

<p><b>DOCKET NO. 409</b> - New Cingular Wireless PCS, LLC }          application for a Certificate of Environmental Compatibility and }          Public Need for the construction, maintenance and operation of }          a telecommunications facility located at 8 Barnes Road, Canaan }          (Falls Village), Connecticut. }</p>	<p>Connecticut  Siting  Council</p>
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August 25, 2011

**Findings of Fact**

**Introduction**

1. New Cingular Wireless PCS, LLC (AT&T), in accordance with provisions of Connecticut General Statutes (CGS) § 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on October 19, 2010 for the construction, maintenance and operation of a 150-foot wireless telecommunications facility at 8 Barnes Road in Canaan, Connecticut. (AT&T 1, pp. 3, 6)
2. AT&T is a Delaware limited liability company with an office in Connecticut. AT&T is licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless services system. (AT&T 1, p. 6)
3. The parties in this proceeding are the applicant, the Town of Canaan Inland Wetlands/Conservation Commission (IWCC), the Town of Canaan Planning and Zoning Commission, and Patty and Guy Rovezzi. (Transcript 1 – 02/17/11, 3:00 p.m. [Tr. 1], p. 13)
4. The purpose of the proposed facility is to provide service to coverage gaps along Route 7, Route 126, Route 63, and surrounding roads in the west-central portion of Canaan. (AT&T 1, p. 4)
5. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on February 17, 2011, beginning at 3:00 p.m. and continuing at 7:00 p.m. at the Lee H. Kellogg School, 47 Main Street, Falls Village, Connecticut. The hearing was continued on June 16, 2011 at the Council’s office at 10 Franklin Square, New Britain, Connecticut (Transcript 2 – 02/17/11, 7:00 p.m. [Tr. 2], p. 3; Transcript 3 – 06/16/11, 11:15 a.m. [Tr. 3], p. 3)
6. A field inspection of the site was scheduled for February 17, 2011, beginning at 2:00 p.m. Due to a deep snowpack, the Council was unable to walk up the proposed access drive to the proposed tower site. In lieu of the site walk, AT&T showed the Council a video of the access drive route and proposed tower compound. AT&T flew two balloons at the proposed tower location from 8:00 a.m. to 5:00 p.m. that simulated the heights of the tower at 150 feet and at 130 feet above ground level (agl). (Tr. 1, pp. 3-12, 37)
7. Pursuant to CGS § 16-50l (b), public notice of the application was published in The Register Citizen on October 1 and October 13, 2010 and the Lakeville Journal on September 30 and October 7, 2010. (AT&T 1, p. 8, Tab 12; AT&T 5)
8. Pursuant to CGS § 16-50l(b), notice of the application was provided to all abutting property owners by certified mail, Return Receipt Requested. Notice was unclaimed by one abutter, Joan Ohrstrom and returned by the post office for another abutter, Michael Burke. AT&T re-sent notice to these abutters by first class mail. (AT&T 1, Tab 12; AT&T 3, R. 1)
9. Pursuant to CGS § 16-50l (b), AT&T provided notice to all federal, state and local officials and agencies listed therein. (AT&T 1, p. 7, Tab 11)

### **State Agency Comment**

10. Pursuant to CGS § 16-50j (h), on December 14, 2010 and June 17, 2011, the following State agencies were solicited by the Council to submit written comments regarding the proposed facility: 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); Department of Agriculture (DOAg); Department of Transportation (DOT); and Department of Emergency Management and Homeland Security (DEMHS). (Record)
11. The CEQ provided comment on February 14, 2011 stating that the tower would be visible from a State designated scenic road; development of the site does not conform to town zoning regulations; a comprehensive wildlife survey of the property should be performed; the site is located in a relatively undisturbed area; co-location on nearby electric transmission towers should be re-examined; water and erosion control measures should be examined; and the re-location of the tower from its original pre-application location, resulting in a taller tower, should be re-examined. (Record)
12. No other state agency commented on the proposal. (DOT no comment letter of Nov. 24, 2011; Record)

### **Municipal Consultation**

13. On October 29, 2009, AT&T submitted a technical report for the proposed project to the Town of Canaan (Town). At the time of the consultation, AT&T proposed a 120-foot tower on a 49-acre parcel owned by the Dorothy A. Forino Estate (Forino Estate). (AT&T 1, p. 23)
14. On December 9, 2009, AT&T attended a public information session held in Falls Village that was attended by Town officials and members of the public. (AT&T 1, p. 23, Tab 10)
15. At the meeting, concern was expressed about the length and the slope of driveway required to access AT&T's proposed site. AT&T re-examined their proposal and shifted the proposed tower site 1,200 feet to the west on an adjacent parcel owned by the Forinio Estate (refer to Figure 1). This relocation shortened the proposed access drive by 1,040 feet. The re-located tower, proposed in this application, would require a 150-foot tower. (AT&T 1, Tab 10)
16. The revised location of the tower was submitted to the Town on September 10, 2010. (AT&T 1, Tab 10)
17. Two alternative properties, Music Mountain and Century Aggregate, were suggested by the Town and members of the public at the information meeting. These properties are described in the Site Search section of this document. (AT&T 1, p. 23, Tab 10)
18. On February 2, 2010, AT&T conducted a balloon float to simulate the height of the proposed tower. The Town was notified of this balloon float. (AT&T 1, p. 23, Tab 10)
19. AT&T would provide space on the tower for municipal antennas for no compensation. (AT&T 1, p. 13)

### **Public Need for Service**

20. 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)
21. 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)
22. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 8)
23. 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)
24. The Wireless Communications and Public Safety Act of 1999 (911 Act) was enacted by Congress to promote and enhance public safety by making 9-1-1 the universal emergency assistance number, by furthering deployment of wireless 9-1-1 capabilities, and by encouraging construction and operation of seamless ubiquitous and reliable networks for wireless services. (Council Administrative Notice Item No. 9)
25. AT&T will provide Enhanced 911 services from the proposed site, as required by the 911 Act. (AT&T 1, p. 9)
26. Telecommunication facilities are part of the nation's critical infrastructure. (Council Administrative Notice Item No. 39)

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

27. AT&T intends to operate in both the cellular (800 MHz) and PCS (1900 MHz) frequency bands at this site. AT&T would not deploy long-term evolution (700 MHz) equipment at this site as part of the initial installation. (AT&T 3, R. 12)
28. AT&T designs its system based on cellular coverage, with an in-vehicle minimum signal level of -82 dBm, and an in-building minimum signal level of -74 dBm. (AT&T 3, R. 8, R. 12)
29. AT&T's proposed service area encompasses portions of Route 7, Route 126, Route 63, Under Mountain Road, and surrounding areas in the west-central portion of Canaan. (AT&T 1, Tab 1)

30. Existing and proposed AT&T facilities in the area are presented in the following table. None of these facilities meets coverage objectives in the proposed service area.

