



Daniel F. Caruso
Chairman

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov


Internet: ct.gov/csc

April 15, 2009

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **DOCKET NO. 369** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off Sherman Road, Woodstock, Connecticut.



As stated at the hearing in Woodstock on January 29, 2009, after the Council issues its draft findings of fact, parties and intervenors may identify errors or inconsistencies between the Council's draft findings of fact and the record; however, no new information, evidence, argument, or reply briefs will be considered by the Council.

Parties and Intervenors may file written comments with the Connecticut Siting Council on the Draft Findings of Fact issued on this docket by April 22, 2009.

SDP/MP/jb

Enclosure

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Cellco Partnership d/b/a Verizon Wireless	Sandy Carter, Regulatory Manager Verizon Wireless 99 East River Drive East Hartford, CT 06108 Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200

DOCKET NO. 369 - Cellco Partnership d/b/a Verizon Wireless }
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Public Need for the construction, maintenance and operation of }
a telecommunications facility located off Sherman Road, }
Woodstock, Connecticut. }

Connecticut

Siting

Council

April 1, 2009

DRAFT Findings of Fact

Introduction

1. Cellco Partnership d/b/a Verizon Wireless (Cellco), in accordance with provisions of Connecticut General Statutes (CGS) § 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on September 30, 2008 for the construction, operation, and maintenance of a wireless telecommunications facility off Sherman Road, Woodstock, Connecticut. (Cellco 1, pp. 1-2)
2. Cellco is a Delaware limited partnership with an administrative office in East Hartford, Connecticut. Cellco is authorized to construct, operate, and manage a wireless telecommunications system using the radio authorization license issued by the Federal Communications Commission. (Cellco 1, p. 4)
3. The party in this proceeding is the applicant. (Transcript 1- 3:10 p.m. [Tr. 1], p. 5)
4. The purpose of the proposed facility is to provide service to coverage gaps identified by Cellco along Routes 198, 197 and 171, as well as local roads in the northwest portion of Woodstock. (Cellco 1, p. 1)
5. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on January 29, 2009, beginning at 3:00 p.m. and continuing at 7:00 p.m. at the Woodstock Town Hall, 415 Route 169, Woodstock, Connecticut. (Council's Hearing Notice dated December 10, 2008; Tr. 1, p. 2; Transcript 2 – 7:00 p.m. [Tr. 2], p. 3)
6. The Council and its staff conducted an inspection of the proposed site on January 29, 2009, beginning at 2:00 p.m. During the field inspection, the applicant flew a red balloon at proposed site to simulate the height of the proposed tower. The balloon was located within approximately 20 feet of the proposed tower location due to the existing tree canopy. Weather conditions including some intermittent gusts of wind. During the field review, the balloon reached a height of 190 feet above ground level (agl) periodically, but was sometimes lower due to wind gusts. The balloons were aloft from approximately 7:50 a.m. to at least 3:00 p.m. for the convenience of the public. (Council's Hearing Notice dated December 10, 2008; Tr. 1, pp. 15-16)
7. Pursuant to CGS § 16-501 (b), public notice of the application was published in the Norwich Bulletin on September 26 and 27, 2008. (Cello 1, p. 5, Attachment 4, Attachment 11; Cellco 2, p. 1)
8. Pursuant to CGS § 16-501(b), notice of the application was provided to all abutting property owners by certified mail. All certified mail return receipts were received. (Cellco 1, Attachment 5; Tr. 1, p. 16).
9. Pursuant to CGS § 16-501 (b), Cellco provided notice to all federal, state and local officials and agencies listed therein. (Cellco 1, Attachment 3)

10. Cellco installed a four-foot by six-foot sign that described the proposed project on January 12, 2009 along Sherman Road adjacent to the proposed access drive. The sign contained hearing and contact information as well as the proposed tower height. (Cellco 5)

State Agency Comment

11. Pursuant to CGS § 16-50j (h), on December 10, 2008 and February 2, 2009, 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), and the Department of Transportation (DOT). (Record)
12. The Council did not receive responses from any state agencies. (Record)

Municipal Consultation

13. Cellco notified the Town of Woodstock (Town) of the proposal on June 24, 2008 by sending a technical report to First Selectman Allan D. Walker, Jr. On September 28, 2008, Cellco appeared before the recently formed Woodstock Telecommunications Task Force (Task Force) to discuss the proposed project and Cellco's future needs in the Town. (Cellco 1, p. 18; Cellco 3)
14. Cellco discussed its proposed project and future plans for the Town during the meeting with the Task Force. Cellco indicated during the meeting that it would need at least one more tower in eastern Woodstock. The Task Force generally viewed the project favorably. (Tr. 1, p. 29)
15. The Town of Union is within 2,500 feet of the proposed facility. Therefore, Cellco also notified the Town of Union of the proposal on June 24, 2008 by sending a technical report to First Selectman Thomas L. Fitzgerald. (Cellco 1, pp. ii and 18; Cellco 4, response 2)
16. The Woodstock Historic Properties Commission (WHPC) reviewed the technical report and submitted comments to the Council dated September 23, 2008. The WHPC comments included the following:
 - a) The Council and Cellco should take into consideration the recommendations of the Task Force along with the comments of Town officers and commissions in planning for any and all new cell tower facilities in Woodstock;
 - b) The comments of the Woodstock Conservation Commission regarding the proposed facility should be given particular note;
 - c) Woodstock is a town appreciated for its historic and scenic qualities, including its preserved unpaved roads and public ponds. In the area near the proposed cell tower, Black Pond off Camp Road and Old Turnpike Road is a particularly prized scenic location, one of the purest ponds in Connecticut with remnants of an early slave-built dam at its outlet. Sherman, Marcy and Camp Roads are locally designated scenic roads, and other nearby roads could be eligible for scenic designation. The Nature Conservancy has recently acquired land off Tayler Road, including a noteworthy sawmill of considerable preservation interest. It is necessary to ascertain thorough balloon studies completed in the absence of seasonal foliage the impact of the proposed facility on these areas. Further, it is important to consider not only views from the boat launch and trailhead on Black Pond, but also views from the pond

itself. Existing balloon studies have not considered the view from within Black Pond or other views when leaves are not on the trees;

- d) Facility height, design and roadway development should all be determined with deference to their natural surroundings. The WHPC also questions necessity of a 140-foot monopole; and
 - e) Removal of the towers in case of noncompliance or disuse should be guaranteed by bond. (WHPC comments dated September 23, 2008)
17. By letter received on January 22, 2009, Joshua J. Bottone, Chief of the Bungay Fire Brigade (BFB), expressed his support for the proposed tower. Mr. Bottone notes that the coverage provided by the proposed facility would improve emergency communications and public safety for the people of West Woodstock. (BFB Comments, received January 22, 2009)
18. First Selectman Alan D. Walker, Jr. made a limited appearance statement at the January 29, 2009 proceeding noting that he had received very few inquiries about the proposed tower and only one was negative. Other residents contacted Mr. Walker to inquire about what could be done to improve coverage in the area. Mr. Walker believes that the proposed tower would help improve coverage in that part of Woodstock. (Tr. 1, p. 7)
19. Cellco would provide space on the tower for the Town's emergency communication services for no compensation. The BFB expressed an interest in co-locating at the site although specific needs were not discussed. (Cellco 1, p. 27-28)

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. 7)
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. Cellco is licensed by the Federal Communications Commission (FCC) to provide personal wireless communication service to Windham County, Connecticut. (Council Administrative Notice Item No. 7; Cellco 1, pp. 4, 7; Cellco 1, Attachment 6; Tr. 1, p. 46)
22. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 7)
23. The Telecommunications Act of 1996, a Federal law passed by the United States Congress, prohibits any state or local entity from regulating telecommunications towers on the basis of the environmental 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. 7)

24. The Wireless Communications and Public Safety Act of 1999 (E911 Act) was enacted by Congress to promote and enhance public safety by making 9-1-1 the universal emergency assistance number. The E911 Act facilitated and encouraged the prompt deployment of a nationwide, seamless communication infrastructure for emergency services. Cellco's facility would be in compliance with the requirements of the E911 Act. (Cellco 4, response 10)

