DOCKET NO. 238 - Sprint Spectrum, L.P. d/b/a Sprint PCS application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility located at 2381 Long Hill Road, Guilford, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	May 6, 2003

Findings of Fact
Introduction

1. Sprint Spectrum L.P., d/b/a Sprint PCS (Sprint) in accordance with provisions of General Statutes §§ 16-50g through 16-50aa applied to the Connecticut Siting Council (Council) on December 24, 2002 for the construction, operation, and maintenance of a wireless telecommunications facility at 2381 Long Hill Road in Guilford, Connecticut. (Sprint 1, p. 1)

2. Sprint is a wholly owned subsidiary of WirelessCo L.P. licensed by the Federal Communications Commission (FCC) to provide wireless personal communication service (PCS). Sprint operates in 32 major trading areas within the United States including Connecticut. (Sprint 1, p. 2)

3. The party in this proceeding is the applicant. The intervenor is AT&T Wireless PCS, LLC d/b/a AT&T Wireless (AT&T). (Transcript 1, 3:00 p.m. (Tr. 1), p. 5-6; Transcript 2, 7:00 p.m., (Tr. 2), p. 4)

4. Pursuant to General Statutes § 16-50m, the Council, after giving due notice thereof, held a public hearing on February 26, 2003, beginning at 3:00 p.m. and continuing at 7:00 p.m. in the Nathanael B. Greene Community Center, 32 Church Street, Guilford, Connecticut. (Tr. 1, p. 3; Tr. 2, p. 3)

5. The Council and its staff made inspections of the proposed site on February 26, 2003, beginning at 2:00 p.m. During the field inspection, the applicant flew a balloon at the proposed site to simulate the height of the tower proposed at this location. (Sprint 1, p. 12)

6. Sprint notified the Town of Guilford of the proposed project on June 29, 2001. Notice was sent to Samuel D. Bartlett, the Guilford First Selectman at the time, and George Kral, the Town Planner. Sprint met with the Town Planner on July 12, 2001, and attended a public informational meeting on August 27, 2001. In January 2002, Carl Balestracci, Jr., Guilford's new First Selectman, requested that Sprint consider locating the proposed facility at the Melissa Jones School. Sprint found that the Melissa Jones School would provide adequate coverage to the area and proceeded to negotiate a lease with the Town of Guilford. On December 2, 2002, the Guilford Board of Selectmen voted to withdraw the lease agreement for use of the school. (Sprint 1, p. 6)

7. Notice of the application was provided to all abutting landowners by certified mail, return receipt requested. All but two return receipts were received; those two landowners were sent a second copy of the original notice through regular mail on January 10, 2003. Public notice of the application was published in the New Haven Register on December 17, 2002 and December 19, 2002, the Shoreline Times on December 18, 2002, and the Guilford Courier on December 19, 2002. (Sprint 1, p. 3; Sprint 2, Q. 8)

8. Pursuant to General Statutes § 16-50j (h), the following state agencies were solicited to submit written comments regarding the proposed facility on January 9, 2003; Department of Environmental Protection (DEP), Department of Public Health (DPH), Council on Environmental Quality (CEQ), Department of Public Utility Control (DPUC), Office of Policy and Management (OPM), Department

of Economic and Community Development (DECD), and the Department of Transportation (DOT). Comments were received from the DEP on February 24, 2003. The following agencies did not offer comments on the application: DPH, CEQ, DPUC, OPM, DECD, and the DOT. (DEP letter dated February 21, 2003)

Need

9. Sprint located the proposed facility to provide wireless telecommunications service to Guilford in the vicinity of Long Hill Road, Route 80, and Route 77. (Sprint 1, p. 4)

10. 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 Admin. Notice, no. 7, Telecom. Act 1996)

11. 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 Admin. Notice, no. 7, Telecom Act 1996)

Site Search

12. Sprint identified two existing communications towers located within approximately 3 miles of the proposed site: a 150-foot tower owned by Verizon, located at 131 Manor Road, Guilford; and a 140-foot tower, owned by Sprint; located at 331 Route 80, Guilford. These towers would not provide adequate coverage to Guilford. Sprint is not aware of any plans by other telecommunications entities to construct a new telecommunication facility within two-miles of the search area. (Sprint 1, p. 8)

