

<p><b>DOCKET NO. 455</b> – Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at Southington Tax Assessor Map/Lot 066053, 99 East Street, Southington, Connecticut.</p>	<p>} } }</p>	<p>Connecticut  Siting  Council</p>
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May 14, 2015

## Findings of Fact

### Introduction

1. Cellco Partnership d/b/a Verizon Wireless (Cellco), in accordance with provisions of Connecticut General Statutes (CGS) § 16-50g, et seq., applied to the Connecticut Siting Council (Council) on December 30, 2014 for the construction, maintenance, and operation of a telecommunications facility, which would include a 90-foot tower disguised as a pine tree, at 99 East Street in the Town of Southington, Connecticut. (Cellco 1, pp. 1-2)
2. Cellco is a Delaware Partnership with an administrative office located at 99 East River Drive, East Hartford, Connecticut. Cellco is licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless services system within the meaning of CGS § 16-50i(a)(6). (Cellco 1, p. 2)
3. The party in this proceeding is the applicant - Cellco. (Transcript, March 10, 2015, 3:00 p.m. [Tr. 1], p. 4)
4. The purpose of the proposed facility is to replace an existing Cellco telecommunications facility located on West Peak in Meriden. In Docket No. 93, the Council granted a Certificate on April 27, 1988 to Cellco's predecessor Metro Mobile CTS of New Haven to install its antennas and equipment on an existing 150-foot self-supporting lattice tower. The existing facility was established early in the development of Verizon's network to provide wireless service to a large geographic area. (Cellco 1, p. i; Council Administrative Notice No. 27 – Docket No. 93)
5. Due to the evolution of the wireless industry, the existing facility creates problems due to interference with other existing Cellco facilities. Cellco has decided to eliminate its Meriden cell site and pursue two new replacement cell sites in the area. The tower that is being eliminated from Cellco's network is still being used by other users. These replacement facilities would provide substantially similar coverage and significant capacity relief to other existing cell sites in Meriden and Southington. One of the sites consists of antennas attached to an existing water tank at 528 Johnson Avenue in Meriden. The City of Meriden approved this co-location on December 10, 2014. The other site is the proposed facility, which would provide coverage and capacity relief along significant portions of Route 120, as well as local roads and residential and commercial land uses in south-central Southington. Cellco 1, pp. i-ii; Tr. 1, p. 63)
6. Pursuant to CGS § 16-50(b), Cellco published public notice of its intent to submit this application on December 22 and 23, 2014 in the Record-Journal. (Cellco 1, p. 3; Cellco 2, Affidavit of Publication)
7. Pursuant to CGS § 16-50(b), Cellco sent notices of its intent to file an application with the Council to each person appearing of record as owner of property abutting the property on which the site is located. (Cellco 1, p. 3; Attachment 4; Cellco 4, Q. 3)

8. Cellco received return receipts from all of the abutting property owners to whom it sent notice except for one. Cellco re-sent the notice via regular mail on January 15, 2015. (Cellco 4, Question (Q.) 3)
9. On December 30, 2014, Cellco provided copies of its application to all federal, state and local officials and agencies listed in CGS § 16-50/(b). (Cellco 1, p. 3; Attachment 2)

#### **Council Procedures**

10. Upon receipt of Cellco's application, the Council sent a letter to the Town of Southington on December 31, 2014 as notification that the application was received and is being processed in accordance with C.G.S. §16-50gg. (Record-Council letter to Southington Town Council Chairman, Michael Riccio)
11. The Council published a legal notice of the date and time of the public hearing in the Record-Journal on January 27, 2015 in accordance with C.G.S. §16-50m. (Record)
12. Pursuant to C.G.S. §16-50/(m), on January 23, 2015, the Council sent a letter to the Town of Southington to provide notification of the scheduled public hearing and to invite the municipality to participate. (Record)
13. In compliance with Regulations of Connecticut State Agencies (RCSA) §16-50j-21, on February 20, 2015, the applicant installed a four-foot by six-foot sign at the entrance to the host property giving the date of the public hearing and contact information for the Council. (Cellco 5, Affidavit of Sign Posting, dated February 23, 2015)
14. The Council and its staff, together with representatives of the applicant, and the public, conducted an inspection of the proposed site on March 10, 2015 beginning at approximately 2:00 p.m. During the field inspection, the applicant tethered a red balloon (four-foot diameter) at the proposed tower location at 95 feet above ground level (agl) to simulate the height of the proposed tower. Weather conditions were conducive for good visibility but moderate winds affected optimal balloon float. The balloon was aloft during the prescribed times (8:00 a.m. to 6:00 p.m.) for the convenience of the public. (Council's Hearing Procedure Memo dated December 18, 2014; Tr. 1, p. 12)
15. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on March 10, 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 Council Chambers of the Southington Town Hall, 196-200 North Main Street in Southington, Connecticut. (Tr. 1, p. 1; Transcript, March 10, 2015, 7:00 p.m. [Tr. 2], p. 83.)

#### **State Agency Comment**

16. Pursuant to C.G.S. § 16-50j (g), on January 23, 2015, and March 11, 2015, the Council solicited written comments regarding the proposed facility from the following State agencies: 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); Department of Emergency Management and Public Protection (DESPP); Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO). (Record)
17. DOT responded to the Council's solicitation with no comments. (DOT letter, dated January 16, 2015)

18. The DPH responded to the Council's solicitation by noting that the proposed facility is located within an Aquifer Protection Area designated by the Southington Water Department and offering recommendations to protect a public water supply. (See Finding of Facts No. 93 and 94)(DPH letter, dated February 4, 2015)
19. No comments were submitted by DEEP; CEQ; PURA; OPM; DECD; DOAg; DESPP; CAA and SHPO. (Record)

#### **Municipal Consultation**

20. On July 9, 2014, Cellco representatives met with Southington's Deputy Town Manager, Town Attorney, and Director of Planning and Development to begin the 90-day municipal consultation process. At this meeting, Cellco distributed copies of technical information summarizing its proposed facility. (Cellco 1, pp. 19-20)
21. The Town of Southington requested the top position on the tower be reserved for future use. A ten-foot separation is typically needed between antennas. (Cellco 1, p. 13; Cellco 4, Q. 16; Tr. 1 pp. 22-24)
22. At the Town's request, Cellco representatives hosted a public information meeting at the Southington Town Hall on September 18, 2014. At this meeting, Cellco discussed the need for and the details of its proposed facility. Notice of the meeting was sent to owners of properties abutting the town-owned host parcel. Notice of the meeting was also published in the Southington Observer. (Cellco 1, p. 20)

#### **Public Need for Service**

23. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services in part through the adoption of the Federal Telecommunications Act (Act). A core purpose of the Act was to "provide for a competitive, deregulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies to all Americans." (Cellco 1, p. 4; Council Administrative Notice Item No. 4 - Telecommunications Act of 1996)
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. (Council Administrative Notice Item No. 4 - Telecommunications Act of 1996)
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 - Telecommunications Act of 1996)
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 - Telecommunications Act of 1996)

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 - Telecommunications Act of 1996)
28. 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 4 - Telecommunications Act of 1996)
29. 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 19 - Connecting America: The National Broadband Plan)
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 (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 -Barack Obama Presidential Proclamation 8460, Critical Infrastructure Protection)
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 8- Middle Class Tax Relief and Job Creation Act of 2012)
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 Admin Notice Item 22 – FCC Wireless Infrastructure Report and Order; Council Admin Notice Item 12 – Presidential Order No. 13616, Accelerating Broadband Infrastructure Development)

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. 18, FCC Public Notice – Wireless Telecommunications Bureau offers guidance on interpretation of Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012; Council Administrative Notice Item No. 22, FCC Wireless Infrastructure Report and Order)
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 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)

#### **Public Safety**

35. 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. (Cellco 1, p. 5; Council Administrative Notice Item No. 6, 911 Act)
36. Following the enactment of the 911 Act, the FCC mandated wireless carriers to provide Enhanced 911 services (E911) to allow public safety dispatchers to determine a wireless caller's geographical location within several hundred feet. (Cellco 1, p. 5)
37. Cellco's antennas would comply with E911 requirements. (Cellco 4, Q. 18)
38. The antennas Cellco would install on this proposed tower would support text-to-911 and would be compatible with any Public Safety Answering Point (PSAP) that could be established in the vicinity. (Cellco 4, Q. 17)

