

**DOCKET NO. 209** - Wireless Solutions, LLC Certificate of } Connecticut  
Environmental Compatibility and Public Need for the construction, }  
maintenance, and operation of a wireless telecommunication facility at } Siting  
one of two locations at 72 Boggy Hole Road, or at 62-1 Boggy Hole }  
Road, Old Lyme, Connecticut. } Council

June 25, 2002

## **Revised Findings of Fact**

### **Introduction**

1. Wireless Solutions, LLC, in accordance with provisions of Connecticut General Statutes (C.G.S.) §§ 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on August 14, 2001, for the construction, operation, and maintenance of a wireless telecommunications facility in Old Lyme, Connecticut, to provide wireless telecommunications services within the Town of Old Lyme and portions of New London County. (Wireless Solutions 1, pp. 1, 2, 4, 7, 25)
2. Wireless Solutions is a company that designs, sells, and services 800 MHz systems and two-way radio systems, and develops raw land for telecommunications tower sites. Wireless Solutions owns and operates 17 telecommunications sites in Connecticut. (Wireless Solutions 1, p. 4; Wireless Solutions 1, Sec. 6, p. 1)
3. Parties and intervenors in this proceeding include the applicant, SNET Mobility, LLC (SNET), AT&T Wireless, Inc. (AT&T), Town of Old Lyme Zoning Commission, Nextel Communications of the Mid-Atlantic (Nextel), and VoiceStream Wireless Corporation (VoiceStream). (Transcript October 10, 2001, 3:00 p.m. (Tr. 1), pp. 1, 2, 5, Transcript October 10, 2001, 7:00 p.m. (Tr. 1.1), pp. 1, 2, 5)
4. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on October 10, 2001, beginning at 3:00 p.m. and continuing at 7:00 p.m. in the Community Room of the Old Lyme Public Library, 2 Library Lane, Old Lyme, Connecticut. (Council's Hearing Notice dated August 29, 2001; Tr. 1, p. 3; Tr. 1.1, p. 3)
5. The Council and its staff made an inspection of the proposed prime and alternate sites on October 10, 2001. During the field inspection, the applicant flew balloons at the proposed sites to simulate the height of the proposed towers. (Wireless Solutions 1, p. 41; Council's Hearing Notice dated August 29, 2001; Tr. 1, p. 18)
6. Pursuant to C.G.S. § 16-50l(e), on May 2, 2001, the applicant provided copies of the Technical Report to the Town of Old Lyme's First Selectman. On June 15, 2001, the applicant met with the Old Lyme First Selectman and Town Planner to discuss the development of the proposed telecommunications facility in the Town of Old Lyme. (Wireless Solutions 1, p. 8; Wireless Solutions 1, Sec. 7; Wireless Solutions 2, Technical Report, Memo from Peter Tyrrell regarding meeting with municipal officials dated June 18, 2001.)

7. There are no adjoining municipal boundaries within 2,500 feet of the proposed prime or alternate site. (Wireless Solutions 1, Sec. 6, Exhibit C, Exhibit J; Wireless Solutions 7a)
8. The applicant certified that copies of the application for a Certificate were sent via certified mail, return receipt requested, to municipal, regional, state, and federal officials, pursuant to C.G.S. § 16-50l(b). Notice of the application was published in The Day on July 21, 2001 and July 30, 2001, and in the Middletown Press on July 28, 2001 and July 30, 2001. The applicant certified that notice of the application was sent to each owner of property, which abut the proposed sites, pursuant to C.G.S. § 16-50l(b). (Wireless Solutions 1, pp. 6, 7; Wireless Solutions 1, Sec. 2, Sec. 3, Sec. 4, Sec. 5)
9. The Old Lyme First Selectman and the Zoning Commission prefer a monopole tower to a lattice tower. The Town of Old Lyme Zoning Regulations indicates that monopole towers are encouraged over lattice structures. (Wireless Solutions 1, pp. 8, 9; Wireless Solutions 1, Sec. 7; Wireless Solutions 2, Letter from Harry A. Smith to Kenneth Thomas dated August 9, 2001; Wireless Solutions 3b, p. 22-8; Tr. 1, pp. 24, 25)
10. The Town of Old Lyme Zoning Commission has directed that previous applicants for a telecommunications tower be responsible for its removal if and when it becomes obsolete and unused. The Zoning Commission previously requested that the Council consider a similar requirement for the removal of obsolete or unused towers, and a requirement for the construction of a single equipment building with suitable architectural treatment and landscaping. (Docket 202 Finding of Fact (FOF) #9)

### **Cellular Service Design**

11. In 1981, the Federal Communications Commission (FCC) recognized a public need for technical improvement, wide-area coverage, high-quality service, and competition in the provision of mobile telephone service. (Wireless Solutions 1, pp. 13, 14; Docket 202 FOF #10)
12. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. The Federal Telecommunications Act of 1996 seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. Furthermore, the Federal government has preempted the determination of public need for wireless service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. (Wireless Solutions 1, pp. 16, 24, 25; Docket 202 FOF #11)
13. VoiceStream is licensed by the FCC to operate a Personal Communications Services (PCS) system in 97 percent of the country, including all of Connecticut, on the 1900 MHz band. SNET is licensed by the FCC as the B-side cellular carrier with a service area for the entire State. SNET uses analog and TDMA digital technology on the 800 MHz band. AT&T is licensed by the FCC to operate a PCS system in 98 percent of the country, including all of Connecticut, on the 1900 MHz band. Nextel is licensed by the FCC to provide enhanced specialized mobile radio services in various parts of the country, including New London County, on the 800 MHz band. (Wireless Solutions 1, pp. 5, 6, 11, 12; Wireless Solutions 1, Sec. 6, p. 3; Wireless Solutions 7, Response to Pre-Hearing Question (RPHQ) #32; Nextel's Request to Intervene received September 24, 2001; Nextel 1, RPHQ 2e)

**Need**

14. The primary purpose of this proposed facility is to provide wireless telecommunications coverage to existing gaps in coverage along Interstate 95 (I-95), Route 1, and local roads in the Old Lyme area; and to provide call handling capacity in the Old Lyme area. (Wireless Solutions 1, pp. 2, 25, 26, 27, 47; Wireless Solutions 1, Sec. 6, pp. 1, 2, 4; Wireless Solutions 3d; SNET 1, RPHQ #6; Tr. 1, p. 66)
15. VoiceStream's existing wireless coverage in the Old Lyme area is provided by facilities at 38 Hatchetts Hill Road and 8 Old Bridge Road in Old Lyme. VoiceStream's existing wireless coverage along I-95 and Routes 1 and 156, within a two-mile radius of the intersection of I-95 and Whippoorwill Road, at a signal level threshold greater than -87 dBm, is as follows:

**Voicestream's Existing Coverage\***

<u>Routes</u>	Coverage (miles) <u>≥ -87 dBm</u>	Total Road <u>Miles</u>
I-95	2.5	4.3
Route 1	0.9	2.9
Route 156	1.1	2.8

Note: Measurement of coverage does not include facilities located south of the proposed sites along Route 156.

