STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

July 15, 2011

TO: Parties and Intervenors

FROM: Linda Roberts, Executive Director

RE: **DOCKET NO. 413** - 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 723 Leetes Island Road, Branford, Connecticut.

As stated at the hearing in New Britain on May 31, 2011, after the Council issues its draft findings of fact, parties and intervenors may identify errors or inconsistencies between the Council's draft findings of fact and the record; however, no new information, evidence, argument, or reply briefs will be considered by the Council.

Parties and Intervenors may file written comments with the Connecticut Siting Council on the Draft Findings of Fact issued on this docket by July 22, 2011.

LR/CDM/jbw

Enclosure

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	☒ E-mail	Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200 (860) 275-8299 fax kbaldwin@rc.com Sandy Carter Regulatory Manager Verizon Wireless 99 East River Drive East Hartford, CT 06108
Intervenor (*granted on 1/6/11*)	☒ E-mail or ☐ U.S. Mail	T-Mobile Northeast, LLC	Julie D. Kohler, Esq. Jesse A. Langer, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604 (203) 368-0211 (203) 394-9901 fax jkohler@cohenandwolf.com jlanger@cohenandwolf.com
Intervenor (*granted on 1/6/11*)	☐ E-mail or ☒ U.S. Mail	New Cingular Wireless PCS, LLC (AT&T)	Christopher B. Fisher, Esq. Lucia Chiocchio, Esq. Cuddy & Feder LLP 445 Hamilton Avenue, 14th floor White Plains, NY 10601 (914) 761-1300 (914) 761-5372 cfisher@cuddyfeder.com lchiocchio@cuddyfeder.com
Intervnor ***(if granted on April 14, 2011)***	☒ E-Mail	Town of Branford	Keith R. Ainsworth, Esq. Evans Feldman & Ainsworth, L.L.C. #101240 261 Bradley Street P.O. Box 1694 New Haven, CT 06507-1694 (203) 772-4900 (203) 782-1356 fax krainsworth@snet.net

DOCKET NO. 413 - 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 723 Leetes Island Road, Branford, Connecticut.	}	Connecticut
	}	Siting
	}	Council

July 5, 2011

DRAFT

Findings of Fact

Introduction

1. Cellco Partnership d/b/a Verizon Wireless (Cellco), in accordance with provisions of Connecticut General Statutes (CGS) § 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on December 10, 2010 for the construction, maintenance, and operation of a telecommunications facility, which would include a 109-foot tall tower disguised as a rustic-style water tank, at 723 Leetes Island Road in the Town of Branford (Town), Connecticut. (Cellco 1, pp. i, 1)

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 operate a wireless telecommunications system in Connecticut. The operation of wireless telecommunications systems and related activities is Cellco's sole business in Connecticut. (Cellco 1, p. 5)

3. The party in this proceeding is the applicant. New Cingular Wireless PCS, LLC (AT&T), T-Mobile Northeast, LLC (T-Mobile) and the Town of Branford are intervenors. (Transcript, April 20, 2011, 3:00 p.m. [Tr. 1], pp. 4-5)

4. The purpose of the proposed facility is to provide improved wireless service along portions of Route 146, the Amtrak rail line, local roads, and residential, commercial, and recreational land uses in the area, where Cellco experiences coverage gaps at both cellular and PCS frequencies. (Cellco 1, pp. i, 1-2)

5. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on April 20, 2011, beginning at 3:00 p.m. and continuing at 7:00 p.m. at the Italian-American Social Club, 40 Hamre Lane in Branford, Connecticut. (Tr. 1, p. 3 ff.)

6. The Council's hearing was continued to May 31, 2011. It was reconvened at the Council's offices at Ten Franklin Square in New Britain, Connecticut. The hearing closed on this same date. (Transcript, May 31, 2011, 1:00 p.m. [Tr. 3], p. 3 ff.)

7. The Council and its staff conducted an inspection of the proposed site on April 20, 2011, beginning at 2:00 p.m. The applicant flew a balloon at the site from 12:00 p.m. until approximately 7:00 p.m. at a height of 109 feet to simulate the height of the proposed water tank tower. Winds were low, and visibility was reasonably good. (Tr. 1, p. 12)

8. Pursuant to CGS § 16-50*l*(b), Cellco published public notice of its intent to submit this application on December 6 and 7, 2010 in the New Haven Register. (Cellco 1, p. 6; Cellco 2 - Affidavit of Publication dated February 2, 2011)

9. Pursuant to CGS § 16-50*l*(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. 6; Attachment 4)

10. Cellco received return receipts from all but one abutting property owner, Ursula Pollak. Cellco sent a second notice to Ms. Pollak via first class mail on January 7, 2011. Ms. Pollak's daughter contacted Cellco's legal counsel to discuss the application on January 20, 2011. Cellco sent Ms. Pollak a full copy of its application on this same day. (Cellco 4, Response 4)

11. Pursuant to CGS § 16-50*l* (b), Cellco provided copies of its application to all federal, state and local officials and agencies listed therein. (Cellco 1, p. 6; Attachment 2)

12. On April 4, 2011, Cellco had a sign posted on the property where its proposed facility would be located to inform the passing public of its pending application. The sign measured four feet by six feet and included the date, time, and place of the Council's scheduled hearing and contact information for the Council. (Cellco 5 - Sign Posting Affidavit of Michael Libertine, dated April 6, 2011)

State Agency Comment

13. Pursuant to CGS § 16-50*l*, on March 29, 2011, the Council solicited comments on Cellco's application from the following state agencies: Department of Agriculture, Department of Environmental Protection (DEP), Department of Public Health, Council on Environmental Quality, Department of Public Utility Control, Office of Policy and Management, Department of Economic and Community Development, the Department of Transportation, and the Department of Emergency Management and Homeland Security. (CSC Hearing Package dated March 29, 2011)

14. The Department of Transportation (DOT) responded to the Council's solicitation by noting that the proposed facility may require a Highway Encroachment Permit from the department for the entrance to the proposed facility from Route 146 (Leetes Island Road). (DOT Comments dated March 21, 2011)

15. Comments were not received from any of the other state agencies from which the Council solicited comments. (Record)

Municipal Consultation

16. On July 21, Cellco representatives attended a meeting with the Branford First Selectman, Anthony DaRos, and members of the Branford Telecommunications Committee at which they discussed Cellco's plans for the development of the site at 723 Leetes Island Road, its search for alternative locations in southeast Branford, and its plans for future cell site development in Branford. (Cellco 1, p. 21)

17. Because Cellco's proposed facility is located near Route 146, which is a state-designated scenic road and a National Historic District, the State Historic Preservation Office (SHPO) requested that Cellco meet with the Branford/Guilford Scenic Roads Advisory Committee (SRAC). Cellco representatives made a presentation to the SRAC on September 14, 2010. The SRAC was supportive of Cellco's rustic water tank design but expressed concerns for the scale of the structure if Cellco were to expand it beyond the proposed size. (Cellco 1, pp. 21-22)

18. The SRAC and the Town's Cell Tower Advisory Committee reached a tacit agreement with Cellco regarding the height and the appearance of the proposed tower. (Transcript, April 20, 2011, 7:05 p.m. [Tr. 2], pp. 8-10)

19. Cellco commenced the sixty day municipal consultation period required by CGS §16-50*l*(e) on October 8, 2010 by meeting with the Branford Telecommunications Committee and by providing the Town with technical information regarding its proposed facility. Representatives of AT&T and T-Mobile also attended this meeting to discuss their respective needs for a facility in this part of town. (Cellco 1, p. 22; Cellco 4, Response 14)

20. Because Cellco's proposed facility is located within 2,500 feet of the Guilford town line, Cellco provided copies of its technical report to Guilford's First Selectman, Joseph S. Mazza. (Cellco 1, p. 22)

21. The Town has not expressed an interest in placing antennas on the proposed tower. (Tr. 1, p. 14)

Public Need for Service

22. 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. 8 - Telecommunications Act of 1996)

23. 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. 8 - Telecommunications Act of 1996; Cellco 1, p. 7)

24. The Telecommunications Act of 1996 prohibits local and state bodies from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 8 - Telecommunications Act of 1996)

25. The Telecommunications Act of 1996 prohibits any state or local entity from regulating telecommunications towers on the basis of the environmental effects, which include human health effects, of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. This Act also blocks the Council from prohibiting or acting with the effect of prohibiting the provision of personal wireless service. (Council Administrative Notice Item No. 8 - Telecommunications Act of 1996)

26. In recognition of the public safety benefits enhanced wireless telecommunications networks can provide, Congress enacted the Wireless Communications and Public Safety Act of 1999 (the 911 Act). The purpose of this legislation was to promote public safety by making 9-1-1 the universal emergency assistance number and through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. (Cellco 1, p. 8)

27. In 2004, Congress enacted the Enhanced 911 (E911) Act for the specific purpose of enhancing and promoting homeland security, public safety, and citizen activated emergency response capabilities. (Cellco 1, p. 8)

28. Cellco's antennas at the proposed facility would comply with E911 requirements. (Cellco 4, Response 1)

Existing and Proposed Wireless Coverage

Cellco

29. Cellco is licensed to operate in the 850 MHz (cellular), 1900 MHz (Personal Communications Service - PCS), and 700 MHz (Long Term Evolution – LTE) frequency ranges in New Haven County. (Cellco 1, p. 9)

