), a tower construction company affiliated with the Applicant. (Applicant 1, pp. 1-3)
4. The parties in this proceeding are the Applicant and the Town of Farmington (Town). The intervenor in this proceeding is AT&T. (Transcript, February 3, 2015, 3:00 p.m. [Tr. 1], p. 5)
5. Pursuant to C.G.S. § 16-50(b), the Applicant published public notice of the filing of the application to the Council in the Hartford Courant on October 4 and October 8, 2014. (Applicant 1, Tab 3)
6. Pursuant to C.G.S. § 16-50(b), notice of the application was provided to all abutting property owners by certified mail. Confirmation of delivery was received from all notices sent to abutting property owners. (Applicant 1, p. 4, Tab 4; Applicant 3, response 1)
7. Upon filing the application, 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, Tab 2; Applicant 2)
8. Upon receipt of the application, the Council sent a letter to the Town of Farmington on November 7, 2014 as notification that the application was received and is being processed in accordance with C.G.S. §16-50gg. (Record)
9. During a regular Council meeting on December 11, 2014, the application was deemed complete pursuant to Connecticut Regulations of State Agencies (R.C.S.A.) § 16-50-1a and the public hearing schedule was approved by the Council. (Council Meeting Minutes of December 11, 2014)
10. Pursuant to C.G.S. §16-50m, the Council published legal notice of the date and time of the public hearing in the Hartford Courant on December 16, 2014. (Record)
11. In compliance with the Regulations of Connecticut State Agencies §16-50j-21, the Applicant installed a four-foot by six-foot sign at the entrance of the subject property on January 22, 2015. The sign presented information regarding the project and the Council's public hearing. (Applicant 5)
12. The Council and its staff conducted an inspection of the proposed site on February 3, 2015, beginning at 2:00 p.m. During the field inspection, the Applicant flew a red, four-foot diameter balloon at the

proposed site to simulate the height of the proposed tower. Winds at that time were generally light. The balloon was aloft from 8:00 a.m. to 4:00 p.m. for the convenience of the public. (Hearing Procedure Memo dated January 7, 2015; Tr. 1, pp. 28-29)

13. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on February 3, 2015, beginning with the evidentiary portion of the hearing at 3:00 p.m. and continuing with the public comment session at 7:00 p.m. at the Farmington Town Hall, 1 Monteith Drive, Farmington, Connecticut. (Council's Hearing Notice dated December 12, 2014; Transcript 1 – February 3, 2015, 3:00 p.m. [Tr. 1], p. 1; Transcript 2 – February 3, 2015, 7:00 p.m. [Tr. 2], p. 128)
14. The Council continued the public evidentiary hearing on March 17, 2015, beginning at 1:00 p.m. at the Council's offices at 10 Franklin Square, New Britain, Connecticut. (Council's Continued Hearing Memo dated February 4, 2015; Transcript 3 – March 17, 2015, 1:00 p.m. [Tr. 3], p. 172)

State Agency Comment

15. Pursuant to C.G.S. § 16-50j (g), on December 12, 2014 and March 18, 2015, 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; Public Utilities Regulatory Authority; Office of Policy and Management; Department of Economic and Community Development; Department of Agriculture; Department of Transportation (DOT); Connecticut Airport Authority; State Historic Preservation Office (SHPO); and Department of Emergency Services and Public Protection. (Record)
16. The Council received a response from the DPH Drinking Water Section regarding public water public water supply sources in the area. It was subsequently determined the proposed site was not in an aquifer protection zone (refer to Finding of Fact # 96). (DPH Comments dated December 23, 2014; Applicant 12)
17. The DOT responded with a written no comment letter. (DOT correspondence dated November 26, 2014)
18. No other comments from other state agencies were received. (Record)

Municipal Consultation

19. Pursuant to C.G.S. § 16-50j(g), on February 10, 2014 the Applicant commenced the 90-day pre-application municipal consultation process by submitting a project technical report to the Town Manager, Planning and Zoning Commission and the Inland Wetlands Commission. (Applicant 1, p. 25)
20. At the request of the Town, the Applicant participated in two public informational meetings, held on April 15, and July 15, 2014. (Applicant 1, p. 25)
21. The Applicant first approached the Town in regards to constructing a tower for training purposes in March 2013. The Applicant intended to make an informal presentation before the Planning and Zoning Commission on April 9, 2013 and prepared an information packet for the presentation that contained a visibility analysis for a 180-foot training tower without antenna arrays. The Applicant withdrew from the meeting on April 9, 2014, stating to the Town that windy weather prevented further balloon testing and that AT&T was now interested in locating on the facility. At that time, however, AT&T had not reviewed the site in detail, so the Applicant did not know what height AT&T needed for its antennas. (Town 2, Town 3, Town 4; AT&T 6, response 13; Tr. 1, pp. 81-82, 90-92; Tr. 3, pp. 228-230)

22. The Town acknowledges the Council's jurisdiction in regards to siting a facility for telecommunications use but objects to the training aspect of the proposed facility, stating that any structures or facilities to be used for training purposes must be presented to the Planning and Zoning Commission and/or Zoning Board of Appeals. (Town 2; Town 3)

Public Need for Service

23. 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)
24. 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. AT&T is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service to Connecticut wireless markets, including the proposed service area. (Council Administrative Notice Item No. 4; AT&T 2, response 1)
25. 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)
26. 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)
27. 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)
28. 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. 19)
29. 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)

30. 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 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)
31. 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)
32. 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 Administrative Notice Item No. 12)
33. 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; Council Administrative Notice Item No. 12)
34. 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 if the Council also 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. (C.G.S. §16-50aa)