\*See Appendix A.

(Wireless Solutions 1, p. 26; Wireless Solutions 1, Sec. 6, p. 4; Wireless Solutions 5, RPHQ #18; VoiceStream 1, RPHQ #38, Plot titled Coverage Without CT-11-636; Tr. 1, p. 115)

16. SNET's wireless coverage in the Old Lyme area is provided by a facility at 38 Hatchetts Hill Road in Old Lyme. A SNET facility on a Connecticut Light and Power power line structure on Ferry Road in Old Saybrook is anticipated to be in service by the first quarter of 2002. SNET's existing wireless coverage along I-95, and Routes 1 and 156, within a two-mile radius of the intersection of I-95 and Whippoorwill Road, at a signal level threshold greater than -75 dBm, would be as follows:

**SNET's Wireless Coverage\***

<u>Routes</u>	Coverage (miles) <u>≥ -75 dBm</u>	Total Road <u>Miles</u>
I-95	4.3	4.3
Route 1	2.2	2.9
Route 156	2.8	2.8

Note: Measurement of coverage does not include SNET's facility located on Whippoorwill Road in Old Lyme.

\* See Appendix B

(Wireless Solutions 5, RPHQ #16, RPHQ #18; SNET 1, RPHQ #16)

17. AT&T's wireless coverage in the Old Lyme area would be provided by facilities at 38 Hatchetts Hill Road and 8 Old Bridge Road in Old Lyme. AT&T's wireless coverage along I-95 and Routes 1 and 156, within a two-mile radius of the intersection of I-95 and Whippoorwill Road, at a signal level threshold greater than -85 dBm, would be as follows:

AT&T's Existing Coverage\*

<u>Routes</u>	<u>Coverage (miles)</u> <u>≥ -85 dBm</u>	<u>Total Road</u> <u>Miles</u>
I-95	2.3	4.3
Route 1	1.0	2.9
Route 156	1.1	2.8

\* See Appendix C

(AT&T 1, RPHQ #16, RPHQ #18)

18. Nextel's existing wireless coverage in the Old Lyme area is provided by facilities at Short Hills Road in Old Lyme, a River Street in Old Saybrook, and Grassy Hill Road in Lyme. Nextel's existing wireless coverage along I-95 and Routes 1 and 156, within a two-mile radius of the intersection of I-95 and Whippoorwill Road, at a signal level threshold greater than -85 dBm, is as follows:

Nextel's Existing Coverage\*

<u>Routes</u>	<u>Coverage (miles)</u> <u>≥ -85 dBm</u>	<u>Total Road</u> <u>Miles</u>
I-95	1.9	4.3
Route 1	0.5	2.9
Route 156	1.3	2.8

\* See Appendix D

(Nextel 1, RPHQ #2b Plot titled Existing Nextel Coverage, RPHQ #2d)

19. VoiceStream's existing and proposed coverage on the proposed prime site tower at 195, 150, and 130 feet above ground level (AGL) within a two-mile radius of the intersection of I-95 and Whippoorwill Road, would be as follows:

Voicestream's Existing and Proposed Coverage from the Proposed Prime Site Tower

<u>Route</u>	<u>Coverage (miles)</u> <u>≥ -87 dBm at 195 ft</u> <u>AGL</u>	<u>Coverage (miles)</u> <u>≥ -87 dBm at 150 ft</u> <u>AGL</u>	<u>Coverage (miles)</u> <u>≥ -87 dBm at 130 ft</u> <u>AGL</u>	<u>Total</u> <u>Road</u> <u>Miles</u>
I-95	4.1	3.9	3.9	4.3
Route 1	2.0	0.9	0.9	2.9
Route 156	1.1	1.1	1.1	2.8

(Wireless Solutions 5, RPHQ #17; Wireless Solutions 6, Plot titled CT11636 Primary @ 195' Coverage Plot; VoiceStream 1, RPHQ #38; VoiceStream 1, Plot titled Coverage with CT-11-636 Primary at 195')

20. VoiceStream's existing and proposed coverage on the proposed alternate site tower at 175, 150, and 130 feet above ground level (AGL) within a two-mile radius of the intersection of I-95 and Whippoorwill Road, would be as follows:

VoiceStream's Existing and Proposed Coverage from the Proposed Alternate Site Tower

<u>Routes</u>	Coverage (miles) <u>≥ -87 dBm at 175 ft</u> <u>AGL*</u>	Coverage (miles) <u>≥ -87dBm at 150 ft</u> <u>AGL</u>	Coverage (miles) <u>≥ -87 dBm at 130 ft</u> <u>AGL</u>	Total Road Miles
I-95	4.1	3.9	3.9	4.3
Route 1	2.0	0.9	0.9	2.9
Route 156	1.1	1.1	1.1	2.8

\* See Appendix A-1

(Wireless Solutions 5, RPHQ #17; Wireless Solutions 6, Plot titled CT11636 Primary @ 195' Coverage Plot; VoiceStream 1, RPHQ #38; VoiceStream 1, Plot titled Coverage with CT-11-636 Primary at 195')

21. VoiceStream's predicted coverage at 195 feet AGL at the proposed prime site would be approximately the same as the predicted coverage at 175 feet AGL at the proposed alternate site within a two-mile radius of the intersection of I-95 and Whippoorwill Road. (VoiceStream 1, pp. 26, 27, 47; Wireless Solutions 1, Sec. 6, p. 4; Tr. 1, p. 122)
22. SNET's existing and proposed coverage on the proposed prime site tower at 175, 150, and 130 feet AGL within a two-mile radius of the intersection of I-95 and Whippoorwill Road, would be as follows:

SNET's Existing and Proposed Coverage from the Proposed Prime Site Tower

<u>Routes</u>	Coverage (miles) <u>≥ -75 dBm at 175 ft</u> <u>AGL</u>	Coverage (miles) <u>≥ -75 dBm at 150 ft</u> <u>AGL</u>	Coverage (miles) <u>≥ -75 dBm at 130 ft</u> <u>AGL</u>	Total Road Miles
I-95	4.3	4.3	4.3	4.3
Route 1	2.9	2.9	2.9	2.9
Route 156	2.8	2.8	2.8	2.8

(SNET 1, RPHQ #16, RPHQ #17; SNET 3, RPHQ #16)

23. SNET's existing and proposed coverage on the proposed alternate site tower at 175, 150, and 130 feet AGL within a two-mile radius of the intersection of I-95 and Whippoorwill Road, would be as follows:

SNET's Existing and Proposed Coverage from the Proposed Alternate Site Tower

<u>Routes</u>	Coverage (miles) <u>≥ -75 dBm at 175 ft</u> <u>AGL</u>	Coverage (miles) <u>≥ -75 dBm at 150 ft</u> <u>AGL</u>	Coverage (miles) <u>≥ -75 dBm at 130 ft</u> <u>AGL*</u>	Total Road Miles
I-95	4.3	4.3	4.3	4.3
Route 1	2.9	2.9	2.9	2.9
Route 156	2.8	2.8	2.8	2.8