39. Pursuant to the Warning, Alert and Response Network Act of 2006, the FCC has established a Personal Localized Alerting Network (PLAN) that requires wireless communication providers to issue text message alerts from Federal bodies including the President of the United States. PLAN would allow the public to receive e-mails and text messages on mobile devices based on geographic location. The proposed facility would enable the public to receive e-mails and text messages from the CT Alert Emergency Notification System. (Council Administrative Notice Item No. 21 – Department of Emergency Services and Public Protection, Division of Emergency Management and Homeland Security, State of Connecticut State Response Framework, Version 2.0, August 2011, Appendix A, p. 2)
40. Cellco's proposed tower would be designed in accordance with the specifications of the Electronic Industries Association Standard EIA/TIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures." The diameter of the tower would be approximately 55 inches at its base and 30 inches at its top. (Cellco 1, Attachment 1, p. 6)
41. The compound of the proposed facility would be enclosed by an eight-foot chain link fence with small mesh, slats, and barbed wire at the top. (Cellco 1, Attachment 1, Sheet C-5; Tr. 1, p. 39)
42. The setback radius of the proposed tower would lie completely within host property. (Cellco 1, Attachment 1, Sheet C-1A)

#### **Existing and Proposed Wireless Coverage**

43. Cellco maintains three existing telecommunications facilities within two and one half miles of the proposed site. These facilities are previously identified as Cellco's Milldale, Southington 2, and Berlin 3 sites. None of these existing facilities serve the area of need that the proposed facility would serve. In addition, the Milldale site is currently at or near its capacity limits, which results in significant reductions in reliable wireless service in this area. The proposed facility would provide some capacity relief to the Milldale site. (Cellco 1, Attachment 8, pp. 1-2)
44. In the Hartford-New Britain-Bristol CT market area, Cellco holds licenses issued by the FCC for the "A" block of the 800 MHz cellular frequencies, the "F" block of PCS frequencies in the 1975 to 1890 MHz frequency range, the "C" block of the 700 MHz upper band frequency and the "A/B/E" blocks of the 700 MHz lower band frequency, and the AW-AWS 1710-1755/2110-2155 MHz frequency bands. (Cellco 1, Attachment 5)
45. Cellco's minimum signal strength design threshold for Code Division Multiple Access (CDMA) service is -85 dBm, Receive Signal Strength Indicator (RSSI) for in-vehicle service and -75 dBm RSSI for in-building service. For Long Term Evolution (LTE) service, Cellco's minimum design threshold is 114 dB Reverse Link Operational Path Loss (RL OPL) for in-vehicle service and 95 dB RL OPL for in-building service. (Cellco 4, Q. 4; Tr. 1, pp. 21-22)
46. Cellco's existing CDMA signal strengths, without its West Peak facility in Meriden, range from -74 dBm to -97 dBm in the area to be covered from the proposed facility. Its existing LTE signal strengths, without the West Peak facility, range from 109 dB to 135 dB. (Cellco 4, Q. 5)
47. Cellco's statistics indicate that the West Peak facility experiences an average of 371 dropped calls per day, which is 1.03% of total call volume, and an average of 417 ineffective call attempts, which is 1.5% of total call attempts per day. Cellco uses other indicators of substandard service as well, including monthly baseline drive data, propagation modeling tools, customer complaints, and system performance monitoring reports. (Cellco 4, Q. 6)

48. Cellco allows up to a 0.5 percent drop call/ineffective call attempt threshold in its service standards. (Tr. 1, pp. 18-21)
49. The length of Cellco’s coverage gaps on nearby major roads are indicated in the following table:  
 (See Figures 4,6,8,10)

Frequency	Existing Coverage Gaps without West Peak Facility	
	Coverage Gaps on Rte. 120	Coverage Gaps on Rte. 364
700 MHz	1.7 miles	1.9 miles
850 MHz	1.2 miles	2.3 miles
1900 MHz	1.9 miles	1.7 miles
2100 MHz	1.6 miles	1.4 miles

(Cellco 4, Q. 7)

50. The table below indicates the coverage Cellco anticipates from the proposed facility at its different licensed frequencies, both the distance covered along Route 120 and Route 364, and the total area covered. (See Figures 5,7,9,11)

Frequency	Projected Coverage (antenna centerline 80 feet agl)		
	Distance Covered on Rte. 120	Distance Covered on Rte. 364	Area Covered
700 MHz	3.1 miles	2.3 miles	11.9 square miles
850 MHz	3.0 miles	2.0 miles	13.3 square miles
1900 MHz	2.6 miles	1.9 miles	7.3 square miles
2100 MHz	2.8 miles	1.6 miles	5.6 square miles

(Cellco 1, p. 8 and Tab 6; Cellco 4, Q. 9)

51. Projected population expected to be served in different frequency bands:

Frequency	Projected Population Coverage	
	Area Covered	Population Covered
700 MHz	11.9 square miles	16,693
850 MHz	13.3 square miles	17,461
1900 MHz	7.3 square miles	11,144
2100 MHz	5.6 square miles	9,000

(Cellco 4, Q. 9)

52. Daily vehicle trips for Route 120 and Route 364 are 3,321 and 3,456, respectively. (Cellco 4, Q. 10, Tr. 1, p. 17)
53. Cellco’s proposed facility would hand off signals with and provide coverage and capacity relief between the adjacent facilities identified in the following table.

Adjacent Facilities	Distance and Direction from Proposed Site
Milldale – 1394 Meriden-Waterbury Turnpike, Southington	1.8 miles, SW
Southington 2 – 168 Center Street, Southington	1.5 miles, NW
Berlin 3 – 1684 Chamberlin Highway, Berlin	3.0 miles, E
Southington 4- 625 Spring Street	4.0 miles, NW

(Cellco 1, p. 9; Cellco 4, Q. 1)

54. The lowest feasible height at which Cellco's antennas could achieve the coverage objective for this site is 80 feet agl. At heights lower than this, coverage to the north, east and southeast would be curtailed, in large part due to the proximity of mature trees. (Cellco 4, Q. 2)
55. No other wireless carriers expressed an interest in sharing the proposed facility, (Cellco 1, p. 8; T-Mobile letter dated January 29, 2015)

#### Site Selection

56. Cellco initiated a search for a site in this vicinity in November 2012. (Cellco 1, p. 12)
57. Cellco identified and investigated seven properties during its site search process. These properties and the determinations of their suitability are listed below.
  - a. 99 East Street, Southington – This is the property on which Cellco's proposed site would be located.
  - b. Village Gate Drive, Southington – This is a parcel owned by the Southington Water Department, which was not interested in leasing space to Cellco.
  - c. CT DOT Garage, Tanya Court, Southington – CT DOT has a maintenance garage at this location in a residential area. DOT was not interested in leasing space to Cellco.
  - d. 77 Faye Lane – Cellco considered this address, but it was rejected by Cellco's RF engineers.
  - e. 630 Savage Street – Mountain Grove Club - Cellco considered this address, but it was rejected by Cellco's RF engineers.
  - f. 150 Savage Street – Southington Country Club – Cellco was unable to find a suitable location on the country club for tower site and compound.
  - g. Savage Street – Cellco investigated this 18-acre parcel off of Steeplechase Drive, but its owner was not interested in leasing space to Cellco. (Cellco 1, Attachment 8)
58. Cellco could not identify any existing, non-tower structures high enough and available for lease to be suitable as a location for its proposed facility. (Cellco 1, p. 12)
59. Cellco did not consider installing antennas on one of the transmission line towers (80-90 feet in height) located approximately 270 feet west of the proposed site because of concerns about limited and controlled access imposed by Eversource Energy (Eversource) d/b/a Connecticut Light and Power Company, which would make the installation and maintenance of cell site equipment difficult. (Cellco 1, Tab 4, Aerial Photograph; Cellco 4, Q. 15; Tr. 1, pp. 30-35)
60. Cellco examined the use of two AM radio towers, 250 feet in height, located at 440 Old Turnpike Road, approximately one mile west of the proposed site. Cellco ascertained that the location is approximately 2,600 feet west of the search ring perimeter, that an AM tower's power would need to be turned off for any work on the tower, that the existing light duty tower may need to be reinforced, and that grounding systems associated with AM radio towers are extensive in materials and space. (Cellco 1, Tab 8; Tr. 2, pp. 104-106)