Existing and Proposed Wireless Services – AT&T

35. The proposed facility is designed to provide reliable wireless service for AT&T to the northern section of Farmington around Brickyard Road and southern section of Avon around Harris Road. The site would also provide capacity relief to adjacent AT&T facilities. (AT&T 1, response 8)
36. AT&T proposes to install antennas at the 140-foot level of the 180-foot lattice tower. AT&T would be able to use a monopole with antennas at 140 feet to meet coverage objectives. (Applicant 1, p. 2; AT&T 2, response 3, response 9)
37. AT&T would provide digital voice and data services to the area by installing 700 MHz (long-term evolution - LTE) and 1900 MHz (personal communication service LTE) equipment at the site. AT&T would also provide voice and data services to the area for customers still using “legacy” devices only capable of accessing second generation GSM and third generation UMTS service in the 800 MHz frequency bands. (AT&T 2, response 4)
38. AT&T’s existing 700 MHz LTE signal strength in the proposed service area ranges from -93 dBm to -120 dBm (refer to Figure 2). AT&T designs its system with a 700 MHz LTE signal strength of -83 dBm for in-building service and -93 for in-vehicle service. (AT&T 2, response 5, response 6)
39. AT&T’s service design thresholds for PCS LTE are -86 dBm for in-building service and -96 dBm for in-vehicle service. PCS LTE will be deployed on adjacent sites in the near future but, once deployed, would not be able to adequately service the area around the proposed site. (AT&T 2, response 6)
40. In order to define the extent of its wireless service requirements in this area, AT&T used propagation modeling and baseline drive test data. Propagation modeling indicates deficient wireless service in the Highlands residential area, located approximately a quarter-mile west of the site (refer to Figure 2). (Applicant 1, Tab 5)
41. AT&T performed a drive test in August 2013 to confirm wireless service deficiencies in the area, particularly to a residential subdivision east of the site centered around Cambridge Crossing and in the Harris Road–Brickyard Road area near the site. Drive testing was performed at heights of 100 feet, 140 feet and 170 feet. (AT&T 6, response 19)
42. The drive test data and coverage modeling indicates an antenna height of 140 feet would meet AT&T’s in-building coverage objectives to the Harris Road-Brickyard Road area and a large portion of the Highlands residential area. A mix of in-building and in-vehicle coverage would be provided to the Cambridge Crossing subdivision east of the site (refer to Figure 3). (AT&T 6, response 19; Tr. 3, pp. 246-252)
43. Adjacent facilities that would hand-off to the proposed site include the following:

Hand Off Facility Location	Type of Structure and Existing Antenna Elevation	Distance and Direction from Site
24 Ridgewood Road, Avon	Water tank - 56'	2.1 miles, N
10 Redwood Lane, Avon	Monopole- 102'	1.8 miles, NW
82 Lovely Street, Avon	Monopole - 102'	1.8 miles WNW
319-321 New Britain Ave, Farmington	Monopole - 148'	1 mile, SW
1 Westerberg Drive, Farmington	Flagpole - 139'	1.9 miles, SE
190 Town Farm Road, Farmington	Monopine - 100'	1.3 miles, E

(AT&T 1, Tab 5; AT&T 2, response 7)

44. Service parameters for AT&T's proposed 700 MHz and 1900 MHz LTE antennas at 140 feet are provided in the following table:

	Proposed 700 MHz LTE Service		Proposed 1900 MHz LTE Service	
	Population in service area (incremental)	(\geq -83 dBm)	1,419	(\geq -86 dBm)
Service area (mi ²)	(\geq -83 dBm)	2.1	(\geq -86 dBm)	1.0
	(\geq -93 dBm)	7.5	(\geq -96 dBm)	4.0
Main roadway (mi)	(\geq -93 dBm)	1.2	(\geq -96 dBm)	1.3

(AT&T 2, response 10, response 11, response 12)

Site Selection

45. Prior to issuing a search ring for the area, AT&T optimized their equipment at adjacent sites to provide as much service as possible to the area. (AT&T 6, response 16)
46. AT&T issued a search ring for a facility in this area of Farmington/Avon in January 2013. (AT&T 2, response 2)
47. In developing a facility, AT&T's last preference is to develop a new tower site. AT&T therefore examined several existing structures within the area including an existing 50-foot smokestack at 168 Brickyard Road, a rooftop at 1371 Farmington Avenue, and a school cupola at 10 Monteith Drive in Farmington. All of these structures were too low to meet coverage objectives. (Applicant 1, Tab 9; Applicant 3, response 5, response 7; Tr. 3, pp. 268-269)
48. In addition to the existing structures within the area, AT&T and the Applicant examined several other properties/structures as potential facility sites in the Brickyard Road area, as follows:
- a) 103 Brickyard Road, Farmington, Dunning Sand and Gravel - property is devoid of screening and is near a day care as well as the Winding Tails Recreation Area.
 - b) 2 School Street, Farmington - the site did not meet AT&T's service objectives as it is too close to an existing AT&T site.
 - c) 510 West Avon Roads, Avon - the site did not meet AT&T's service objectives as it is too close to an existing AT&T site.
 - d) 500 Old Avon Farms Road - the site is too far north to meet AT&T's service objectives.
- (Applicant 1 - Tab 9; Applicant 3, response 5, response 9, response 10; Tr. 3, pp. 266-268)
49. Alternative telecommunications technologies such as repeaters, microcell transmitters, distributed antenna systems and other types of transmitting technologies are not a practicable or feasible means of providing service to the Brickyard Road area as it measures several square miles. These alternatives technologies are only useful in providing service to specific limited areas. (AT&T 1, p. 10, response 9; AT&T 3, response 4)