30. Cellco's network design thresholds for reliable service are -85 dBm for in-vehicle service and -75 dBm for in-building coverage. (Cellco 4, Response 5)

31. Cellco's existing signal strength in the vicinity of the proposed facility ranges from -86 dBm to -106 dBm at cellular (850 Mhz) and PCS (1900 MHz) frequencies. (Cellco 4, Response 6)

32. In the sectors of the adjacent cell sites that are directed toward the proposed facility, Cellco experiences dropped calls at an average rate of 1.35 percent and ineffective attempts at an average rate of 1.47 percent. Cellco's network design objective for dropped calls and ineffective attempts is less than one percent. The results of Cellco's monthly drive tests, customer complaints, propagation modeling data, and system performance data indicate Cellco's service is substandard within the area that would be served by the proposed facility. (Cellco 4, Response 7)

33. Cellco experiences existing coverage gaps along Route 146 and the Amtrak rail line as shown in the table below. (See Figures 4A and 5A)

	Length of Coverage Gap	
Frequency	**Route 146**	**Amtrak rail line**
850 MHz – cellular	1.7 miles	1.8 miles
1900 MHz – PCS	2.8 miles	3.1 miles

(Cellco 4, Response 8)

34. The table below indicates the distances Cellco would cover at its different licensed frequencies along Route 146 and the Amtrak rail line from its proposed facility. (See Figures 4B and 5B)

	Distance Covered	
Frequency	**Route 146**	**Amtrak rail line**
850 MHz – cellular	2.4 miles	2.3 miles
1900 MHz – PCS	1.5 miles	1.5 miles
700 MHz – Long Term Evolution (LTE)	2.5 miles	2.5 miles

(Cellco 1, pp. 3-4)

35. The table below indicates the total area Cellco would cover at its different licensed frequencies from the proposed facility. The larger than normal footprints at 850 MHz and 700 MHz are attributable to that portion of the coverage area that extends over Long Island Sound.

Frequency	**Total Area Covered**
850 MHz – cellular	46.9 sq. mi.
1900 MHz – PCS	7.1 sq. mi.
700 MHz – LTE	50.8 sq. mi.

(Cellco 1, pp. 3-4)

36. Cellco's proposed facility would hand off signals with the adjacent facilities identified in the following table.

Site Location	**Distance and Direction from Site**
Sachems Head Road, Guilford	2.0 miles, E
1919 Boston Post Road, Guilford	2.7 miles, NE
21 Acorn Road, Branford	2.4 miles, NW
123 Pine Orchard Road, Branford	3.3 mi, W

(Cellco 4, Response 2)

37. The lowest feasible height at which Cellco's antennas could achieve its coverage objectives in the vicinity of the proposed facility is 90 feet above ground level (agl). (Cellco 4, Response 3)

38. If its antennas were to be mounted at 80 feet agl, Cellco would experience gaps in reliable service at both PCS and cellular frequencies along Route 146 and existing coverage gaps at PCS frequencies to the east of the proposed facility would begin to widen. (Cellco 4, Response 3)

AT&T

39. AT&T is licensed to operate on the 850 MHz (cellular) band, specifically 880-894 MHz, as well as within the 1900 MHz (PCS) band. AT&T will deploy both cellular and PCS antennas at the proposed facility. At the present time, AT&T supports GSM, UMTS, HSPA and is migrating to LTE. AT&T does not have a timetable to deploy 700 MHz antennas at this site. AT&T uses the 850 MHz frequency band as its primary frequency for network design and deployment assessments. (AT&T 1, A1)

40. AT&T issued a search ring for a facility in the area that would be served by Cellco's proposed facility at approximately the same time that Cellco issued its search ring. AT&T's primary objective for locating its facility was the same property on which Cellco's facility is being proposed. (Tr. 2, p. 15)

41. AT&T's antennas would comply with the requirements of the E911 Act. (AT&T 1, A3)

42. AT&T designs for a signal strength of -82 dBm for in-vehicle coverage and -74 dBm for in-building coverage. (AT&T 1, A7)

43. Current AT&T signal levels in the area that would be served by the proposed facility range from -105 dBm to -65 dBm due to terrain fluctuations. (AT&T 1, A8)

44. Dropped calls in the area around the proposed facility are above system wide averages, and this area is recognized as a poor coverage area by benchmark data and customer experience. (AT&T 1, A9)

45. AT&T experiences coverage gaps along Route 146 and the Amtrak rail line as shown in the table below. (See Figures 6A and 7A)

	Length of Coverage Gap	
Frequency	**Route 146**	**Amtrak rail line**
850 MHz – cellular	2.01 miles	1.49 miles
1900 MHz – PCS	2.03 miles	2.11 miles

(AT&T 1, A10)

46. AT&T's antennas on the proposed facility would cover the distances along Route 146 and the Amtrak rail line shown in the table below. (See Figures 6B and 7B)

	Distance Covered	
Frequency	**Route 146**	**Amtrak rail line**
850 MHz – cellular	1.72 miles	1.37 miles
1900 MHz – PCS	1.16 miles	0.84 miles

(AT&T 1, A12)

47. AT&T would cover an area of approximately two square miles from the proposed facility. (Tr. 2, p. 14)

48. From the proposed facility, AT&T's antennas would hand off signals to the adjacent sites indentified in the table below.

Site Location	**Distance and Direction from Site**
21 Acorn Road, Branford	2.4 miles, NW
188 Sachem Head Road, Guilford	2.0 miles, E
1919 Boston Post Road, Guilford	2.7 miles, NE
190 Totoket Road, Branford	1.7 miles, W
201 Granite Road, Guilford	1.8 miles, N

(AT&T 1, A4)

49. The lowest feasible height at which AT&T's antennas could achieve its coverage objectives in the vicinity of the proposed facility is 100 feet agl. (AT&T 1, A6)

T-Mobile

50. Within the New Haven Basic Trading Area (BTA), T-Mobile is licensed to operate on the following frequencies:

PCS Band: TX1: 1935.00 MHz to 1945.00 MHz
RX1: 1855.00 MHz to 1865.00 MHz

TX2: 1980.00 MHz to 1985.00 MHz
RX2: 1900.00 MHz to 1905.00 MHz

AWS Band: TX1: 2110.00 MHz to 2120.00 MHz
RX2: 1710.00 MHz to 1720.00 MHz

TX2: 2140.00 MHz to 2145.00 MHz
RX2: 1740.00 MHz to 1745.00 MHz

(T-Mobile 1, A1)

51. T-Mobile would locate on the proposed facility to fulfill a coverage rather than a capacity objective. (Tr. 1, p. 74)

52. The antennas T-Mobile would deploy at the proposed facility would comply with the E911 requirements. (T-Mobile 1, A2)

53. T-Mobile's minimum signal strength design threshold for in-building coverage is -76 dBm, and its minimum signal strength design threshold for in-vehicle coverage is -84 dBm. T-Mobile's design criteria are based on GSM (Global System for Mobile Communications). T-Mobile would also include a UMTS (Universal Mobile Telecommunications System) overlay at this facility. (T-Mobile 1, A6)

54. T-Mobile's existing signal strengths in the vicinity of the proposed facility range from approximately -85 dBm to approximately -110 dBm. (T-Mobile 1, A7)

55. Two sectors of sites that would interact with the proposed facility have dropped call rates higher than T-Mobile's 2 percent target rate. Sector C of T-Mobile's site located at 1919 Boston Post Road in Guilford has a dropped call rate of 4.71 percent. Sector C of T-Mobile's site located at 188 Sachems Head Road in Guilford has a dropped call rate of 8.19 percent. (T-Mobile 1, A8)

56. T-Mobile experiences coverage gaps along Route 146 and the Amtrak rail line as shown in the table below. (See Figures 8A)

	Length of Gap
Route 146	1.39 miles
Amtrak	1.38 miles

(T-Mobile 1, A9)

57. T-Mobile's antennas on the proposed facility would cover the distances along Route 146 and the Amtrak rail line shown in the table below. (See Figures 8B)

	Length of Coverage
Route 146	1.44 miles
Amtrak	1.39 miles

(T-Mobile 1, A11)

58. T-Mobile would cover a land area of approximately 1.01 square miles from the proposed facility. (Tr. 2, p. 70)

59. From the proposed facility, T-Mobile's antennas would hand off signals to the adjacent sites indentified in the table below.

Site Location	**Distance and Direction from Site**
188 Sachem Head Road, Guilford	2.0 miles, E
1919 Boston Post Road, Guilford	2.7 miles, NE
Pleasant Point Road, Branford (proposed)	1.8 miles, W

(T-Mobile 1, Attachment A)

60. The lowest height at which T-Mobile could successfully utilize the proposed facility is 80 feet agl. (T-Mobile 1, A5)

61. At heights below 80 feet, T-Mobile's coverage would deteriorate and fall below T-Mobile's minimum required signal threshold of -84 dBm. (T-Mobile 3 – Pre-Filed Testimony of Scott Heffernan, A11)

Site Selection

62. Cellco initiated a site search process in southeast Branford in March, 2009. (Cellco 1, p. 12)

63. Cellco's search ring had an approximate radius of 0.3 mile and was centered south of Leetes Island Road and east of Saw Mill Road. (Cellco 4, Response 11)

64. Cellco maintains three telecommunications facilities, and plans to install antennas on a T-Mobile-owned tower recently approved under Docket 386, within approximately four miles of the proposed site. None of these facilities can provide the service Cellco is seeking to provide along portions of Route 146 (Leetes Island Road) and local roads, as well as commercial and residential land uses in southeast Branford. Cellco's existing and planned sites are listed in the following table.