61. Cellco determined that an antenna height of 140 to 150 feet would be required on the radio towers to provide some but not all coverage compared to the proposed site. Also, the distance between the radio towers and Cellco's existing Milldale and Southington 2 sites, is approximately 1.23 miles and 1.3 miles, respectively. Cellco expects interference with these two sites if antennas are placed on the radio towers. (Tr. 2, pp. 106-107)
62. Eversource owns a tower off Belleview Avenue located approximately 1,660 feet northwest of the proposed site, adjacent to a substation, and operates a microwave communications link at this tower. Eversource operates similar facilities throughout the Northeast, but, for safety and security reasons, does not permit carriers to use any of them. (Cellco 6, Photolog; Tr. 1, p. 53; Tr. 2, pp. 110-111)
63. Cellco considered stealth designs for its proposed tower. A pole with concealed antennas was considered and rejected based on its inability to support a full array of antennas at one level. A silo was not considered because Cellco does not believe a silo would blend in with the existing land use. Also, further review by the SHPO would be required. (Tr. 1, pp. 13-16)
64. Cellco decided to use a monopine as its stealth design. The monopine would be capable of being extended 20 feet in height. (Tr. 1, pp. 13, 14 and 24)
65. Cellco could not identify any equally effective technological alternatives to the proposed facility that would provide service of comparable quality. (Cellco 1, p. 11)

#### **Facility Description**

66. The proposed facility would be located in the westerly portion of a 27-acre parcel at 99 East Street, owned by the Town of Southington and used, in part, as a leaf composting facility. (See Figure 1) (Cellco 1, pp. i-ii; Attachment 1)
67. The host property is zoned R-20/25, a district for single family residences requiring a minimum lot size of 22,500 square feet. Town zoning regulations allow for wireless telecommunications facilities on publicly-owned parcels in excess of eight acres with the issuance of a Special Permit from the Planning and Zoning Commission. (Cellco 1, p. 18; Cellco Bulk Filing: Town of Southington Zoning Regulations)
68. Cellco would lease a 50-foot by 50-foot parcel within which it would develop a 50-foot by 50-foot compound. The compound would include a 90-foot tower to be disguised as a pine tree, or monopine. The overall height of the tower, with camouflage branches in place, would be 97 feet. The compound would also include a 12-foot by 30-foot equipment shelter for Cellco's radio equipment. The compound would be enclosed by an eight-foot high small mesh chain link fence topped with barbed wire. (See Figure 3)(Cellco 1, Attachment 1)
69. Cellco would plant eight-foot tall evergreen trees, either Norway spruce, white spruce or a combination of both, around most of the perimeter of the proposed compound to provide a vegetative screen. (Cellco 1, Attachment 1, Sheet C-2; Cellco 4, Q. 20)
70. The proposed tower would be located at 41° 35' 01.12" North latitude and 72° 51' 52.87" West longitude. Its elevation at ground level would be approximately 198 feet above mean sea level. (Cellco 1, Attachment 1, p. 4)
71. Cellco would install 12 panel-type antennas — three 700 MHz antennas, three 850 MHz antennas, three 1900 MHz antennas, and three 2100 MHz antennas — at a centerline height of 80 feet agl. (Cellco 1, p. ii)

72. The Town has reserved the top portion of the tower for its future use, and, in fact, requested that Cellco build a tower 10 feet higher than it needed so that the Town could utilize the top portion of the tower for its communications purposes. The time when the Town would install its antennas has not been determined. (Cellco 1, p. 13; Cellco 4, Q. 16; Tr. 1, pp. 22-27)
73. Vehicular access to the proposed facility would extend from East Street over an existing dirt and gravel driveway for a distance of approximately 600 feet, which Cellco will improve with gravel, and then over a new 12-foot wide, gravel driveway for an additional distance of 160 feet. (Cellco 1, Tab 1, p. 5 and site plan C-1A)
74. Utilities for the proposed facility would be extended underground from existing service on East Street along the easterly side of the property via a proposed 20-foot wide utility easement. (Cellco 1, p. ii; Attachment 1 – Aerial Photograph)
75. Cellco does not anticipate a need for blasting to construct the proposed facility. However, a full Geotechnical Study would be performed prior to finalizing construction plans. (Cellco 4, Q. 8)
76. Construction of the proposed facility would require minimal clearing and grading. (Cellco 1, Attachment 1, p. 7)
77. No schools or commercial child day care facilities are located within 250 feet of the host property. The nearest schools are Alta at the Pine Center (to the northwest) and South End School (to the southwest), both approximately 1.1 miles away. The nearest commercial day care center is Bright Beginnings Too at 581 Meriden Avenue, approximately 0.25 mile to the west. (Cellco 1, Attachment 9 – Visibility Analysis: Proximity to Schools and Commercial Child Day Care Centers, p. 5)
78. The nearest non-Town property boundary to the proposed tower is located approximately 360 feet to the southeast at 163 East Street. It is owned by Rene Hall. This property also has the nearest residence to the proposed tower's location. The Hall residence is approximately 450 feet from the tower location. (Cellco 1, Attachment 1, Sheet C-1)
79. There are approximately 40 residences within 1,000 feet of the proposed facility. (Cellco 1, p. 15)
80. Surrounding land uses consist primarily of residential to the south and west, agricultural to the north, and open space to the east. (Cellco 1, Attachment 1, Site Evaluation Report)
81. Construction of the proposed facility would take approximately ten weeks. The site engineering, delivery of materials and preparation stage would take an estimated five weeks. Installation of the tower, compound, antennas, and associated equipment would take an additional three weeks. Facility integration and system testing would take an additional two weeks. (Cellco 1, p. 22)
82. The estimated cost of the proposed facility is:

Cell site radio equipment	\$ 450,000
Tower, coax and antenna costs	155,000
Power systems	40,000
Equipment building costs	50,000
Miscellaneous cost	120,000
<b>Total Estimated Costs</b>	<b>\$815,000</b>

(Cellco 1, p. 21)

**Backup Power**

83. 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. Two of the Panel's findings are as follows:
- a. "Wireless telecommunications service providers were not prepared to serve residential and business customers during a power outage. Certain companies had limited backup generator capacity;" and
  - b. "The failure of a large portion of Connecticut's telecommunications system during the two storms is a life safety issue."

(Council Administrative Notice Item No. 42-Final Report of the Two Storm Panel.)

84. The Panel made the following recommendations:
- a. "State regulatory bodies should review telecommunications services currently in place to verify that the vendors have sufficient generator and backhaul capacity to meet the emergency needs of consumers and businesses;" and
  - b. The Connecticut Siting Council should require continuity of service plans for any cellular tower to be erected. In addition, where possible, the Siting Council should issue clear and uniform standards for issues including, but not limited to, generators, battery backups, backhaul capacity, and response times for existing cellular towers.

(Council Administrative Notice Item No. 42-Final Report of the Two Storm Panel.)

85. The Council's Feasibility Study of backup power requirements for telecommunications towers and antennas included consideration of the following matters:
- a. Federal, state and local jurisdictional issues of such backup power requirements, including, but not limited to, siting issues;
  - b. Similar laws or initiatives in other states;
  - c. The technical and legal feasibility of such backup power requirements;
  - d. The environmental issues concerning such backup power; and
  - e. Any other issue concerning backup power that PURA deems relevant to such study.

(Council Administrative Notice Item No. 26-Council Docket No. 432)

86. The Council reached the following conclusions in its Feasibility Study of backup power requirements for telecommunications towers and antennas:
- 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. 26-Council Docket No. 432.)

87. 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)

88. For backup power at this facility, Cellco would utilize a 35-kilowatt propane-fueled generator with a 1,000 gallon propane tank. The propane tank would be installed above ground south of the equipment building within the fenced compound. The generator would be capable of running at full load for 130 hours before needing to be refueled. Spills of coolant/lubricant from the generator would be contained within the equipment building. (Cellco 1, Attachment 1 – Environmental Assessment Statement and Plan C-2; Cellco 4, Qs. 11 and 12; Tr. 1, p. 50)
89. Cellco would also utilize battery back-up systems to prevent any momentary interruptions in service between the time a power outage starts and the backup generator turns on. (Cellco 4, Q. 13)