\* See Appendix B-1

(SNET 1, RPHQ #16, RPHQ #17; SNET 3, RPHQ #16)

24. SNET's predicted coverage at 130 feet AGL and 175 feet AGL at the proposed alternate site facility would provide nearly identical coverage to I-95 and portions of Route 1 located north of the proposed facility. SNET would prefer the development of the proposed alternate site facility. (SNET 1, RPHQ #16, RPHQ #17; SNET 3, RPHQ #16; Tr. 1, pp. 69, 70, 85)
25. AT&T's existing and proposed coverage on the proposed prime site tower at 185, 150, and 130 feet AGL within a two-mile radius of the intersection of I-95 and Whippoorwill Road, would be as follows:

AT&T's Existing and Proposed Coverage from the Proposed Prime Site Tower

<u>Routes</u>	Coverage (miles) <u>≥ -85 dBm at 185 ft</u> <u>AGL</u>	Coverage (miles) <u>≥ -85 dBm at 150 ft</u> <u>AGL</u>	Coverage (miles) <u>≥ -85 dBm at 130 ft</u> <u>AGL</u>	Total Road Miles
I-95	4.3	4.2	3.9	4.3
Route 1	2.3	2.1	1.9	2.9
Route 156	1.1	1.1	1.1	2.8

(AT&T 1, RPHQ #16, RPHQ #17)

26. AT&T's existing and proposed coverage on the proposed alternate site tower at 185, 150, and 130 feet AGL within a two-mile radius of the intersection of I-95 and Whippoorwill Road, would be as follows:

AT&T's Existing and Proposed Coverage from the Proposed Alternate Site Tower

<u>Routes</u>	Coverage (miles) <u>≥ -85 dBm at 185 ft</u> <u>AGL</u>	Coverage (miles) <u>≥ -85 dBm at 150 ft</u> <u>AGL*</u>	Coverage (miles) <u>≥ -85 dBm at 130 ft</u> <u>AGL</u>	Total Road Miles
I-95	4.3	4.2	4.0	4.3
Route 1	2.3	2.3	1.9	2.9
Route 156	1.1	1.1	1.1	2.8

\* See Appendix C-1

(AT&T 1, RPHQ #16, RPHQ #17)

27. The placement of AT&T's antennas at 185 feet AGL on the proposed alternate site tower would provide better coverage along I-95 than at 185 feet AGL on the proposed prime site tower because the alternate site facility is located farther north and is approximately 20 feet higher in elevation. AT&T's predicted coverage at 150 feet AGL and 185 feet AGL at the proposed alternate site tower would provide nearly identical coverage. (AT&T 1, RPHQ #16, RPHQ #17; Tr. 1, pp. 82, 83, 84, 96)
28. Nextel's existing and proposed coverage on the proposed prime site tower at 135 and 110 feet AGL within a two-mile radius of the intersection of I-95 and Whipoorwill Road, would be as follows:

Nextel's Existing and Proposed Coverage from the Proposed Prime Site Tower

<u>Routes</u>	<u>Coverage (miles)</u> <u>≥ -85 dBm at 135 ft</u> <u>AGL</u>	<u>Coverage (miles)</u> <u>≥ -85 dBm at 110 ft</u> <u>AGL</u>	<u>Total Road</u> <u>Miles</u>
I-95	4.3	3.8	4.3
Route 1	2.9	1.6	2.9
Route 156	1.8	1.3	2.8

(Nextel 1, RPHQ #2b, RPHQ #2c)

29. Nextel's existing and proposed coverage on the proposed alternate site tower at 135 and 110 feet AGL within a two-mile radius of the intersection of I-95 and Whipoorwill Road, would be as follows:

Nextel's Existing and Proposed Coverage from the Proposed Alternate Site Tower

<u>Routes</u>	<u>Coverage (miles)</u> <u>-85 dBm at 135 ft</u> <u>AGL*</u>	<u>Coverage (miles)</u> <u>-85 dBm at 110 ft</u> <u>AGL</u>	<u>Total Road</u> <u>Miles</u>
I-95	4.3	3.7	4.3
Route 1	2.9	1.6	2.9
Route 156	1.3	1.3	2.8

\* See Appendix D-1

(Nextel 1, RPHQ #2b, RPHQ #2c)

### Site Search

30. Wireless Solutions used a composite coverage map dated September 20, 2000, to identify an area within the Town of Old Lyme, proximate to I-95, which did not have adequate wireless coverage. Wireless Solutions also reviewed the Council's telecommunications database to identify the locations of existing facilities in the Old Lyme area. The site search area for the proposed telecommunications facility was identified along I-95, midway between existing facilities located at 2 Ferry Place, Old Saybrook and 30 Short Hills Road, Old Lyme, Connecticut. (Wireless Solutions 1, pp. 17, 18, 19, 25; Wireless Solutions 1, Sec. 6, pp. 4, 6, Exhibit H; Wireless Solutions 1, 3d)

31. Wireless Solutions identified eleven existing telecommunications towers located within approximately five miles of the site search area including: a 180-foot tower located at 30 Short Hills Road, Old Lyme, a 190-foot tower located at 38 Hatchetts Hill Road, Old Lyme, and a 100-foot tower at Whippoorwill Road, Old Lyme, a 90-foot tower, owned by Machnik Construction Co., at 125 Mile Creek Road, Old Lyme, a 115-foot smokestack serving as a Verizon Wireless facility at 2 Ferry Place, Old Saybrook, a 150-foot tower at Ingham Hill, Old Saybrook, and a 190 foot tower located off of Middlesex Turnpike, Old Saybrook. (Wireless Solutions 1, pp. 18, 19; Wireless Solutions 1, Sec. 11; Wireless Solutions 3f; Wireless Solutions 7a, USGS Map identified as Exhibit 11A; Docket 202 FOF #23; SNET 1, RPHQ #6; AT&T 1, RPHQ #18; Tr. 1, p. 116)
32. On September 12, 2001, the Council issued a Certificate of Environmental Compatibility and Public Need to Crown Atlantic Company LLC and Cellco Partnership d/b/a Verizon Wireless for the construction, maintenance, and operation of a cellular telecommunications facility, consisting of a 160-foot monopole tower and associated equipment, located at 125 Mile Creek Road in Old Lyme. The Council identified a coverage gap located along I-95 west of the facility at 125 Mile Creek Road that could prevent the successful hand-off of a call between existing sites at 2 Ferry Place, Old Saybrook and at 38 Hatchetts Hill Road, Old Lyme, even if a telecommunications facility was developed at 125 Mile Creek Road. (Docket 202, Decision and Order dated September 12, 2001; Docket 202 FOF #19, FOF #16; VoiceStream 1, RPHQ #38)
33. The existing 100-foot tower located off of Whippoorwill Road is currently used by SNET; however, SNET will be vacating this tower because the existing antennas have a limited call carrying capacity and the existing tower is not structurally capable of supporting a full array of directional antennas. The owner of the existing 100-foot tower on Whippoorwill Road was not interested in the further development of a tower on the property. (Wireless Solutions 4, RPHQ #6; Wireless Solutions 5, RPHQ #18; SNET 1, RPHQ #6; Tr. 1, pp. 25, 74, 75)
34. Wireless Solutions identified and investigated four potential sites near the site search area. Three of the sites were rejected because of their proximity to the Old Lyme Historic Village District, the existence of wetlands, and the reluctance of property owners to sell or lease land. In addition, the property owners for two of the four potential sites investigated were in discussions with another wireless telecommunications carrier. (Wireless Solutions 1, pp. 19, 20, 21; Wireless Solutions 1, Sec. 6, p. 6, Exhibit J; Wireless Solutions 1, Sec. 12)