Location	Antenna Height	Approximate Distance from Site
52 Library St., Salisbury	153 feet	5.2 miles northwest
Lime Rock Park Rd., Salisbury	53 feet	3.7 miles southwest
477 Route 7, Sharon	98 feet	4.1 miles southwest
10 Ashpohtag Rd., Norfolk	137 feet	6.4 miles northeast
Hollenbeck Road, Cornwall (proposed)	180 feet	4.3 miles southeast
188 Route 7 South, Canaan (proposed)	140 feet	1.9 miles southwest
38 Lower Rd., North Canaan	143 feet	4.0 miles north

(AT&T 1, Tab 1, Tab 10; AT&T 3, R. 17)

31. The existing signal strength in the proposed service area ranges from -110 dBm to -80 dBm (refer to Figure 2). (AT&T 3, R. 8)
32. Installing antennas at the proposed height of 150 feet would provide the following reliable coverage to the proposed service area:

Coverage Type	Approx. square miles	Approx. linear miles on Rt. 7	Approx. linear miles on Rt. 63	Approx. linear miles on Rt. 126	Approx. linear miles on Under Mountain Rd.
Cellular (-82 dBm)	28.6	1.6	3.3	3.6	2.8
PCS (-82 dBm)	19.2	1.7	2.2	3.2	2.5

(Refer to Figure 3). (AT&T 1, Tab 1; AT&T 3, R. 13, R. 15)

33. The minimum height AT&T requires to meet coverage objectives is 130 feet. (AT&T 3, R. 18)

### Site Selection

34. AT&T established a search ring in March 2008 to provide coverage to the proposed service area. (AT&T 1, p. 4)
35. AT&T initially investigated several locations including existing structures and potential properties. Sites that were investigated and rejected include:
- a) 188 Route 7 South – The Council approved a 150-foot tower at this location under Docket 360, an application by Cellco Partnership (Cellco). Construction of the site has not yet commenced. Cellco will install antennas at the 150-foot level of the tower. AT&T intends to locate at the 140-foot level of this approved tower. AT&T’s coverage would not extend to the proposed service area.
  - b) 167 Route 63 – This is a 193-acre farmland parcel rejected by AT&T because it would not meet coverage objectives.
  - c) Route 63 – This is a Town-owned 76.3-acre parcel used for the transfer station and pool. AT&T rejected this location because it would not meet coverage objectives.
  - d) 392 Under Mountain Road – This site contains an existing 75-foot lattice tower and a residence on an approximately 5.8 acre parcel. AT&T rejected this site because it would not meet coverage objectives.
  - e) Canaan Mountain Road – This is an approximately 67-acre forested parcel. AT&T rejected this site because it would not meet coverage objectives.
  - f) Under Mountain Road – This includes two parcels of land approximately 155 and 167 acres. AT&T rejected these parcels because they would not meet coverage objectives.

- g) 79 Steep Road – This includes two parcels of land approximately 128 acres and 78 acres. AT&T rejected this location because it would not meet coverage objectives.
  - h) Steep Road – This is a 73-acre forested parcel. AT&T rejected this location because it would not meet coverage objectives.
  - i) 177 Under Mountain Road – This is a 153-acre parcel containing a residence. AT&T rejected this location because it would not meet coverage objectives.
  - j) Music Mountain Road – This is an approximately 124-acre parcel that was suggested by the Town. AT&T rejected this parcel because it would not meet coverage objectives.
  - k) Beebe Hill Road – This is an approximately 45-acre parcel that is the location of the Falls Village Water Tanks. AT&T rejected this site because it would not meet coverage objectives.
  - l) 74 Sand Road – This is an approximately six-acre parcel owned by Century Aggregates, Inc., which was suggested by the Town. AT&T rejected this parcel because it was too close to an existing AT&T site, and it would not meet coverage objectives.
- (Council Administrative Notice 47; AT&T 1, Tab 2, Tab 10; AT&T 3, R. 22; AT&T 4, R. 69)

36. During the proceeding, AT&T was requested to examine the feasibility of providing coverage to the proposed service area using two or three towers instead of one. Given the terrain of the area, the proposed service area was split into a northern portion and southern portion for analysis. AT&T examined numerous parcels in the area and found a willing landowner in the southern portion. AT&T could not find a willing property owner in the northern portion. (AT&T 8, R. 2; Tr. 3, pp. 36-51)
37. Microcells, repeaters, and distributed antenna systems are not viable technological alternatives for providing coverage to the identified coverage gap. These technologies are of low power and are limited in coverage and capacity. These types of facilities are generally used in situations where the coverage area is small or for providing service in buildings. The proposed service area is a large area with widely dispersed residences that would be effectively served by the proposed tower. (AT&T 1, p. 10)
38. The use of a repeater for E 911 service in the area would not be viable because the repeater needs a strong donor signal. Existing coverage in the proposed service area is weak and unreliable, and thus, is not strong enough for a repeater to work. (AT&T 4, R. 71)

#### **Facility Description**

39. The proposed tower site is located in the northwestern portion of an approximately 25-acre parcel owned by the Estate of Dorothy A. Forino. (AT&T 1, p. 13, Tab 3, Tab 6)
40. The site property is near the summit of Cobble Hill, a prominent hill that ranges from 650 feet above mean sea level (amsl) along Barnes Road, to a height of 1,268 feet at the summit (refer to Figure 1). (AT&T 1, Tab 5)
41. Cobble Hill is located immediately east of Route 63 and south of Barnes Road. The hill is characterized by steep grades from the base of the hill to several plateaus around the summit area. A low ridge extends along the southeast aspect of the hill, where a power line traverses in an east-west direction. (AT&T 1, Tab 3)
42. Land use in the surrounding area consists of undeveloped woodlands, low-density residential development and agricultural land. (AT&T 1, Tab 6)
43. The site property abuts Route 63 to the west, a 50-acre property owned by the landowner to the east, and private properties to the north, northwest and south, some of which are residentially developed (refer to Figure 4). (AT&T 1, Tab 3)

44. The subject property contains a cabin and an outbuilding. (AT&T 1, p. 13, Tab 3, Tab 6)
45. The subject property is zoned residential (R-80). Due to the steep slopes on the sides of the hill, the Town of Canaan designated all elevations above 750 feet as the Steep Slope Overlay Zone, a zoning designation that provides further protections to steep slopes and ridgelines in town. (AT&T 1, p. 14; AT&T 1b, p. 34)
46. Access to the site would extend approximately 3,050 feet from Barnes Road southeasterly along an existing access way that follows a logging path to the proposed site (refer to Figure 5). Access to the property is within a recorded easement across several parcels. The right of access to the proposed compound site is in dispute. The Council requested that AT&T produce a Title Certificate but no such submission was made by the close of record. (AT&T 1, Tab 3; Rovezzi 4; Rovezzi 5; Tr. 3, pp. 90-91)
47. AT&T proposes to re-construct the existing logging path to a 12-foot wide gravel drive and extend it by 160 feet to reach the compound site. A curve along the lower portion of the existing drive would be re-aligned (refer to Figure 4). No sections of the proposed access drive would be paved. (AT&T 1, Tab 3; AT&T 3, R. 25; Tr. 3, p. 32)
48. The slope of the proposed access drive would vary between 11 and 30 percent. The very top of the drive would have a four percent grade as it reaches a plateau near the summit. The maximum grade of the existing drive is approximately 37 percent. (AT&T 1, Tab 5; AT&T 8, Tab 3; Tr. 3, p. 31)
49. Construction vehicles could access the site without assist vehicles. In the event a construction vehicle is unable to travel up the road, an assist vehicle such as a bulldozer would be used. (Tr. 3, pp. 120-124)
50. One to one side slopes would be used to keep land disturbance to a minimum. These slopes are too steep to be stabilized by vegetation and would be covered with erosion control netting topped with riprap. (Tr. 1, pp. 76-77)
51. Wide curves are being designed to provide a turning radius for large trucks to access the site. Guardrails would be installed along the drive where vertical drops exceed 10 feet. AT&T would perform all construction within the 30-foot wide access drive easement. (AT&T 1, Tab 5; AT&T 8, Tab 3; Tr. 3, pp. 30, 186)
52. AT&T proposes to construct a 150-foot monopole at the compound site. The tower would be located at an elevation of 1,198 feet amsl. (AT&T 1, Tab 3)
53. The diameter of the tower would be approximately 4.5 feet wide at the base tapering to approximately two feet at the top. The tower would be designed to accommodate at least three additional carriers and the Town of Canaan municipal antennas. The tower would be constructed in accordance with the American National Standards Institute TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures." (AT&T 1, p. 13, Tab 3)
54. AT&T would install six panel antennas on a platform at a centerline height of 147 feet (agl). (AT&T 1, p. 13)
55. Aviation hazard lighting or marking would not be required for the proposed tower. (AT&T 1, p. 18, Tab 3)