Facility Description

Site Information

50. The proposed site is located on an approximate 2.5-acre parcel owned by Farmington River Properties LLC. The property is developed with a commercial building and an associated storage yard. (Applicant 1, p. 6, Tab 1, Tab 12 aerial photographs, Tab 21; Applicant 3, response 8)
51. The proposed tower site is located on the eastern portion of the parcel in an area used for equipment storage (refer to Figure 4). (Applicant 1, Tab 1)
52. The tower site is at an elevation of 241 feet above mean sea level (amsl). (Applicant 1, Tab 1)
53. The Applicant would construct a 180-foot self-supporting lattice tower at the site. The tower, triangular in shape, would taper as it rises. The distance from tower leg to tower leg would be 18 feet at the base, 8 feet at a tower height of 100 feet, and five feet at heights between 140-180 feet. (Applicant 1, p. 2, Tab 1; Tr. 1, pp. 86-88)
54. The Applicant is proposing a lattice tower in order to train individuals that would maintain and install equipment on lattice structures. Approximately 80 percent of the Applicant's business is on lattice structures. (Tr. 1, pp. 22, 83)
55. The proposed 180-foot tower would provide space between 110-140 feet above ground level (agl) for colocation of telecommunication carriers. (Applicant 1, pp. 7-8)
56. Training for tower construction and maintenance workers would occur primarily between the 140-foot and 180-foot levels of the tower, enough space to simulate conditions on larger lattice towers. Telecommunications equipment could locate above the 140-foot level if the equipment used only one face of the tower in order to provide two other unencumbered tower faces for training. (Applicant 1, pp. 7-8)
57. The Applicant would establish a 3,600 square foot equipment compound enclosed by an eight-foot high chain-link fence at the site. AT&T would install a 12-foot by 20-foot equipment shelter within the compound. Three non-jurisdictional communication entities, Dunning Sand and Gravel, Marcus Communications, and WBMW Radio, propose to locate at the site and would share a 12-foot by 20-foot shelter. (Applicant 1, p. 12, Tab 1)
58. Access to the tower site would be from existing paved areas on the property. (Applicant 1, p. 12, Tab 1)
59. Underground utilities would be installed to the compound from a pole on Brickyard Road. (Applicant 1, p. 12)
60. The property is zoned industrial, C-1. Abutting properties are zoned earth excavation to the north and east, and industrial to the south and west. (Applicant 1, Tab 1; Applicant 1c).
61. Land use within a quarter-mile of the tower site includes earth extraction, industrial, recreational and residential. (Applicant 1, p. 21, 1c)
62. There are four residential dwellings within 1,000 feet of the site. The nearest residence is 617 feet west of the tower site at 196 Brickyard Road, located in Industrial Zone C-1. (Applicant 1, p. 22. 1c; Tr. 1, p. 13)

63. The proposed compound fence would be approximately 45 feet from the north and south property lines and 143 feet from the east property line, all of which about the Dunning property. The west compound fence would be 535 feet from Brickyard Road. (Applicant 1, Tab 1)
64. Site construction, including the installation of AT&T's equipment, is estimated at 10 weeks. (Applicant 1, p. 26)
65. The estimated construction cost of the proposed facility is as follows:
- | | |
|-------------------------------|-----------------|
| Tower | \$ 89,000. |
| Foundation | 27,800. |
| Site Development | 59,000 |
| Utility Installation | 26,000. |
| AT&T's equipment/installation | <u>250,000.</u> |
| Total Cost | \$ 451,800. |
- (Applicant 1, p. 26; AT&T 2, response 16)

Tower Collocation

66. AT&T proposes to install 12 antennas on mounting arms at the 140-foot level of the tower. (Applicant 1, p. 2, Tab 1)
67. Private entities non-jurisdictional to the Council that intend to locate on the proposed tower include the following:
- a) Dunning Sand and Gravel - proposes to install a 20-foot whip antenna at 160 feet to provide communication with their delivery trucks. Dunning's current antenna is ineffective, as it is located at a height of 50 feet on its property at 103 Brickyard Road. Dunning has indicated it would like to locate as high as possible on the proposed facility;
 - b) Marcus Communications - proposes to install a 10-foot whip antenna at 170 feet to provide additional capacity on its two-way radio network. Current network users include State probation officers, the Capitol Region of Governments Command Center, regional bomb squads, narcotics squads, traffic squads, ambulance and medical services, and school student transportation.
 - c) WBMW Radio - proposes to install a 5-foot radio antenna at 175 feet.
- (Applicant 1, p. 2, Tab 1; Applicant 3, response 5; Applicant 11, part 3; Tr. 3, pp. 210-214)
68. On December 12, 2014, the Council sent correspondence to representatives of other telecommunication carriers operating in the State (T-Mobile Northeast LLC, Cellco Partnership d/b/a Verizon Wireless, and Sprint Spectrum), informing them of the application and requesting correspondence to be sent to the Council if they were interested in locating at the proposed site in the near future. Cellco responded to the Council's solicitation on December 17, 2014, indicating they were interested in locating on the facility at some time in the future, but further indicated the proposed site was not a priority item in their 2015 budget. T-Mobile responded to the Council's solicitation on December 23, 2014, stating that they were not interested at this time. Sprint did not respond. (Record)

Tower Training

69. Tower training activities would consist of the installation and use of a gin pole and outrigger arms to raise and lower tower-related equipment such as various types on antennas or tower sections to various tower heights. Trainees would practice scaling the tower and affixing various training antennas and lattice tower sections to the tower. (Applicant 1, p. 7; Tr. 1 pp. 107-110; Tr. 3, p. 192)

70. A gin pole is a narrow lattice pole used as a vertical crane to maintain and construct lattice towers. The Applicant would utilize gin poles up to 80 feet in length to lift equipment that could weigh up to 850 pounds. (Applicant 1, pp. 7-8; Tr. 1, pp. 57-59, 109-114)
71. Once installed on the tower, a gin pole could extend to a height of 199 feet agl. Any structure above 200 feet agl would be subject to Federal Aviation Administration (FAA) aviation hazard marking. The gin pole would remain in place for up to one week. (Applicant 1, pp. 7-8; Tr. 1, pp. 19-22, 57-59, 109-114)
72. The Applicant would conduct training Monday through Friday during four separate, one-week intervals during warm weather months. (Tr. 3, pp. 188-189)
73. The temporary lattice tower sections and dummy antennas would be affixed to the permanent tower for several days. (Tr. 3, p. 189)
74. The Dunning, Marcus and WBMW antennas would not interfere with training activities occurring above 140 feet as the whip antennas used by these entities would only be located on one face of the tower, rather than using 360 degrees of space as is typical with a telecommunications carrier. (Applicant 1, p. 8)
75. AT&T's antennas would not interfere with gin pole related training exercises. (Tr. 3, p. 189)
76. The Applicant would be willing to accept a 140-foot lattice tower designed so that it could accommodate the use of a gin pole. The gin pole would be used during training to raise 20-foot tower sections to the top, affixing the temporary tower sections to the 140-foot permanent tower, then dismantling and lowering the temporary tower sections. The temporary tower section would reach a height of 180 feet agl during training. (Tr. 3, pp. 207-209, 225, 234)