Owner/(Cellco Site Name)	Facility Height and Type	Location	Cellco Ant. Ht.	Distance and Direction to Proposed Facility
CT Water Co. (Guilford South)	88' water tank	Sachems Head Road, Guilford	85'	2.0 mi, W
Crown Castle (Guilford 2)	150' monopole	1919 Boston Post Road, Guilford	122'	2.7 mi, SW
Sprint (Branford 3)	150' monopole	21 Acorn Road, Branford	116'	2.4 mi, SE
T-Mobile (Branford West)	125' monopole	123 Pine Orchard Road, Branford	92'	3.3 mi, E

(Cellco 1, pp. 2, 12; Attachment 8)

65. In its site search process, Cellco did not find any existing, non-tower structures of a height that would enable Cellco to provide its desired coverage in southeast Branford. (Cellco 1, pp. 11-12)

66. Cellco identified and investigated six other properties in addition to the property on which its proposed site is located. These properties and the determinations of their suitability are listed below.

a. Stony Creek Fire Station, Thimble Island Road, Branford (Proposed T-Mobile Monopole) – Cellco could not satisfy its coverage objectives for southeast Branford from this location and its antennas at this location would not connect with Cellco's Guilford South site on Sachems Head Road in Guilford.

b. Tilcon Rail Yard Property, 77-145 Pleasant Point Road, Branford (T-Mobile proposed site, Docket 407) – Cellco could not satisfy its coverage objectives for southeast Branford from this location.

c. Pine Orchard Yacht and Country Club, 86 Totoket Road, Branford – Antennas at this location would provide coverage redundant to that expected from Cellco's planned site at 123 Pine Orchard Road and would not connect with Cellco's Guilford South site.

d. Leetes Property, Moose Hill Road, Branford – This site is located east of Medlyn farm and west of Cellco's Guilford South site and is currently being considered by T-Mobile as a potential tower location. It would provide coverage significantly redundant to that of Cellco's Guilford South site and would not adequately connect with Cellco's planned site at 123 Pine Orchard Road to the west.

e. Marshal Property, New Quarry Road, Guilford – This property is located to the northeast of Cellco's Guilford South site. The owners of this property decided they were not interested in leasing space to Cellco for a new tower site.

f. Branford Land Trust Property, Branford (various parcels) – Cellco investigated three different parcels owned by the Branford Land Trust in southeast Branford. None of these properties was considered feasible due to concerns over land use restrictions, proximity to adjacent cell sites, and overall distance to Route 146.

(Cellco 1, Attachment 8)

67. Cellco could not identify any equally effective technological alternatives to the proposed facility that would provide service of comparable quality. (Cellco 1, p. 11)

68. AT&T conducted its own site search within an area with a diameter of 1.5 miles centered at the vicinity of the intersection of Leetes Island Road (Route 146) and Saw Mill Road. (AT&T 2, A16)

69. T-Mobile initiated its own site search in this area of Branford on or about July 10, 2008. The starting point for this search was located between Route 146 and the Amtrak rail line approximately 0.3 mile west of the Route 146 Amtrak rail line crossing. (T-Mobile 3 – Pre-Filed Testimony of Scott Heffernan, A9)

70. The radius of T-Mobile's site search area was 0.5 mile. (T-Mobile 4 – Pre-Filed Testimony of Raymond Vergati, A6)

Facility Description

71. Cellco's proposed site is on a 19-acre property located at 723 Leetes Island Road (Route 146) in Branford. The property is owned by James Medlyn, who uses it for agricultural purposes. (See Figures 1 and 2) (Cellco 1, p. 19; Attachment 1)

72. The Medlyn property is zoned R-5 Residential, a zoning designation intended for single family residences on large lots in rural and topographically rugged sections of Branford. The zoning regulations do not allow telecommunications facilities in R-5 zoning districts. (Cellco 1, p. 19; Bulk Filing – Town of Branford Zoning Regulations, Schedule A of Section 24)

73. Cellco's proposed facility would be located in the southeasterly portion of the Medlyn property. Cellco would lease a 100-foot by 100-foot parcel within which it would develop a 57-foot by 57-foot telecommunications compound that would include a tower designed to look like a rustic-style water tank. The top of the water tank would extend to 109 feet above ground level (agl), and the tower would be designed to accommodate antenna placements at centerline heights of 100 feet, 90 feet, and 80 feet agl. The compound would be enclosed by an eight-foot high chain link fence. (See Figure 3) (Cellco 1, p. 13; Attachment 1)

74. The proposed tower would be located at 41° 15' 58.8" North latitude and 72° 43' 59.7" West longitude. Its elevation at ground level would be approximately 45.5 feet above mean sea level. (Cellco 1, p. 4; Attachment 1, p. 4, Drawing C-4)

75. 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." (Cellco 1, Attachment 1, p. 6)

76. Cellco's proposed tower would not be designed to be expandable. (Tr. 1, p. 12)

77. Cellco would install 15 antennas—six 850 MHz antennas, six 1900 MHz antennas, and three 700 MHz antennas—at a centerline height of 90 feet agl. (Cellco 1, Attachment 1, pp. 3, 6)

78. Cellco's antennas would utilize a custom antenna mounting system inside the stealth water tank structure. The antennas and the mounting system would not be visible from outside the water tank. (Cellco 4, Response 16)

79. Cellco's ground equipment would be located within a 12-foot by 24-foot shelter, which would be inside an L-shaped, shed-like structure designed to house and screen all ground-mounted equipment. (Cellco 1, pp. i, 3)

80. Cellco would install a diesel generator inside a segregated generator room within its equipment shelter to provide emergency backup power. (Cellco 1, pp. 3, 4)

81. Diesel fuel for the back-up generator would be stored in a 210-gallon "belly tank" that would be included as part of the generator. This tank would be double-walled and would include a leak detection alarm system. The generator room floor beneath the tank would be lowered and capable of containing 120% of the volume of all generator fluids. The floor would also be equipped with leak detection alarms. (Cellco 4, Response 15)

82. AT&T would initially install nine antennas at a centerline height of approximately 100 feet. (Tr. 2, p. 15)

83. T-Mobile would install nine antennas at a centerline height of 80 feet agl. (T-Mobile 1, A11 and A12)

84. The possibility that the proposed tower could be extended in the future is unlikely due to a condition of the finding of the State Historic Preservation Office (SHPO) that the proposed tower would have no adverse impact on the Route 146 National Historic District. (Cellco 1, Attachment 10 – Letter from SHPO dated November 2, 2010)

85. The proposed facility would require approximately 258 cubic yards of cut and 195 cubic yards of fill. (Cellco 4, Response 10)

86. Vehicular access to the proposed facility would extend from Leetes Island Road over a gravel drive for a distance of 375 feet. This gravel drive would initially follow an existing woods road/grass path for approximately 275 feet and then continue over a new drive for approximately an additional 100 feet. (Cellco 1, Attachment 1, p. 5; Attachment 12, Wetland Compliance Memorandum)

87. Utilities would be extended to the proposed facility underground from Leetes Island Road following the access drive easement. (Cellco 1, Attachment 1, pp. 1, 5)

88. Cellco would not anticipate the need for blasting to develop its proposed facility, but any final determination would depend on a geotechnical survey. (Cellco 4, Response 12)

89. Cellco would prefer to use drilling and mechanical means of rock removal should it be necessary for the proposed facility. (Tr. 1, pp. 17-18)

90. Cellco's 109-foot water tank would be located approximately 105 feet from the nearest property line, which is located to the west along the Amtrak right-of-way. (Cellco 4, Response 17)

91. There are seven residences within 1,000 feet of the proposed facility. (Cellco 1, p. 16)

92. The nearest residence to the proposed facility is located approximately 410 feet to the east at 742-762 Leetes Island Road. It is owned by Jody Paviglionite. (Cellco 1, p. 16; Attachment 4)

93. Land use in the vicinity of the proposed facility is primarily residential and agricultural. The Amtrak rail line abuts the Medlyn property to the south. (Cellco 1, Attachment 1, pp. 4-5, Drawing C-1)

94. The estimated cost of the proposed facility, including Cellco's antennas, is:

Cell site radio equipment	$450,000
Water tank tower, coax, and antennas costs	305,000
Power systems costs	20,000
Equipment building costs	50,000
Miscellaneous costs	105,000
Total costs	$930,000

(Cellco 1, p. 24; Cellco 4, Response 21)

95. The cost of T-Mobile's antennas and accessory equipment that would be installed at the proposed facility would be between $65,000 and $85,000. (Tr. 1, p. 70)

96. With the LTE configuration, AT&T's cost for antennas and associated equipment to be installed at the proposed facility would be between $250,000 and $300,000. (Tr. 2, p. 16)

Environmental Considerations

97. The proposed facility would have no adverse effect on the Route 146 National Register Historic District as long as the stealth water tank tower does not exceed 109 feet in height. (Cellco 1, Attachment 10, Letter from State Historic Preservation Office dated November 2, 2010)

98. Although the water tank structure would appear bulkier than a traditional monopole tower, it was judged to be more appropriate for the context of the area by the SHPO and SRAC that participated in the pre-application negotiations with Cellco. (Tr. 1, p. 28)