### **Environmental Considerations**

90. According to DEEP's Natural Diversity Database (NDDB), the Spotted Turtle (*Clemmys guttata*), a candidate State Special Concern species, may occur in the vicinity of the proposed facility. (Cellco 1, p. 16; Attachment 11)
91. Cellco would employ measures to protect the Spotted Turtles during the construction of the proposed facility: particularly, education of construction crew, installation of erosion and sediment controls to enclose the construction site when work is idle, and sweeps when approaching the work site. (Cellco 1, p. 16, Tr. 1, pp. 42-46)
92. The DPH, Drinking Water Section, determined the proposed facility is within an aquifer protection area for Southington Water Department's Wells Number 7 and 8. The DPH recommends the following for both construction and permanent operation:
  - "Servicing of machinery should be completed outside of the aquifer protection area. If this is not feasible, servicing within the APA should only be conducted at an appropriate service and repair facility.
  - Refueling of vehicles or machinery should take place on an impervious pad with secondary containment designed to contain fuels. Fuel and hazardous materials should not be stored within the APA. Any fuel or hazardous materials that must be kept within the APA during work hours should be stored on an impervious surface utilizing secondary containment.
  - A fuel spill remediation kit should be stored on-site so that any spills may be contained and cleaned quickly.
  - A responsible party should be identified for maintenance, inspection, repair, and replacement and incorporation of new controls as may become necessary.
  - Southington Water Department personnel should be allowed to periodically inspect this project to ensure that drinking water quality is not being adversely impacted."(Department of Public Health letter dated February 4, 2015)
93. Cellco would provide erosion and sediment controls, petroleum/hazardous materials storage and spill prevention measures, herbicide/pesticide restrictions, a storm management system, and notifications within the Development and Management Plan to address the DPH recommendations. (Cellco 7; Tr. 1, pp. 49-50)
94. To preserve the agricultural uses on part of this property, the Town requested the tower be located at the edge of the field, near a wooded area. (Tr. 1, pp. 42 and 43)

95. Four trees with a diameter of ten inches or more at breast height would be removed to construct the proposed facility. (Cellco 1, Attachment 1 – Site Evaluation Report)
96. The nearest inland wetland is located approximately 113 feet northeast of the limits of clearing for the proposed facility. This area is part of a large, expansive wetland system associated with the floodplain of Misery Brook, which is located approximately 1,000 feet to the east. (Cellco 1, Attachment 1, p. 4; Attachment 14 – Wetland & Vernal Pool Evaluation)
97. Within this wetland system, two distinct “cryptic type” vernal pools are located to the north and east of the proposed facility. The edges of vernal pool 1 and vernal pool 2 to the proposed site are approximately 145 feet and 137 feet away, respectively. Field observations indicate that these vernal pools can be assumed to have the highest possible biological value. The critical terrestrial habitat (CTH) of the two vernal pools has already been compromised in that it is more than 25 percent developed. Vernal pool 1 has 36.3 percent of its CTH developed and vernal pool 2 has 28.7 percent. The proposed facility would result in a 0.05 percent increase in development for the total CTH per vernal pool envelope. (See Figure 2) (Cellco 1, Attachment 14 - Wetland & Vernal Pool Evaluation; Tr. 1, pp. 40, 42, and 65)
98. To protect the vernal pools the following recommended best development practices include Erosion and Sediment Controls; Contractor Education; Petroleum material storage and spill prevention; Protective measures; Herbicide and Pesticide restrictions; and Reporting if construction occurs during the peak amphibian movement period March 1-May 15 and the late summer dispersal period July 15-September 15. (Cellco 1, Attachment 14 - Wetland & Vernal Pool Evaluation, p. 7)
99. The proper installation and maintenance of sedimentation and erosion controls, in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* established by the Connecticut Council for Soil and Water Conservation, during construction would minimize any potential short-term impacts on the nearby wetland area. (Cellco 1, Attachment 14 - Wetland & Vernal Pool Evaluation, p. 10)
100. According to the Federal Emergency Management Agency’s Flood Insurance Rate Map, the proposed facility is located outside of the 500-year flood zone, Flood Zone X. (Cellco 1, p. 19; Attachment 15)
101. The closest Important Bird Area to the proposed facility is the Naugatuck State Forest Preserve, which is located approximately 12.5 miles to the southwest. (Cellco 1, Attachment 12)
102. Connecticut Critical Habitats, as listed by DEEP, depict the classification and distribution of 25 rare and specialized wildlife habitats in the State. The nearest Critical Habitat, which is denoted as Tamarack Swamp, is located 1.37 miles to the northwest of the proposed facility. At this distance, no adverse impacts from the facility would be anticipated. (Cellco 1, Attachment 12)
103. The proposed facility would comply with the recommended guidelines of the US Fish and Wildlife Service for minimizing potential impacts on bird species. (Cellco 1, Attachment 12)
104. The proposed tower at this site would not constitute an obstruction or hazard to air navigation and would not require any obstruction marking or lighting. (Cellco 1, p. 20; Attachment 16)

105. An historic resource was identified at 391 Belleview Avenue, the Dr. J. Porter House. This resource is approximately 1,320 feet northwest of the proposed site. No other cultural or historic resources were identified within the 0.5 mile area of potential effect. (Cellco 6)
106. The State Historic Preservation Office determined “no adverse effect on contributing resources listed or eligible for listing on the National Register of Historic Places, with the following conditions:
- a) The 97’ monopine and associated equipment within the 50’ by 50’ fenced compound will be designed and installed to be as non-visible as possible,
  - b) If not in use for six consecutive months, the monopole and associated equipment shall be removed by the telecommunications facility owner. This removal shall occur within 90 days of the end of such six-month period.”
- (Cellco 8)
107. The cumulative power density from the radio frequency emissions from the operation of Cellco’s proposed antennas, based on far field approximations, would be 12.23% of the standard for the General Public/Uncontrolled Maximum Permissible Exposure, as adopted by the FCC. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997). The Far Field approximations are conservative approximations for radio frequency power density levels at various distances from the base of the tower. (Cellco 1, p. 17, Attachment 13)

**Visibility**

108. Visibility of the proposed tower would be generally limited to the host property and its immediate vicinity (within 0.25 mile). (Cellco 1, Attachment 9, p. 5)
109. The proposed tower would be visible above the tree canopy on a year-round basis from approximately 30 acres in the surrounding vicinity. (Cellco 1, Attachment 9, p. 5)
110. The proposed tower would be seasonally visible (during “leaf-off” conditions) from approximately 67± additional acres. (Cellco 1, pp. 14-15; Attachment 9, p. 5)
111. The visibility of the proposed tower from different vantage points in the surrounding vicinity is summarized in the following table. (See Figures 12 and 13)

<u>Location</u>	<u>Visibility</u>	<u>Approx. Portion of (97’) Tower Visible</u>	<u>Approx. Distance and Direction to Tower</u>
1 – Strawberry Lane	Year-round	20’	580 feet, E
2 – Blueberry Lane	Year-round	10’	850 feet, SE
3 – Meriden Avenue	Year-round	20’	1370 feet, E
4 – East Street	Year-round	20’	690 feet, NE
5 – South Plains Road at East Street	Year-round	30’	740 feet, N
6 – East Street	Year-round	50’	630 feet, N





(Cellco 1, Attachment 9 – Visibility Analysis)

112. The proposed tower may be visible to the west-facing slopes of the Hanging Hills within West Peak State Park, which include a trail system. However, the separating distance, the low height of the proposed tower, and the monopine design would make the tower difficult to discern from the Hanging Hills. (Cellco 4, Q. 14)