56. AT&T would construct a 40-foot by 90-foot fenced compound within a 100-foot by 100-foot lease area at the tower site. (AT&T 1, Tab 3)
57. AT&T would install a 12 foot by 20 foot equipment shelter within the compound. (AT&T 1, Tab 3)
58. Utilities would extend underground from pole number 2942 on Barnes Road, along the access drive to the compound site. (AT&T 1, p. 13)
59. AT&T would use a diesel generator to provide backup power in the event of an emergency. (AT&T 1, p. 13, Tab 3; AT&T 3, R. 20)
60. Once constructed, the site would be accessed about once a month for maintenance. AT&T would plow the access drive on an as needed basis. The site could be accessed by snowmobile if there is too much snow. AT&T would not apply snow /ice treatment on the drive. (AT&T 4, R. 11, R. 12; Tr. 1, p. 90)
61. Emergency vehicles may need an assist vehicle to reach the tower site. For remote sites such as this, a person(s) with a medical emergency could be transported to a location that is accessible by an emergency vehicle. (Tr. 3, pp. 121-123, 183)
62. Construction of the proposed facility and access road would require 8,563 cubic yards of cut and 7,854 cubic yards of fill. Approximately 3,800 yards of fill would be imported to facilitate construction, requiring approximately 200 truck deliveries. (AT&T 3, R. 2; Tr. 3, p. 186)
63. The access road and compound are located in shallow soils areas underlain with bedrock. AT&T would prefer to remove any ledge by chipping but may use blasting, if required. Any blasting would be conducted in accordance with applicable regulations. (AT&T 3, R. 7; IWCC 9; Tr. 1, p. 83)
64. The tower setback radius would be contained within Forino Estate property. (AT&T 1, Tab 3) .
65. The nearest non-lessor property boundary is approximately 180 feet to the northeast of the tower site, owned by Patricia Ann Rovezzi. (AT&T 1, Tab 3; AT&T 3, R. 26)
66. There are no residences within 1,000 feet of the proposed tower. The nearest residence is at 36 Barnes Road, located 1,420 feet north of the tower site, and owned by Patricia Ann Rovezzi. (AT&T 1, Tab 4)
67. The estimated construction cost of the proposed facility, including antennas, is:

Tower and foundation	\$ 90,000.
Antennas and equipment	250,000.
Site development	152,500.
Utility installation	91,500.
<u>Facility installation</u>	<u>93,000.</u>
Total	<u>\$ 677,000.</u>

(AT&T 1, p. 25; AT&T 3, R. 5, R. 6)

**Environmental Considerations**

*Wildlife*

- 68. AT&T performed a preliminary habitat evaluation consisting of a field inspection of the construction area and property. This habitat evaluation was submitted to the DEP. Although the DEP has records of 72 State-listed endangered, threatened or special concern species occurring within a two-mile radius of the proposed tower site, the DEP has indicated that there is no evidence that these species occur within the proposed construction area. (AT&T 1, Tab 7, Tab 8; AT&T 6, R. 20; IWCC 77; Tr. 3, pp. 25-27, 106-108)
- 69. There are no known populations of Federally threatened or endangered species within the proposed construction area. (AT&T 1, Tab 7; AT&T 6, R. 18, R. 19)
- 70. No known bald eagle nests, roosting, or foraging areas were observed on the site property. Bald eagles are protected under federal law. (AT&T 1, Tab 7)
- 71. The proposed tower site is not located near any areas currently identified by the Connecticut Audubon Society as an Important Bird Area or Important Bird Site. The nearest Important Bird Site is located within the Great Mountain Forest, approximately four miles east of the tower site. (Council Administrative Notice No. 30; AT&T 8, R. 11; Tr. 3, pp. 23-26)
- 72. The United States Department of Interior, Fish and Wildlife Service (FWS), Division of Migratory Bird Management provides “Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers” in accordance with the Migratory Bird Treaty Act. The following are the FWS’s recommendations for the siting of telecommunications facilities.

<b>Recommendation</b>	<b>AT&amp;T’s proposed facility</b>
Encourage collocation on existing communications towers or other structures.	AT&T seeks collocation wherever possible but it is not an option as an alternative to the proposed facility. Additionally, it is the Council’s policy to encourage tower sharing in accordance with CGS 16-50aa.
New towers encouraged to be no more than 199 feet agl, use construction techniques that do not include guy wires and be unlighted if FAA regulations permit.	Proposed tower would be less than 199 feet agl and would not include the use of guy wires. The tower would not require lights.
If multiple towers, consider cumulative impacts to migratory birds and threatened and endangered species, as well as the impact of each individual tower.	Multiple tower solution was examined but determined not to be feasible.
If possible, site new towers within clusters of towers. Discourage the siting of towers near wetlands, other known bird concentration areas, in known migratory or daily movement flyways, or in habitat of threatened or endangered species. In addition, towers should not be sited within areas of high incidence of fog, mist and low ceilings.	Access drive is 200 feet from the nearest wetland. Tower site is four miles from an Audubon designated Important Bird Site.
If a tower in excess of 199 feet agl must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be installed.	The proposed tower would be less than 199 feet agl. The proposed tower would not require lights.
Towers using guy wires that are proposed within known raptor or waterbird concentration areas or daily movement routes, or in major daytime migratory bird movement routes or stopover sites should have visual markers on the wires to prevent collisions.	The proposed tower is a monopole, and no guy wires are proposed.
Towers should be sited, designed and constructed to avoid or minimize habitat loss within and adjacent to the tower footprint. Access roads and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance.	The tower is within a 100 x 100 lease area. Approximately three acres of land would be disturbed to develop the site and upgrade the existing access drive.