### **Proposed Equipment**

35. Wireless Solutions proposes to lease a 100-foot by 100-foot area and develop a 195-foot tall self-supporting lattice tower and equipment building compound at either the proposed prime or alternate site. A six-foot high security fence would enclose the proposed compound. A monopole tower could be constructed on either proposed site instead of the proposed lattice tower. (Wireless Solutions 1, pp. 2, 3, 22, 23, 40, 42; Wireless Solutions 1, Sec. 6, pp. 2, 3, 7, Exhibit G; Wireless Solutions 1, Sec. 17, Sec. 19; Wireless Solutions 4, RPHQ #23; Wireless Solutions 5a; Wireless Solutions 7, RPHQ #50; Tr. 1, pp. 26, 27, 35)
36. The proposed tower would be shared by VoiceStream, SNET, and AT&T Wireless. Nextel, the Town of Old Lyme Fire and Police Departments, the State Police, and other wireless telecommunications entities may also share the proposed tower. The proposed tower would be constructed to accommodate the antennas for a total of seven wireless telecommunications entities. (Wireless Solutions 1, pp. 2, 4, 7, 8, 22, 27, 42, 47; Wireless Solutions 1, Sec. 6, pp. 1, 7; Exhibit G; Wireless Solutions 4, RPHQ #25; Wireless Solutions 6, RPHQ #15; SNET 3, RPHQ #15; AT&T 1, RPHQ #15; Nextel 1, RPHQ #2; Tr. 1, pp. 21, 22, 24, 31)

37. Each wireless telecommunications carrier would require a building or equipment pad for their proposed radio equipment, which may include automatic heating and cooling equipment. The proposed facility compound could accommodate four equipment buildings, each measuring 30 feet by 12 feet, and three equipment pads, each measuring 20 feet by 10 feet. A single equipment building could be constructed at either proposed site to accommodate the proposed telecommunications equipment for all of the proposed telecommunications entities. (Wireless Solutions 1, p. 2, 22, 23; Wireless Solutions 1, Sec. 6, p. 3, Exhibit D, Exhibit F; Wireless Solutions 1, Sec. 14, Sec. 16; Wireless Solutions 7, RPHQ #31; Tr. 1, p. 40)
38. VoiceStream proposes to attach as many as 12 antennas at approximately 195 feet AGL at the proposed prime or alternate site. The top of the proposed antennas or lightning rod could extend to a height of 198 feet AGL. VoiceStream would also place as many as three equipment cabinets, each measuring approximately five feet high by four and one-half feet wide by two feet long, within the proposed compound. (Wireless Solutions 1, pp. 23, 28; Wireless Solutions 1, Sec. 6, pp. 2, 3; Wireless Solutions 1, Sec. 20; VoiceStream 1, RPHQ #41; Tr. 1, pp. 21, 24)
39. SNET proposes to attach twelve panel antennas at approximately 175 feet AGL at the proposed prime or alternate site, and place an equipment building measuring twelve feet wide by 20 feet long, within the proposed compound. (Wireless Solutions 6, RPHQ #15; SNET 3, RPHQ #15; Tr. 1, pp. 21, 24)
40. AT&T proposes to attach twelve panel antennas at approximately 185 feet AGL at the proposed prime or alternate site, and place equipment cabinets on a concrete pad, within the proposed compound. (AT&T 1, RPHQ #15; Tr. 1, pp. 21, 24)
41. Nextel proposes to attach twelve panel antennas at approximately 135 feet AGL at the proposed prime or alternate site, and place an equipment building measuring approximately twelve feet wide by 20 feet long, within the proposed compound. (Nextel 1, RPHQ #2a; Tr. 1, pp. 21, 24)
42. The proposed 195-foot tall self-supporting lattice tower at either the proposed prime or alternate site would be designed to withstand pressures equivalent to a 85 miles per hour wind load, or one-half inch solid ice accumulation with a 25 percent reduction for wind load in accordance with Electronic Industries Association Standard EIA/TIA 222-F, Structural Standards for Steel Antenna Towers and Support Structures. Wireless Solutions could construct the proposed tower to a higher structural standard. (Wireless Solutions 1, p. 42; Wireless Solutions 1, Sec. 6, Exhibit G; Wireless Solutions 1, Sec. 19; Wireless Solutions 7, RPHQ #51; Tr. 1, pp. 48, 49, 52, 53, 55)
43. Construction of the proposed tower and associated equipment would begin immediately after the issuance of a Certificate, and would take approximately six months to complete. (Wireless Solutions 4, RPHQ #1b)

#### **Proposed Site**

44. The proposed prime and alternate sites would be located on an approximately 30-acre parcel, at 72 Boggy Hole Road, Old Lyme. The parcel is owned by Michael Sanders, and contains a single home and an approximately 1,700 foot long gravel driveway. The property at 72 Boggy Hole Road is mostly undeveloped and ranges in elevation from 30 feet AMSL to 80 feet AMSL. (Wireless Solutions 1, pp. 2, 3, 21, 32, 33, 35, 41, 46; Wireless Solutions 1, Sec. 6, pp. 2, 6; Wireless Solutions 1, Sec. 27, Sec. 29, Sec. 35, pp. *i*, 1, 4, 19, Figure 2; Wireless Solutions 4, RPHQ #8; Wireless Solutions 5a)