**Figure 1 – Aerial Image of the Proposed Site**



**Legend**

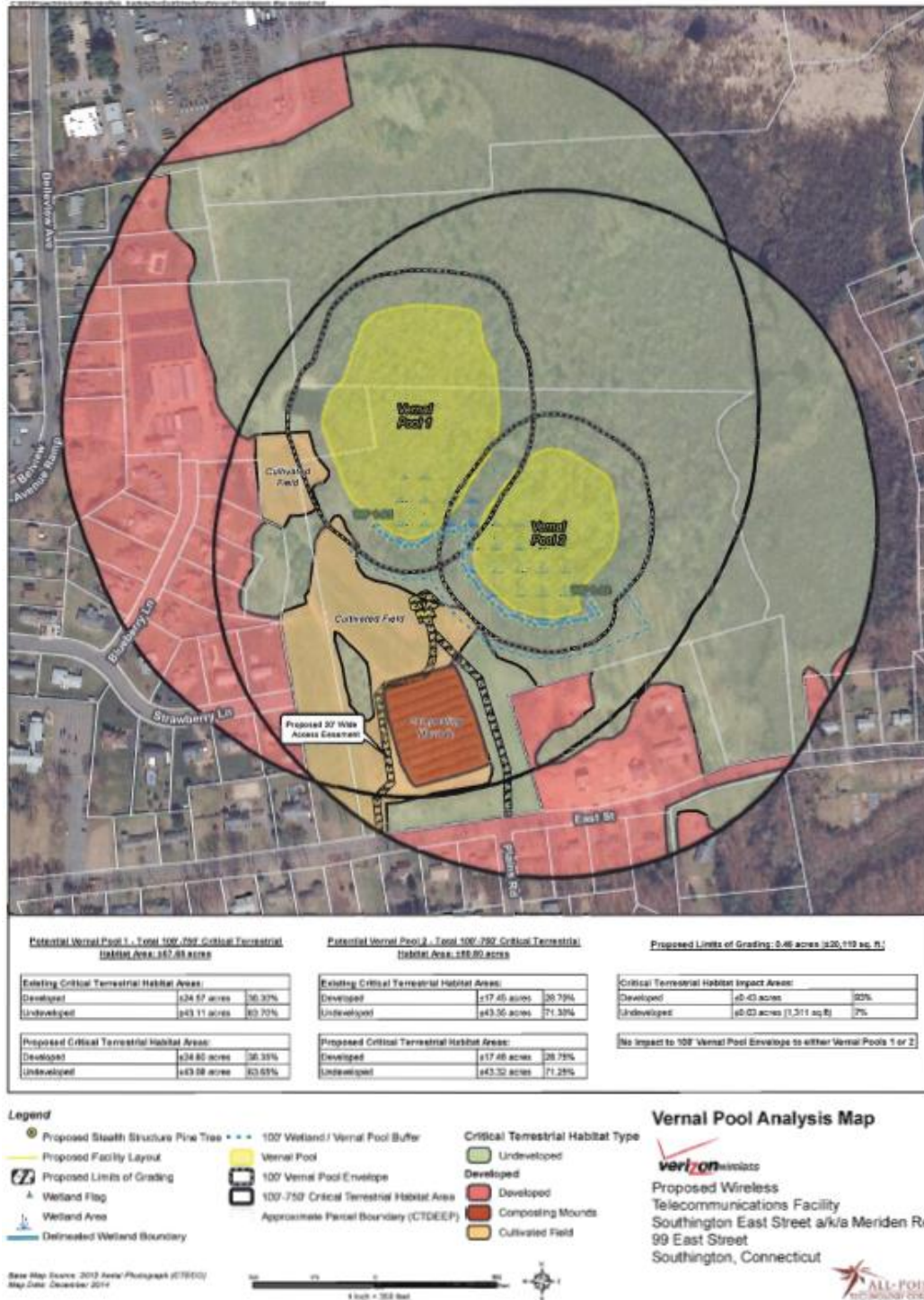
-  Proposed Stealth Structure Pine Tree
-  Proposed Facility Layout
-  Approximate Parcel Boundary (CTDEEP)
-  Approximate Subject Parcel Boundary

Base Map Source: 2012 Aerial Photograph (CTECO)  
Map Scale: 1 inch = 150 feet  
Map Date: November 2014



Footnote: The legend should indicate a faint thin blue line for Approximate Parcel Boundary (CTDEEP). Based on the original image no CTDEEP parcel exists.  
(Cellco 1, Tab 1)

**Figure 2 – Vernal Pool Evaluation**



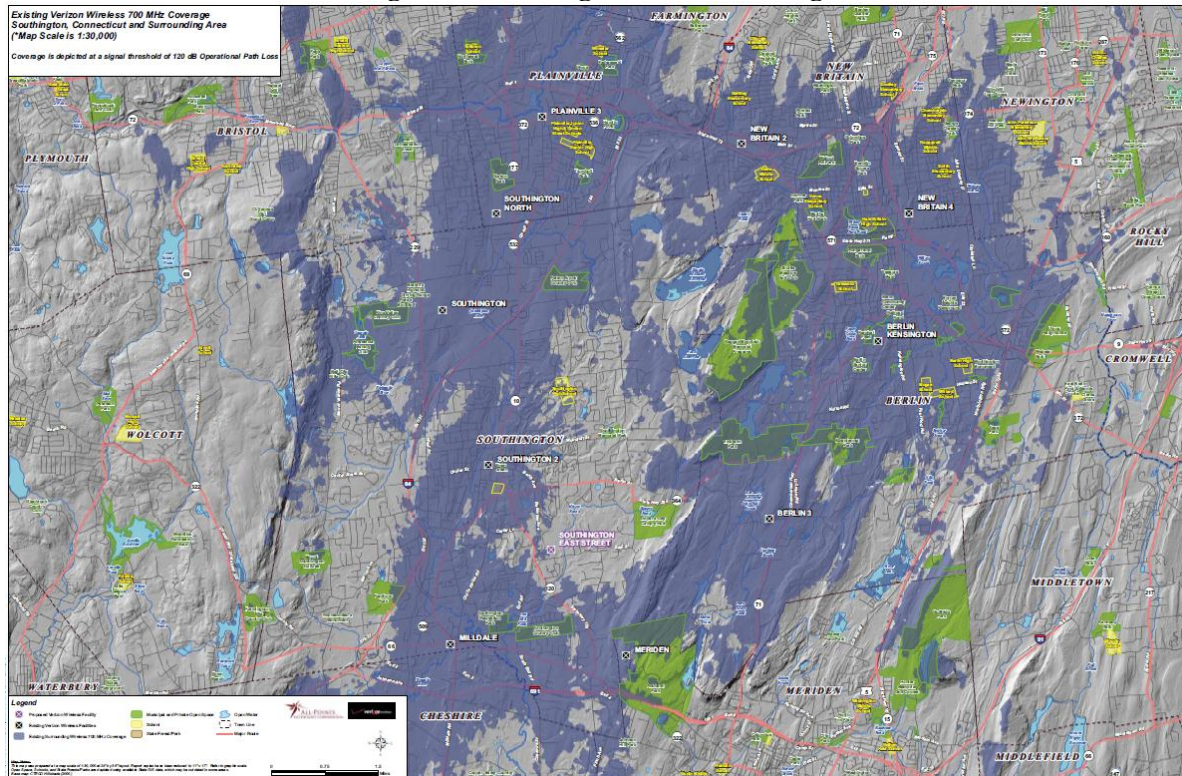
Footnote: Vernal pool 1 is due north of the proposed site and Vernal pool 2 is northeast of the proposed site. Cellco 1, Tab 14