99. The DEP's Natural Diversity Database indicates that a federal and state endangered species, the Roseate Tern (*Sterna dougalii*), and a state species of special concern, the maritime sunflower borer moth (*Papaipema maritima*), have been recorded in the vicinity of Cellco's proposed facility. (Cellco 1, Attachment 10, Letter from Julie Victoria, Wildlife Biologist, dated September 17, 2009)

100. Roseate Terns are exclusively marine and typically nest in various habitats on offshore islands or mainland beaches, preferring sandy, gravelly, or rocky areas with shelter provided by vegetation, debris, or rocks. The proposed facility would be located in a successional upland forest area. There are no sandy beaches or offshore islands located near the Medlyn property. The nearest potential Roseate Tern nesting habitat is located over 2,000 feet to the south. Because the proposed facility is located a significant distance from the nearest potential tern nesting areas, it is unlikely to have any adverse impact on this species. (Cellco 1, Attachment 10 - Memorandum from Dean Gustafson to Ms. Alexandria Re USFWS Compliance Determination dated December 3, 2010)

101. Maritime sunflower borer moths occur on the edges of salt marshes and are associated with the host plant *Heliantheous* (sunflowers). The proposed facility would be located in a successional upland forest area with a small section of the gravel access drive occurring in a small upland field. The nearest salt marshes on the Medlyn property are located along the western property boundary approximately 1,000 feet west of the proposed facility. There is a closer tidal salt marsh located approximately 450 feet southeast of the proposed facility on the other side of the Amtrak rail line. Because the proposed facility is located a significant distance from these potential maritime sunflower borer moth habitat areas, it should not impact the moth's habitat areas. (Cellco 1, Attachment 10, Letter from Dean Gustafson to Julie Victoria dated December 3, 2010)

102. DEP does not anticipate that the proposed facility would impact the Roseate Tern or the Maritime sunflower borer moth. (Cellco 4, Response 18; Tab 2 – Letter from DEP dated December 8, 2010)

103. No bald eagle nests, roosting or foraging areas have been observed on the Medlyn property or are known to exist on surrounding property. For this reason, Cellco's proposed facility should not result in any disturbance to bald eagles. (Cellco 1, Attachment 10 - Memorandum from Dean Gustafson to Ms. Alexandria Re USFWS Compliance Determination dated December 3, 2010)

104. Ten trees with diameters greater than six inches at breast height would be removed to build the proposed facility. (Cellco 1, Attachment 1, p. 5; Cellco 4, Response 20)

105. The nearest wetland system to the proposed facility compound is located approximately 150 feet to the southeast. (Cellco 1, Attachment 12, Wetland Compliance Memorandum)

106. The closest distance from a wetland area to the proposed access drive is five feet and is located near where the access drive would enter Leetes Island Road. (Tr. 1, p. 35-36)

107. There is a hillside seep wetland area in the eastern end of the Medlyn property that is located within approximately 40 feet of the proposed facility's access drive. (Cellco 1, Attachment 12, Wetland Compliance Memorandum, p. 2)

108. Cellco 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 Connecticut Department of Environmental Protection, throughout the construction period of the proposed facility. (Cellco 1, p. 21; Attachment 12)

109. With appropriate soil erosion and sedimentation controls in place, development of the proposed facility would not result in any adverse impacts on the nearby wetlands and watercourse. (Cellco 1, p. 21; Attachment 12)

110. The proposed facility would be located within the coastal boundary as defined by the Connecticut Coastal Management Act (CCMA). There are no federal or state-regulated coastal resources (such as tidal wetlands, beaches, estuaries, etc.) located within the proposed facility's development limits. Coastal resources, consisting of an intertidal salt marsh associated with the tidally influenced Stony Creek, are located along the western boundary of the Medlyn property approximately 1,000 feet west of the proposed facility. There is another, closer tidal salt marsh approximately 450 feet southeast of the proposed facility. This closer salt marsh is on the other side of the Amtrak rail line. Due to its distance from these coastal resources, the proposed facility is unlikely to have any adverse impacts on them. (Cellco 1, Attachment 13 – Coastal Consistency Analysis)

111. Cellco's proposed facility is not located within an Important Bird Area (IBA) as designated by the Audubon Society. The closest IBA is Falkner Island located in Long Island Sound approximately 4.45 miles to the south/southeast. (Cellco 4, Response 19)

112. Although Cellco's proposed facility would be located within the Atlantic Flyway, it would have no impact to avian habitat potentially used by migrating species due to its lack of impact to bird concentration areas and its relatively low proposed height. (Cellco 4, Tab 3 – VHB Memorandum re Migratory Bird Impact Evaluation, p. 2)

113. Cellco's proposed facility would comply with the recommendations of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species. (Cellco 4, Response 19; Tab 3 – VHB Memorandum re Migratory Bird Impact Evaluation, pp. 4-6)

114. The proposed facility is located in a Federal Emergency Management Agency Flood Insurance Rate Map Flood Zone C – an area of minimal flooding. (Cellco 1, p. 21; Attachment 14)

115. Cellco's proposed water tank tower would not constitute an obstruction or hazard to air navigation and, therefore, would not require any obstruction marking or lighting. (Cellco 1, p. 23; Attachment 15)

116. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of the prospective antennas of Cellco, T-Mobile, and AT&T has been calculated to total 2.47% of the standard for 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 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 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. (Cellco 1, Attachment 11)

Visibility

117. Areas from which the proposed water tank tower would be visible above the tree canopy year-round within a two-mile radius comprise 1,197 acres. The majority of this acreage, 1,157 acres, would occur over open water on Long Island Sound. Approximately 25 acres of year-round visibility would likely occur over a tidal marsh located to the northwest with potential views extending to a short stretch of Leetes Island Road. (Cellco 1, Attachment 9, p. 5)

118. Partial year-round views would be likely from portions of two residential properties on Leetes Island Road in the vicinity of the Medlyn property. (Cellco 1, Attachment 9, p. 5)

119. Areas that would have seasonal views of the proposed water tank tower comprise approximately 27 acres within a two-mile radius of the facility. These acres are located within the general vicinity of the proposed facility, including portions of Leetes Island Road and Old Quarry Road. (Cellco 1, Attachment 9, pp. 5-6)

120. Approximately seven residential properties would have seasonal views of the proposed water tank tower. Six of these properties are located on Leetes Island Road, and one property is located on Old Quarry Road. (Cellco 1, Attachment 9, p. 6)

121. The visibility of Cellco's proposed tower from different vantage points in the surrounding vicinity is summarized in the following table. The vantage points listed are identified by their corresponding number in the Visual Resource Evaluation Report contained in Attachment 9 of Cellco's application (Figure 9).

Location	**Site Visible**	**Approx. Portion of (109') Tower Visible**	**Approx. Distance and Direction to Tower**
1 – Long Island Sound, within Thimble Islands	Yes	10'	5,400 feet; NE
2 – Long Island Sound	Yes	10'	7,600 feet; N
3 – 626 Leetes Island Road	Yes	80'	3,200 feet, SE
4 – Leetes Island Road, RR underpass	Yes	60'	950 feet; NW
5 – Leetes Island Road, RR underpass	Yes	70'	1,000 feet; NW
6 – 790 Leetes Island Road	Yes	80'	690 feet; NW
7 – Old Quarry Road	Yes	30'	2,270 feet; NW
8 – Point Road	No	n/a	4,700 feet; NE
9 – Trolley Lane	No	n/a	8,400 feet; NW
10 – Beach Road	No	n/a	5,600 feet; NW
11 – Leetes Island Road, near John Rogers House	No	n/a	1,600 feet; SE
12 – Leetes Island Road	No	n/a	1,200 feet; SE
13 – Leetes Island Road	No	n/a	1,400 feet; NW
14 – Leetes Island Road	No	n/a	3,200 feet; NW

(Cellco 1, Attachment 9 – Photographic Simulations)