Site Selection

25. Cellco established a search ring for the target service area in September of 2006. (Cellco 4, response 1)
26. In order to provide service to the search ring area, Cellco originally filed an application with the Council for a cell site located off Old Turnpike and Route 198. During the course of that proceeding (Docket No. 350), Cellco was approached by Mr. Hallquest (the property owner of the Sherman Road site) about the potential use of his parcel off Sherman Road as an alternative to the originally proposed Old Turnpike site. Upon further review, Cellco determined that the Sherman Road parcel was a better overall alternative and withdrew the Docket No. 350 Application. (Cellco 1, pp. 10-11; Tr. 1, pp. 9-10)
27. Prior to selecting the proposed site at Sherman Road, Cellco considered 5 existing structures located in the Towns of Woodstock and Union. The sites consisted of three self-supporting lattice towers, one guyed lattice tower, and one monopole. All of the sites were rejected due to inadequate coverage to the target service area. (Cellco 1, Attachment 9)
28. No existing towers are located within two miles of the proposed site. (Cellco 1, Attachment 9)
29. Cellco investigated six raw land sites in the Woodstock area during the search for a suitable location for its facility. These six sites and the determinations of their suitability are listed below.
- a) Hallquest Property – Sherman Road – This is the proposed site. Cellco was able to successfully negotiate a lease for this site.
 - b) Walsh Property – Route 198 – This site was the subject of Docket No. 350 and was withdrawn from consideration by Cellco.
 - c) 71 Sherman Road – This site could not satisfy coverage objectives along Route 197, one of the three primary target areas of the proposed tower.
 - d) Corner of Routes 197 and 198 – Topography in the area prevents Cellco from satisfying its coverage objectives along Routes 197 and 198 from this location.
 - e) Perrin Road Property – This site is located too far south and cannot satisfy Cellco's objectives in northwest Woodstock.
 - f) Eastford Tool and Die Company Property – 1053 Route 198 – Hills to the east of the site would substantially block the signal, and therefore, the site could not satisfy coverage objectives. (Cellco 1, Attachment 9, pp. 2-3; Tr. 1., p. 60)
30. Microcells and repeaters are not viable technological alternatives for providing coverage to the identified coverage gap. The coverage gap is too large to be reliably served with microcells or repeaters, especially at PCS frequencies. (Cellco 1, pp. 9-10; Cellco 4, response 4)

Site Description

31. The proposed site is located on a 39-acre parcel at Sherman Road, Woodstock. The parcel, owned by Colin G. Hallquest, and does not currently contain any residences. The parcel, west of Route 198, is zoned Town Community District. The proposed location is depicted on Figure 1. (Cellco 1, pp. ii and 2; Cellco 1, Attachment 1, Drawing C-1)
32. The Town's zoning regulations permit telecommunication towers in Town Community District, subject to Special Permit and Site Plan approval. The Town of Woodstock Plan of Conservation and Development does not specifically identify telecommunications towers or facilities as a land use consistent or inconsistent with the general planning or conservation policies of the Town. (Cellco 1, pp. 16-17)
33. The tower site is located in the eastern portion of the property, at an elevation of 905 feet above mean sea level (amsl). The site is mostly wooded, undeveloped land. Surrounding land use can be described as low density residential. See Figure 3. (Cellco 1, Attachment 1, Drawing C-1; Cellco 1, Attachment 10, p. 1; Cellco 4, response 3)
34. The proposed facility would consist of a 140-foot agl monopole within a 100-foot by 100-foot leased area. The tower would be 42 inches wide at the base tapering to 30 inches at the top. The tower would be designed to support four levels of antennas with a 10-foot center-to-center vertical separation. 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" (Version F). (AT&T Wireless 1, Attachment 1, p. 6; Tr. 1, pp. 16-17)
35. The tower would also meet TIA/EIA-222-G (Version G). Version G is more stringent in this case than Version F. However, Version G is currently an optional standard while Version F is mandatory. (Tr. 1, pp. 16-17)
36. Cellco would install 12 panel antennas on a low-profile platform at a centerline height of 137 feet agl. The total height of the facility with antennas would be 140 feet agl. (Cellco 4, response 8; Cellco 1, pp. 2-3)
37. The low-profile platform has no rails or other attachments other than the platform itself and the mounts for the antennas. This results in less wind area and less weight on the structure. (Tr. 1, p. 16)
38. Cellco could use T-arm mounts for its antennas, but prefers a low-profile platform because such an installation allows for greater safety for workers by providing a surface to work from when performing antenna installations, maintenance, replacements, etc. (Cellco 4, response 8; Tr. 1, pp. 61-62)
39. Low-profile platform or T-arm-mounted antennas would extend out horizontally about three to four feet from the tower to the face of the antennas. Each sector would have a 14-foot wide face. (Tr. 1, pp. 37-38)
40. Low-profile platforms and T-arms have the ability to hold the same number of antennas. (Tr. 1, p. 41)

41. Cellco could only flush-mount three antennas on the tower at a given height. With a resulting coverage loss, Cellco would generally need three levels on the tower to compensate, which would greatly reduce tower sharing opportunities. Four levels may even be necessary in the worst case scenario of using all four frequencies. (Cellco 4, response 8; Tr. 1, pp. 46-47)
42. Flush-mounted antennas would extend out horizontally about one to one and one-half feet from the tower faces to the faces of the antennas. (Tr. 1, p. 37)
43. Pocket Communications expressed an interest in co-locating on the tower, but has no lease agreement with Cellco at this time. Also, the height of Pocket Communications' antennas has not been determined. (Tr. 1, pp. 18-20)
44. A 40-foot by 75-foot equipment compound enclosed by an eight-foot high chain link fence with three strands (one foot) of barbed wire would be established at the base of the tower. The size of the fenced compound area would be able to accommodate the equipment of four wireless carriers. Cellco would install Lucent Flexent Modular Cell 4.0B cell site equipment inside a proposed 12-foot by 30-foot equipment shelter within the compound. A backup diesel generator would also be located inside the proposed equipment shelter in its own room. (Cellco 1, pp. 3,9; Cellco 1, Attachment 1, Drawings C-2 and C-3; Tr. 1, p. 23)
45. Fuel cells as backup generators is being reviewed by Cellco, but has not yet been authorized for this or any cell site in Connecticut. (Cellco 4, response 6)
46. It is not Cellco's practice to use backup generators for primary power. However, the backup diesel generator would be exercised once per week for about two hours to maintain it in working condition. (Tr. 1, pp. 23-24)
47. The backup generator could provide about eight hours of backup power without refueling. (Tr. 1, p. 24)
48. Development of the site would require 346 cubic yards of cut and 57 cubic yards of fill. (Cellco 4, response 11)
49. Access to the proposed site would be provided over an existing 12-foot wide, 1,060-foot long gravel and dirt drive extending from Route 79. A new gravel driveway extending approximately 220 feet long would continue the access to the proposed tower site. This route would shield visibility of the compound from Sherman Road. (Cellco 1, p. i; Cellco 1, Attachment 1, Drawing C-1)
50. No improvement to the existing part of the access drive is expected to be necessary, except for areas that may be disturbed during the construction process, e.g. by heavy equipment. (Tr. 1, pp. 26-27)
51. Utilities would be installed above ground approximately 880 feet from an existing pole on Sherman Road parallel to the existing access road. Utilities would continue underground for a distance of 665 feet along a new Connecticut Light and Power Company easement to the tower site. (Sprint 1, pp. 5, 9, Attachment 8; Tr. 1, p. 22 and 35)
52. The tower setback radius would remain within the property boundaries. While a new residence on the subject property is being contemplated by the property owner, it would be located approximately 242 feet away from the tower. This would be outside of the tower setback radius. (T-Mobile 1, Attachment 3; Tr. 2, pp. 24-26)

53. The nearest property boundary from the proposed tower is approximately 520 feet to the west (State of Connecticut). (Cellco 1, Attachment 1, Drawing C-1)
54. There are no residences within 1,000 feet of the proposed tower. The nearest residence is approximately 1,400 feet east of the tower site. (Cellco 1, p. 14; Cellco 1, Attachment 1, Drawing C-1)
55. Land use in the surrounding area is generally a low density residential area. The residential uses are located to the north along Route 197 and east along Sherman Road. Portions of the Nipmuck State Forest abut the subject property to the west and south. (Cellco 4, response 2)

56. The estimated construction cost of the proposed facility is:

Radio Equipment	\$ 450,000
Monopole, Coax and Antennas	\$ 200,000
Power System	\$ 20,000
Equipment Building	\$ 50,000
<u>Misc. Costs (inc. site prep. and installation)</u>	<u>\$ 75,000</u>
Total	\$ 795,000

57. Cellco has a lease agreement with the property owner for the proposed facility with a term of 25 years. Such lease could be extended upon mutual agreement between Cellco and property owner. (Tr. 2, p. 20)

Environmental Considerations

58. The proposed facilities would have no effect upon historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places or upon properties of traditional cultural importance to Connecticut's Native American community. (Cellco 1, Attachment 11)
59. No Federally threatened or endangered species or State endangered, threatened or special concern species are present at the proposed site. (Cellco 1, Attachment 11)
60. Trees surrounding the site consist mainly of mixed deciduous hardwood species interspersed with stands of mature evergreens. The average tree canopy height is 65 feet. Approximately 23 trees six inches diameter at breast height (dbh) would be removed to develop the site. (Cellco 1, Attachment 1, Drawing C-1; Cellco 1, Attachment 10; Tr. 1, p. 26)
61. The proposed equipment compound does not contain any wetland areas that would be impacted by the proposed development activity. (Cellco 1, p. 17)
62. The access drive would be approximately 20 feet from Wetland 1 and 50 feet from Wetland 2. No direct impact to wetlands is expected from the development of the proposed access drive. (Cellco 1, p. 17)
63. Portions of the access drive would be within the Town of Woodstock Inland Wetlands and Watercourses Agency 100-foot upland review area. (Cellco 4, response 10)