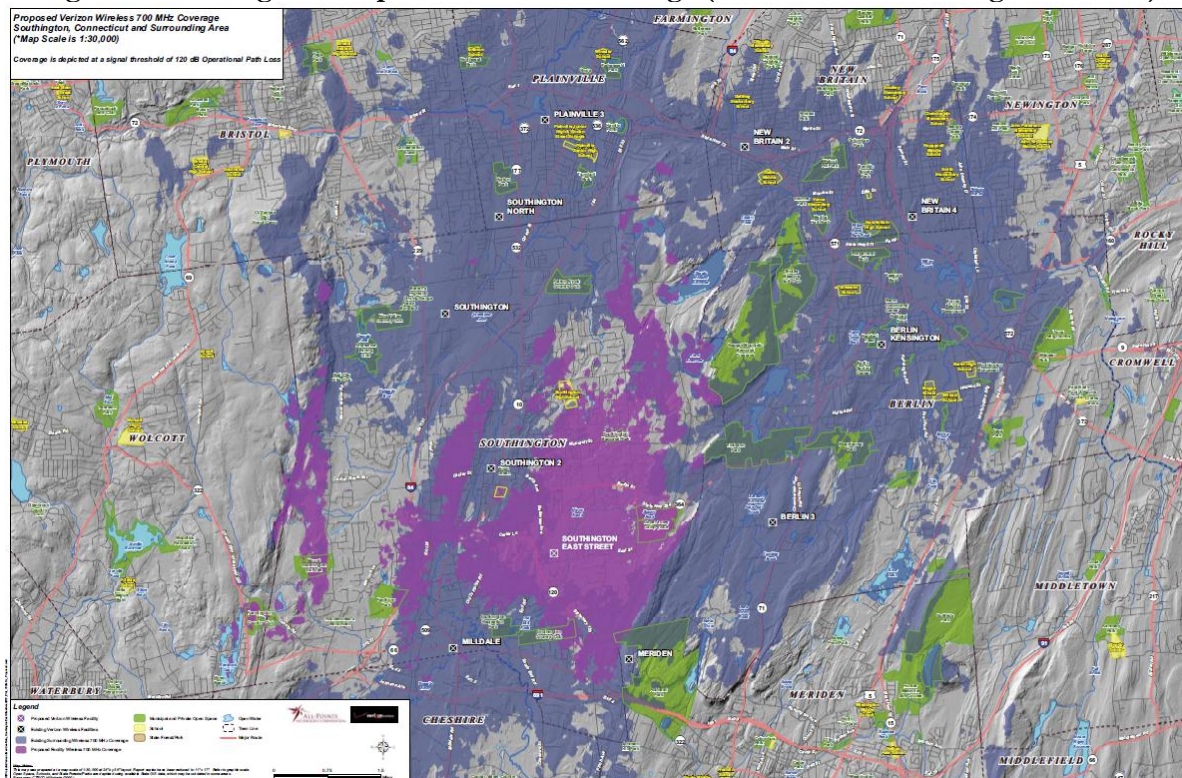




**Figure 4 - Existing 700 MHz Coverage**

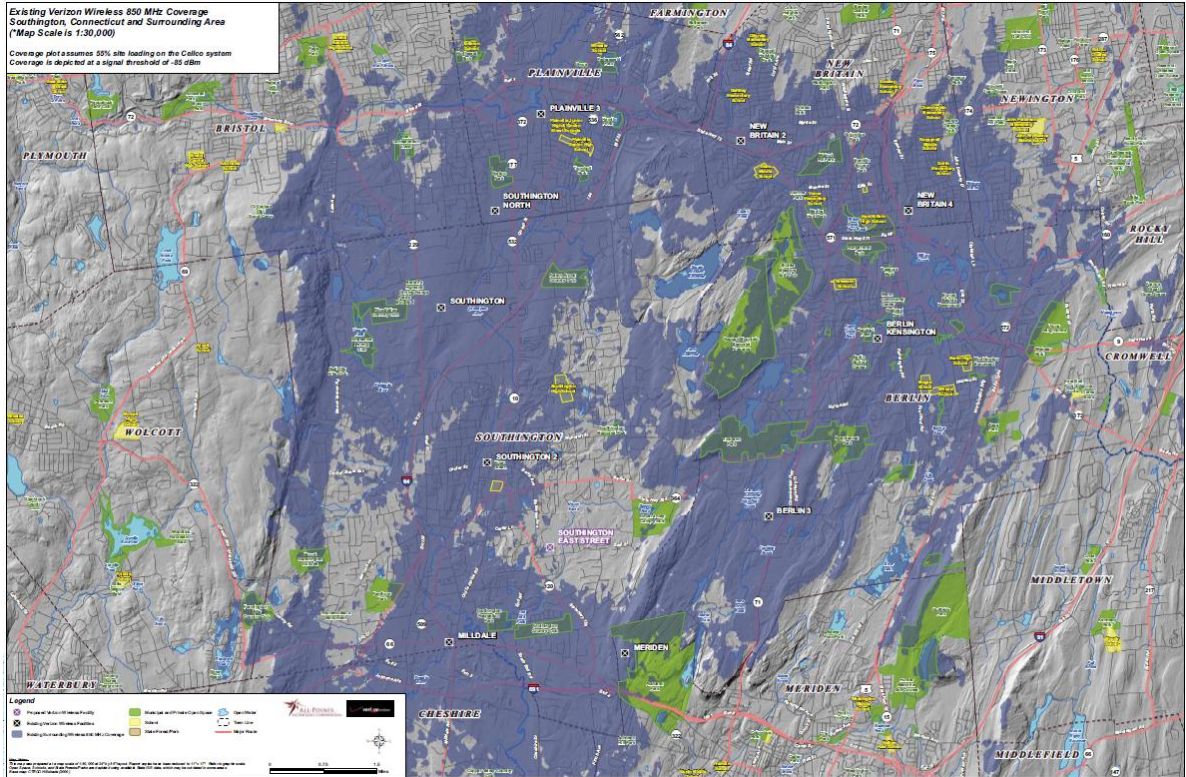


**Figure 5 - Existing and Proposed 700 MHz Coverage (antenna centerline height at 80 feet)**



(Cellco 1, Tab 6)