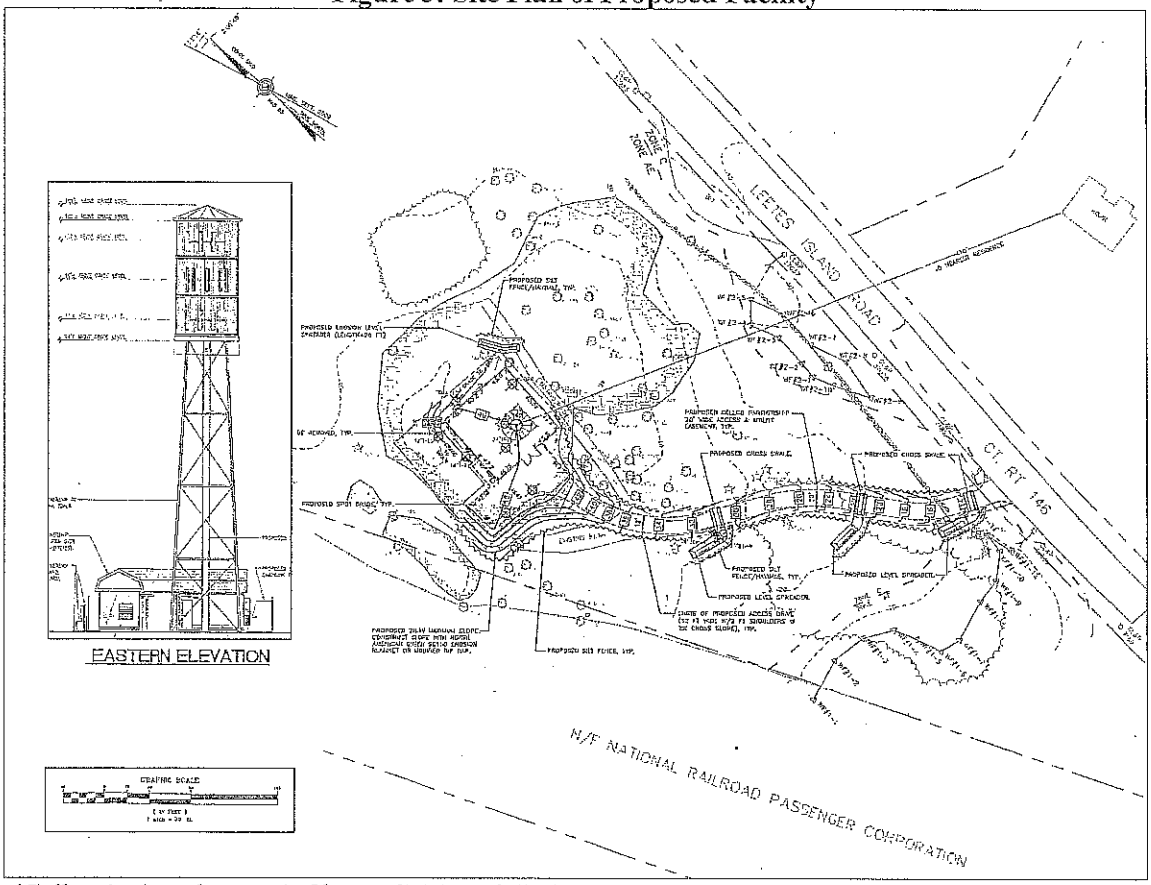
Figure 1: Location Map

(Celleo 1, p. iii)

Figure 2: Aerial Photograph of Vicinity of Proposed Facility

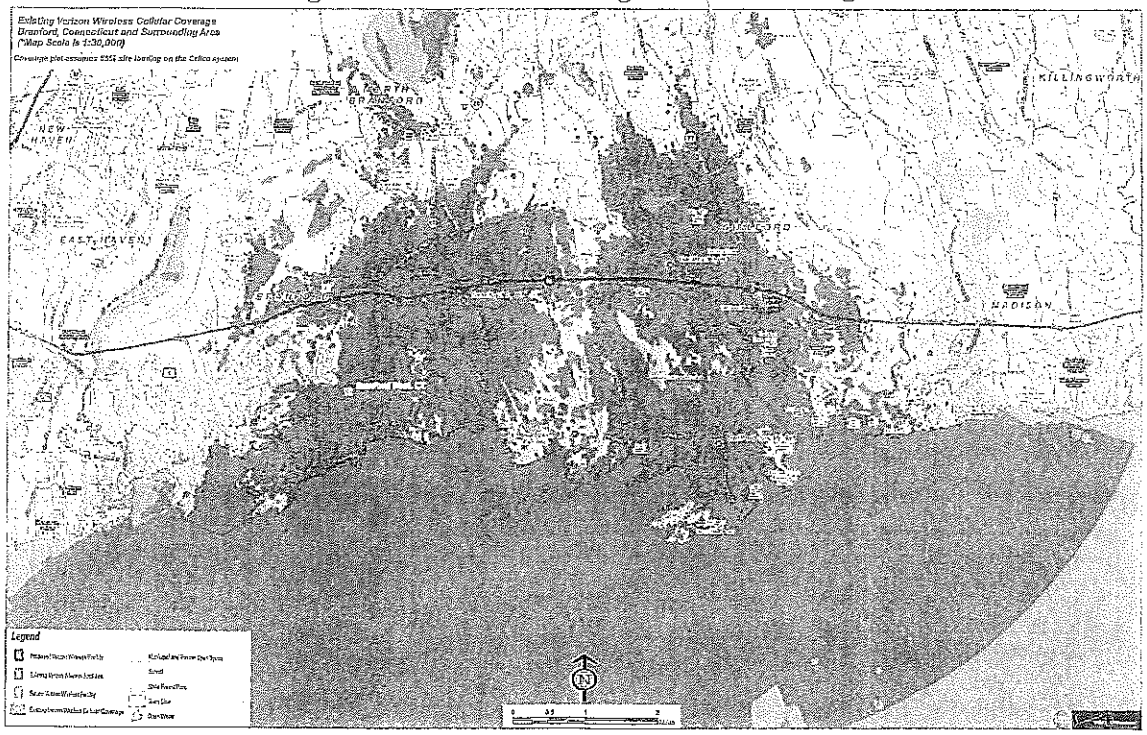
(Cellco 1, p. iv)

Figure 3: Site Plan of Proposed Facility



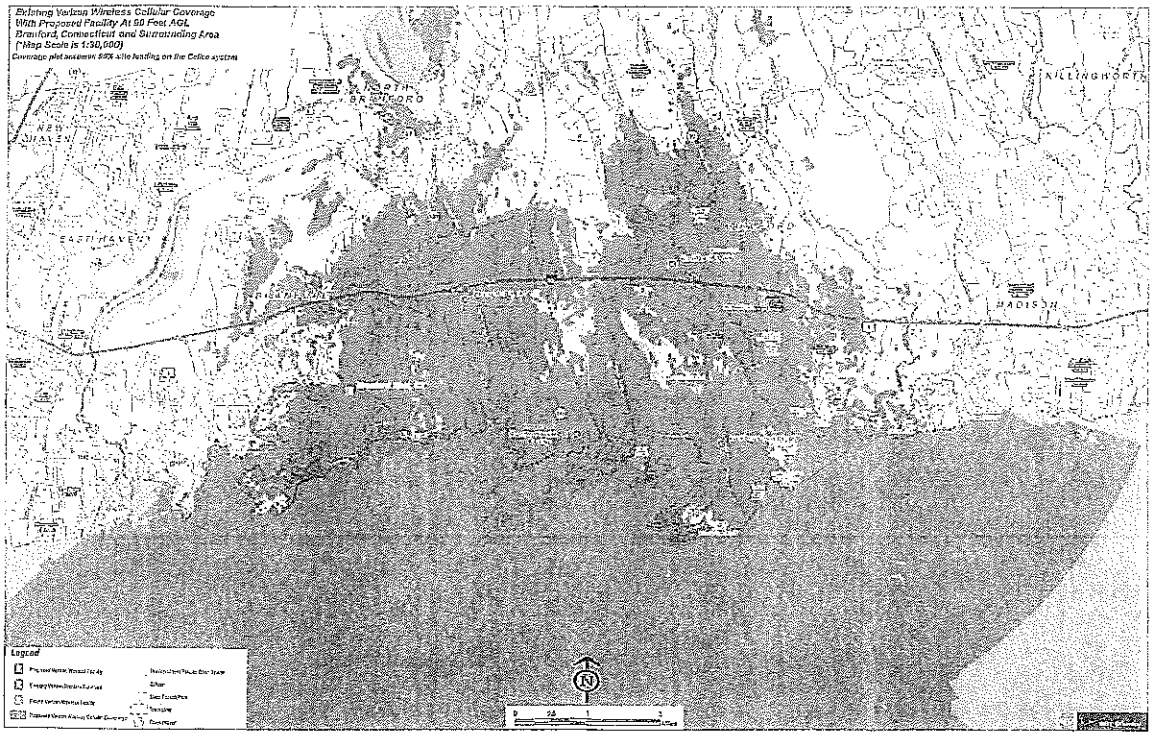
(Cellco 1, Attachment 1, Sheets C-1A and C-2)

Figure 4A: Cellco's Existing Cellular Coverage



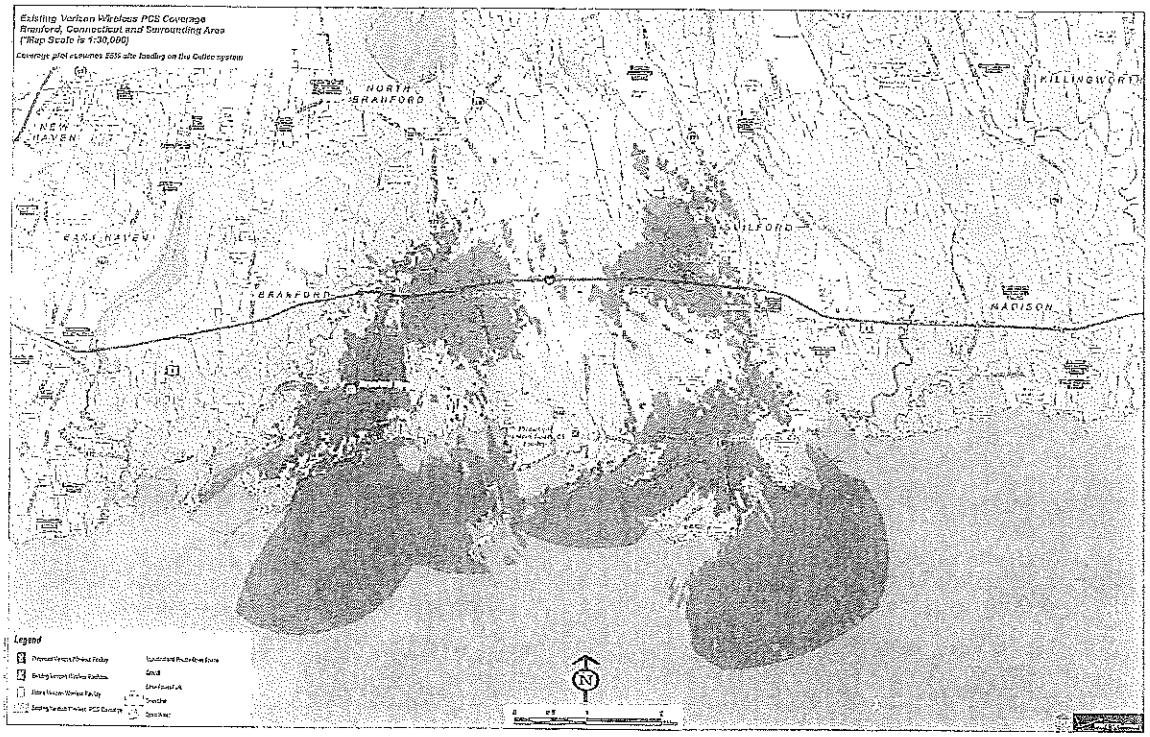
(Cellco 1, Attachment 6)