13. Sprint identified and investigated four potential sites, including the proposed site, within Guilford. The potential sites investigated and rejected by Sprint include the Guilford Church, which was rejected because it is within a historic district; the Melissa Jones School, which was denied by the Town of Guilford; and a property at 2131 Long Hill Road, which would not provide adequate coverage to Route 80 and would not provide connectivity with two of Sprint's other sites. (Sprint 1, p. 8, 9)

Site and Equipment

14. The proposed site would include a 100-foot by 100-foot leased parcel on which Sprint would develop a 40-foot by 60-foot equipment compound. Sprint proposes to place equipment cabinets on an 8.5-foot by 20-foot equipment pad. The proposed tower and equipment compound would be enclosed by a 6-foot high chain link fence with three strands of barbed wire. The proposed monopole would have a global positioning system (GPS) antenna at 75 feet above ground level (agl), facing southwest. A gravel surface would be established within the tower compound and access road. Sprint would use a battery back up, which would operate for approximately four hours, during power outages. Sprint would consider bringing in a diesel powered electrical generator temporarily during a substantial power outage. (Sprint 1, p. 10, 11, Tab 5)

15. AT&T would locate antennas at the 170-foot level of the proposed tower. No other carriers have expressed an interest in locating at the proposed facility. (Sprint 2, Q. 13; Tr. 1, p. 62)

16. The tower radius of the proposed structure extends onto the property of the adjacent landowner to the north, east, and south. From a coverage perspective, Sprint could move the tower farther from the

adjacent properties without causing a substantial change in coverage at the same elevation. (Sprint 1, Tab 5; Sprint 2, Q. 10; Tr. 1, p. 29, 40)

17. The approximate costs of proposed construction for this site is estimated as follows:

Radio Equipment	$ 120,000
Monopole	35,000
Foundation	60,000
Access Road	55,000
Utilities	60,000
Grounding	30,000
Radio Frequency Work & Installation of Antennas	30,000
Erosion and Sediment Control	10,000
Three Additional Utility Vaults for Landlord's Use	20,000
Total Costs	**$ 420,000**

(Sprint 1, Tab 13)

Proposed Site

18. The proposed site would be located on an approximately 13-acre parcel owned by James and Janice Ward. The elevation of the proposed site is 180 feet above mean sea level (amsl). Surrounding land use includes a residential area, and undeveloped, forested land. The site topography consists of rolling hills, ranging in elevation from approximately 100 feet amsl to 460 feet amsl. The tree line surrounding the site ranges from 60 feet to 65 feet in height. (Sprint 1, p. 4, 9, Tab 5; Tr. 1, p. 22)

19. The proposed site would be located within a residential zone (R-5). The Town's Zoning Regulations express that a new telecommunications tower within a residential district is the least desirable option for a telecommunications facility. (Sprint 1, p. 9; Town of Guilford Zoning Chapter 273)

20. There is one residence within a 1000-foot radius of the proposed site. The nearest residence is that of the property owner, approximately 925 feet to the north. (Sprint 1, Tab 10; Sprint 2, Q. 6, 17)

21. Sprint proposes to construct a 180-foot monopole at the proposed site, which would be designed to accommodate two additional carriers with a 10-foot center-to-center vertical separation. (Sprint 1, p. 10, 11, Tab 5)

22. Access to the proposed site would be via an existing road for approximately 925 feet. The existing access drive is between eight and ten feet wide and would be upgraded and resurfaced with gravel. Three gates would be installed along the access road. The first gate that Sprint proposes would replace a section of fencing and a stone wall crossing that would need to be removed, the second would be installed approximately 200 feet after the first, and the third would be located at the end of the existing access road. Sprint proposes to install a 500-foot gravel access road from the end of the existing dirt road leading to the compound. (Sprint 1, p. 10, Tab 5, Tab 17)

23. Sprint proposes to install three new culverts along the access drive and to replace one old drainage pipe with a new culvert. The proposed access road is approximately 6 feet from the adjacent landowner's property, at its closest point. Telephone and electrical utilities would run underground from a nearby utility pole along the access road to the compound. (Sprint 1, p. 10, Tab 5; Tr. 1, p. 28)