64. To protect the wetlands, erosion and sedimentation controls consistent with the Connecticut Soil Erosion Control Guidelines would be established and maintained during the construction period. Cellco would also employ appropriate construction management practices to ensure that no pollutants would be discharged to any nearby watercourse or wetland areas or to area groundwater during the construction process. (Cellco 1, p. 17)
65. No site drainage improvements are proposed because the existing grades would not be changed significantly and because of the existing gravel surface of the access drive. (Tr. 1, pp. 51-53)
66. The closest public airfield to the site is Toutant Airport in the Town of Woodstock, approximately 2.13 nautical miles southeast of the site. There are no private airfields or heliports within three nautical miles of the proposed tower site. (Cellco 1, p. 18; Cellco 1, Attachment 18)
67. Obstruction marking and lighting of the tower would not be required. (Cellco 1, p. 18; Cellco 1, Attachment 18)
68. The maximum power density from the radio frequency emissions of Cellco's proposed antennas would be 15.79% 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. (Cellco 1, p. 15)
69. The backup generator would not be audible at the nearest residence approximately 1,400 feet to the east of the proposed tower. The generator housing and exhaust would be designed to dampen the noise as much as practical. However, the generator may be audible at the possible future residence on the subject property when it is in operation. (Tr. 1, pp. 23-24)
70. To protect against accidental fuel spillage, the backup generator's 275-gallon fuel tank would be double-walled and would have leak detection alarms. The generator and fuel tank would also be located in its own room in the equipment shelter with a floor designed to contain 120 percent of all generator fluids. (Cellco 4, response 5)

Visibility

71. The proposed tower would be visible year-round from approximately 30 acres within a two-mile radius of the site (refer to Figure 12a). The tower would be seasonally visible from approximately 9 acres within a two-mile radius of the site. (Cellco 1, Attachment 10, Viewshed Map)
72. Visibility of the proposed tower from roads within a two-mile radius of the site is presented in the table below:

Road	Length of Road Visibility (Seasonal)	Length of Road Visibility (Year-round)	Nearest Distance with Visibility to Tower
Route 197	0.3 miles	0.2 miles	0.4 miles south
Corbin Road	-	0.1 miles	0.5 miles south
Hunter Road	0.5 miles	0.2 miles	0.1 miles north

(Cellco 1, Attachment 10, Viewshed Map)

73. Visibility of the proposed tower from specific locations within a two-mile radius of the site is presented in the table below:

Location	Visible	Approx. Portion of Tower Visible	Approx. Distance to Tower
Herindeen Landing	Yes	35 feet - unobstructed	0.66 miles southwest
Intersection of Route 197 and Corbin Road	Yes	50 feet - unobstructed	0.46 miles south
Intersection of Route 197 and Herindeen Landing	Yes	12 feet - unobstructed	0.47 miles southwest
Old Turnpike Road	No	-	1.07 miles north
Black Pond – near eastern shore	No	-	1.55 miles northwest
Intersection of Camp Road and Route 198	No	-	0.95 miles northwest
Route 198- south of Route 197	No	-	0.66 miles southwest
Sherman Road – west of Route 198	No	-	0.44 miles west
Intersection of Sherman Road and Noren Road	No	-	0.31 miles northwest

(Cellco 1, Attachment 10, Photo-simulations)

74. The proposed tower would be visible year-round from approximately eight residences in the immediate area including three homes along Route 197 north of the facility, one home on Corbin Road just north of Route 197, three homes along Herindeen Landing, and one home on Moren Road just south of the proposed tower. These views would consist of approximately the top third to the top half of the tower. (Cellco 1, Attachment 10, p.4 and Photographic Documentation and Simulation)
75. The proposed tower would be seasonally visible from approximately four homes, including three along Route 197 and one off of Corbin Road. (Cellco 1, Attachment 10, p. 5)
76. The proposed tower would be seasonally visible from a very small portion of the Nipmuck State Forest in the vicinity of Route 197 and Corbin Road, approximately 0.5 miles north of the proposed tower site. (Cellco 1, Attachment 10, Viewshed Map)
77. The tower would not be visible from Black Pond. (Tr. 1, p. 25)
78. The closest hiking trail to the proposed tower is the Nipmuck Trail, which is part of the Blue-Blazed Hiking Trail System of eastern Connecticut. The closest portion of the trail is approximately 1.75 miles west to northwest of the proposed tower location. As such, no views of the tower area expected from the trail. (Cellco 1, Attachment 10, Viewshed Map; Cellco 4, response 14; Admin. Notice Item No. 9, Connecticut Walk Book East Edition, pp. 171-174)
79. Views of the tower are also not expected from a series of informal trails in the Nipmuck State Forest or the Yale Forest. (Cellco 4, response 14)
80. The closest locally-designated scenic road to the proposed site is Sherman Road, approximately 0.3 miles to the southeast at the nearest point. The tower is not expected to be visible from Sherman Road. (Cellco 1, Attachment 10, Viewshed Map)

81. Another locally-designated scenic road is Corbin Road, located approximately 0.5 miles to the north of the proposed site. The tower would be visible from approximately 0.1 miles of Corbin Road. (Cellco 1, Attachment 10, Viewshed Map)
82. The tower would not be visible from the remaining locally designated scenic roads: Camp Road and Marcy Road. These roads are located approximately 0.95 miles and 1.76 miles southeast of the proposed tower site, respectively. (Cellco 1, Attachment 10, Viewshed Map)
83. There are no state-designated scenic roads within a two-miles radius of the proposed tower. (Cellco 1, Attachment 10, Viewshed Map)
84. There are no historic districts within a two-mile radius of the proposed tower. (Cellco 1, Attachment 10, Viewshed Map)
85. No landscaping around the compound is proposed due to existing vegetation. (Cellco 1, Attachment 1, Drawing C-1A)
86. Cellco considered alternative tower designs such as a tree tower, but did not believe it would fit into the context of this site and may be more visible. (Tr. 1, pp. 21 and 56)
87. A brown pole with flush mounts would be subject to similar technical limitations as flush mounted antennas on a monopole and would require three, possibly four levels of antennas for Cellco. (Tr. 1, pp. 46-47, 56; Cellco 4, response 8)
88. The Town has not indicated a preference for or against an alternative tower design. (Tr. 1, p. 22)

Existing and Proposed Wireless Coverage

89. Cellco operates in the 850 MHz frequency band for cellular and the 1900 MHz frequency band for PCS and expects to utilize a new 700 MHz band soon, at a signal level service design of -85 dBm for this area, sufficient for in-vehicle coverage. (Cellco 1, Attachment 7; Cellco 4, response 9; Tr. 1, pp. 43-44)
90. The length of existing coverage gaps (signal strength < -85 dBm) on select roads within a two-mile radius of the proposed site is presented in the table below. See Figure 4 and 6. (AT&T 1, Attachment 3)

Existing Road Gaps (approx. in miles)		
Road	Cellular	PCS
Route 171	2.2	2.5
Route 197	3.0	4.1
Route 198	1.9	2.5
Total	7.1	9.1

91. Cellco seeks a minimum antenna height of 137 feet agl to achieve its coverage objectives. (Cellco 1, p. 2)

92. To install the antennas a height greater than 137 feet agl, e.g. 147 feet agl, would not provide any additional coverage advantage. (Tr. 1, p. 58)
93. The proposed facility would provide reliable coverage (signal strength > -85 dBm) on select roads within a two-mile radius of the proposed site and such data is presented in the table below. See Figures 5 and 7.

Proposed Coverage*		
Road	Cellular	PCS
Route 171	4.1	2.5
Route 197	5.1	4.1
Route 198	2.6	2.5
Total	7.1	9.1

*approximate miles; signal strength < -85 dBm
 (AT&T 1, Attachment 3)

94. Installing antennas at 137 feet agl at the proposed site would provide approximately 18.4 square miles of cellular coverage and 7.1 square miles of PCS coverage. (Cellco 1, p. 2)
95. Adjacent Cellco facilities that would interact with the proposed facility are as follows:

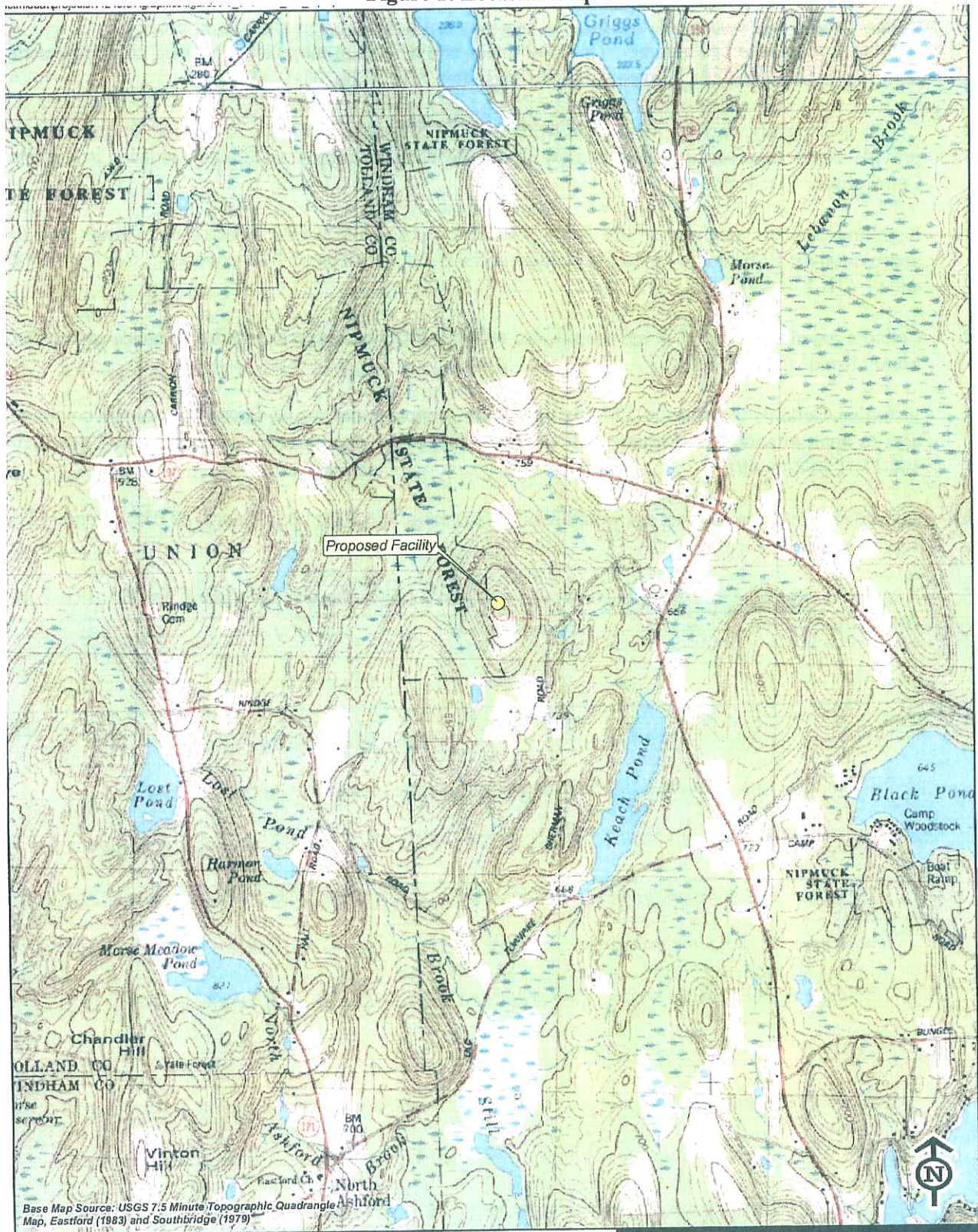
Location	Tower Type and Height	Antenna Height agl	Approximate Distance from Sites
1050 Buckley Highway, Union	168-foot self-supporting lattice tower	150 feet	3.2 miles northwest
1825 Route 198, Woodstock	180-foot self-supporting lattice tower	177 feet	2.5 miles north
215 Coatney Hill Road, Woodstock	190-foot monopole	167 feet	4.1 miles east

(Cellco 1, Attachment 9; Cellco 4, response 7)

96. With the proposed facility, the Town of Woodstock would be well covered by cellular service. However, several additional towers may be needed to cover the Woodstock area for PCS service. (Tr. 1, pp. 31-32)
97. Even with the proposed facility, Cellco is also looking into a future tower site in the vicinity of the intersection of Routes 169 and 197 in order to have contiguous cellular and PCS coverage along Routes 169 and 197. (Tr. 1, pp. 30-31; Cellco 1, Attachment 7)
98. Cellco has no plans to build a tower to the west towards Union at this time. Some of that area is state forest, which would make locating a tower there difficult. (Tr. 1, p. 31)

99. Cellco is located at an existing facility in southeast Woodstock that provides cellular coverage. Cellco would like to upgrade the facility, but may not be able to on the current property. Cellco is considering a tower re-location. The new tower could be a monopole. However, this may even require splitting the site into two smaller tower sites. (Tr. 1, pp. 31-32, 36)
100. Cellco is currently moving its data network from PCS frequencies back to cellular frequencies to provide better data services and to slow down the need to deploy additional facilities in eastern Connecticut. (Tr. 1, p. 34)
101. Installing Cellco's antennas at 127 feet agl at the proposed site would reduce the coverage area to approximately 17.0 square miles for cellular and 6.0 square miles of PCS coverage. See Figures 8 and 9. (Tr. 1, p. 49)
102. Cellco's antennas at 127 feet agl would also result in PCS coverage beginning to break up west of Marcy Road. (Tr. 1, p. 49)
103. Installing Cellco's antennas at 117 feet agl at the proposed site would further reduce the coverage area to approximately 15.0 square miles for cellular and 5.2 square miles for PCS. See Figures 10 and 11. (Tr. 1, p. 49)
104. Cellco's antennas at 117 feet agl would result in coverage breaking up just north of Black Pond. (Tr. 1, p. 49)
105. A tower shorter than 137 feet agl could also result in a taller future facility being needed. (Tr. 2, p. 19)

Figure 1: Location Map



Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Eastford (1983) and Southbridge (1979)

1,000 500 0 1,000
Feet

Vanasse Hangen Brustlin, Inc.

USGS Topographic Map

(Cellco 1, p. iii)

Figure 2: Aerial Photograph



Base Map Source: 2006 Color Aerial Photograph with 1-foot Resolution

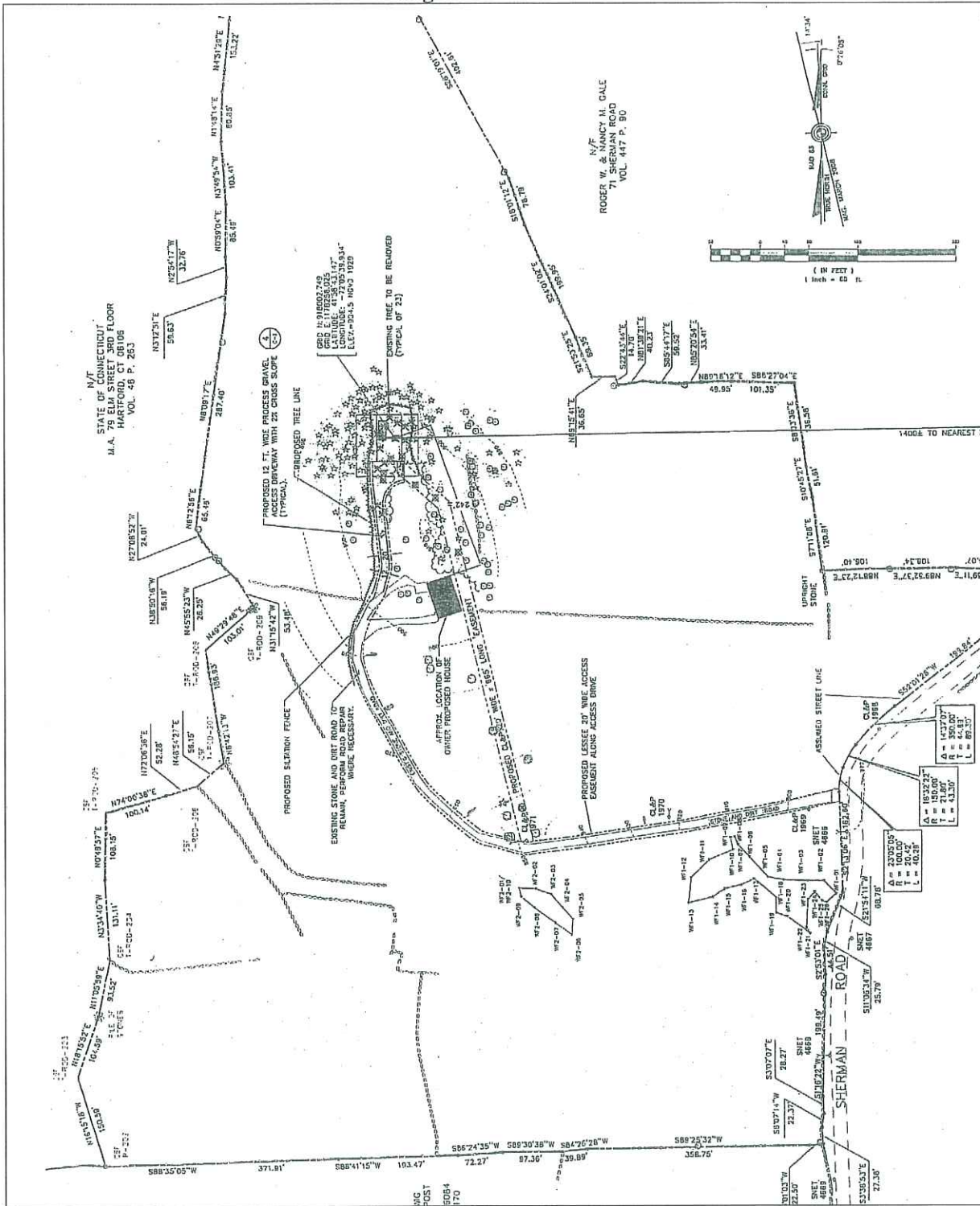
250 125 0 250
Feet

Vanasse Hangen Brustlin, Inc.