Figure 4B: Cellco's Cellular Coverage with Proposed Facility



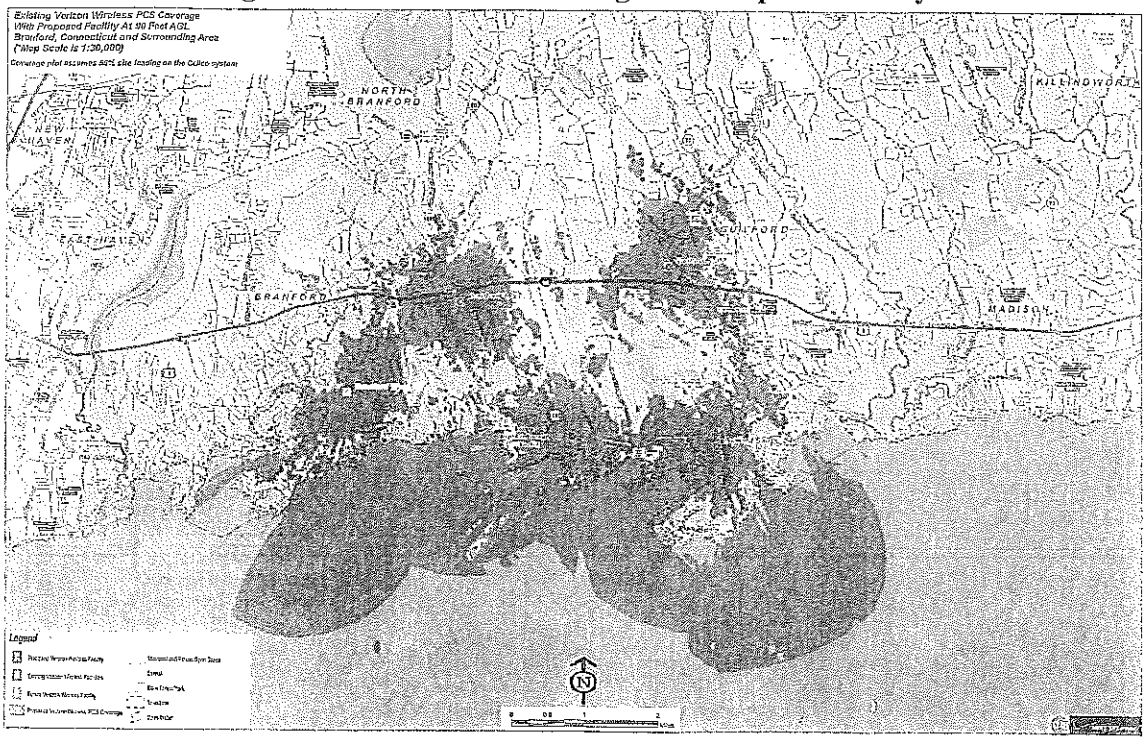
(Cellco 1, Attachment 6)

Figure 5A: Cellco's Existing PCS Coverage



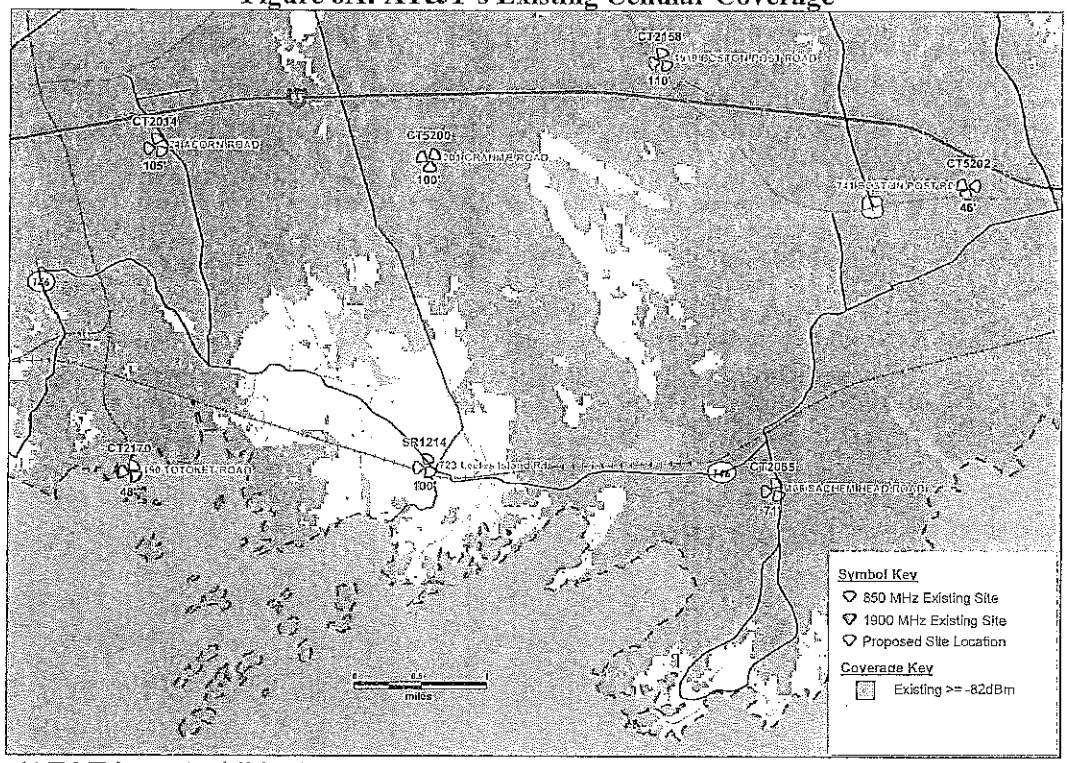
(Cellco 1, Attachment 6)

Figure 5B: Cellco's PCS Coverage with Proposed Facility



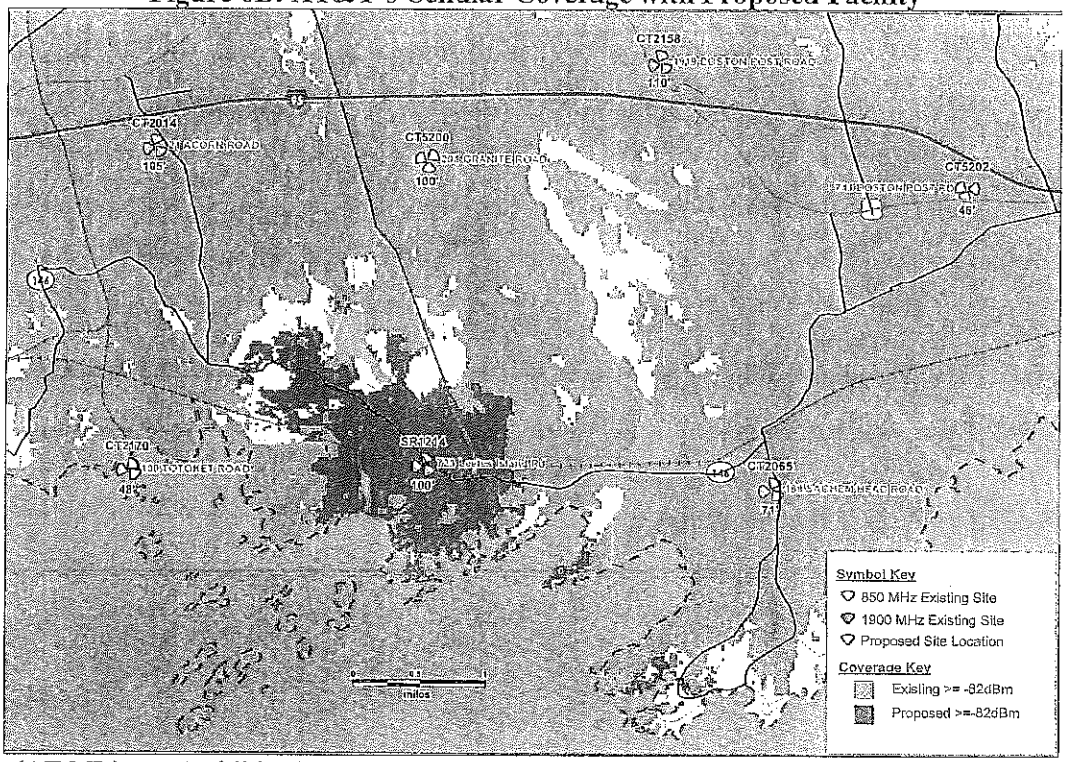
(Cellco 1, Attachment 6)