An alternative site should be sought if significant numbers of breeding, feeding or roosting birds are known to inhabit the proposed construction area. If this is not possible, seasonal restrictions on construction may be advisable.	Not Applicable
Towers should be designed to accommodate at least two additional carriers' antennas	The proposed tower is designed to support three additional carriers as well as emergency response antennas.
Security lighting for on-ground equipment should be down-shielded.	Lighting is not specified
Service personnel from the Communication Tower Working Group should be allowed access to the tower site under construction or proposed for construction.	Not Applicable
Towers no longer in use should be removed within 12 months of cessation of use.	May be ordered by the Council

(AT&T 1, Tab 2; Tab 3; AT&T 8, R. 8)

73. The IWCC has introduced several studies relating to radio-frequency emissions effects on plants and wildlife. Exhibit 61 is the Briefing Paper on the Need for Research into the Cumulative Impacts of Communication Towers on Migratory Birds and Other Wildlife in the United States” (Briefing Paper) by the Division of Migratory Bird Management, U.S. Fish & Wildlife Service. The first paragraph states “Virtually unknown,... are the potential effects of non-ionizing, non-thermal tower radiation on avifauna, including at extremely low radiation levels, far below maximum safe exposure levels previously determined for humans.” The Briefing Paper also “addresses the need to cumulatively assess the impacts of communication towers on migratory birds both from collisions and radiation...” To the extent that the facility complies with the FCC’s regulations concerning radio frequency emissions, the Council is preempted by the FCC from regulating the proposed facility on the basis of environmental effects of radio frequency emissions on migratory birds and wildlife. (Council Administrative Notice 43; AT&T 6, R. 61; AT&T 8, Tab 3; IWCC 61, 70-76, 84)
74. Records of the timber rattlesnake, a state endangered species, have been recorded in the Canaan Mountain area, north and east of the compound site. Although no records of the timber rattlesnake have been recorded on Cobble Hill, the hill does contain suitable habitat for the snake on the south/southeast/southwest exposures. (AT&T 8, R. 44; IWCC 31, IWCC 38, IWCC 51; Tr. 1, p. 64)

*Habitat*

75. The tower site property consists of upland forest dominated by Northern red oak, Black oak, and Chestnut oak, typical of areas with shallow rocky soils occurring on upper lopes and summits. Most trees are 6 to 12 inches in diameter at breast height and are predominately 40 to 50 feet in height. A sparse understory is present. The invasive shrub honeysuckle is present along the forest edges of the existing access drive. (AT&T 1, Tab 8)
76. Construction of the compound and access road would disturb approximately three acres of land area. Approximately 127 trees that are six inches or greater in diameter, and all smaller-diameter trees within the clearing area, would be removed for the construction of the proposed access drive and compound area. (AT&T 1, Tab 4, Tab 6, Tab 10; AT&T 4, R. 73; Tr. 1, p. 65)
77. The area along the access road and tower site property currently exhibits some forest fragmentation from the existing access drive, the cleared area around the cabin, and a clearing further east of the cabin. Construction of the site would not have a significant effect on forest fragmentation. Any birds that favor forest interior areas may be disturbed temporarily by construction. (AT&T 1, Tab 8; Tr. 1, pp. 79-81)

78. The site property is not within a Town-designated unique or special habitat area. (AT&T 1a, p. 31)
79. The DEP has identified ten significant natural communities within a two-mile radius of the site. (IWCC 77)
80. Robbins Swamp is approximately 1,800 feet east of the site, across Route 63. The swamp contains a variety of habitats and supports a large number of State-listed endangered, threatened or special concern species. Wetlands associated with Wangum Lake Brook occur on the north side of Barnes Road, approximately 200 feet north of the access road entrance on Barnes Road. The brook drains into the Hollenbeck River (approximately 1,000 feet west of the site) and wetlands associated with Robbins Swamp. (AT&T 6, R. 38, R. 39, R. 40, 52; IWCC 65)
81. The Hollenbeck River supports the only known population of the Burbot, a fish listed as endangered in Connecticut. (AT&T 8, R. 52; IWCC 65)

#### *Drainage*

82. Development of the tower and the access road can be engineered to prevent an increase in run-off above present day levels. (AT&T 1, Tab 5; AT&T 8, R. 12; Tr. 1, pp. 55-60)
83. Drainage details, including drainage calculations and final drainage design features, would be included in the Development and Management Plan for the project, if the project were approved by the Council. (Tr. 2, pp. 58, 70-72)
84. Drainage along the access drive and in the compound area would be designed in accordance with the DOT Drainage Manual (2003). Runoff is planned to be controlled through the installation of swales that will divert water flowing from uphill, overland areas. Water that falls or flows on the drive is planned to be diverted into rip rap-lined swales through a crown or pitch in the drive. Cross drains may be installed in steep areas of the access drive to divert water into the swales. Level spreaders are planned to slow down swale outflow allowing discharging water to disperse at a rate that is similar to existing flows. The proposed drive would also feature 12 inches of crushed gravel to improve infiltration on the driveway surface. (AT&T 1, Tab 5; AT&T 8, R. 12; Tr. 3, pp. 31-33)
85. Run-off from the compound area is planned to be discharged overland above steep slopes located immediately to the west. Route 63 and wetlands associated with the Hollenbeck River are located at the base of the north side of Cobble Hill, approximately 530 feet lower in elevation than the compound. (AT&T 1, Tab 6)
86. Run-off along the access road is planned to be dispersed to the surrounding terrain at various points on the north slope of Cobble Hill. Barnes Road and wetlands associated with Wangum Lake Brook are located at the base of the north side of Cobble Hill, approximately 550 feet lower in elevation than the compound. (AT&T 1, Tab 6)
87. The proposed compound and access drive is not within a flood zone. (AT&T 1, Tab 7)

### *Wetlands*

88. There are no wetlands or watercourses within the proposed construction areas. The nearest wetland is approximately 200 feet from the proposed access drive entrance on Barnes Road. Barnes Road, and a residence with maintained lawn, are between the access drive entrance and this wetland area. The nearest watercourse is the Hollenbeck River, approximately 490 feet west of the access drive at its closest point, across Route 63. Small intermittent watercourses may originate on the site parcel, subsequently draining into a drainage ditch along Barnes Road. (AT&T 4, R. 39, R. 40; AT&T 6, R. 2; Rovezzi 4, p. 4)
89. A comprehensive erosion and sediment control plan and a stormwater management plan would be developed and included within the Development and Management Plan to ensure run-off does not affect off-site wetland and watercourse resources. (AT&T 6, R. 2, R. 3)