Environmental Considerations

24. According to the DEP's Natural Diversity Database, three threatened or endangered species buffer zones were located in the area, the closest being approximately 3,000 feet to the southwest. (Sprint 1, p. 21)

25. The proposed access road generally follows an existing farm road which abuts seven wetlands. All of the wetlands have been disturbed due to agricultural activities. Wetlands 1 and 4 are closely grazed, Wetlands 3 and 7 are actively mowed for hay, and Wetlands 2, 5 and 6 are fields reverting to scrub/shrub/wet meadow communities. The proposed widening of the existing road, totaling approximately 1500 square feet, would impact wetlands 1, 2, 4 and 7. (Sprint 1, p. 15, Tab 17)

26. Alternative access roads to the proposed site were investigated; however, none would totally eliminate direct impacts to adjacent wetlands. Use of the existing road with the existing wetland crossings would minimize impact to undisturbed areas of wetlands. Widening of the existing road, installation of culverts, and grading would result in impacts to three wetlands. The access road may be widened only to the north, which may reduce the overall amount of impact and would result in impacts to two wetlands, which are actively grazed, rather than three. (Sprint 2, Q. 18; Tr. 1, p. 17-19)

27. The State Historic Preservation Office (SHPO) has determined that construction of the proposed site would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (Sprint 1, p. 21)

28. Clearing of approximately 2 trees with diameters of six inches or greater at breast height would be required to construct the proposed site and access road. (Sprint 1, p. 18; Sprint 2, Q. 11)

29. Erosion and sediment controls would be established to minimize soil exposure, control runoff, shield and bind the soils, and trap sediments. A coarse stone anti-tracking pad would be installed near the site entrance to minimize off-site tracking of mud. Hay bales and silt fencing would be installed around the proposed compound and along the entire access drive. Upon completion of construction, disturbed areas would be permanently stabilized with seed and mulch. (Sprint 1, p. 14, 18)

30. Analysis of the site performed by the Airspace Safety Analysis Corporation determined that the proposed site does not have to be registered with the Federal Aviation Administration (FAA). Sprint may use a crane during construction of the proposed project, which would extend above 200 feet agl, requiring FAA notification. (Sprint 1, p. 20)

31. The electromagnetic radio frequency power density, calculated using the FCC Office of Engineering and Technology Bulletin 65, using conservative worst-case approximation of radio frequency power density levels at the base of each tower, would be 4.9 percent of the American National Standards Institute (ANSI) Standard for the proposed site. (Sprint 1, p. 20)

Visibility

32. The primary view of the proposed tower would be on the landowners property and heading west toward Long Hill Road. To the north of the proposed site along Route 80 there are two locations where there is expected visibility of the proposed tower on private property and from the road. Seasonal visibility is expected along Route 77. (Tr. 1, p. 15-16)

33. A visibility analysis of the proposed facility was performed by Sprint using computer aided spatial analysis techniques and field studies. The study area is a total of 8,042 acres. Approximately 6,364 acres of the study area consist of forest cover with an average estimated tree height of 75 feet. The proposed towers would not be visible from forested areas. According to the viewshed analysis, the proposed site would be visible from approximately 25 acres of the study area. (Sprint 1, Tab 15)

34. Based on the visibility diagram generated from the computer model and field studies, the proposed site would be visible from portions of Long Hill Road, and Route 80. (Sprint 1, Tab 15)

35. The visibility of proposed tower from various locations in the area would be as follows:

Visibility of Proposed 180-foot Tower

Location	Visible	Approx. Distance (ft.) and Direction to Tower
Long Hill Road	Yes	1,531 feet SE
Nutmeg Ridge Subdivision off Long Hill Road	No	1,690 feet NE
Spruce Hill Drive	No	1,954 feet NE
Bullard Drive	No	3,379 feet NE
Overlook Drive (North Branford)	No	7,709 feet NE
Bittersweet Crest Drive	No	3,643 feet E
Mill Stone Drive	No	2,798 feet S
Elm Street	No	4,277 feet SE
Long Hill Road	No	4,594 feet SE
Ledge Hill Road at Great Hill Road	No	8,342 feet SE
Joseph Drive	No	8,395 feet SW
Autumn Ridge Drive	No	5,860 feet SW
Bittner Park	No	6,230 feet NW
Laurel Ridge	No	6,442 feet NW