45. The proposed prime site would be located north of and adjacent to the property line for I-95, and approximately 150 feet north of the southbound travel lanes. Development of the interstate highway system from four lanes to six lanes may require an expansion onto the lessor's property. (Wireless Solutions 1, Sec. 33, p. 2; Wireless Solutions 1, Sec. 35, pp. 1, 16; Wireless Solutions 5a; Connecticut DEP Comments received October 5, 2001; Tr. 1, pp. 29, 38, 39, 40)
46. The proposed prime site is bounded by undeveloped land and low-density residential development to the north, east, and west. The proposed prime site would be located at 41°-19'-14" North and 72°-18'-32" West, and has an elevation of approximately 50 feet AMSL. The proposed prime site compound and access road has been impacted by some clearing; however, additional clearing and grading would be required. (Wireless Solutions 1, pp. 2, 3, 21, 22, 33, 44; Wireless Solutions 1, Sec. 6, pp. 2, 7; Wireless Solutions 1, Sec. 6, Exhibit D; Wireless Solutions 1, Sec. 14, Sec. 25, Sec. 33, Sec. 35, pp. 1, 10, 20; Wireless Solutions 5a; Wireless Solutions 7, RPHQ #48)
47. The proposed alternate site is bounded by undeveloped land and low-density residential development. The proposed alternate site would be located at 41°-19'-17" North and 72°-18'-27" West, and has an elevation range between approximately 58 and 71 feet AMSL. The proposed alternate site would be located approximately 500 feet north of the proposed prime site. The proposed alternate site slopes steeply from the existing driveway to the north, and is underlain primarily by solid rock. (Wireless Solutions 1, pp. 3, 21, 22, 23; Wireless Solutions 1, Sec. 6, pp. 2, 3, Exhibit F; Wireless Solutions 1, Sec. 16; Wireless Solutions 1, Sec. 33, p. 2; Wireless Solutions 1, Sec. 35, pp. 10, 20; Wireless Solutions 5a; Wireless Solutions 7, RPHQ #34, RPHQ #48; Tr. 1, p. 96; Wireless Solutions Reopen 2, Site Plan titled Plan Prepared for Wireless Solutions Ltd. revised March 25, 2002; Wireless Solutions Reopen 3, Sheet C-4)
48. Vehicular access to the proposed prime site compound would extend easterly from the property owner's existing driveway along a new access drive for a distance of approximately 350 feet. Vehicular access to the proposed alternate site compound would extend northerly and then easterly from the property owner's existing driveway along a new access drive for a distance of approximately 150 feet. The access drive at the proposed alternate site may have a slope between ten and fourteen percent. The proposed utilities and 12-foot wide access drive would be located within a 30-foot wide easement. (Wireless Solutions 1, pp. 2, 3, 22, 40, 41; Wireless Solutions 1, Sec. 6, p. 2; Wireless Solutions 1, Sec. 6, Exhibit D, Exhibit F; Wireless Solutions 1, Sec. 14, Sec. 16; Wireless Solutions 4, RPHQ #22; Wireless Solutions 5a; Tr. 1, pp. 18, 41)
49. There are two residences proximate to the proposed prime and alternate sites. The nearest residential structure, which is owned by the lessor, would be located approximately 90 feet east of the proposed alternate site compound. The nearest residential structure, other than the lessor's residence, is located at 71 Boggy Hole Road, a distance of approximately 1,150 feet from the proposed prime site. (Wireless Solutions 5a; Wireless Solutions 7, RPHQ #36, RPHQ #37; Wireless Solutions Reopen 2, Site Plan titled Plan Prepared for Wireless Solutions Ltd. revised March 25, 2002; Tr. 1, p. 19; Tr. 2, p. 24)
50. The tower radius of a 195-foot tall tower at the proposed prime site would encroach upon the Connecticut Department of Transportation right-of-way for I-95. The proposed tower could be relocated approximately 135 feet to the north; however, the compound would be approximately 10 feet lower in elevation. The tower radius of the proposed 195-foot tall tower at the proposed alternate site would encroach upon the property located to the north by approximately 50 feet. Relocating the proposed tower at the proposed alternate site approximately 100 feet to the southeast would ensure

that the tower radius remains on the lessor's property at 72 Boggy Hole Road; however, the elevation would be approximately 58 feet AMSL versus 65 feet AMSL, and the lessor's existing residence would be within approximately 50 feet of the proposed tower. (Wireless Solutions 5a; Wireless Solutions 7, RPHQ #34; Wireless Solutions Reopen 1, pp. 1, 2, 3; Wireless Solutions Reopen 2, Site Plan titled Plan Prepared for Wireless Solutions Ltd. revised March 25, 2002; Wireless Solutions Reopen 3, Sheet C-4)

51. Diversified Technology Consultants conducted a Phase I Environmental Site Assessment of the proposed sites in April 2001. A review of local, state, and federal files and databases, and a visual inspection of the property indicated that there was no evidence of violations, orders, complaints, or reports of significant oil and chemical spills on the property at 72 Boggy Hole Road or adjoining properties. (Wireless Solutions 1, pp. 32, 33; Wireless Solutions 1, Sec. 6, p. 7; Wireless Solutions 1, Sec. 35)
52. The property at 72 Boggy Hole Road is located within a residential RU-80 zone. According to the Town of Old Lyme Zoning Regulations, telecommunications facilities are permitted by special exception in Light Industry (LI-80S) zones. The only LI-80S zone in the Town of Old Lyme is located in the eastern portion of the Town immediately south of I-95, a distance of approximately 2.1 miles from the proposed prime and alternate sites. (Wireless Solutions 1, p. 2, 34; Wireless Solutions 1, Sec. 35, p. 4; Wireless Solutions 3b, 3h; Docket 202 FOF #41)
53. According to the Old Lyme Plan of Conservation & Development adopted August 10, 2000, and the Future Land Use map, the proposed prime and alternate sites are located in an area designated as Rural Residential. Rural Residential land represents areas that are largely undeveloped due to poor soils, difficult terrain, and poor access. The area to the south of the proposed sites and I-95 has been designated as protected open space. The State of Connecticut Conservation and Development Policies Plan identifies the proposed prime and alternate sites as being "Rural" land near "Conservation Areas". (Wireless Solutions 1, pp. 37, 42, 44, 45; Wireless Solutions 3a, 3h; Connecticut Conservation and Development Policies Plan 1998-2003; Docket 202 FOF #43)
54. According to the Federal Emergency Management Agency Flood Insurance Rate Map, the proposed sites are located within a Flood Zone C, characterized as an area of minimal flooding. (Wireless Solutions 1, p. 34; Wireless Solutions 1, Sec. 35, p. 8; Wireless Solutions 4, RPHQ #21)
55. The approximate cost of construction for the development of the proposed prime or alternate facility would be approximately \$104,000, not including the costs associated with the radio equipment or equipment buildings. The cost of constructing a monopole tower would be comparable to the cost of constructing a lattice tower at either the proposed prime or alternate site. (Wireless Solutions 1, p. 29; Wireless Solutions 7, RPHQ #49; Tr. 1, p. 33)

### **Environmental Considerations**

56. According to the Connecticut DEP, neither the proposed prime or alternate site contain known extant populations of Federal or State Endangered, Threatened or Special Concern Species. (Wireless Solutions 1, pp. 30, 43; Wireless Solutions 1, Sec. 28)