### *Cultural/Historic Resources*

90. The Town of Canaan is located within the Upper Housatonic Valley National Heritage Area, a 29-town area located in northwest Connecticut and western Massachusetts. Congress established the area in 2006 to recognize the region as a unique national resource. The designation is intended to encourage preservation and promotion of the region's cultural, historical and natural heritage. The nearest identified heritage area resource to the proposed site is the South Canaan Congregational Church. (IWCC 22, IWCC 23)
91. The State also recognizes the Upper Housatonic Valley National Heritage Area as a Connecticut Heritage Area. Nine Connecticut towns are located within the State heritage area. This designation also recognizes the significant historic, recreational, cultural, natural, and scenic resources in the area. The State heritage area serves to promote environmental protection, heritage resource preservation, recreation, tourism, and trail development. (Council Administrative Notice 17)
92. Four locations in Town are listed on the National Register of Historic Places, as follows: the South Canaan Congregational Church, located approximately 0.5 miles northwest of the proposed tower site on Route 63; the Holabird House, located approximately 1.1 miles southwest of the proposed tower site; the Falls Village Historic District, approximately 1.8 miles west of the proposed tower site; and Music Mountain, approximately 2.5 miles south of the proposed tower site. (Council Administrative Notice No. 26; AT&T 1, Tab 6)
93. The Town of Canaan is located in the Highlands Region, an area encompassing portions of four states that was established by Congress through the Highlands Preservation Act to recognize its national significance. The Act is designed to assist these states in conserving land and natural resources within the Highlands region. The nearest resources specifically identified within the region's plan as conservation focal areas are Robbins Swamp and Canaan Mountain. (IWCC 64)
94. Route 7 in Canaan is designated as a State Scenic Road. (Council Administrative Notice 36)
95. Although there are no locally-designated scenic roads in Canaan, Under Mountain Road has been recognized in the Town's Conservation and Development Plan as scenic. (AT&T 1a, p. 34; Tr. 3, p. 67)
96. The Town's Conservation and Development Plan lists Cobble Hill as a landform that contributes to the character of the community. (AT&T 1a., p. 34)

97. The Town’s Zoning Regulations request that the Council consider avoiding detrimental impact to any scenic area, vista, ridgeline, wildlife corridor, or significant geologic or natural features within Canaan, a listing that specifically includes Cobble Hill, and consider the protection of views from any designated scenic roads. (AT&T 1b, p. 100)

*Radio Frequency Emissions*

98. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of AT&T’s proposed antennas is 5.9 percent 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. (AT&T 1, p. 17, Tab 4; AT&T 4, R. 72)

**Visibility**

99. The proposed 150-foot tower would be visible year-round from approximately 513 acres within a two-mile radius of the proposed tower site (refer to Figure 6).
100. Approximately 369 acres of the total year-round visibility would be from swampland north and west of the proposed facility, including Robbins Swamp, Page Road Swamp and Hollenbeck River wetlands. The remaining areas with year-round visibility are generally located along and adjacent to portions of Route 63, Route 7, Route 126, Page Road, Music Mountain Road, and Under Mountain Road. (AT&T 1, Tab 6)
101. Most areas with year-round visibility are from low elevation areas at distances of a half-mile or greater. (AT&T 1, Tab 6)
102. Visibility of the proposed 150-foot tower from select locations is presented in the table below. The photo-location numbers correspond to the locations on Figure 6.

<b>Specific Location and Area Receptors</b>	<b>Photo location on Map</b>	<b>Approx. Portion of Tower Visible</b>	<b>Approx. Distance from Tower (miles)</b>
Route 7 north of Under Mountain Road	1	80 feet – unobstructed	1.6 NW
Route 7 adjacent to Robbins Swamp	2	65 feet – unobstructed	1.0 NW
Route adjacent to Robbins Swamp	3	50 feet – unobstructed	0.8 NW
Route 7 north of Route 63	4	40 feet – unobstructed	0.6 NW
Page Road, adjacent to #55	5	80 feet - unobstructed	1.1 NW
Page Road, adjacent to #15	6	65 feet – unobstructed	1.0 NW
Route 126 south of page Road	7	50 feet – unobstructed	1.7 NW
Route 126 southeast of Route 7	8	50 feet – unobstructed	1.3 SW
Route 126 southeast of Amy Road	9	80 feet – unobstructed	0.8 SW
Johnson Rd. south of Route 126	10	70 feet – unobstructed	0.9 SW
Route 126 at transmission ROW	11	60 feet – unobstructed	0.7 SW
Route 126, adjacent to #216	12	60 feet – unobstructed	0.6 SW
Route 126 west of Route 63	13	50 feet – unobstructed	0.8 SE

Music Mtn. Road, adjacent to #110	14	55 feet - unobstructed	1.8 SE
Music Mtn. Road, south of Route 63	15	70 feet – unobstructed	0.9 SE
Route 63, adjacent to #167	16	25 feet – unobstructed	1.0 SE
Route 63 at Music Mtn. Road	17	35 feet – unobstructed	0.8 SE
Town of Canaan Recreation Center	18	60 feet – unobstructed	0.5 SW
Under Mountain Road	19	35 feet – unobstructed	1.1 NE
Under Mountain Road, adjacent to #41	20	60 feet - unobstructed	1.1 NE
Under Mountain Road, adjacent to #37	21	80 feet – unobstructed	1.2 NE
Under Mountain Road	22	10 feet – unobstructed	1.3 NE
Route 7	23	55 feet – unobstructed	0.9 NW
South Canaan Meeting House (front)	24	Not visible	0.5 NW
South Canaan Meeting House (rear)	(near 24)	15 feet – unobstructed	0.5 NW
Route 7	25	Not visible	1.0 west
Main Street Falls Village	26	Not visible	2.0 SW
Route 126	27	Not visible	1.7 W
Barnes Road east of Route 7	28	Not visible	0.9 NE
Barnes Road between church and Rt. 7	(near 24)	80 feet – through trees	0.5 W
Route 63 south of Barnes Road	-	60 feet – unobstructed	0.4 NW
Kellogg Road south of Route 7	(near 8)	80 feet- through trees	1.2 SW
Kellogg Rd. in front of Holabird House	(near 8)	Not visible	0.9 W
Property at 36 Barnes Road	-	Not visible	0.2 N

(AT&T 1, Tab 6; AT&T 2; Tr. 3, p. 169)

103. The proposed 150-foot tower would be visible during leaf-off conditions from an additional 165 acres within two miles of the site, generally along Route 7 north and northwest of the site, Page Road west of Route 7, and near the Route 7/Music Mountain Road intersection. (AT&T 1, Tab 6)
104. The proposed 150-foot tower would be visible year-round from select portions of at least 20 residential properties, as follows: two residences on Page Road; four residences on Route 126; seven residences on Under Mountain Road; five residences on Route 63; one residence on Music Mountain Road, and one residence on Johnson Road. Seasonal visibility would include four additional residential properties Under Mountain Road and one additional residence on Page Road. There may be some additional residential properties with year-round visibility along Route 7. (AT&T 1, Tab 6; Tr. 2, pp. 84-85; IWCC 83)
105. The proposed 150-foot tower would be visible year-round from several sections of Route 7 within two-miles of the tower site, including a 0.4 miles section approximately 0.7 to 1.0 miles northwest of the site, a 0.2-mile section approximately 0.5 miles northwest of the site, and two 0.1-mile sections, approximately 0.9 miles and 1.2 miles west of the site, respectively (refer to Figure 7). (AT&T 1, Tab 6)
106. The proposed tower would be visible from several sections of Under Mountain Road, approximately 1.1 miles southwest of the site (refer to Figure 8). (AT&T 1, Tab 6)
107. Shortening the proposed tower to 130 feet agl would reduce the total acreage of visibility from non-wetland areas by 10 acres. The tower would still be above the treeline for a majority of viewpoints (refer to Figures 7-11). (AT&T 1, Tab 6)