Emergency Backup Power

77. 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. (Council Administrative Notice Item No. 42)
78. In accordance with CGS §16-50ll, the Council, in consultation and coordination with DEEP, DESPP and 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. 28)
79. 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. 28)
80. AT&T would install a 50 kW diesel emergency generator on a concrete pad within the equipment compound. (Applicant 1, Tab 1)
81. Dunning, Marcus, and WBMW would not have an emergency power source. (Applicant 3, response 6)

82. 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)

Public Safety

83. 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)
84. The proposed facility would be in compliance with the requirements of the 911 Act and would provide Enhanced 911 services. (Applicant 1, p. 10)
85. Following the enactment of the 911 Act, the FCC mandated wireless carriers to provide enhanced 911 services (E911) that allow public safety dispatchers to determine a wireless caller's geographical location within several hundred feet. The proposed facility would become a component of AT&T's E911 network in this part of the state. (Applicant 1, p. 10)
86. AT&T would be able to support text-to-911 services nationwide in areas where municipal Public Safety Answering Points support text-to-911 technology (PSAP). 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 Administrative Notice No. 19; AT&T 2, response 14)
87. 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 (EAS) 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; AT&T 2, response 15)
88. The tower would be constructed in accordance with the Electronic Industries Association Standard "Structural Standards for Steel Antenna Towers and Antenna Support Structures" and the 2009 State Building Code. (Applicant 1, Tab 1)
89. The proposed equipment compound would be surrounded by an eight-foot high, anti-climb chain-link fence. The access gate would be controlled with an electronic key card. (Applicant 1, Tab 1; Tr. 1, p. 15)
90. The site would have video monitoring that would be checked periodically. (Tr. 1, p. 16, 62)
91. The tower would allow for tower construction and training on the use of gin-poles. No other towers in the U.S. are specific to tower training, except for a tower in the Midwest that was built by a gin pole manufacturer for use by its own employees. (Applicant 9; Tr. 1, p. 57)
92. The Town stated training activities at the site could be a burden to town emergency services in the event of an accident. (Town 3)

Environmental Considerations

93. The site is in a level area devoid of vegetation. (Applicant Tab 1)
94. No wetlands are located on the site property. The nearest wetland is a detention basin on the abutting Dunning property 350 feet southwest of the proposed tower site. (Applicant 1, Tab 19)
95. The site is not within a designated Federal Emergency Management Agency flood zone. (Applicant 1, Tab 16)
96. The site is adjacent to a DPH-designated aquifer protection zone. For construction activities within an aquifer protection zone, the DPH requests adherence to recommended site construction and site operation best management practices. (Applicant 12; Tr. 3, pp. 178-179; DPH letter of December 23, 2014)
97. The site is not within an area of known populations of Federal or State Endangered, Threatened or Special Concern Species. The site is adjacent to DEEP-identified sand barren critical habitat on a portion of the Dunning property to the north; however, it appears this habitat type has been eliminated due to ongoing excavation activities. (Applicant 1, p. 16, Tab 12, Tab 14)
98. Throughout the construction period of the proposed facility, the Applicant would establish and maintain appropriate soil erosion and sedimentation control measures, in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* established by the Connecticut Council for Soil and Water Conservation, in cooperation with the DEEP. (Applicant 1, Tab 12)
99. The Applicant received correspondence from the FAA indicating the proposed 180-foot tower would not constitute an obstruction or hazard to air navigation and would not require any obstruction marking or lighting. The Applicant would have to obtain a revised FAA review for a structure extending above 180 feet agl. (Applicant 4; Tr. 1, pp. 21-22)
100. The proposed facility is not located near an Important Bird Area (IBA), as designated by the National Audubon Society. The nearest IBA to the proposed tower site is Northwest Park in Windsor, approximately 12.4 miles northeast of the site. Due to the distance from the proposed site to the IBA, there would be no anticipated adverse impact to this IBA. (Applicant 1, Tab 17))
101. The proposed facility would comply with the United States Fish and Wildlife Service guidelines for minimizing the potential for telecommunications tower to impact bird species, including a tower height less than 199 feet, no lights on the tower, and no guy wires. (Council Administrative Notice No. 14; Applicant 1, Tab 17)
102. The proposed tower would have no effect on properties listed on or eligible for listing in the National Register of Historic Places. (Applicant 1, Tab 13)
103. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of the proposed antennas for all carriers/providers at the site is 28.8 percent of the standard for the General Public/Uncontrolled Maximum Permissible Exposure, as adopted by the FCC, at the base of the proposed tower. 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 telecommunication carrier antennas would be pointed at the base of the tower and all channels would be operating simultaneously, which creates the highest possible power density levels. Under normal operation, the telecommunication carriers 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. (Council Administrative Notice Item No. 2; Applicant 1, Tab 18)

Visibility

- 104. The proposed 180-foot tower would be visible year-round from approximately 210 acres, mostly from open areas (extraction area and a pond) south and east of the site. Some year-round views would be attained from roadways serving a residential area west of the site. (Applicant 1, Tab 11)
- 105. Approximately 20 residences within two miles of the site could have year-round views of the proposed facility. (Applicant 1, Tab 11; Applicant 6, response 7)
- 106. When the leaves are off the trees, generally November through April, the tower could be visible through trees from an additional 250 acres within two miles of the site. (Applicant 1, Tab 11 – Viewshed Map; Tr. 1, pp. 46-47)
- 107. An additional 100 residential properties could have views of the tower when leaves are off the trees. A majority of residential seasonal visibility would occur from the Highlands, a residentially developed area a quarter-mile west of the site. The Highlands development is generally on an east-facing hillside that rises from 245 feet amsl to 300 feet amsl. (Applicant 1, Tab 11 – Viewshed Map; Applicant 6, response 8; Town 7; Tr. 1, pp. 93-94, 124)
- 108. Visibility of the proposed 180-foot tower from specific locations within a two-mile radius of the site is presented in the table below:

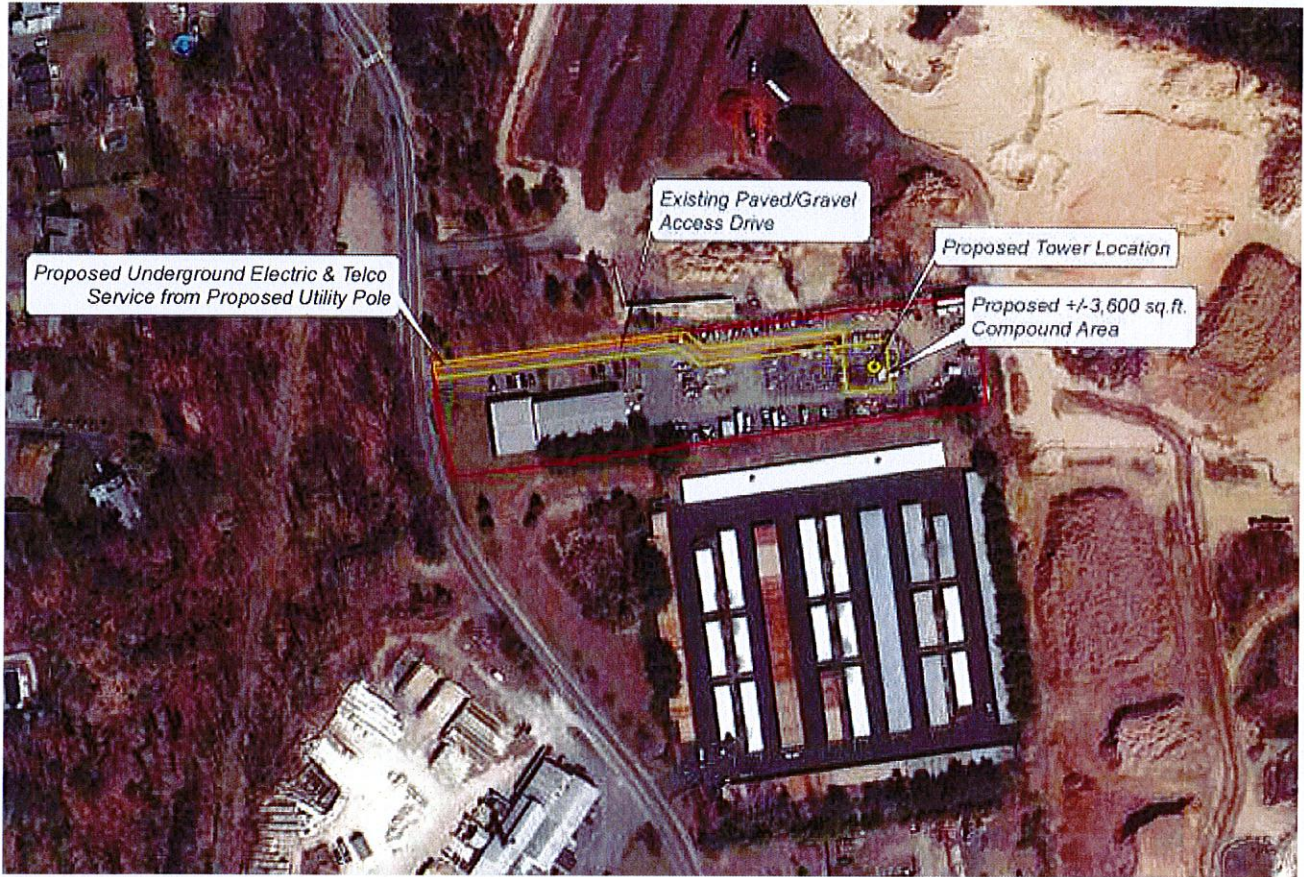
Specific Location	Photo location on Map*	Approx. Portion of Facility Visible	Approx. Distance - Direction to Tower
Farmington Avenue near Devonwood Drive	1	not visible	1.25 miles northwest
Winding Trails Recreation Area -- at pond	2	upper 40 feet, year-round	1.0 mile northwest
Greenbriar Drive - residential area	3	upper 140 feet, year-round	0.9 mile northwest
Grandview Drive - at pond edge	4	upper 40 feet, year-round	0.8 mile northwest
Oakridge Drive	5	through trees	1.0 mile northeast
Brickyard Road	6	upper 70 feet, year-round	0.4 mile north
Winding Trails Recreation Area, at playground	7	upper 130 feet, year-round	0.5 mile northwest
Cambridge Crossing, at utility line	8	not visible	0.7 mile west
Brickyard Road – Industrial Area	9	upper 120 feet, year-round	0.2 mile northeast
Brickyard Road, in front of #199	10	upper 140 feet	0.1 mile east
Brickyard Road, near rail trail crossing	11	upper 100 feet, year-round	0.1 mile southeast
Farmington Heritage rail trail, along Winding Trails property	12	not visible	0.4 mile south
Taskers Pond Road - residential	13	seasonal through trees	0.5 mile southeast
Champlain's Drive - residential	14	not visible	0.5 mile southeast

Farmington Heritage rail trail, Scoville Road, Avon	15	not visible	1.7 mile southwest
Basswood Road, at Wildwood Road - residential (Highlands area)	16	upper 100 feet, year-round	0.3 mile southeast
Michael Drive - residential (Highlands area)	17	120 feet through trees	0.4 mile southeast
Basswood Road, in front of #24, (Highlands area)	18	upper 35 feet above house	0.3 mile northeast
Tanglewood Road, in front of #10, (Highlands area)	19	60 feet through trees	0.4 mile east
Maplewood Road, #15, (Highlands area)	20	100 feet through trees	0.3 mile northeast
Rosewood Drive, #10, (Highlands area)	21	upper 90 feet, year-round	0.3 mile northeast





*Map with photo-locations attached as Figure 5.
 (Applicant 1, Tab 11; Applicant 3, response 12)