57. No wetlands or watercourses exist within the proposed compounds or proposed access roads at the proposed site; however, the property at 72 Boggy Hole Road contains wetlands on the west, east, and central portions of the parcel. The proposed prime and alternate site compounds are located approximately 125 feet and 60 feet from the designated wetlands, respectively. The proposed access roads would be no closer than 40 feet from the areas designated as wetlands. (Wireless Solutions 1, pp. 2, 21, 32, 35, 36; Wireless Solutions 1, Sec. 6, pp. 6, 7; Wireless Solutions 1, Sec. 35, pp. i, 7, 19; Wireless Solutions 1, Sec. 39; Wireless Solutions 4, RPHQ #21, Letter from Martina Castanho to Ken Thomas dated September 15, 2001; Tr. 1, pp. 40, 41, 44)
58. Trees in the vicinity of the proposed sites are predominantly deciduous and approximately 60 feet in height. Development of the proposed prime and alternate compounds and access roads would require the removal of approximately 32 trees and nine trees, having a diameter greater than six inches measured three feet above ground level, respectively. (Wireless Solutions 1, pp. 33, 41; Wireless Solutions 1, Sec. 35, pp. 10, 19; Wireless Solutions 4, RPHQ #13; Wireless Solutions 7, RPHQ #47)
59. The State Historic Preservation Office (SHPO) has determined that the development of the proposed prime or alternate site would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. Keegan Associates conducted an archaeological review of the proposed sites and recommended that no further archaeological investigations are necessary because there was no recovery of any cultural material at either site. (Wireless Solutions 1, pp. 31, 45; Wireless Solutions 1, Sec. 33, Sec. 34; Wireless Solutions 9)
60. Wireless Solutions would install soil erosion and sedimentation control measures throughout the proposed construction period in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control. (Wireless Solutions 1, p. 39)
61. Voicestream conducted a glide path test to determine if the proposed towers would be a hazard to air navigation. The closest airports to the proposed sites are located in Chester, approximately 9.7 miles away, and in Old Saybrook (Heliport) located approximately 3.6 miles away. Notification to the Federal Aviation Administration is not required because the airspace in the vicinity of these airports would not be violated, neither proposed tower would be greater than 200 feet in height, and neither proposed tower would require marking or lighting. (Wireless Solutions 1, pp. 29, 30)
62. The cumulative electromagnetic radiofrequency power density level, calculated using the FCC Office of Engineering and Technology Bulletin 65, August 1997, and conservative worst-case assumptions at the base of each tower for VoiceStream, SNET, AT&T and Nextel would be 8.7 percent of the American National Standards Institute (ANSI) standard, as follows:

Power Density at the proposed Prime or Alternate Tower		
Carrier/Height	Power Density (mw/cm <sup>2</sup> )	Percent of Standard
Voicestream at 195 ft AGL	0.0128	1.3%
SNET at 175 ft AGL	0.0199	3.4%
AT&T at 185 ft AGL	0.0093	0.9%
Nextel at 135 ft AGL	0.0178	3.1%
Total:		8.70%

(Wireless Solutions 1, pp. 28, 41; Wireless Solutions 1, Sec. 24; Wireless Solutions 5, RPHQ #18, RPHQ #19, RPHQ #20; SNET 1, RPHQ #18, RPHQ #19; AT&T 1, RPHQ #19; Nextel 1, RPHQ #2e; Tr. 1, p. 21)

63. Neither proposed facility would generate noise, except for the operation of air conditioning systems. (Wireless Solutions 1, p. 40)

**Visibility**

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

**Visibility of Proposed Prime Tower**

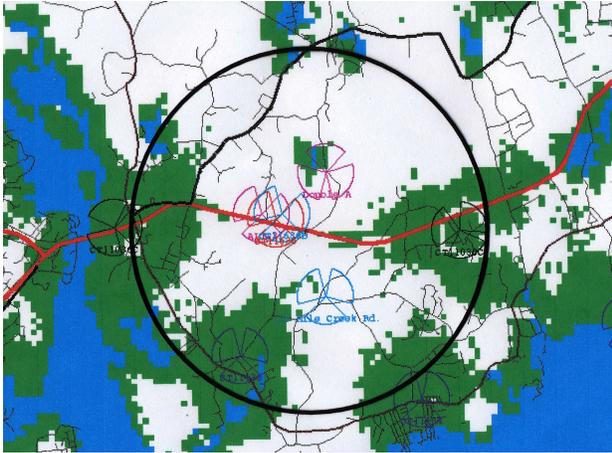
<b><u>Location</u></b>	<b><u>195 ft Visible</u></b>	<b><u>Distance and Direction To Tower</u></b>
Tisbury Road at Boggy Hole Road	No	4,000 feet north
Meeting House Lane cul-de-sac	No	4,500 feet southwest
Old Lyme High School	No	5,600 feet west-southwest
Florence Griswold Museum	No	5,200 feet west-northwest
I-95 at Whippoorwill Road	No	2,000 feet east
I-95 at Exit 70	Yes	5,500 feet west
I-95 at Proposed Site*	Yes	200 feet north

\*The proposed alternate site would be approximately 700 feet north of I-95.

(Wireless Solutions 1, pp. 41, 42; Wireless Solutions 1, Sec. 6, p. 7; Wireless Solutions 1, Sec. 42; Wireless Solutions 5, RPHQ #30; Wireless Solutions 7, RPHQ #42; Connecticut DEP comments received October 5, 2001)

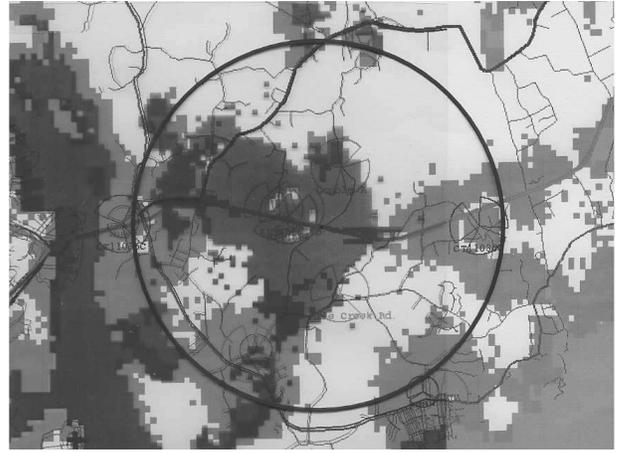
65. Neither the proposed prime nor alternate site tower would be visible from the Old Lyme Arts or Historic Districts. (Wireless Solutions 1, p. 42)

Appendix A



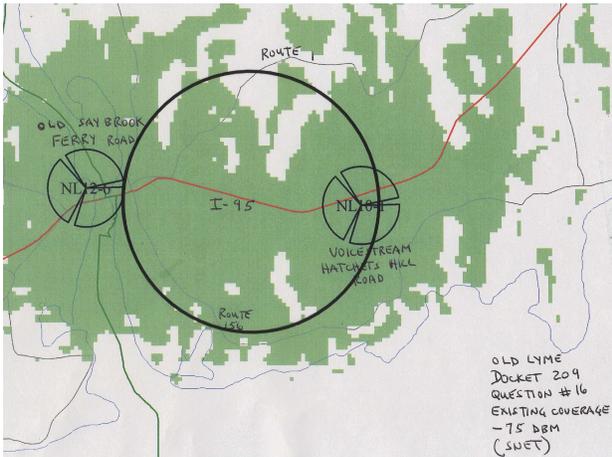
VoiceStream's Existing Coverage.