(Sprint 1, Tab 15)

Coverage Needs

Sprint

36. Existing facilities in Guilford, Branford (to the southwest), North Branford (to the west), and Madison (to the east) leave gaps in wireless coverage in the Guilford area. Gaps are defined as areas receiving less than –94 dbm coverage. The primary purpose of this application is to provide coverage to these gaps along Route 77, Route 80 and local roads within Guilford. (Sprint 1, p. 4; Sprint 2, Q. 11)

37. Existing wireless coverage, at 1900 mhz, within a three mile radius of the proposed sites is as follows:

Existing Coverage
(see Figure 2)

Route	**Existing Gaps (miles) < -94 dbm**	**Total Road Miles within a 3-mile Radius**
77	3.8	6.7
80	1.8	7.1
Total	5.6 miles	13.8 miles

(Sprint 1, Q. 11)

38. Existing coverage combined with antennas on the proposed tower at the listed heights above ground level, at 1900 mhz, would leave the following gaps within a three mile radius of the proposed site as follows:

Proposed Tower at 180 Feet AGL and 160 Feet AGL
(see Figure 3 and Figure 4)

Route	**Gaps (miles) at 180-ft < -94 dbm**	**Gaps (miles) at 160-ft <-94 dbm**	**Total Road Miles within a 3-mile Radius**
77	0	0	6.7
80	0.5	0.6	7.1
Total	0.5 miles	0.6 miles	13.8 miles

(Sprint 1, Q. 12)

39. At the 180-foot level Sprint would meet service quality requirements along most of Route 80. At 160 feet agl, Sprint's signal level drops and the gap lengthens resulting in inadequate coverage along Route 80 near the Guilford/North Branford line. Sprint currently has another search ring approximately 4 miles to the north of the proposed site along Route 77. (Tr. 1, p. 20-22)

AT&T

40. AT&T would install antennas on the proposed facility to operate in the PCS frequency range. An additional site to the north and to the south of the proposed site will be needed in the future to provide coverage to Guilford. AT&T's minimum signal level threshold is –90 dbm. Existing coverage combined with antennas on the proposed tower at 170 feet agl would leave the following gaps within a three mile radius of the proposed site as follows: (AT&T 1, coverage maps; Tr. 1, p. 62, 64)

Proposed Tower at 170 Feet AGL
(see Figure 5)

Route	**Gaps (miles) at 170-ft < -90 dbm**	**Total Road Miles within a 3-mile Radius**
77	1.0	6.7
80	0.7	7.1
Total	1.7 miles	13.8 miles

(AT&T 1, propagation maps)