2006 Aerial Photograph

(Cellco 1, p. ii)

Figure 3: Site Plan



(Cellco 1, Attachment 1, Drawing C-1)

Figure 4: Cellco's Existing Cellular Coverage

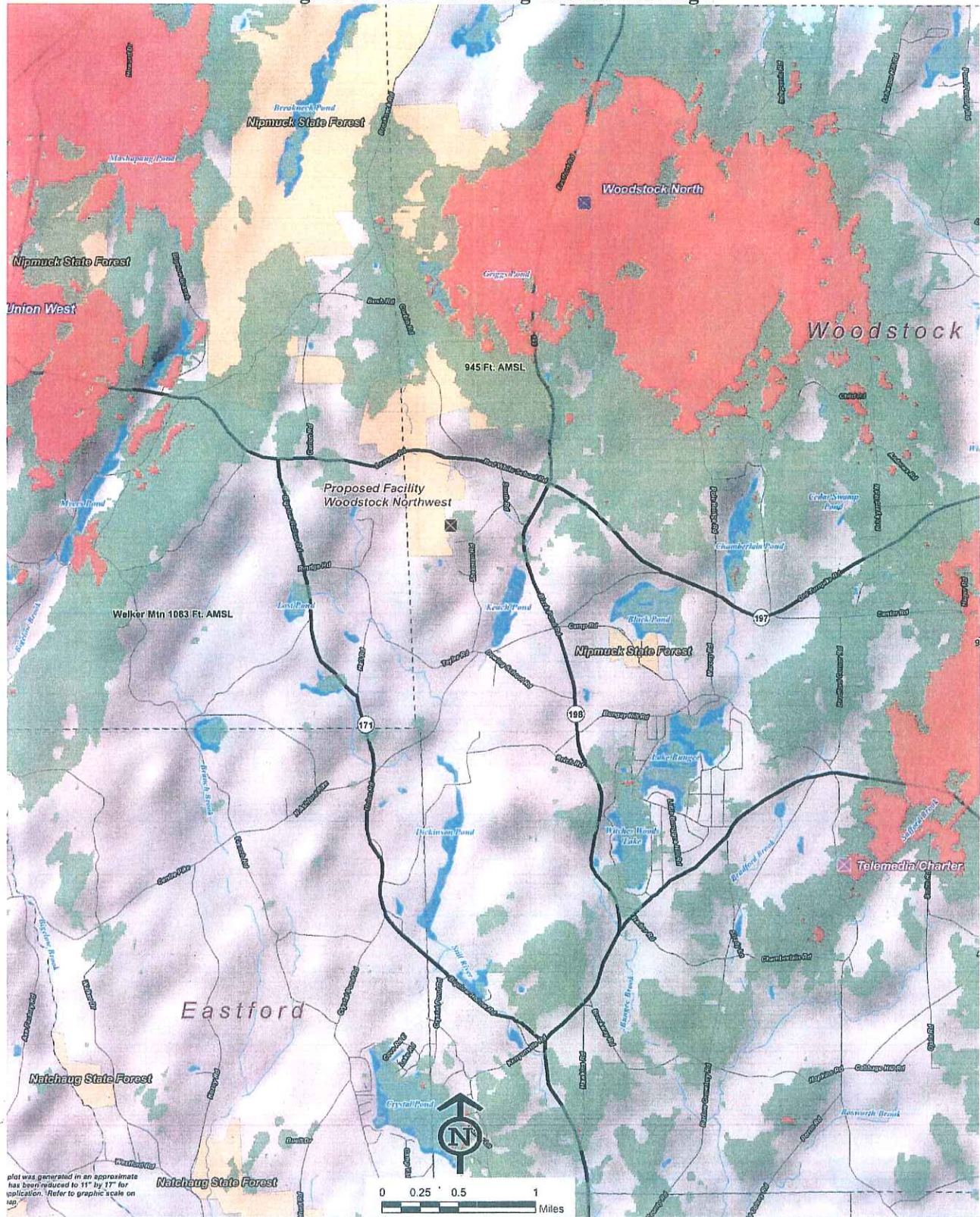
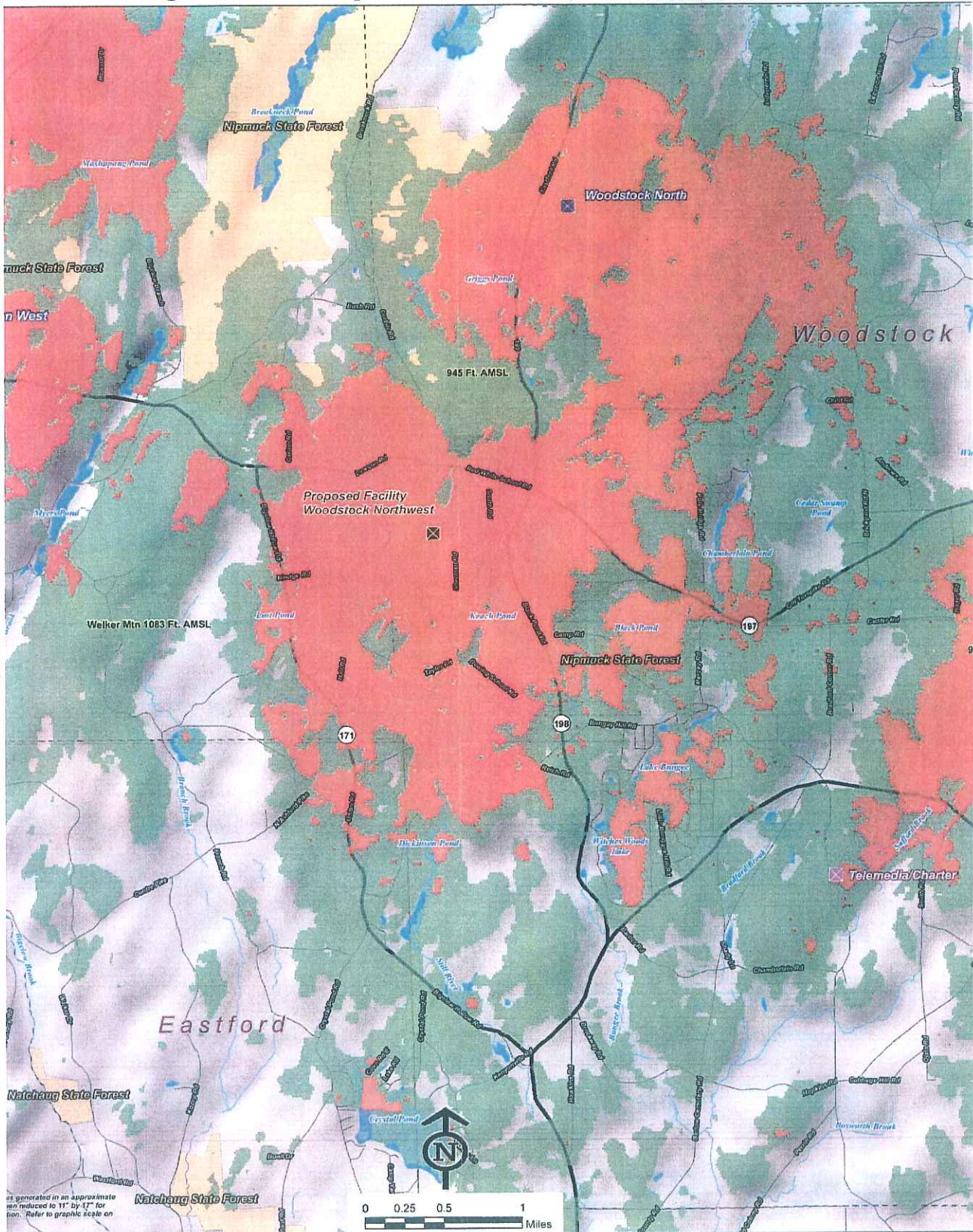


Figure 5: Cellco's Proposed Cellular Coverage with Antennas at 137 feet



(Cellco 1, Attachment 7)