Appendix A-1



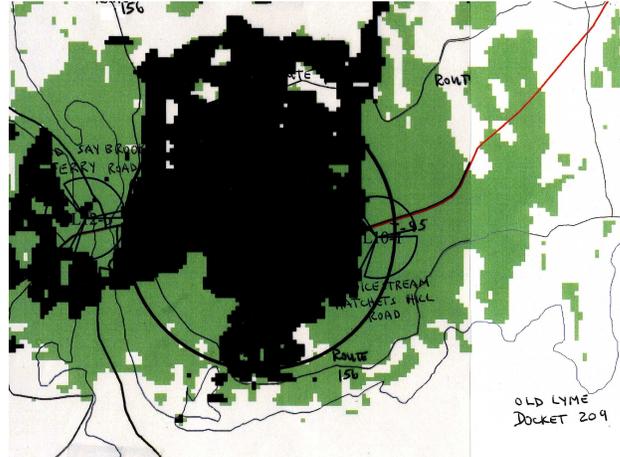
VoiceStream's Existing and Proposed Coverage at Prime Site at 195 feet AGL.

Appendix B



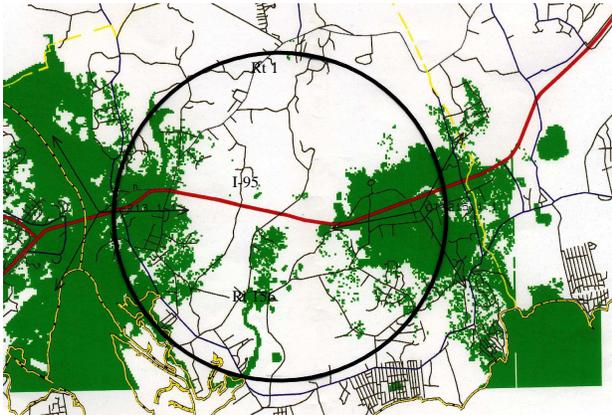
SNET's Existing Coverage.

Appendix B-1



SNET's Existing and Proposed Coverage at Alternate Site at 130 feet AGL.

Appendix C



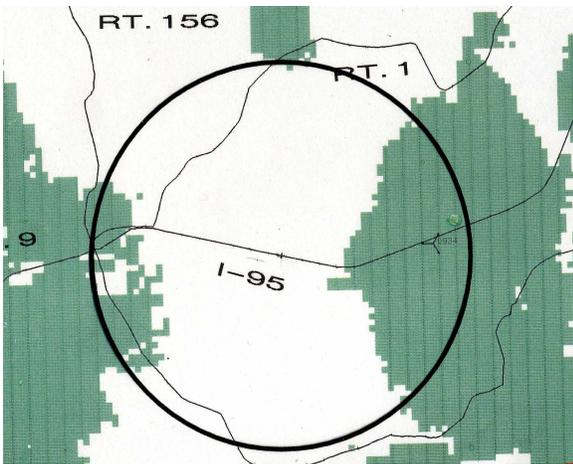
AT&T's Existing Coverage

Appendix C-1



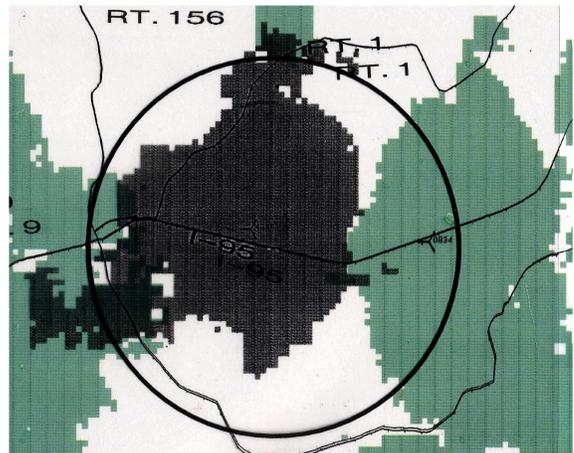
AT&T's Existing and Proposed Coverage at Alternate Site at 150 feet AGL.

Appendix D



Nextel's Existing Coverage

Appendix D-1



Nextel's Existing and Proposed Coverage at Alternate Site at 135 feet AGL.

### Reconsideration

66. On December 11, 2001, the Council issued a Certificate, as provided by General Statutes § 16-50k, to Wireless Solutions, LLC for the construction, maintenance, and operation of a cellular telecommunication facility at the proposed alternate site at 72 Boggy Hole Road, Old Lyme, Connecticut, with conditions, and denied the proposed prime site. The Council's approval required that the proposed tower be constructed as a monopole no taller than 175 feet above ground level (AGL), including appurtenances; that a single equipment building be constructed to accommodate the telecommunications equipment for at least six telecommunications providers with suitable architectural treatment; and that Wireless Solutions submit a Development and Management (D&M) for the development of the proposed alternate site relocated to the southeast. (Council's Decision and Order dated December 11, 2002; Wireless Solutions Reopen 1, pp. 1, 5)
67. Pursuant to C.G.S. § 4-181a(b), on March 7, 2002, the Council moved to reopen and reconsider the decision in this docket based on a showing of changed conditions resulting from incorrect information in the record, which was disclosed in the Development and Management Plan. The erroneous information in the record included a map that depicted the lessor's house approximately 150 feet northeast of its actual location; and ground elevations that differed as much as twelve feet from existing conditions. (Council's Meeting Minutes of March 7, 2002; Wireless Solutions 5a; Wireless Solutions Reopen 1, pp. 2, 3)
68. Wireless Solutions filed an Application Upon Reopening with the Council requesting that the Council approve the proposed relocation of the approved telecommunications facility from the alternate site located at 72 Boggy Hole Road to an Alternate #1 site located at 62-1 Boggy Hole Road. Wireless Solutions also requests that the Council review and modify its Decision and Order in this proceeding to allow for the construction of a single equipment building for the carriers who have executed a lease at the time of construction, and allow future carriers to add onto the equipment building in increments. (Wireless Solutions Reopen 1; Transcript April 23, 2002, 7:00 p.m. (Tr. 2), pp. 14, 15, 40, 41, 42)
69. Pursuant to C.G.S. § 16-50m, after giving due notice thereof, the Council held a public hearing on April 23, 2002, at 7:00 p.m. in the Community Room of the Old Lyme Public Library, 2 Library Lane, Old Lyme, Connecticut. The Council and its staff made an inspection of the proposed Alternate #1 site on April 23, 2002. (Council's Hearing Notice dated March 25, 2002; Tr. 2, pp. 3, 4)
70. Parties and intervenors in this proceeding include Wireless Solutions, SNET Mobility, LLC (SNET), AT&T Wireless, Inc. (AT&T), Town of Old Lyme Zoning Commission, Nextel Communications of the Mid-Atlantic (Nextel), and VoiceStream Wireless Corporation (VoiceStream). On April 23, 2002, the Council granted Cellco Partnership d/b/a Verizon Wireless (Verizon) intervenor status in this proceeding. (Docket 209, FOF #3; Tr. 2, pp. 4 to 7)
71. Wireless Solutions certified that copies of the Application Upon Reopening were sent by overnight delivery or by certified mail, return receipt requested, to municipal, regional, State, and federal officials, pursuant to C.G.S. § 16-50l(b). Notice of the Application Upon Reopening was published in the Middletown Press on April 6, 2002, and April 13, 2002. Wireless Solutions certified that notice of the Application Upon Reopening was sent to each owner of property, which abut the proposed Alternate #1 site at 62-1 Boggy Hole Road, pursuant to C.G.S. § 16-50l(b). (Wireless Solutions Reopen 2, RPHQ # 52A, 52B; Letter from Peter J. Tyrrell to S. Derek Phelps dated April 23, 2002)