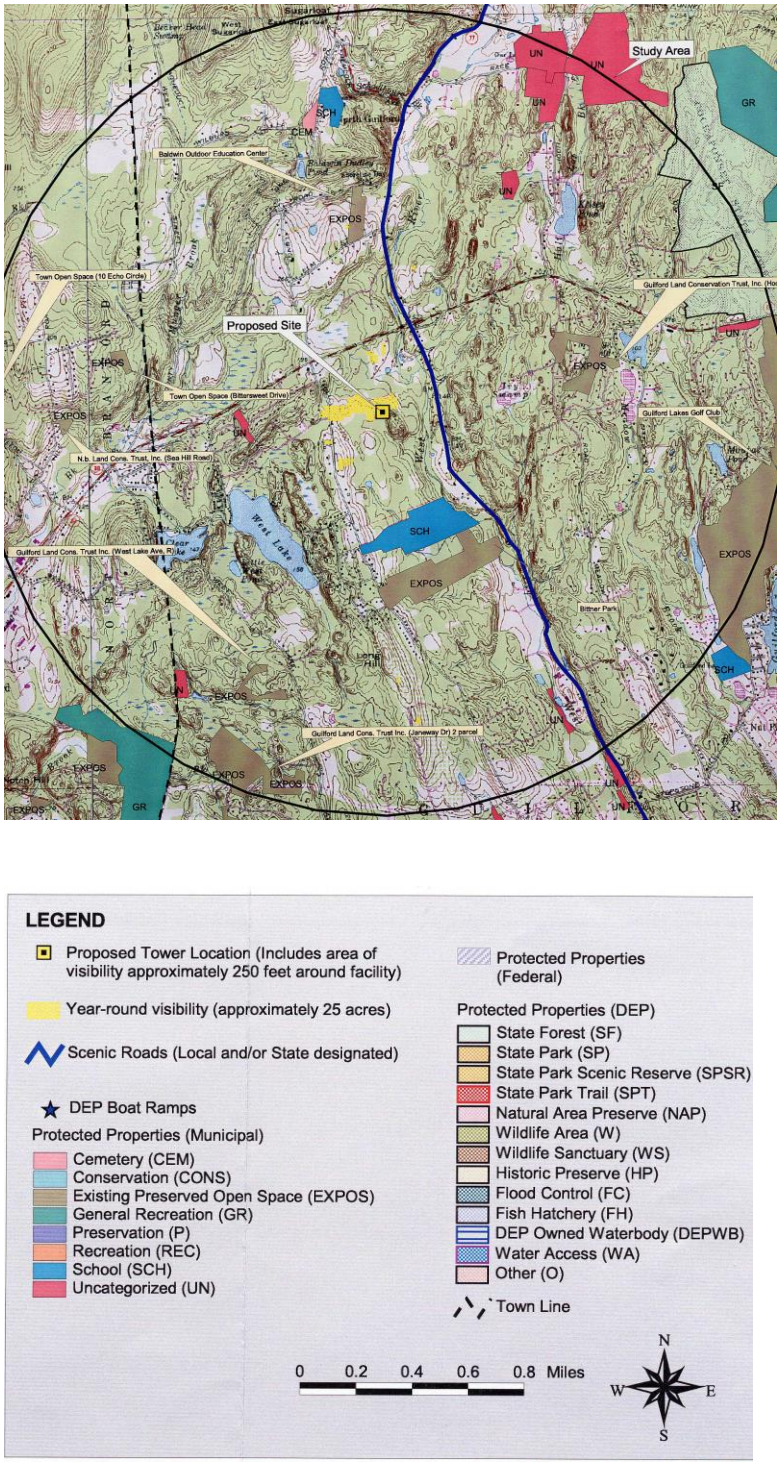

Figure 1. Viewshed analysis of the proposed site.