Figure 6A: AT&T's Existing Cellular Coverage



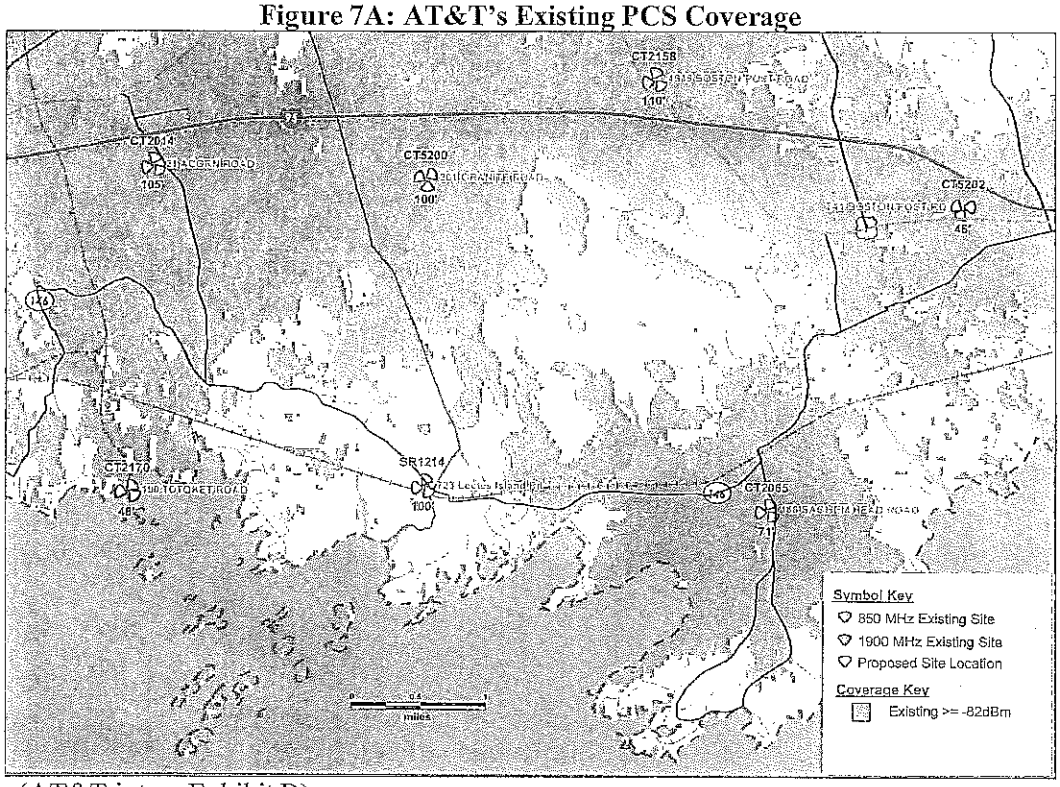
(AT&T intog, Exhibit B)

Figure 6B: AT&T's Cellular Coverage with Proposed Facility



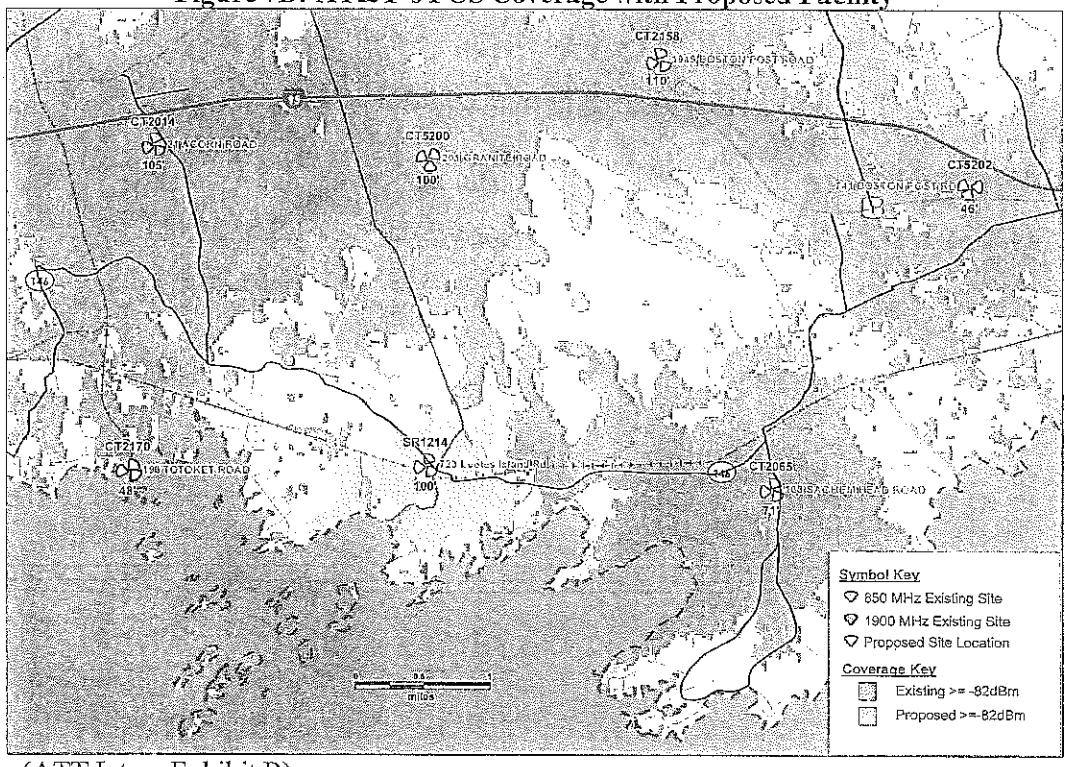
(AT&T intog, Exhibit B)

Figure 7A: AT&T's Existing PCS Coverage



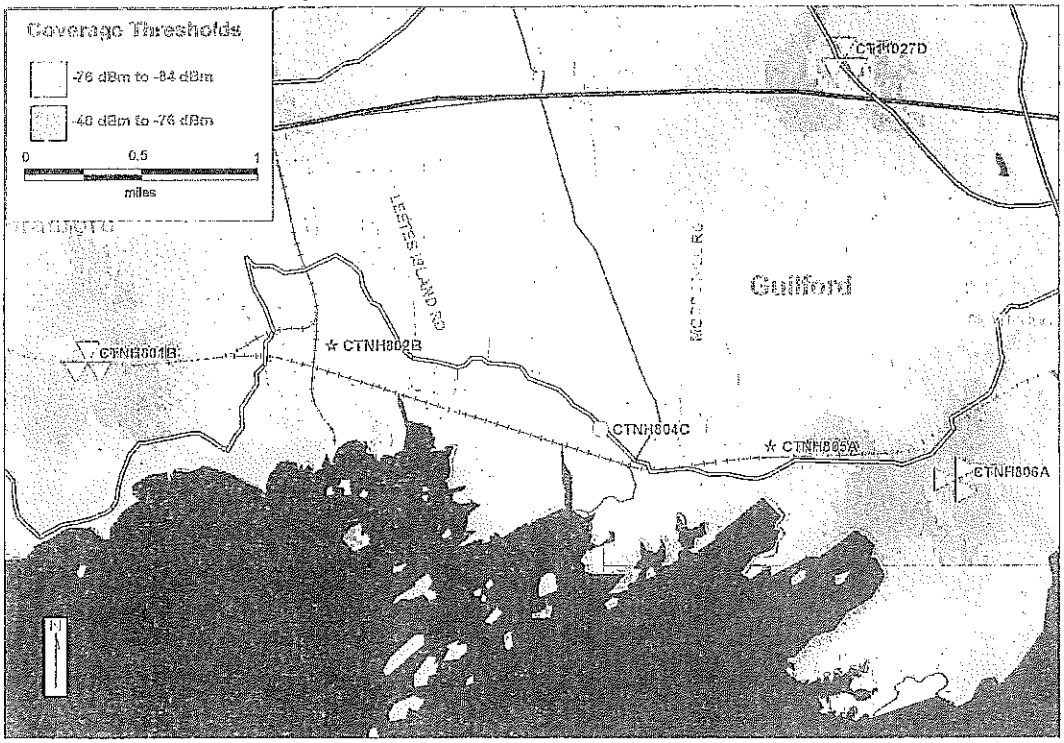
(AT&T intog, Exhibit B)