108. The upper 15 feet of the 150-foot tower would be visible year-round from a small portion of the rear lawn area of South Canaan Congregational Church, approximately 100 feet west of the church building (refer to Figure 11). Seasonal visibility would be possible from other locations on the property. The State Historic Preservation Office reviewed the documentation regarding visibility and determined there would be no adverse effect on this resource. (AT&T 1, Tab 10; AT&T 6, R. 31; AT&T 8, Tab 2; AT&T late file of June 30, 2011; Tr. 3, pp. 99-102)
109. The upper portion of the proposed tower would be visible year-round from the rear yard of the Holabird House property. (AT&T 1, Tab 6)
110. The tower would not be visible from Music Mountain. (AT&T 1, Tab 6)
111. The tower would not be visible from the Falls Village Historic District. (AT&T 1, Tab 6; AT&T 1a., p. 33)
112. The Appalachian Trail, a National Scenic Trail, is located approximately 1.9 miles west of the site at its closest point. The proposed tower would not be visible from this section of the trail. (AT&T 1, Tab 6; AT&T 8, Tab 2)
113. The Mohawk Trail, a hiking trail maintained by the Connecticut Forest and Parks Association is approximately two miles southwest of the site. The main viewpoint, Lookout Point, is oriented to the west, away from the proposed site. (Council Administrative Notice 35)
114. Numerous viewpoints are located from seven to 11 miles away from the site and include Bear Mountain, Bread Loaf Mountain, Dennis Hill, Haystack Mountain, Lion's Head, Mohawk Mountain, Mount Everett, Mount Frissel, Mount Race and Pine Knob. The proposed tower would not be discernable from these viewpoints. (AT&T 8, Tab 2)
115. Portions of Robbins Swamp are owned by the State. There are no formally designated hiking trails on these State-owned parcels. (IWCC 65, IWCC 66)



Figure 1: Site location at 8 Barnes Road, Canaan. (AT&T 1, Tab 3)

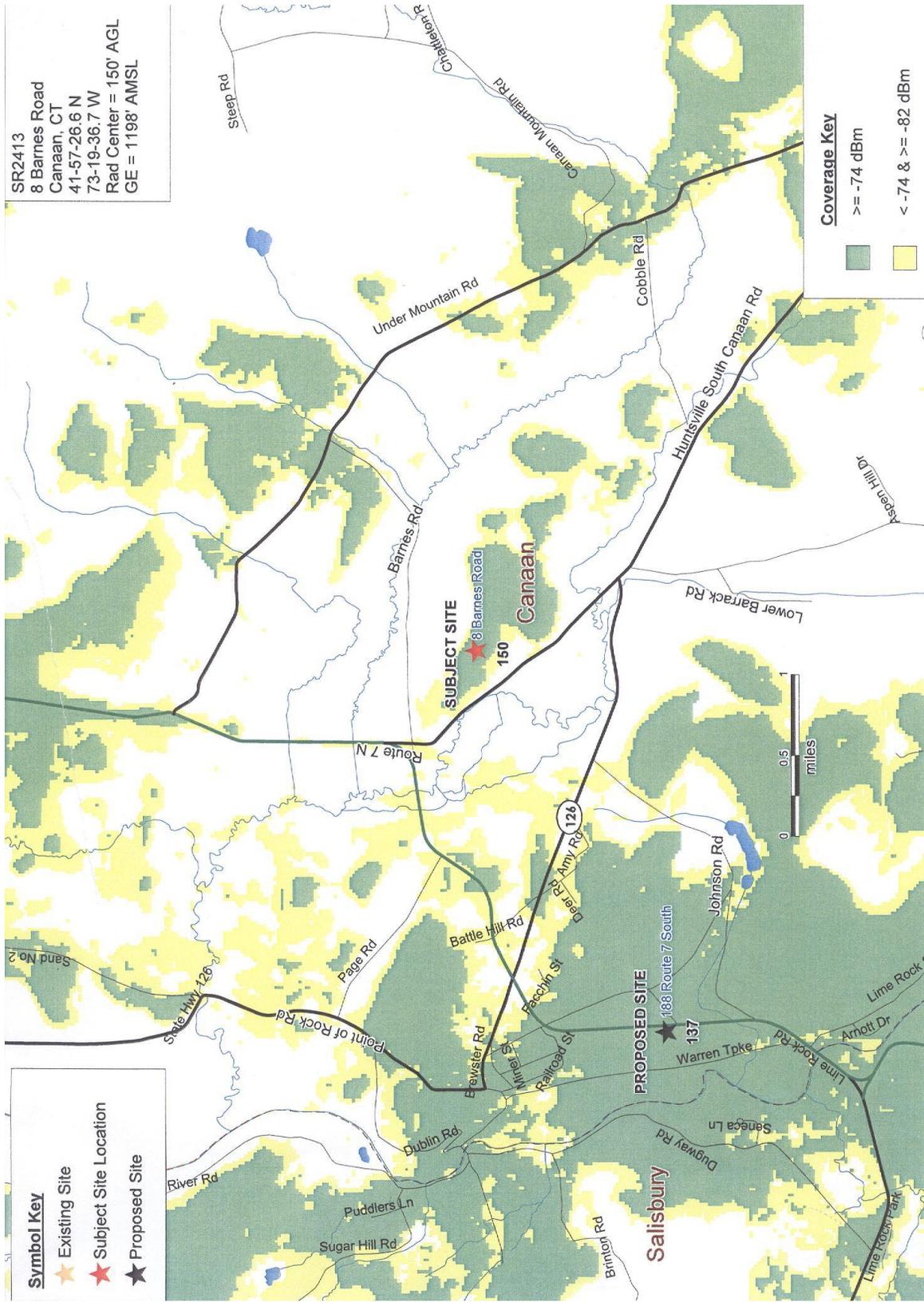


Figure 2: Existing AT&T coverage. The 188 Rt. 7 south site is a separate proposed site not subject to this application. (AT&T 1, Tab 1)