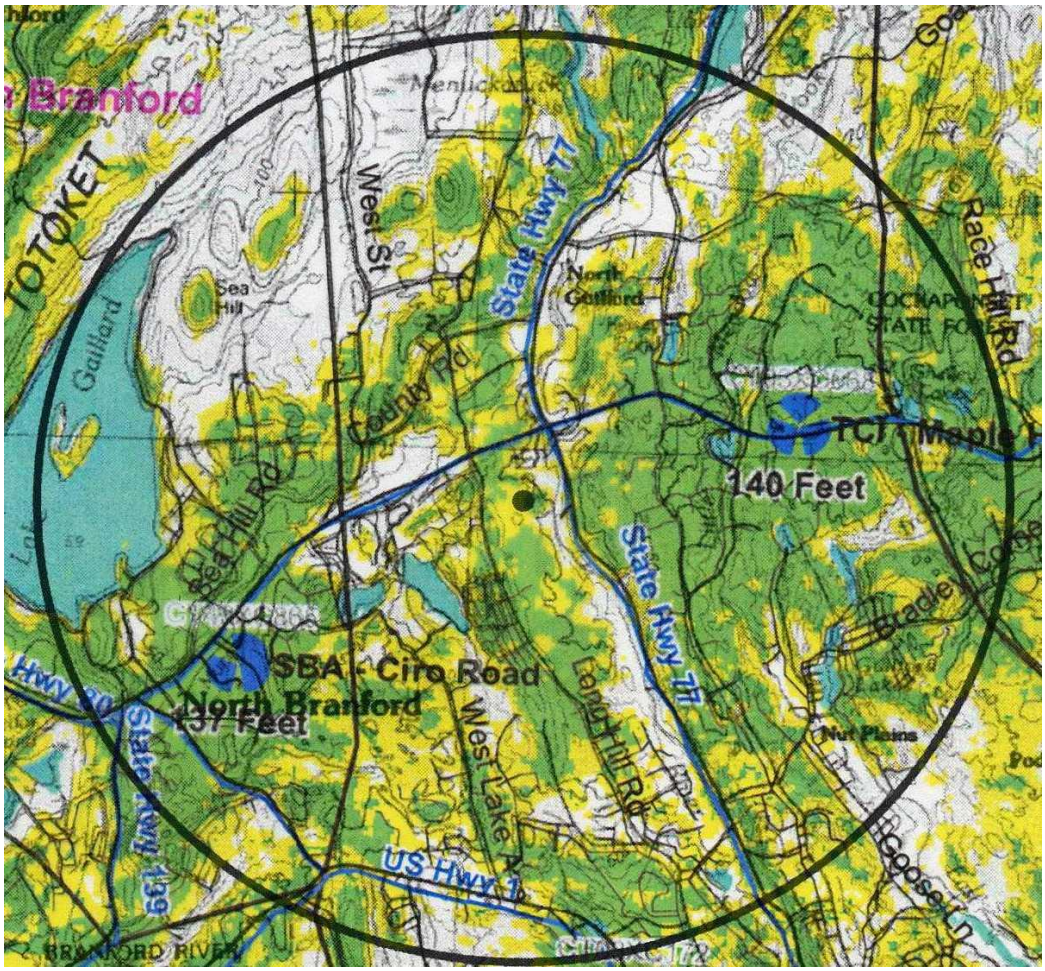

Figure 2. Existing Sprint coverage in Guilford.
Scale = 1:105,000

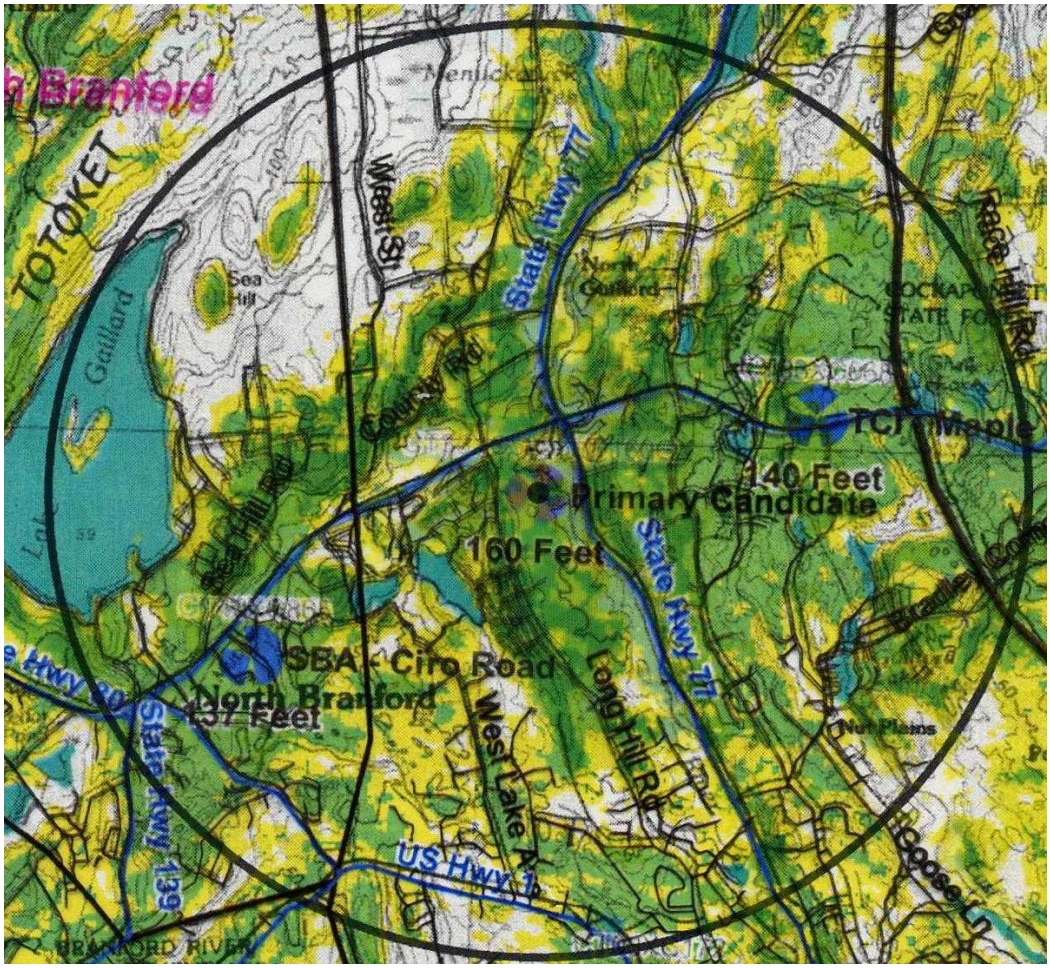

Figure 3. Existing Sprint coverage with coverage from