Figure 7B: AT&T's PCS Coverage with Proposed Facility



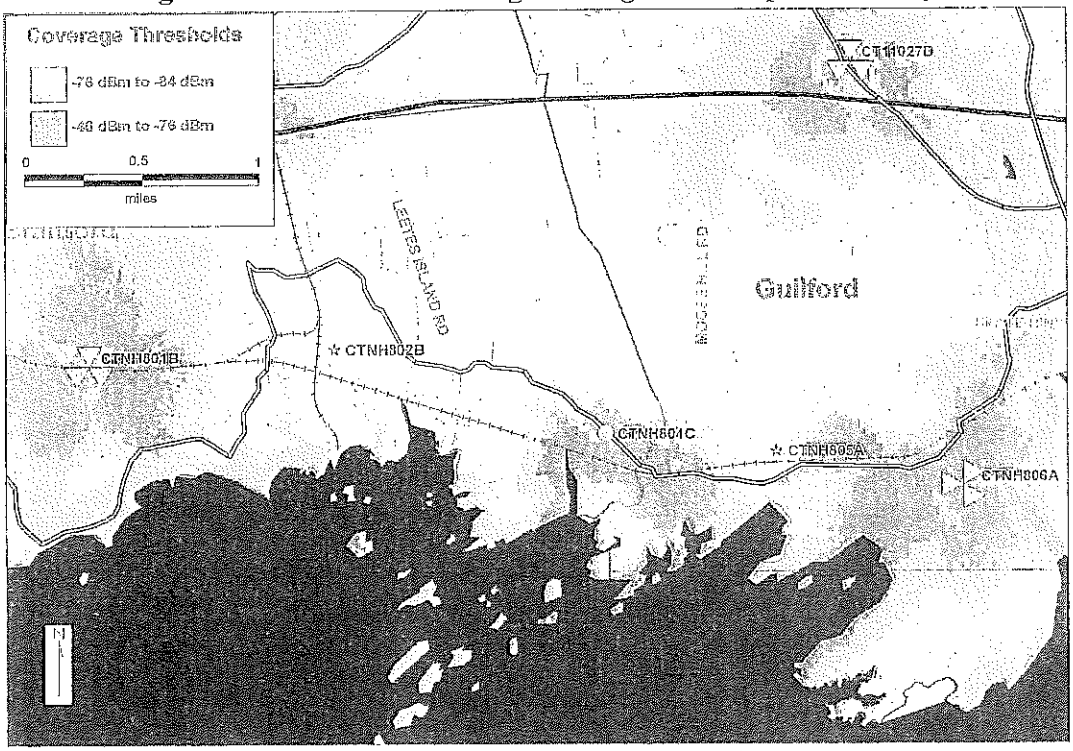
(ATT Intog, Exhibit B)

Figure 8A: T-Mobile's Existing Coverage



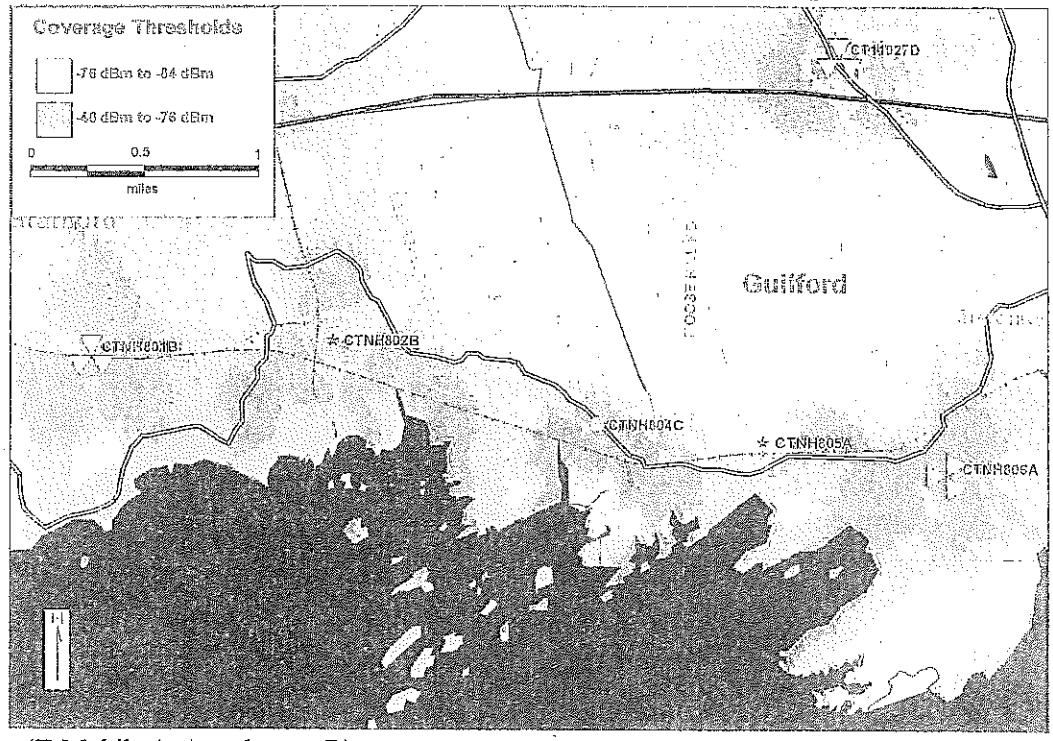
(T-Mobile 1, Attachment B)

Figure 8B: T-Mobile's Existing Coverage with Proposed Facility



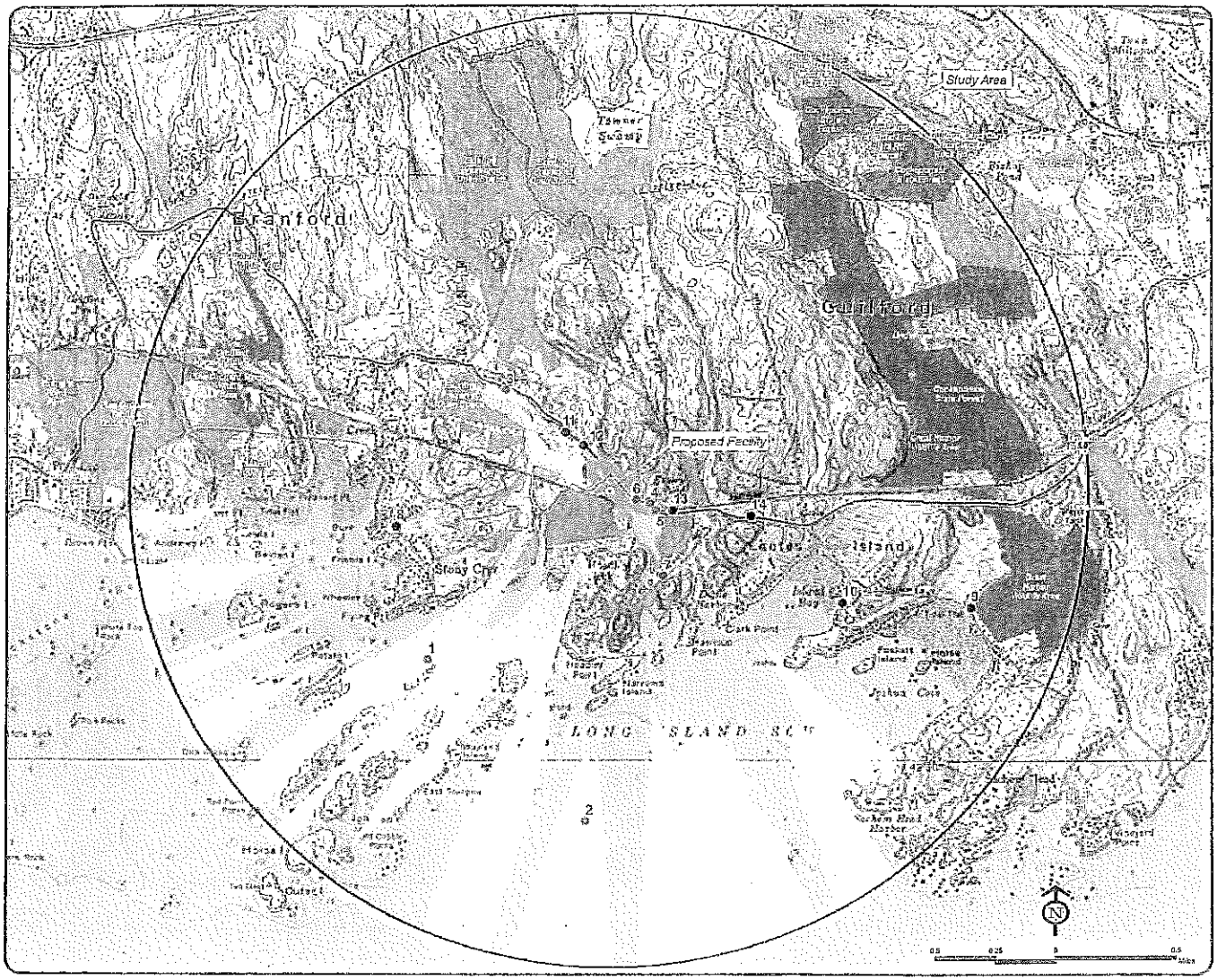
(T-Mobile 1, Attachment B)

Figure 8C: T-Mobile's Existing Coverage with Two Proposed Sites



(T-Mobile 1, Attachment B)

Figure 9: Visual Analysis



Legend

- Proposed Site Location
- Photographs - October 30, 2009 and March 17, 2010
- Balloon is not visible
- Balloon visible above trees
- Seasonal Visibility (Approximately 27 acres)
- Year-Round Visibility (Approximately 1,197 acres)
- Protected Municipal and Private Open Space Properties (1997)
  - Cemetery
  - Preservation
  - Conservation
  - Existing Preserved Open Space
  - Recreation
  - General Recreation
  - School
  - Undefined
- CT DEP Protected Properties (2007)
  - State Forest
  - State Park
  - DEP Owned Waterbody
  - State Park Scenic Reserve
  - Historic Preserve
  - Natural Area Preserve
  - Fish Hatchery
  - Flood Control
  - Other
  - State Park Trail
  - Water Access
  - Wildlife Area
  - Wildlife Sanctuary
- Federal Protected Properties (1997)
- CT DEP Boat Launches (1994)
- Town of Branford Trails
- Scenic Road (State and Local)
- Town Line

(Cellco 1, Attachment 9)