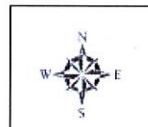
109. The proposed tower would be visible year-round and seasonally from some locations within Winding Trails, a private recreation complex approximately half-mile east of the site, adjacent to the Dunning property. (Applicant 1, Tab 11- Viewshed Map; Applicant 6, response 6; Tr. 3, pp. 273-274)
110. There are no scenic roads within two miles of the site. (Applicant 1, Tab 9)
111. Pursuant to C.G.S § 16-50p(a)(3)(G), no schools or commercial day care centers are within 250 feet of the site property. The nearest school is approximately 0.75 mile to the west. The nearest daycare center is approximately 0.4 mile to the south. There would be year-round visibility of the tower from both locations. (Applicant 1, Tab 11)
112. There are no other locations on the property that would reduce tower visibility to the surrounding area as the property has little vegetative screening. The site is located in the center of the rear storage yard, equidistant from the north and south property lines. The compound and lower section of the tower would be behind the on-site building so that direct views from Brickyard Road are blocked. The proposed location also allows the access to all sides of the facility, facilitating tower training operations. (Applicant 1, Tab 11; Applicant 6, response 3)
113. If a facility were approved at the proposed site, the Town would prefer a monopole rather than a lattice tower, believing the monopole would be less visible and would prevent training activities that increase visibility to residences in the area, both because a monopole is not as wide as a lattice tower and because a monopole would not accommodate training exercises that require tower sections and dummy antennas to be hoisted up and affixed to the structure. (Tr. 3, pp. 285-286)
114. The Applicant would not be willing to build a monopole on the site, as it cannot accommodate gin pole training. (Tr. 3, pp. 203, 206, 221-223)

Figure 1 – Aerial Photograph of Proposed Site Location



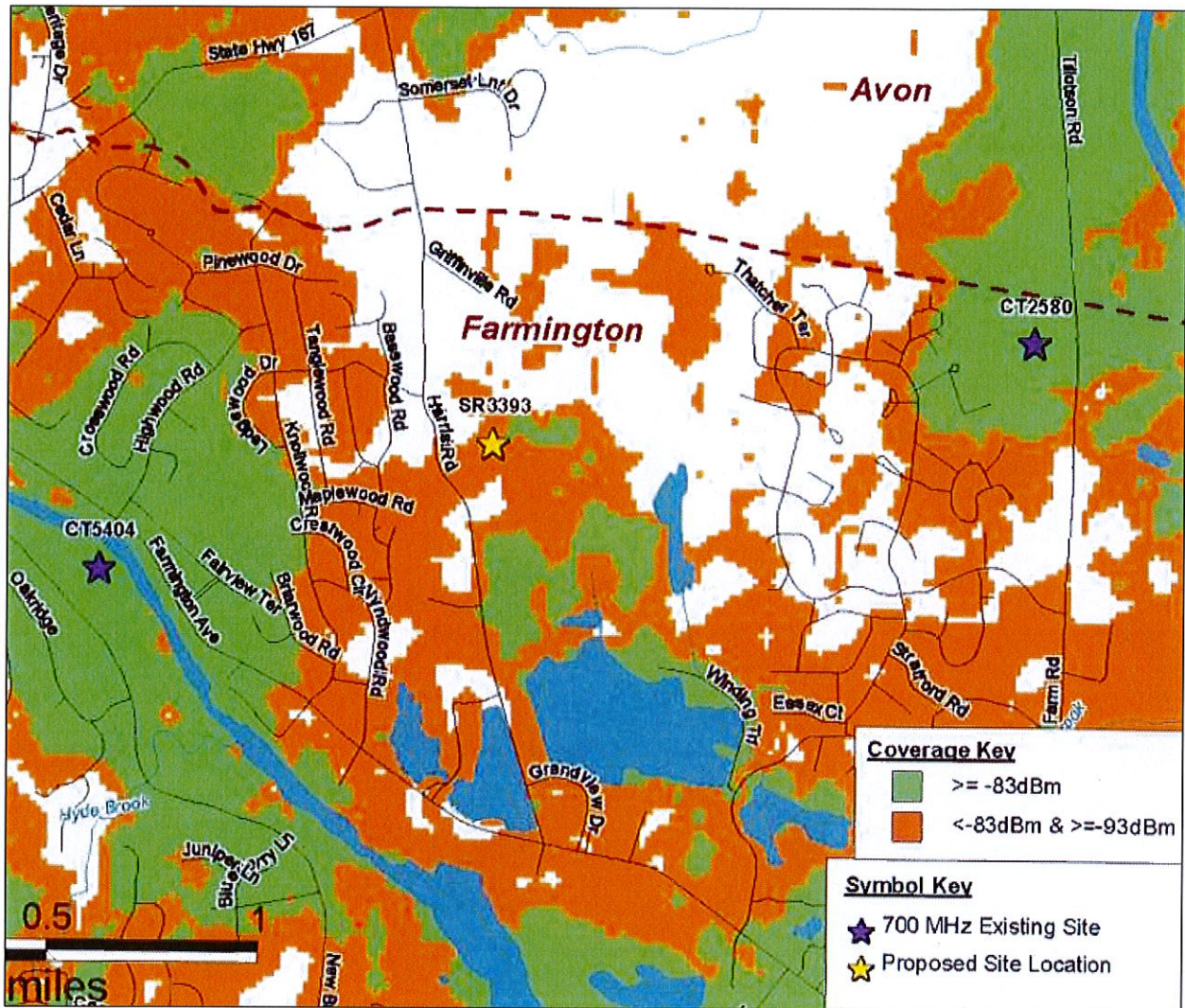
Legend

-  Proposed Tower Location
-  Proposed Underground Utilities
-  Proposed Site Layout
-  Subject Property