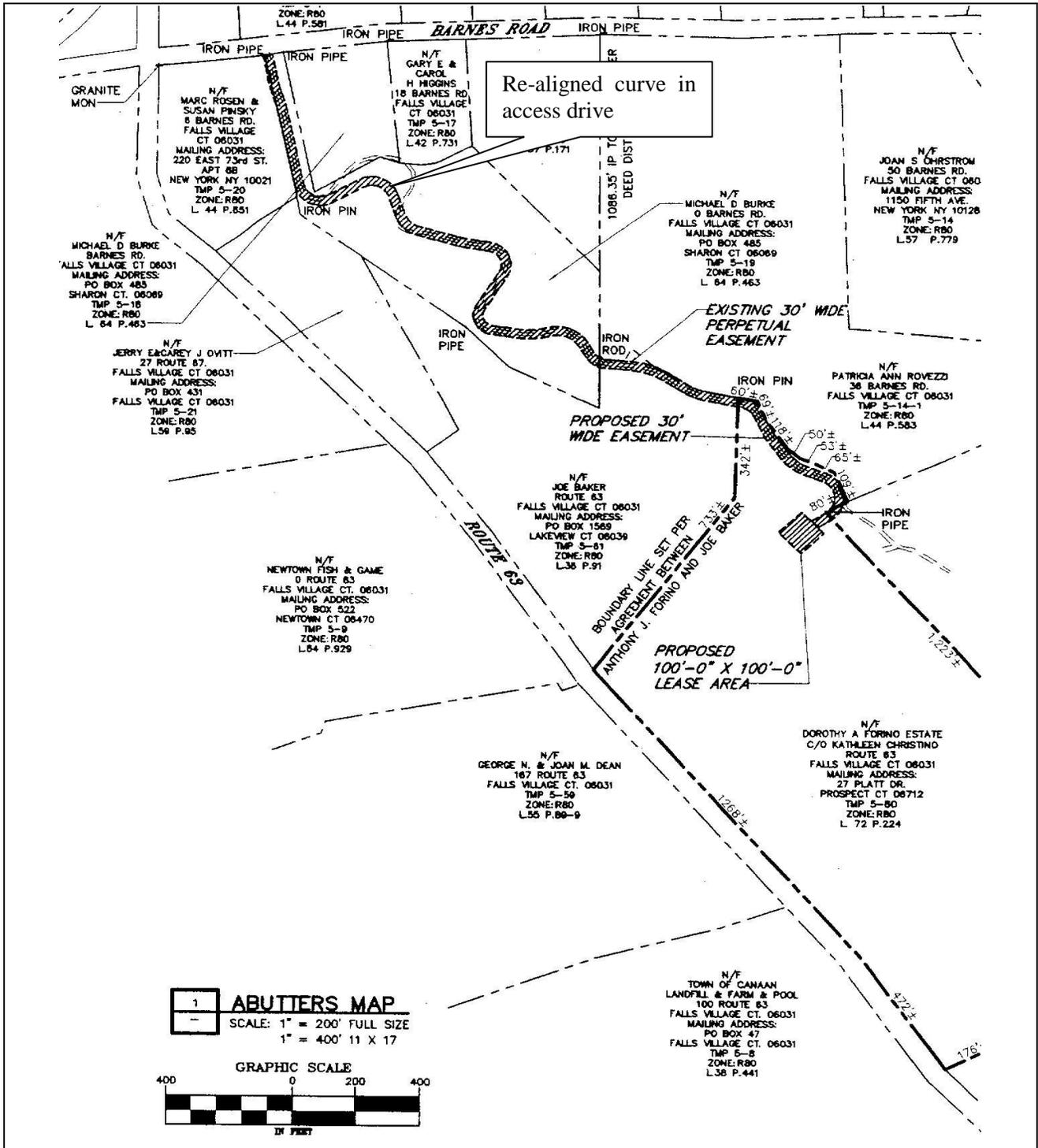


Figure 4: Site access drive and compound location, and abutting properties. (AT&T 1, Tab 3)

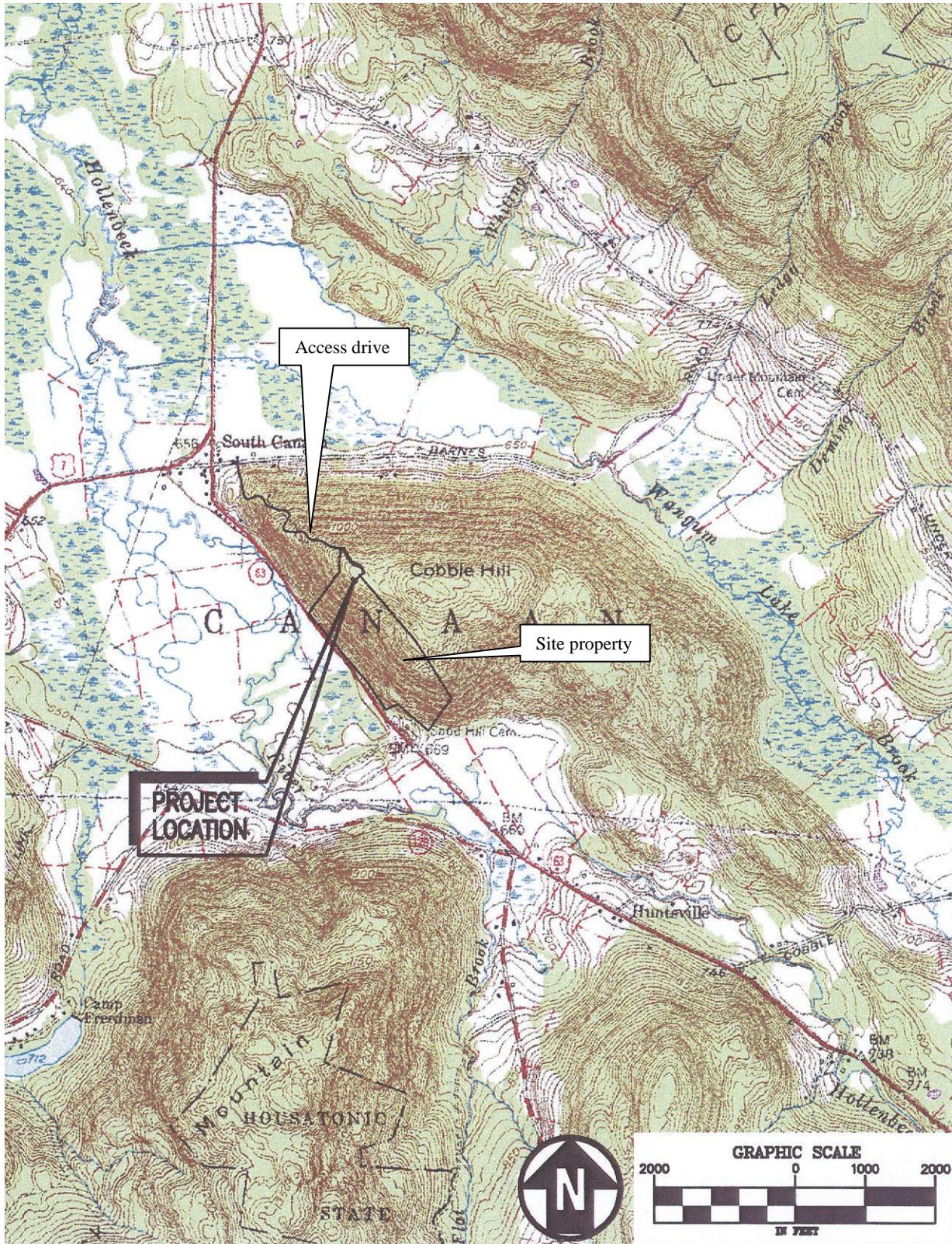


Figure 5: Topographic map of area. Access road and property boundaries shown. (AT&T 1, Tab 3)