**Figure 6 -Existing 850 MHz Coverage**



**Figure 7 -Existing and Proposed 850 MHz Coverage (antenna centerline height at 80 feet)**

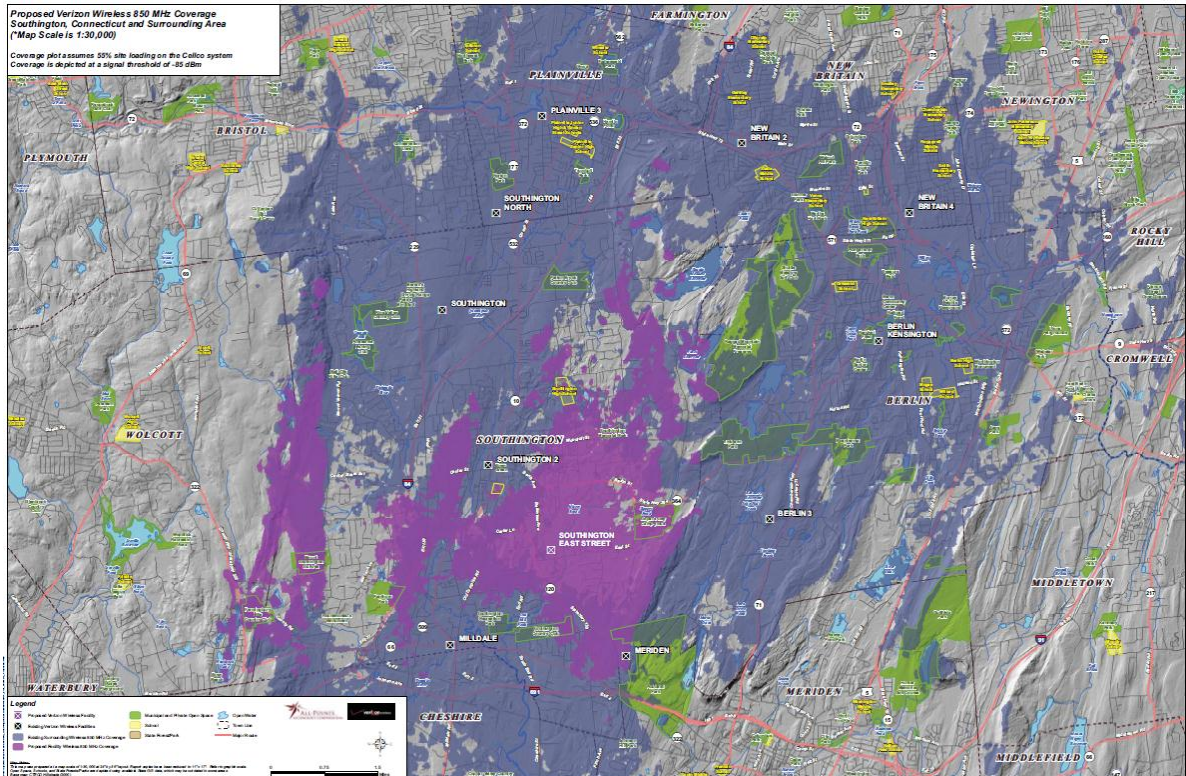


Figure 8 -Existing 1900MHz Coverage

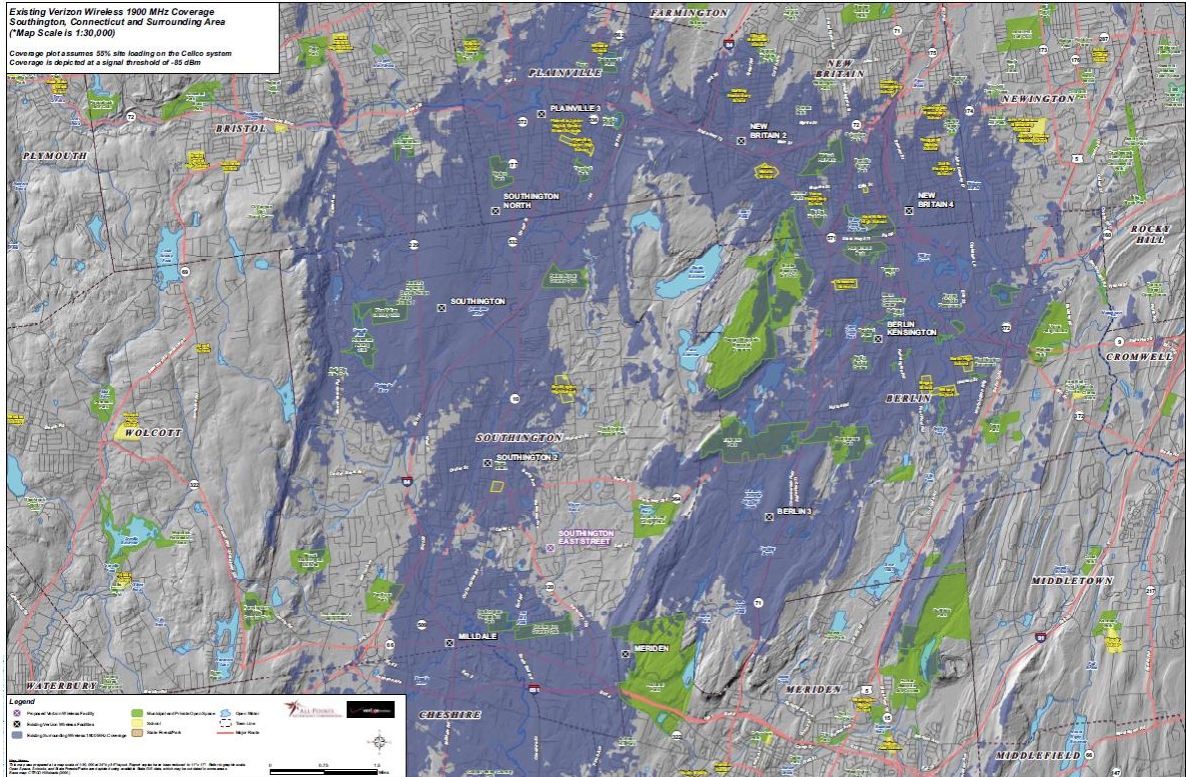
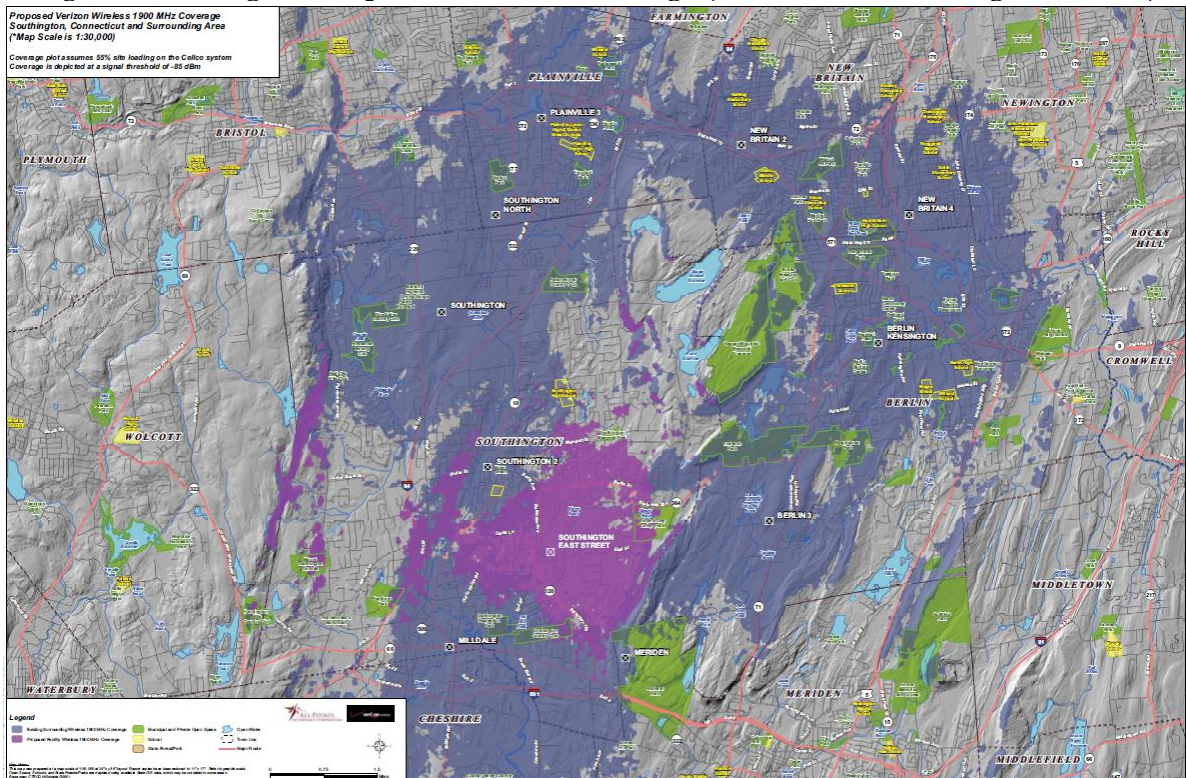
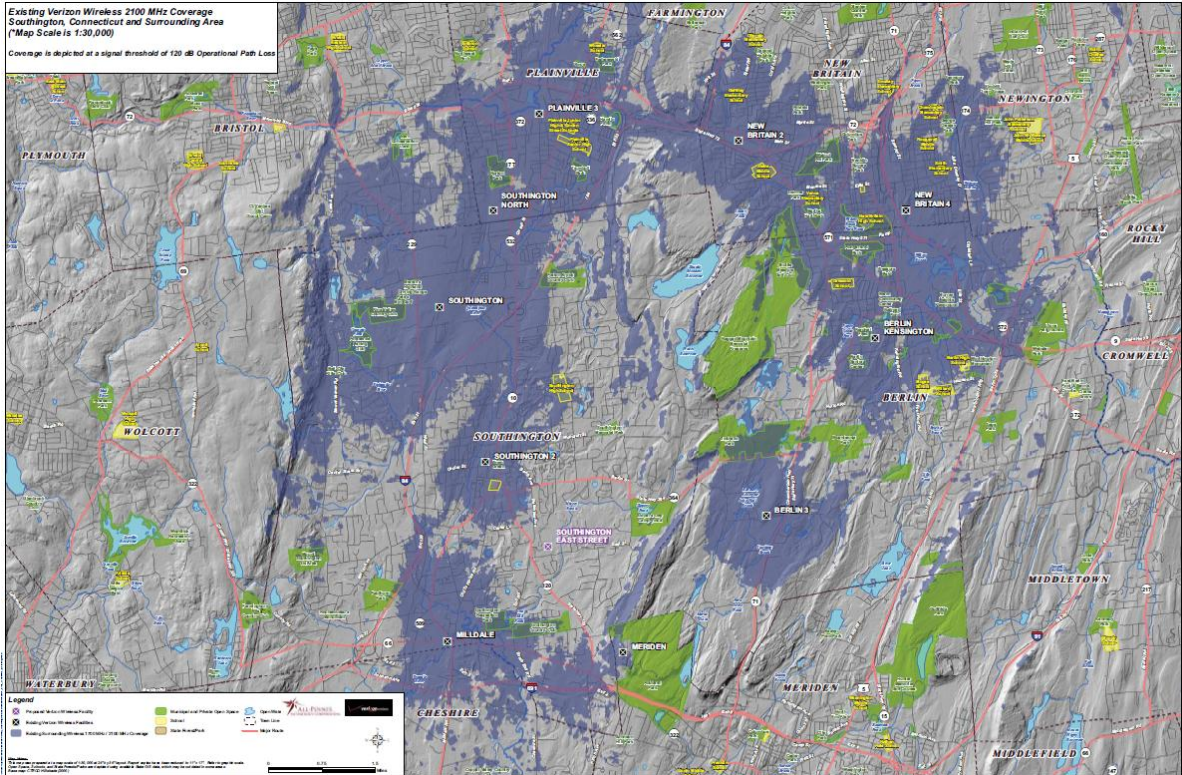


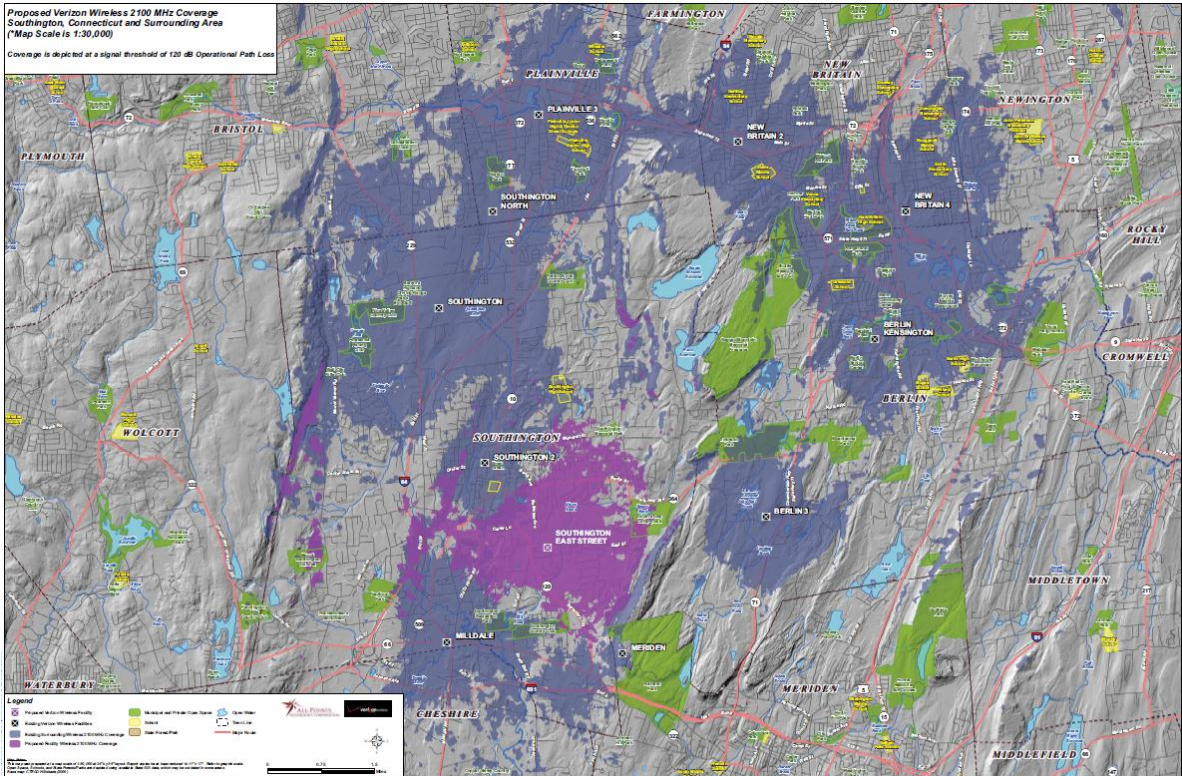
Figure 9 -Existing and Proposed 1900 MHz Coverage (antenna centerline height at 80 feet)