the proposed site at 180 feet agl. Scale = 1:105,000

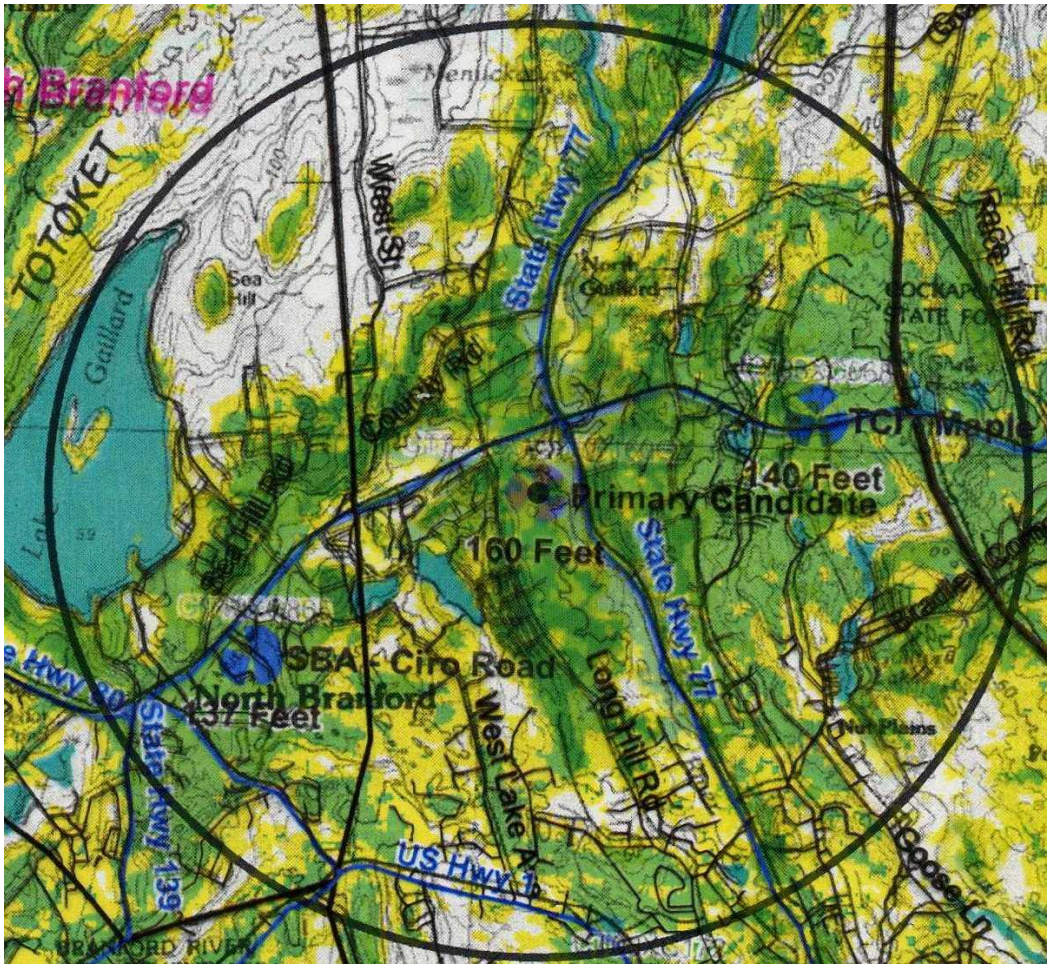

Figure 4. Existing Sprint coverage with coverage from the proposed site at 160 feet agl. Scale = 1:105,000