Figure 6: Cellco's Existing PCS Coverage

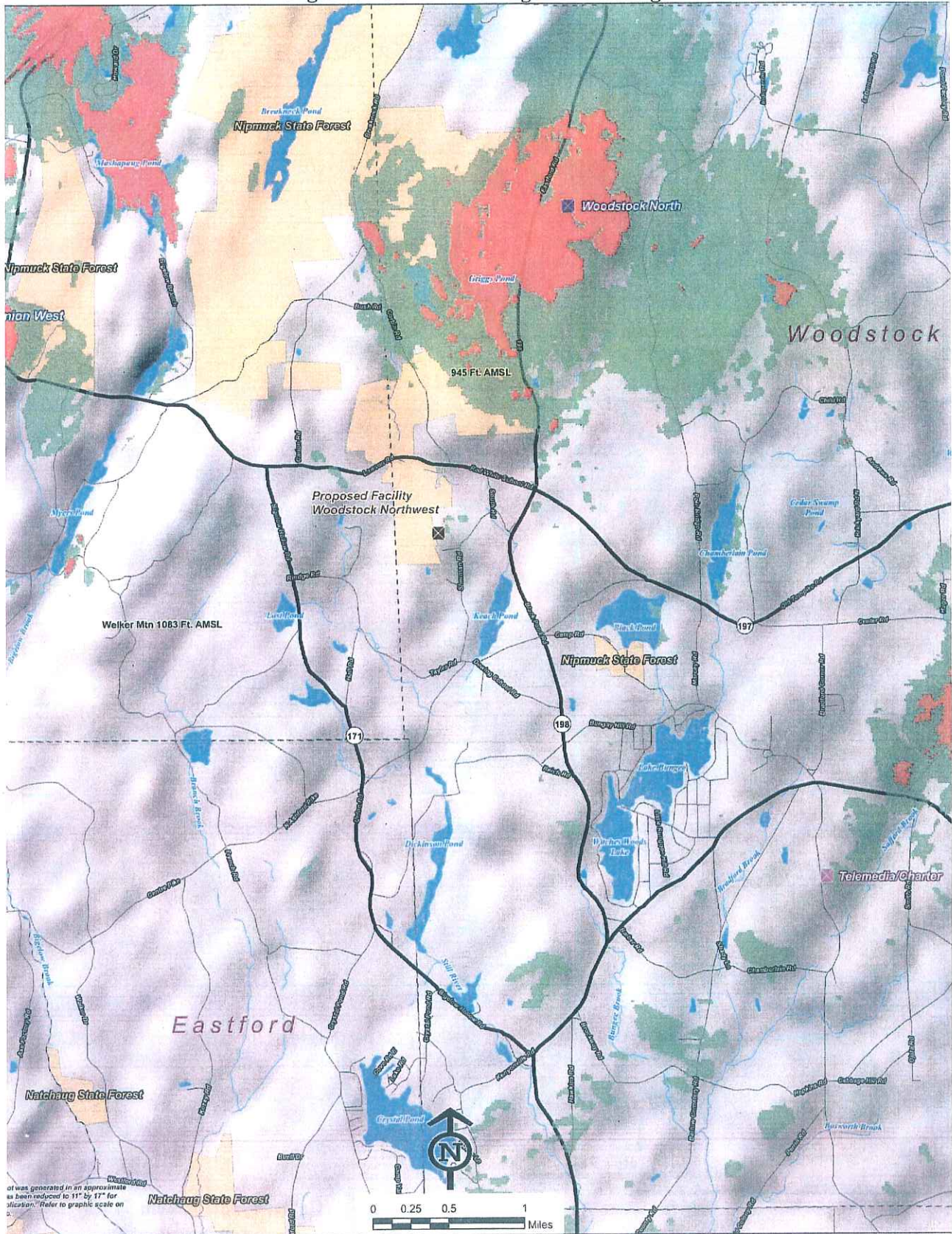
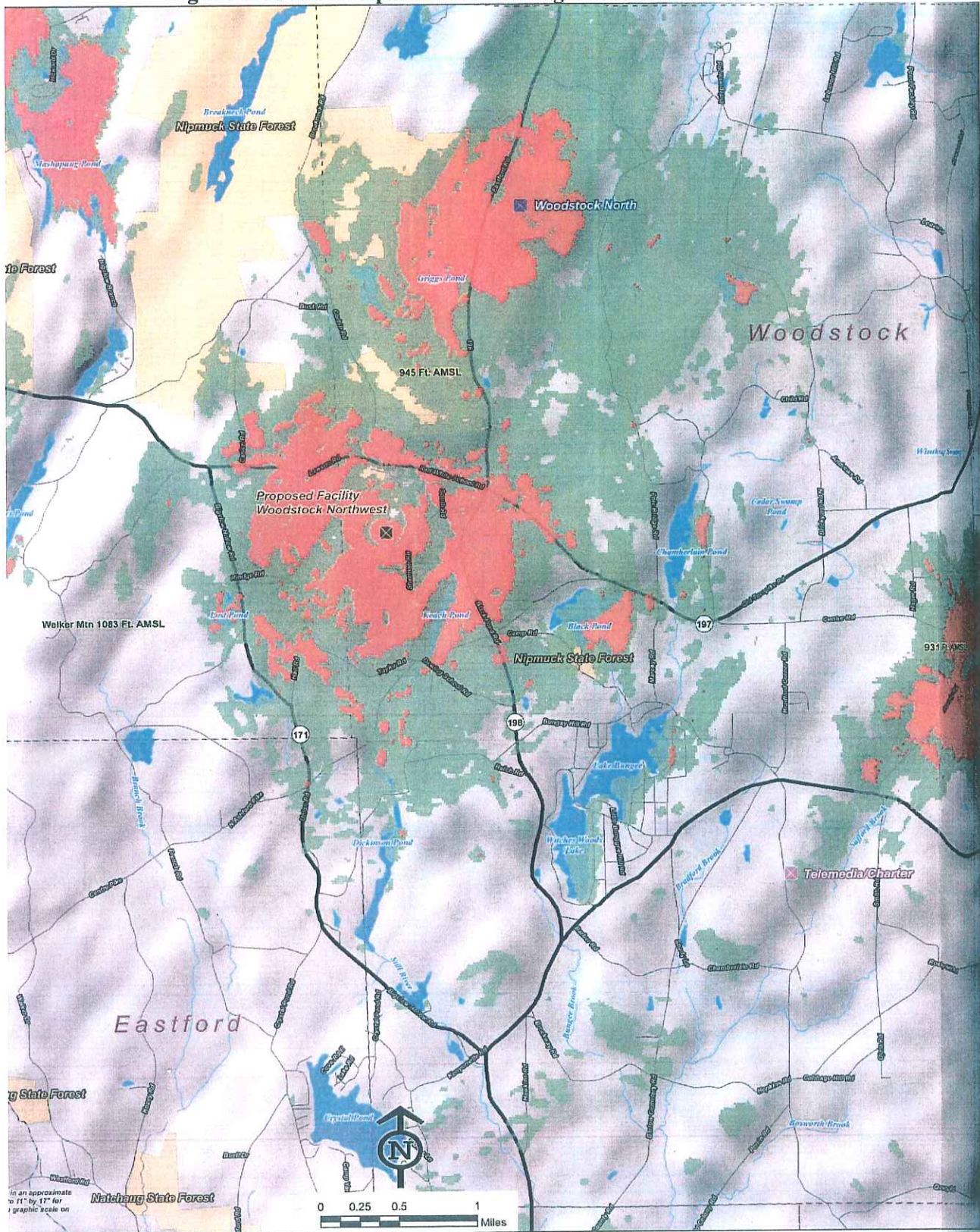


Figure 7: Cellco's Proposed PCS Coverage with Antennas at 137 feet



(Cellco 1, Attachment 7)