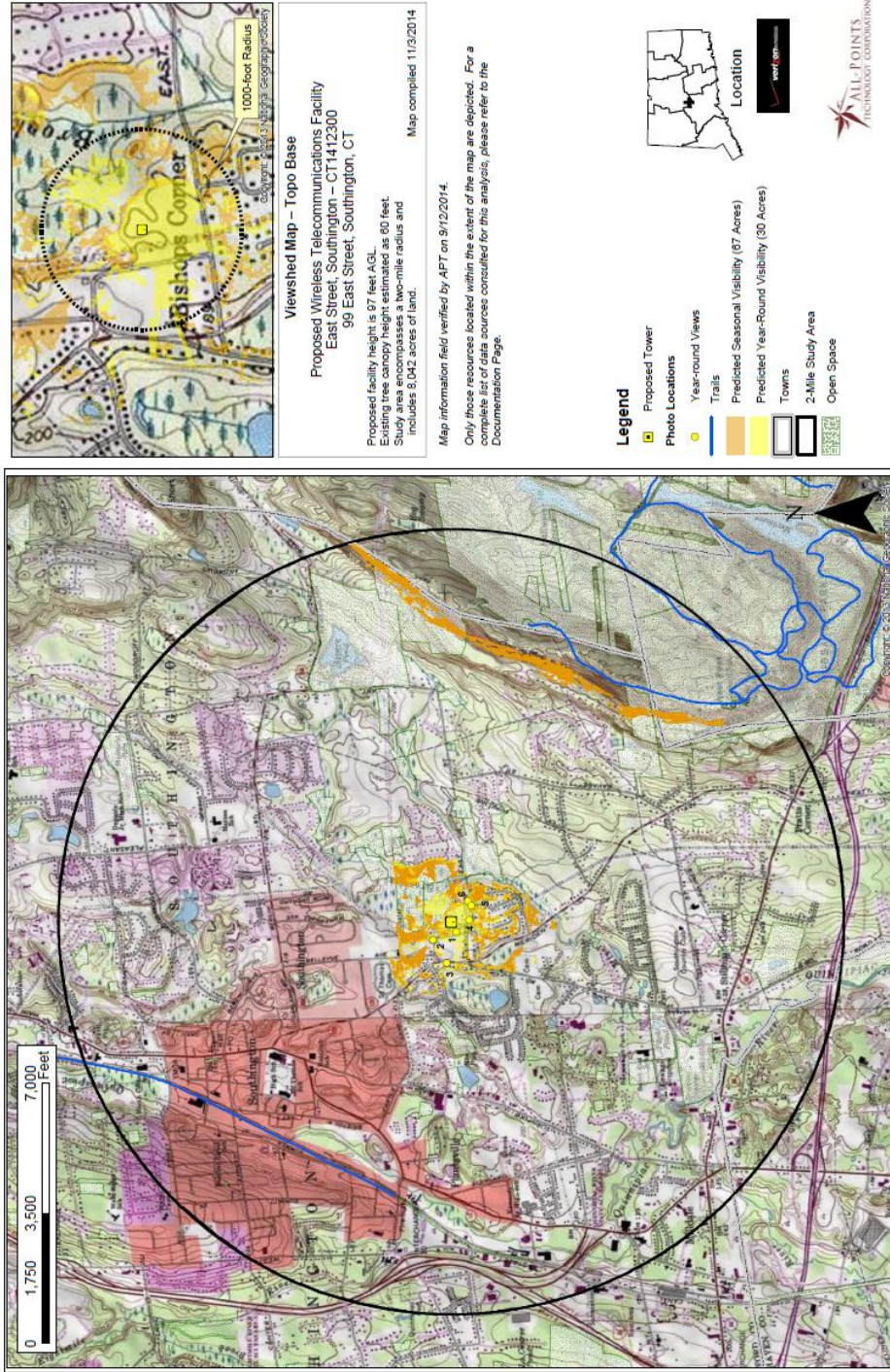
**Figure 10 -Existing 2100MHz Coverage**



**Figure 11 -Existing and Proposed 2100 MHz Coverage (antenna centerline height at 80 feet)**

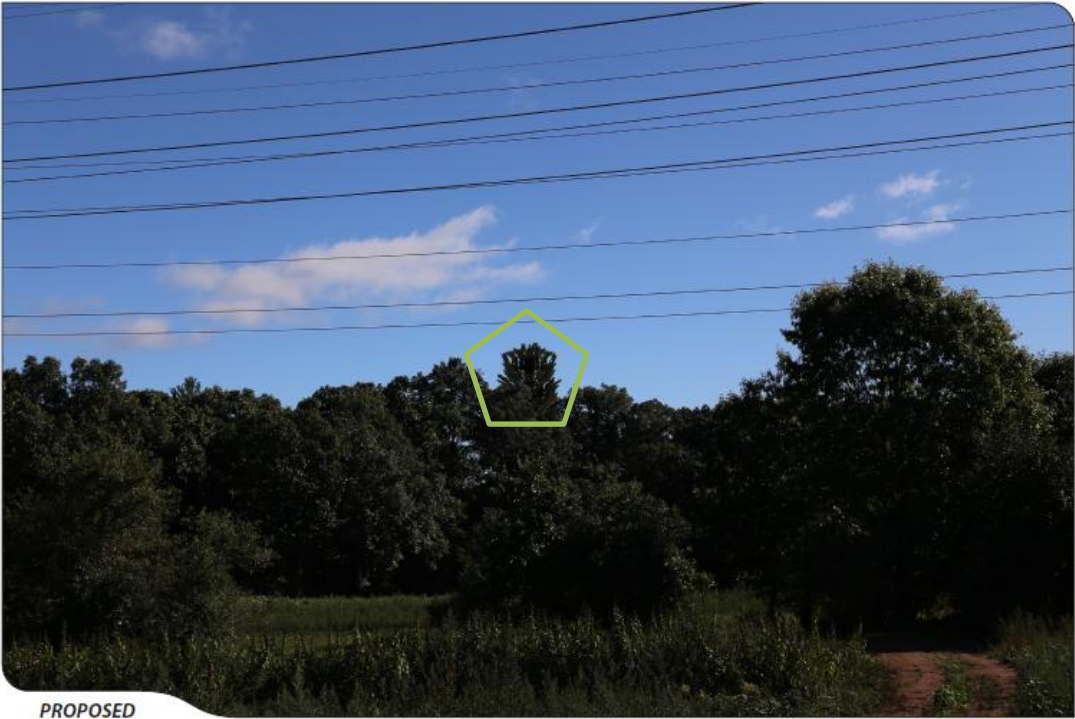


**Figure 12 – Visibility Analysis**



(Cellco 1, Tab 9 – Viewshed Topo Base)

**Figure 13 – Photo simulations of monopine**



<b>PROPOSED</b>				
PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	STRAWBERRY LANE	NORTHEAST	+/- 0.11 MILE	YEAR ROUND



<b>PROPOSED</b>				
PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	SOUTH PLAINS ROAD AT EAST STREET	NORTH	+/- 0.14 MILE	YEAR ROUND

(Cellco 1, Tab 9, Photos 1 and 5)