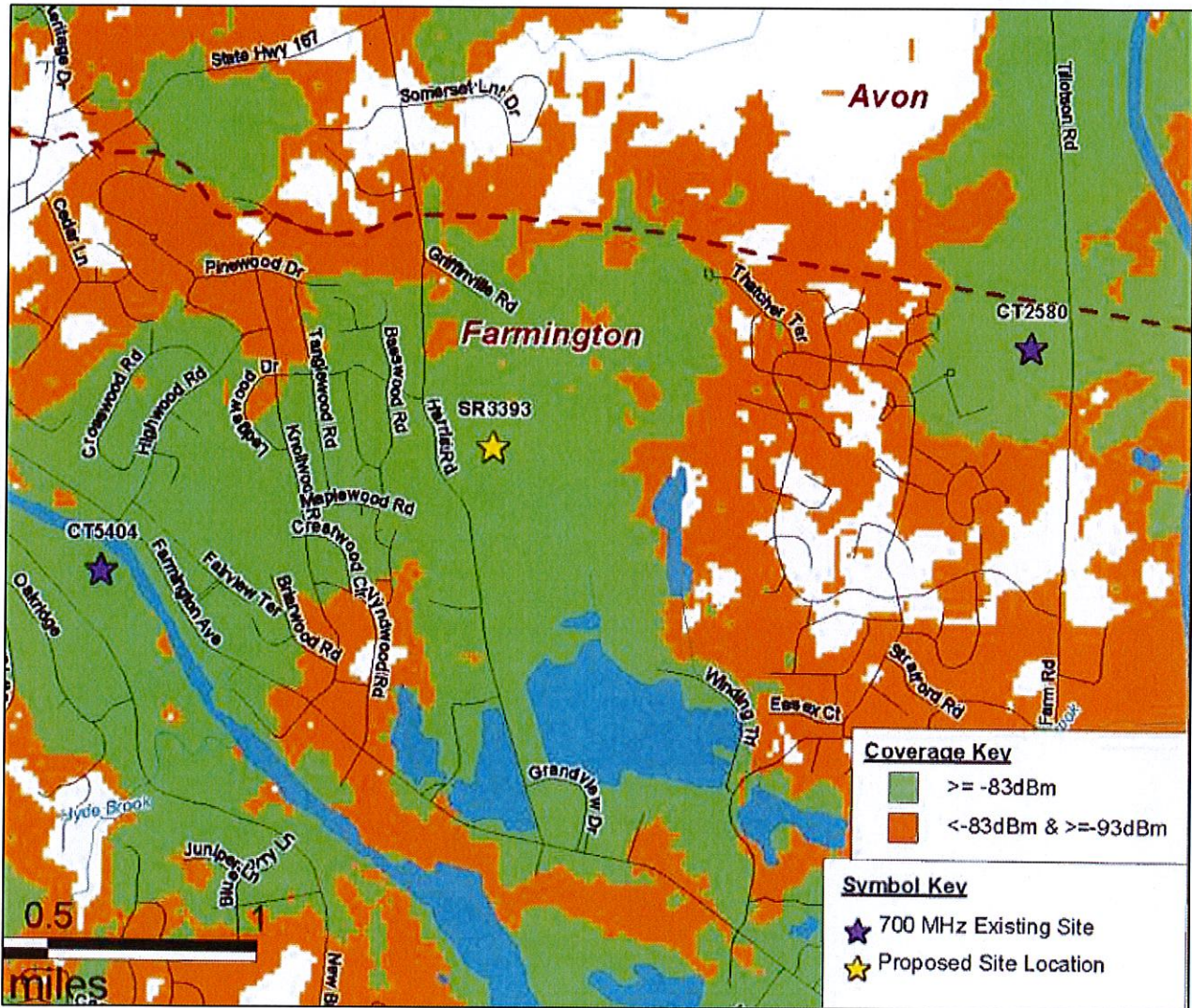
(Applicant 1, Tab 1)

Figure 2 – Existing 700 MHz service – AT&T



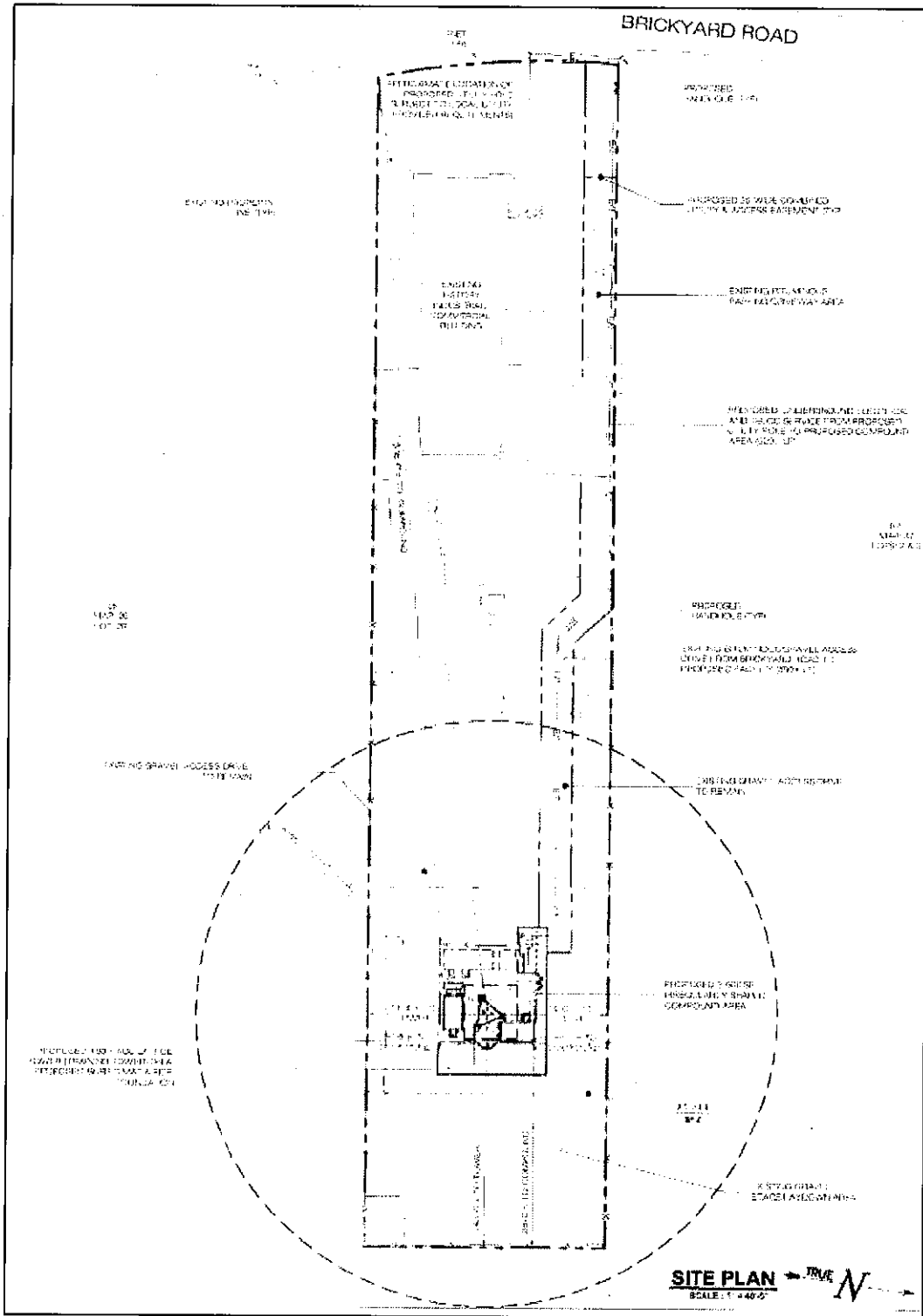
(Applicant 1, Tab 5)