Figure 8: Cellco's Cellular Coverage with Antennas at 127 Feet

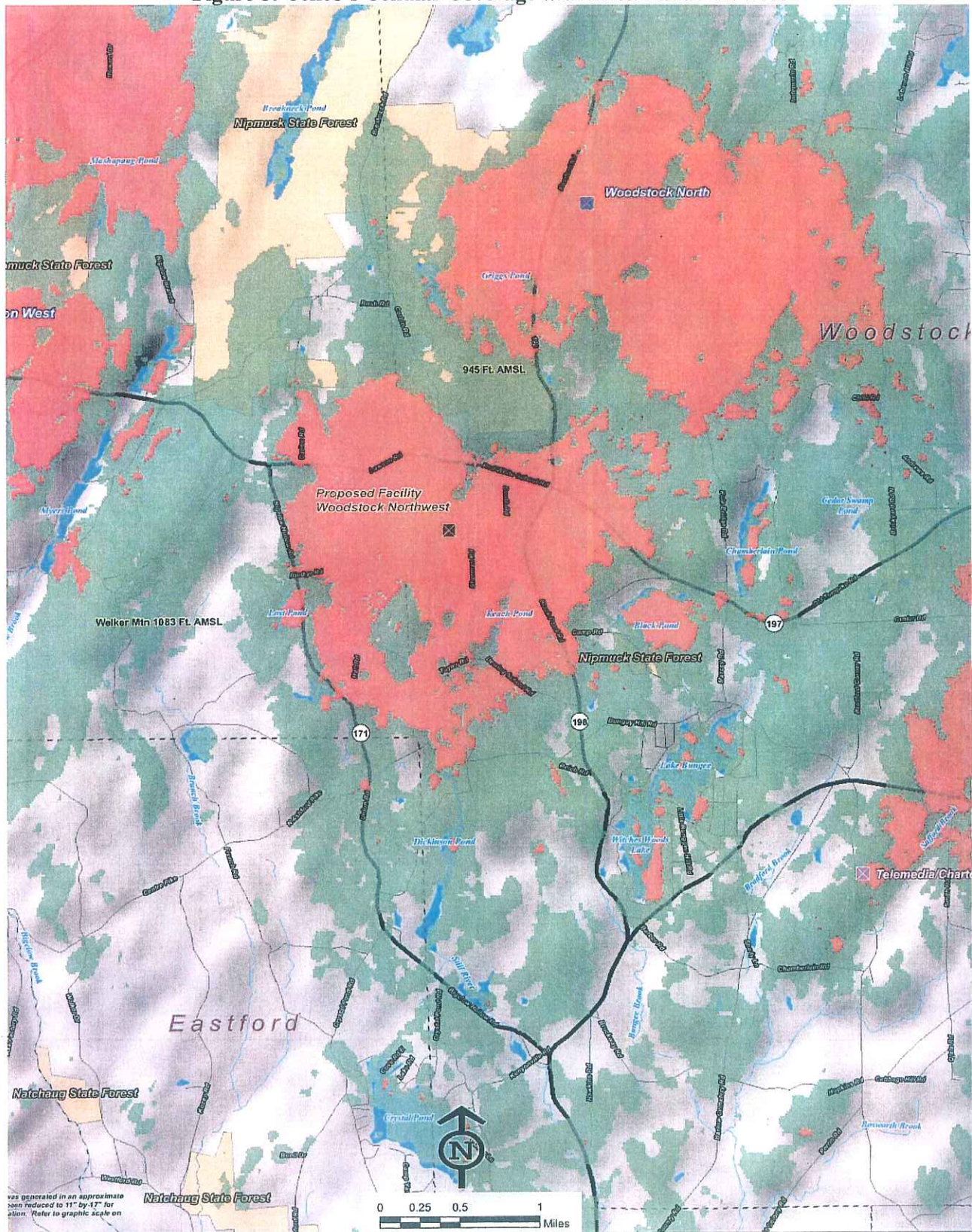
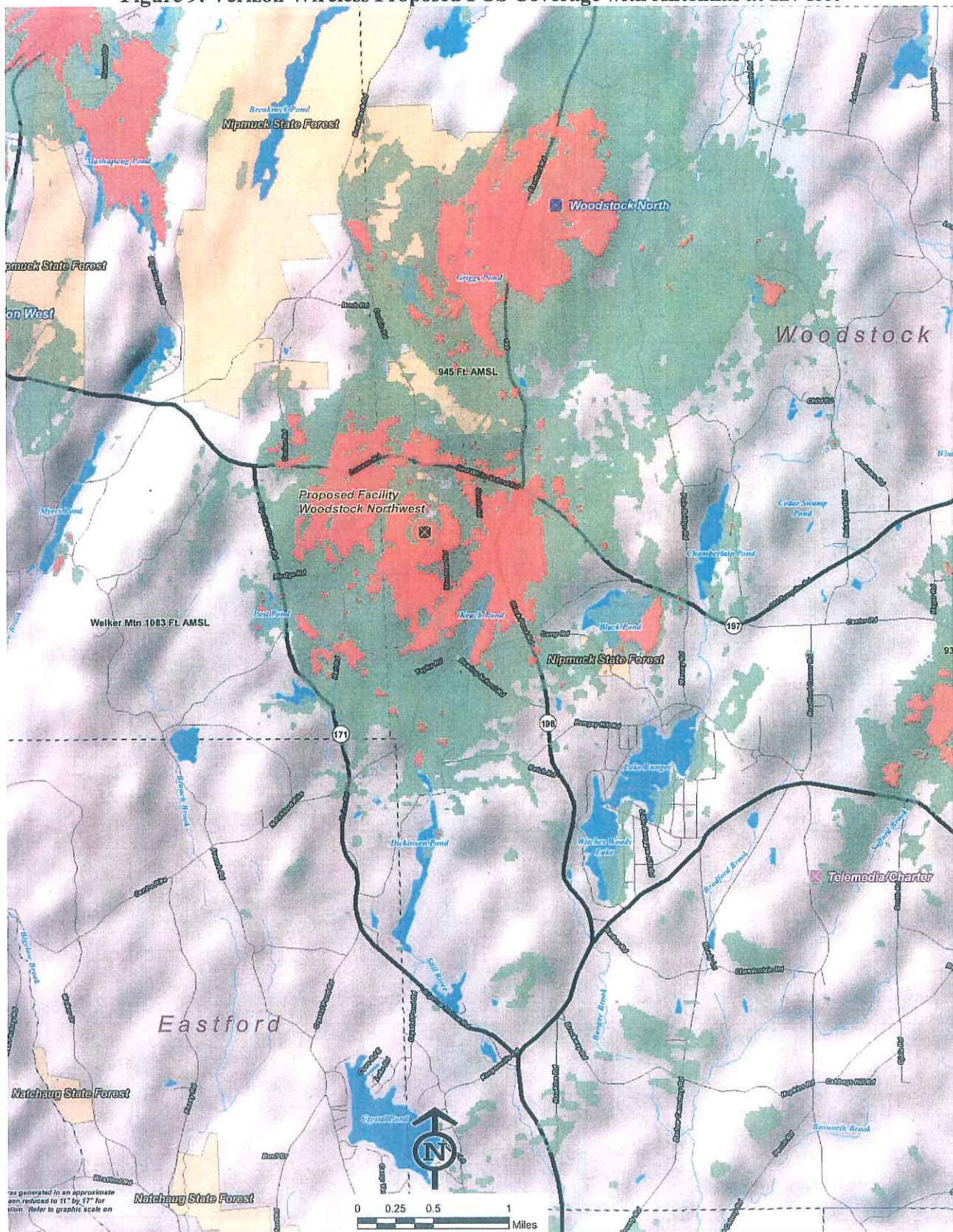


Figure 9: Verizon Wireless Proposed PCS Coverage with Antennas at 127 feet



(Cellco 4, response 13)