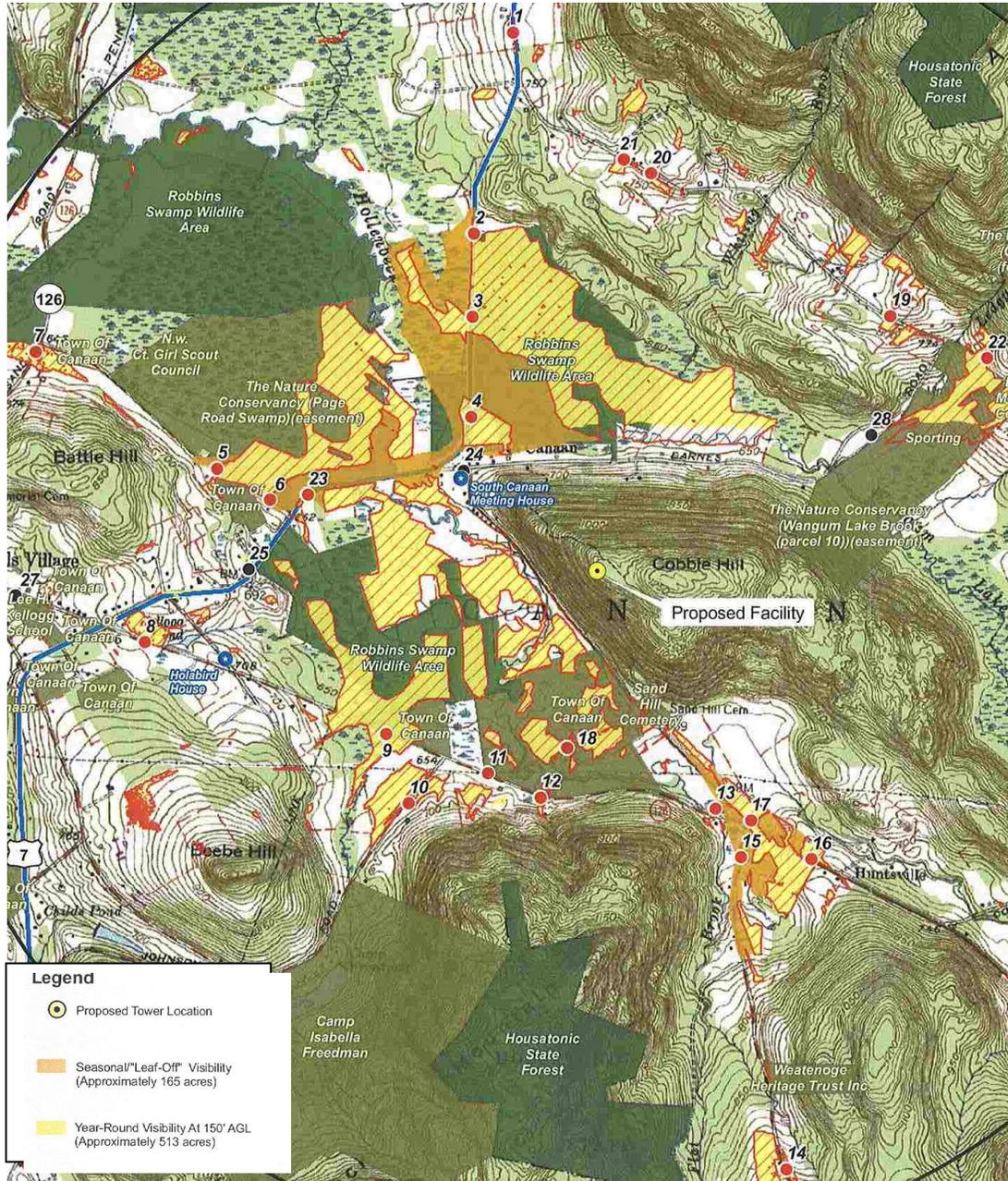


Figure 6: Visibility Analysis. (AT&T 1, Tab 6, AT&T 2)



Figure 7: Photosimulation of 150-foot (top) and 130-foot (bottom) tower from Route 7, 1.6 miles northwest of site. (AT&T 1, Tab 6)



Figure 8: Photosimulation of 150-foot (top) and 130-foot (bottom) tower from Under Mountain Road near #37, 1.2 miles northeast of the site. (AT&T 1, Tab 6)



Figure 9: Photosimulation of 150-foot (top) and 130-foot (bottom) tower from Route 126 west of Route 63, 0.8 miles southeast of site. (AT&T 1, Tab 6)

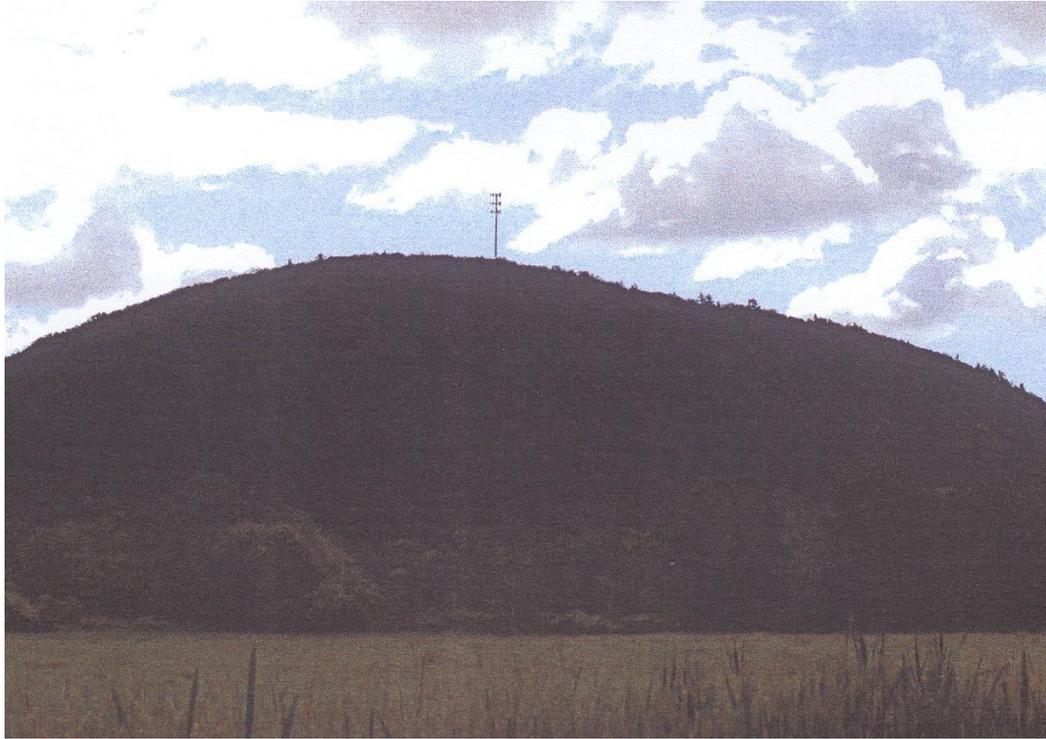


Figure 10: Photosimulation of 150-foot (top) and 130-foot (bottom) tower from Page Road, adjacent to # 55. (AT&T 1, Tab 6)



Figure 11: Photosimulation of 150-foot tower from rear lawn of South Canaan Congregational Church, 0.5 mile northwest of site. (AT&T 2)



Figure 12: Photosimulation of 150-foot tower from Route 63, 0.4 miles northwest of site. (AT&T 2)