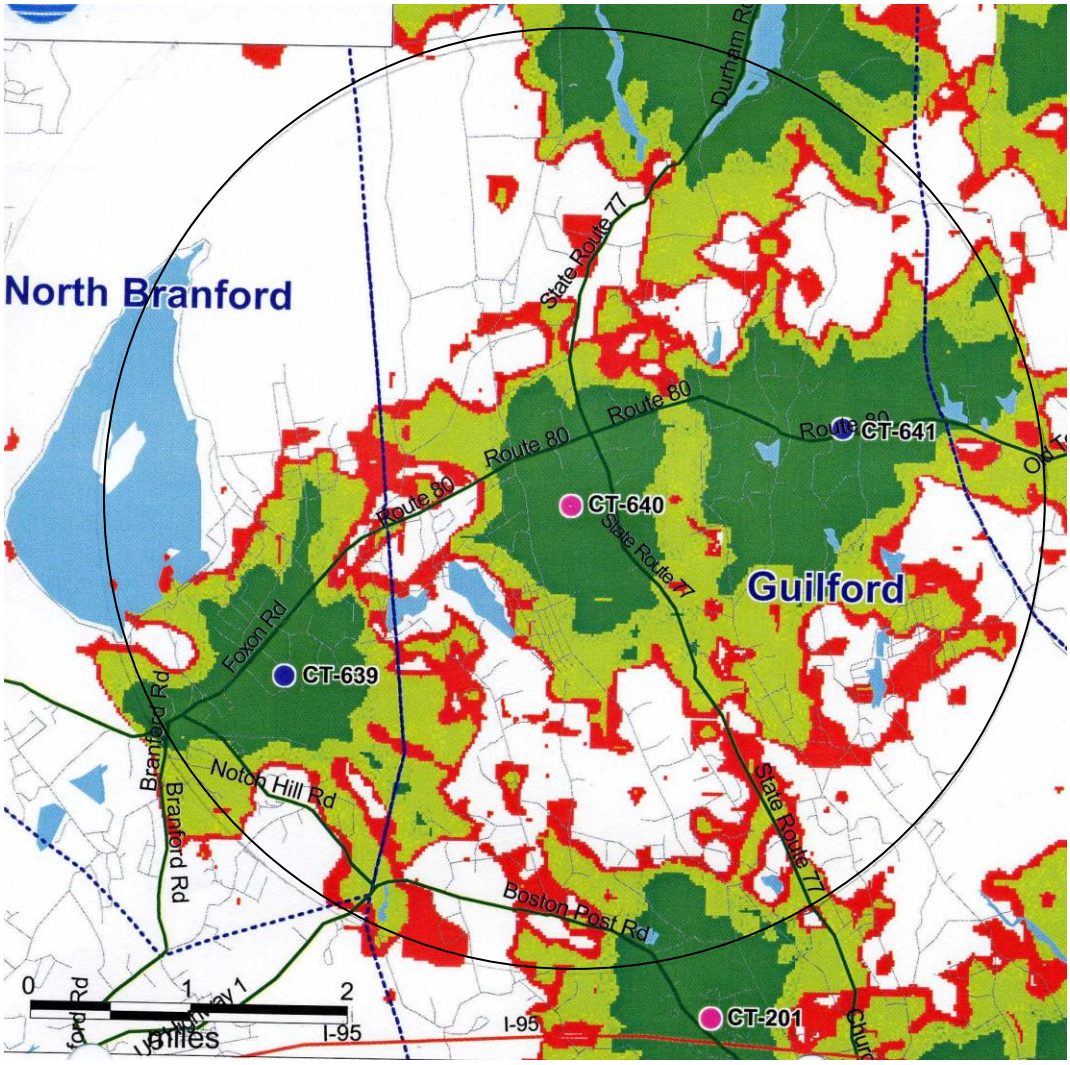

Figure 5. Existing AT&T coverage with coverage at the proposed site at 170 feet agl.