Figure 10: Cellco's Cellular Coverage with Antennas at 117 feet

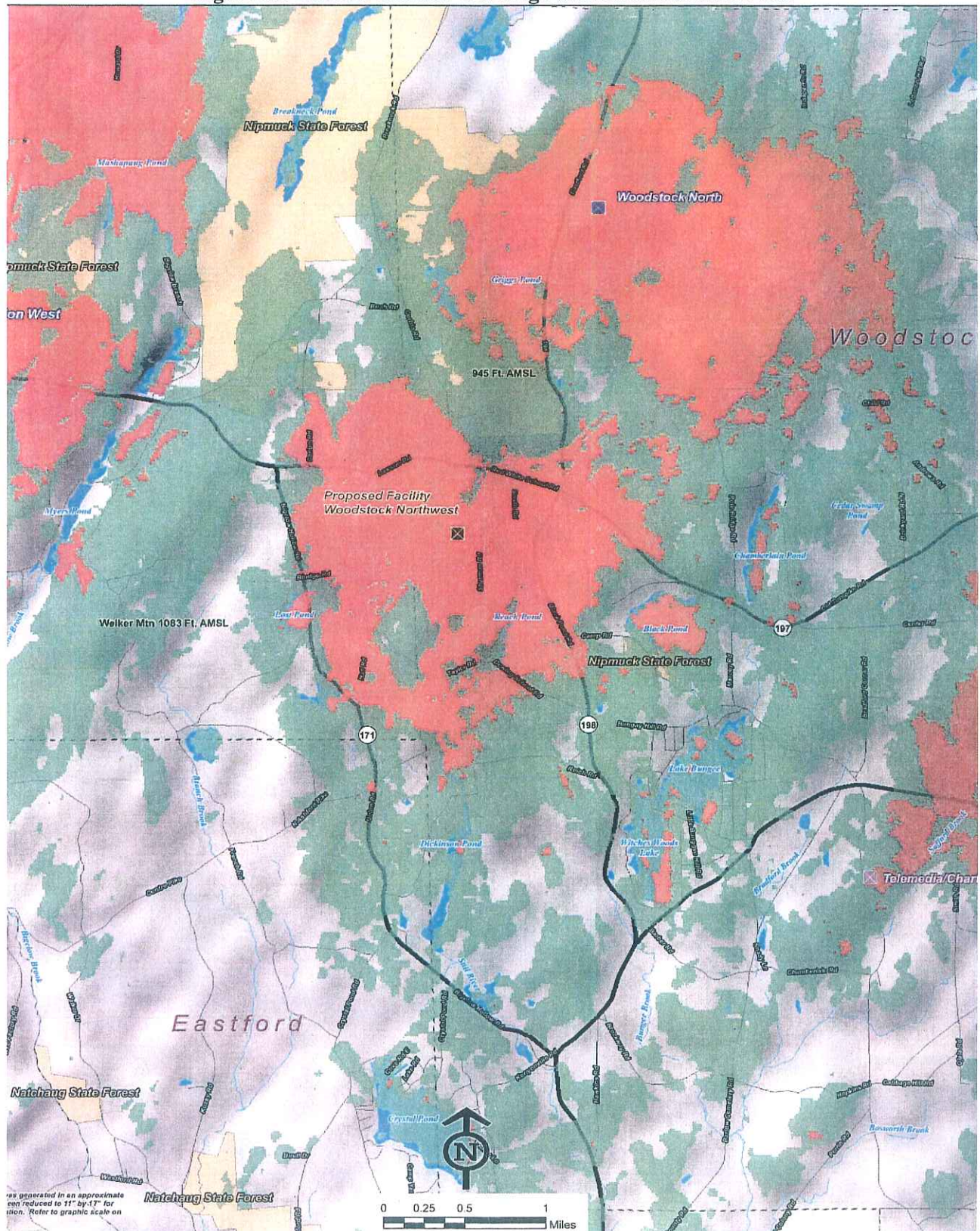
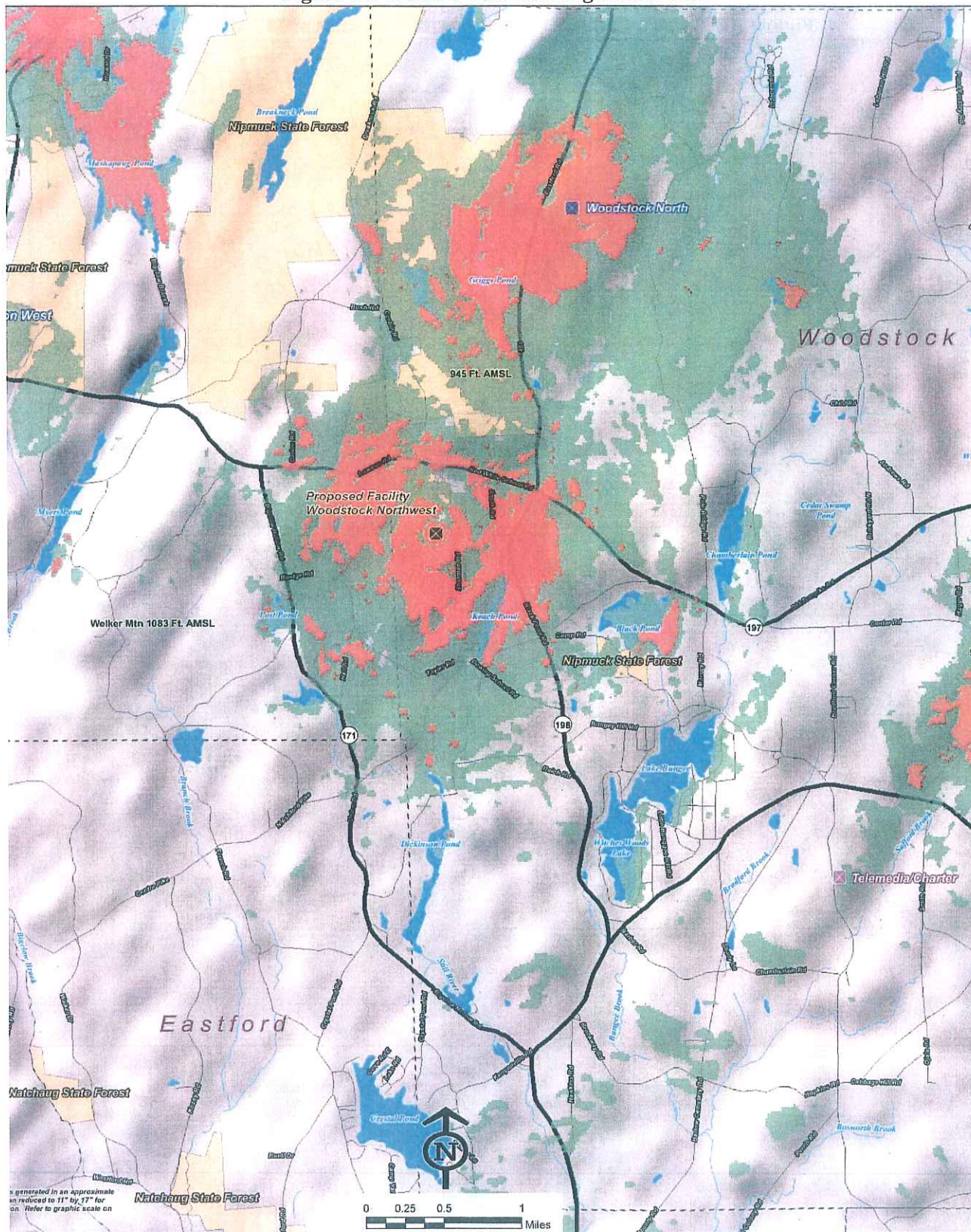


Figure 11: Cellco's PCS Coverage at 117 feet

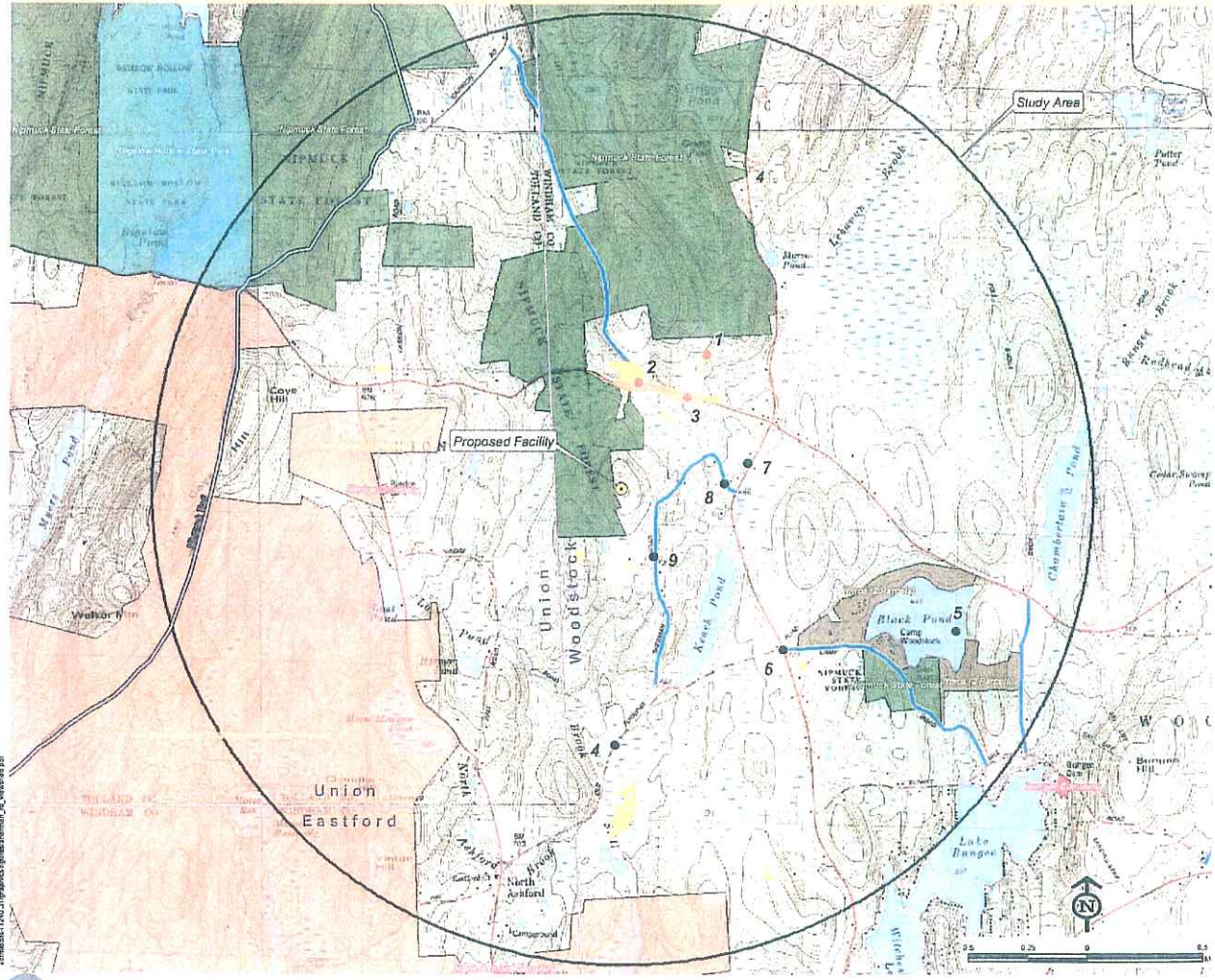


(Cellco 4, response 13)

Figure 12a: Viewshed Map

Viewshed Map

Topography and Forest Cover



(Celco 1, Attachment 10)

Figure 12b: Viewshed Map Legend

Map Compiled September 2008



(Cellco 1, Attachment 10)