Figure 3 – Existing and Proposed 700 MHz service – AT&T



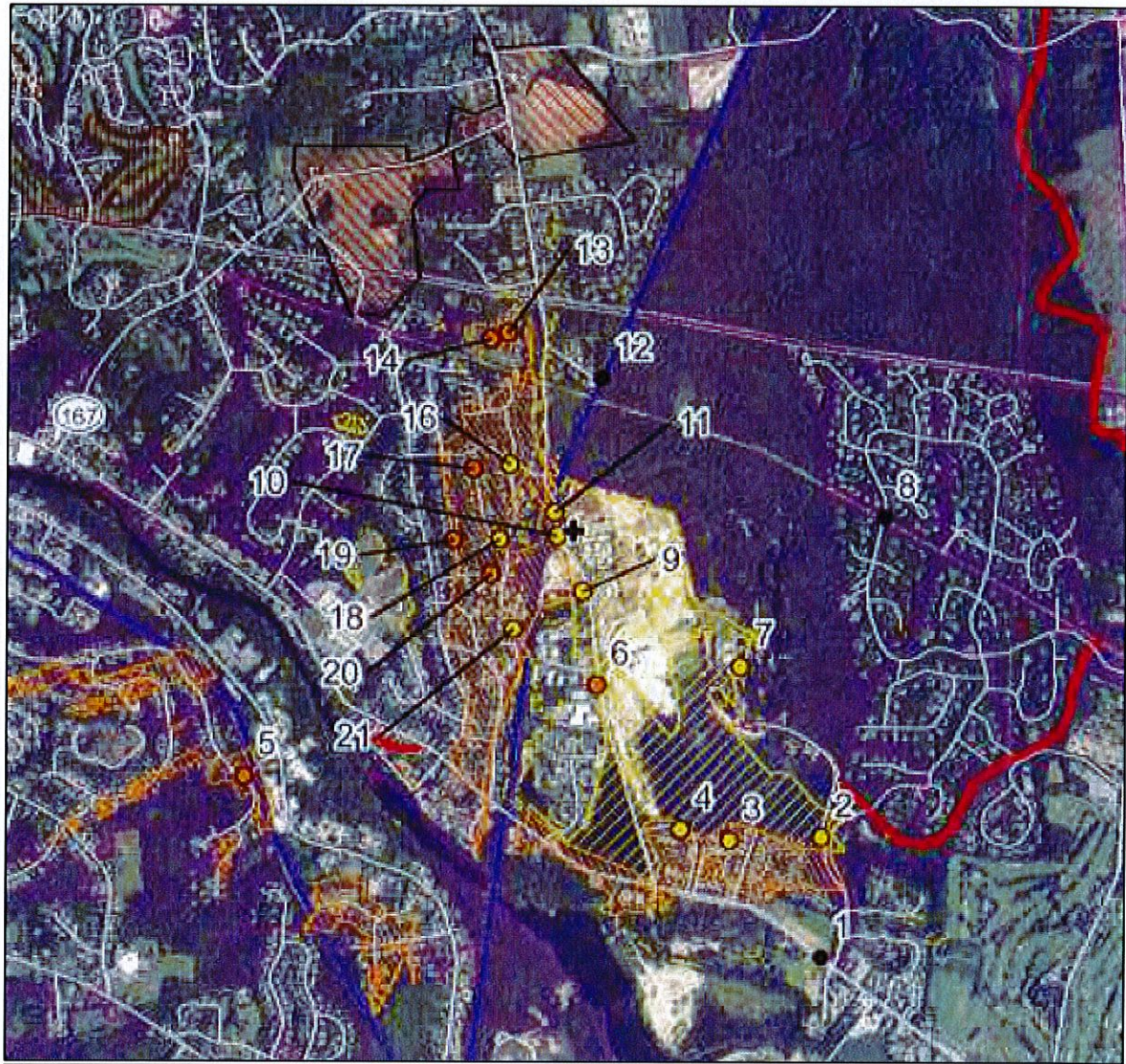
Proposed service is with antennas at 140 feet above ground level. (Applicant 1, Tab 5)

Figure 4 – Proposed Site Plan

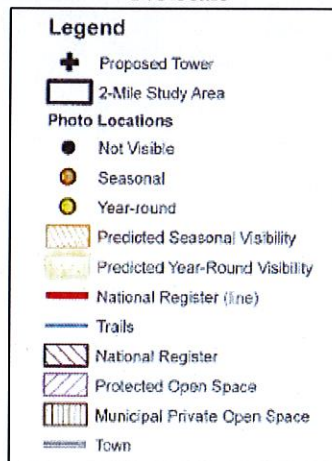


(Applicant 1, Tab 1)

Figure 5 – Visibility Analysis with a Proposed Tower Height of 180 feet



No scale



(Applicant 1, Tab 11 – Viewshed Map)

Figure 6 – Photo-simulation of proposed tower from map location 6 (Brickyard Road)



Simulation depicts AT&T antennas mounted at 140 feet above ground level. (Applicant 1, Tab 11)

Figure 7 – Photo-simulation of proposed tower from map location 7 (Winding Trails)



Simulation depicts AT&T antennas mounted at 140 feet above ground level. (Applicant 1, Tab 11)

Figure 8 – Photo-simulation of proposed tower from map location 16- Basswood Rd.



Simulation depicts AT&T antennas mounted at 140 feet above ground level. (Applicant 1, Tab 11)

Figure 9 - Photo-simulation of proposed tower from map location 20 - Maplewood Rd.



Simulation depicts AT&T antennas mounted at 140 feet above ground level. (Applicant 1, Tab 11)