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November 6, 2007

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **DOCKET NO. 339-** Optasite Towers LLC and Omnipoint Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 640 Hilliard Street, Manchester, Connecticut.



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As stated at the hearing in Manchester on August 28, 2007, 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 November 20, 2007.

SDP/cm

Enclosure

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**DOCKET NO. 339-** Optasite Towers LLC and Omnipoint }  
Communications, Inc. application for a Certificate of }  
Environmental Compatibility and Public Need for the }  
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Manchester, Connecticut.

Connecticut  
Siting  
Council

October 29, 2007

## **DRAFT Findings of Fact**

### **Introduction**

1. Optasite Towers LLC (Optasite) and Omnipoint Communications, Inc., a subsidiary of T-Mobile USA, Inc. d/b/a T-Mobile (T-Mobile) referred to collectively as the "Applicants", in accordance with provisions Connecticut General Statutes (CGS) § 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on May 25, 2007 for the construction, operation, and maintenance of a wireless telecommunications facility at 640 Hilliard Street in Manchester, Connecticut. (Applicants 1, p. 1)
2. Optasite, a Delaware corporation, would construct and maintain the proposed facility. T-Mobile, a Delaware limited liability company, is licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless service system in the State of Connecticut. (Applicants 1, p. 3)
3. The party in this proceeding is the Applicants. (Transcript 1 [Tr. 1], 3:05 p.m., pp. 4, 5; Transcript 2 [Tr. 2], 7:05 p.m., 4)
4. The purpose of the proposed facility is to provide service along Route 6, Middle Turnpike and the surrounding areas within Manchester. (Applicants 1, p. 1)
5. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on August 28, 2007, beginning at 3:00 p.m. and continuing at 7:00 p.m. in the Lincoln Center Hearing Room, 494 Main Street, Manchester, Connecticut. (Council's Hearing Notice dated July 18, 2007; Tr. 1, p. 2; Tr. 2, p. 2)
6. The Council and its staff conducted an inspection of the proposed site on August 28, 2007, beginning at 2:00 p.m. On the day of the inspection, from 8:00 a.m. until 6:00 p.m., the Applicants flew a balloon to simulate the height of the proposed tower. (Council's Hearing Notice dated July 18, 2007; Applicants 11, Affidavit)
7. On August 8, 2007, Optasite placed a sign at the entrance of the proposed site to notify the public of the proposed project and the Council hearing. (Tr. 1, p. 75)
8. Pursuant to CGS § 16-501 (b), public notice of the application was published in The Hartford Courant on May 14 and May 16, 2007 and in The Journal Inquirer on May 15 and May 17, 2007. (Applicants 2, R. 1)

9. Pursuant to CGS § 16-501(b), notice of the application was provided to all abutting property owners by certified mail. The Applicants have received return receipts for all but one adjacent landowner, which is located at 642 Hilliard Street. The Applicants sent a second certified mailing to the abutter on June 18, 2007 and a third mailing on or before August 10, 2007. (Applicants 1, p. 4; Applicants 2, R. 2; Tr. 1, p. 76)
10. Pursuant to CGS § 16-501 (b), the Applicants provided notice to all federal, state and local officials and agencies listed therein. (Applicants 1, p. 4)

#### **State Agency Comment**

11. Pursuant to CGS § 16-50j (h), on July 18, 2007 and September 4, 2007, 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. No comments were received from state agencies regarding the proposed project. (Record)

#### **Municipal Consultation**

13. On January 15, 2007, Optasite submitted a letter and technical report to Mayor Josh M. Howroyd at the Town of Manchester. (Applicants 1, p. 19)
14. Mr. Jack McCoy, the Chief Information Officer of the Town of Manchester made a statement at the August 28, 2007 hearing. Mr. McCoy stated that the town might be interested in locating antennas on the proposed tower to support the operational effectiveness of public safety agencies, municipal services and school district educational activities. (Applicants 4, Town of Manchester letter dated July 26, 2007; Tr. 1, pp. 7,8, 93)
15. Optasite would provide space on the tower for the Manchester emergency services, if requested, free of charge. (Applicants 1, p. 9)
16. Optasite does not currently have an agreement with the Town of Manchester to locate antennas on the proposed tower. (Tr. 1, pp. 94, 95)