### **Proposed Alternate #1 Site**

72. The proposed Alternate #1 site would be located on an approximately 10-acre parcel at 62-1 Boggy Hole Road. The 62-1 Boggy Hole Road property is located immediately north of the 30-acre parcel at 72 Boggy Hole Road. The properties identified as 62-1 Boggy Hole Road and 72 Boggy Hole Road are both owned by Michael Sanders. The proposed Alternate #1 site is undeveloped; is located at 41°-19'-20" North and 72°-18'-27" West; and ranges in elevation from 80 feet AMSL to 88 feet AMSL. The center of the proposed Alternate #1 site would be located approximately 70 feet north of the northern property line for 72 Boggy Hole Road; approximately 220 feet north of the proposed alternate site, and approximately 690 feet north of the proposed prime site. (Docket 209, FOF #44; Wireless Solutions 5a; Wireless Solutions Reopen 1, pp. 2, 3, 5; Wireless Solutions Reopen 2, Site Plan titled Plan Prepared for Wireless Solutions Ltd. revised March 25, 2002; Wireless Solutions Reopen 3, Tab E; Wireless Solutions Reopen 3, Sheet C-4)
73. Wireless Solutions proposes to lease a 50-foot by 120-foot area and develop a 175-foot monopole tower and a 64-foot by 24-foot equipment building, suitable for six carriers, within a fenced compound at the proposed Alternate #1 site. A six-foot high security fence would enclose the proposed Alternate #1 site compound. Underground utilities would extend from an existing utility pole on the lessor's existing driveway northerly for a distance of approximately 240 feet. Wireless Solutions could also install the proposed underground utilities along the edge of the proposed access road. The tower radius of a 175-foot tower, at the proposed Alternate #1 site, would be entirely within property owned by the lessor. The nearest residential structure, which is owned by the lessor, would be located approximately 200 feet southeast of the proposed tower at the proposed Alternate #1 site. (Wireless Solutions Reopen 1, pp. 3, 4; Wireless Solutions Reopen 3, Sheet C-4; Tr. 2, pp. 14, 15, 23, 24, 32)
74. Vehicular access to the proposed Alternate #1 site would extend along a proposed eight-foot wide access drive northerly from the lessor's existing driveway for a distance of approximately 205 feet, then easterly for a distance of approximately 70 feet. Portions of the proposed access road may have a maximum slope in excess of twenty percent. Wireless Solutions could relocate the proposed access road to extend from the existing access road located east of the lessor's residence to the proposed Alternate #1 site, if the proposed access road to the Alternate #1 site has a slope which exceeds the Town of Old Lyme's regulations. (Wireless Solutions Reopen 1, p. 4; Wireless Solutions Reopen 2, Site Plan titled Plan Prepared for Wireless Solutions Ltd. revised March 25, 2002; Wireless Solutions Reopen 3, Sheet C-4; Tr. 2, pp. 33, 34; 38)
75. The tower would be shared by VoiceStream, SNET, Nextel and AT&T Wireless. Verizon and other wireless telecommunications entities may also share the proposed tower. The wireless coverage provided by a 175-foot telecommunications tower at the proposed Alternate #1 site should be approximately the same as the predicted wireless coverage from the approved alternate site because of the similarity in ground elevation and topography of both sites. (Wireless Solutions Reopen 1, pp. 4, 5; Wireless Solutions Reopen 3, Sheet C-4; Tr. 2, pp. 31, 32, 44, 45)

### **Environmental Considerations**

76. The Connecticut DEP is currently reviewing whether the proposed Alternate #1 site contains known extant populations of Federal or State Endangered, Threatened or Special Concern Species. The property at 72 Boggy Hole Road does not contain known extant populations of Federal or State Endangered, Threatened or Special Concern Species. (Docket 209, FOF #56; Wireless Solutions Reopen 3, Tab B; Tr. 2, pp. 25, 26, 27)

77. No wetlands or watercourses exist within the proposed compound or access road at the proposed Alternate #1 site. (Wireless Solutions Reopen 1, p. 3; Wireless Solutions Reopen 3, Sheet C-4)
78. According to the Federal Emergency Management Agency Flood Insurance Rate Map, the proposed Alternate #1 site is not located within a 100-year flood zone. (Wireless Solutions Reopen 3, Sheet C-4)
79. The State Historic Preservation Office (SHPO) has determined that the development of the proposed Alternate #1 site would have no effect upon the state's archaeological heritage. Keegan Associates conducted a field review of the proposed Alternate #1 site and recommended that no further archaeological investigations were necessary because of the shallow depth to bedrock. (Docket 209, FOF #59; Wireless Solutions Reopen 3, Tab C, Letter from John W. Shannahan to Marlo Hitriz dated March 22, 2002; Wireless Solutions Reopen 3, Tab D, Letter from Kristen Keegan to Peter J. Tyrrell dated April 4, 2002)
80. Wireless Solutions would install soil erosion and sedimentation control measures during the proposed construction of the Alternate #1 site. (Wireless Solutions Reopen 3, Sheet C-4; Tr. 2, p. 33)
81. The Federal Aviation Administration (FAA) is currently reviewing the proposed construction of a 198-foot telecommunications tower at the proposed Alternate #1 site to determine if marking or lighting would be required. (Wireless Solutions Reopen 3, Tab E; Tr. 2, pp. 28, 29)
82. The visibility of the proposed Alternate #1 site tower from various locations in the area would be as follows:

**Visibility of Proposed Alternate #1 Site Tower**

<b><u>Location</u></b>	<b><u>175 ft Visible</u></b>	<b><u>Distance and Direction</u></b>
Tisbury Road at Boggy Hole Road	No	3,400 feet north
Meeting House Lane cul-de-sac	No	5,100 feet southwest
Old Lyme High School	No	5,800 feet west-southwest
Florence Griswold Museum	No	5,300 feet west-northwest
I-95 at Whippoorwill Road	Yes	2,100 feet east
I-95 at Proposed Site	Yes	875 feet north

(Wireless Solutions 5, RPHQ #30; Wireless Solutions Reopen 1, pp. 5, 6; Wireless Solutions Reopen 2, Site Plan titled Plan Prepared for Wireless Solutions Ltd. revised March 25, 2002; Tr. 2, pp. 30, 31)

83. The proposed Alternate #1 site tower would not be visible from the Old Lyme Arts or Historic Districts. (Tr. 2, p. 31)