#### **Public Need for Service**

17. 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)
18. 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. The FCC has licensed T-Mobile to provide personal wireless communication service in Connecticut. (Council Administrative Notice Item No. 7; Applicants 1, p. 3)

19. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 7)
20. 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)
21. In an effort to ensure the benefits of wireless technologies to all Americans, Congress enacted the Wireless Communications and Public Safety Act of 1999 (the 911 Act). The purpose of this legislation was to promote public safety through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. (Applicants 1, pp. 6, 7)
22. As an outgrowth of the 911 Act, the FCC mandated wireless carriers to provide enhanced 911 services (E911) as part of their communications networks. These services would allow 911 public safety dispatchers to identify a wireless caller's geographical location. The proposed facility would become part of T-Mobile's E911 network in this area of the state. (Applicants 1, p. 7)

#### Site Selection

23. Optasite established a search ring for the target service area in January of 2006. The search ring was a circular area centered around the proposed site. (Applicants 2, R. 4)

24. Fifteen towers exist or are proposed within approximately four miles of the site search area. There are no existing towers or other tall structures within a four-mile radius of the proposed site that would be adequate for T-Mobile to provide coverage to the target area. (Applicants 1, p. 8)

Address	Height	T-Mobile antennas	Distance from site
1455 Forbes Street, East Hartford	130.9 feet	Yes – 87 feet agl	4.7 miles
Love Lane, Manchester	104.7 feet	No	0.66 miles
Sunset Ridge, East Hartford	39.4 feet	No	2.29 miles
151 Sand Hill Road, South Windsor	198.8 feet	Yes – 160 feet agl	3.54 miles
31 School Street, East Hartford	129.9 feet	No	3.12 miles
148 Roberts Street, East Hartford	126 feet	No	3.3 miles
2 Prestige Park Drive, East Hartford	167 feet	No	2.58 miles
100 Sunset Ridge, East Hartford	140 feet	Yes – 120 feet agl	2.21 miles
205 Spencer Street, Manchester	125 feet	Yes – 123 feet agl	1.31 miles
266 Center Street, Manchester	115 feet	No	1.36 miles
55 Slater Street, Manchester	155 feet	Yes – 133 feet agl	1.69 miles
60 Adams Street, Manchester	140 feet	No	0.68 miles
239 Middle Turnpike East, Manchester	190 feet	No	2.04 miles
1027 Middle Turnpike East, Manchester	Proposed 130 feet	If approved would be at 127 feet agl	3.81 miles
12 Carpenter Road, Bolton	140 feet	Yes – 127 feet agl	4.47 miles

(Applicants 2, R. 6)

25. If T-Mobile located antennas on the 60 Adams Street facility at a height of between 80 feet and 140 feet, some of the existing coverage gap would be filled but it would not completely satisfy the objective. Coverage from the Adams Street tower would be lacking around the intersection of Adams Street and Hilliard Street. (Tr. 1, pp. 52, 53, 55)
26. Locating T-Mobile antennas on the existing Connecticut Light and Power Company transmission line structures to the south of Route 6 would not provide coverage to the entire coverage gap along Route 6. (Applicants 13)
27. An existing tower located on Love Lane in Manchester is within the Applicants' search ring for a site in this area. The Applicants rejected use of the Love Lane tower because it is structurally incapable of accommodating installation of wireless communications antennas and the owner of the structure is not interested in replacing the tower. (Tr. 1, p. 79)

28. After determining there were no suitable structures within the search area, Optasite searched for properties suitable for tower development. Optasite investigated the 14 parcels/areas, including the proposed site, as potential sites for tower development. The 13 rejected sites are listed below:

Site	Reason for rejection
160 New State Road	Inadequate ground space for a tower compound
579 Middle Turnpike West	Property owners rejected lease offers
642 Hilliard Street	Property owner rejected lease offers
708 Hilliard Street	Property owner rejected lease offers and intends to use the property for building development
515 Middle Turnpike West	Inadequate ground space for a tower compound
331 Adams Street	Property owners rejected lease offers
249 Adams Street	Too far north to provide adequate coverage
381 Adams Street	Property owner rejected lease offers; difficult topography for construction
346 Middle Turnpike West	Inadequate ground space for a tower compound
106 New State Road	Inadequate ground space for a tower compound
226 New State Road	Inadequate ground space for a tower compound
41 Center Street	Too far from target area to provide adequate coverage
105 New State Road	Too far from target area to provide adequate coverage

(Applicants 1, Tab I)

29. At the request of Mark Pellegrini, the Town of Manchester Director of Planning and Economic Development, Optasite met with the owners of Hilliard Mills, LLC, which is located at 642 Hilliard Street. Following the meeting with the property owners, Optasite identified space on the property for the location of a tower and forwarded a standard lease agreement to the property owners. Optasite was unable to reach an agreement with the owners of the property. (Applicants 2, R. 3)
30. Microcells, repeaters and distributed antenna systems are not viable technological alternatives for providing coverage to the identified coverage gap. Terrain variations and tree cover in Manchester and the surrounding area would limit the use of these technologies. (Applicants 1, pp. 7, 8)

**Site Description**

31. The proposed site is located on a 1.23-acre parcel at 640 Hilliard Street in Manchester. The parcel, which is owned by 640 Hilliard Street LLC, is an industrial mill with commercial use tenants. The location of the proposed site is depicted in Figure 1 and Figure 2 of this document. (Applicants 1, pp. 2, 10)

32. The property is zoned IND (industrial). The town's Zoning Regulations recommend requirements for new wireless communications facilities as follows:

<b>Requirement</b>	<b>Proposed</b>
Max. height: 175 feet	150 feet
Min. lot area: 20,000 square feet	Over 53,000 square feet
Min. setback from residences: 200 feet	380 feet
Min. 130 foot setback ; Min. 20 foot setback for equipment	234 feet to north; 65 feet to south; 141 feet to west; 29 feet to east
No lighting permitted unless required by the FAA	None proposed
Must be monopole unless otherwise approved	Stealth monopole

(Applicants 1, pp. 16, 17)

33. The proposed site is located in the eastern portion of the property, within an existing gravel parking area approximately 70 feet east of the existing mill building. The proposed site is at an elevation of approximately 94 feet above mean seal level (amsl). (Applicants 1, p. 9, Tab K)
34. The proposed facility would consist of a 150-foot monopole within a 30-foot by 70-foot lease area. The monopole would be painted brown and accommodate flush-mounted antennas for four wireless carriers and the Manchester public safety communications antennas. (Applicants 1, p. 9)
35. T-Mobile would install three panel antennas flush-mounted at 147 feet above ground level (agl). (Applicants 1, p. 9)
36. Cellco Partnership d/b/a Verizon Wireless has communicated with Optasite to locate on the proposed tower. Verizon has a coverage gap and need for capacity in northwest Manchester that would be satisfied by locating antennas at the 137-foot level of the proposed tower. (Applicants 6; Tr. 1, p. 29)
37. A 30-foot by 70-foot equipment compound enclosed by an eight-foot high security fence would be established at the base of the tower. The compound would be able to accommodate the equipment of four wireless carriers. T-Mobile would install an approximately five-foot by ten-foot equipment shelter. (Applicants 1, Tab B)
38. The Applicants would landscape the perimeter of the equipment compound. The proposed landscaping would be outside of the Applicants leased area and is not within the allowances of the lease but the landowner has agreed to the proposed landscaping. (Applicants 1, Tab B; Tr. 1, p. 77)
39. T-Mobile would use battery back up to provide power to the site in the event of a power failure. (Tr. 1, p. 75)
40. T-Mobile does not currently have any sites in Connecticut that use fuel cells as a back up power source and has no plans to install fuel cells at Connecticut sites in the future. T-Mobile is currently investigating the use of fuel cells as an alternate power source and is willing to use them once they are fully tested and approved. (Applicants 2, R. 25)
41. Development of the proposed site would require minimal grading and clearing. (Applicants 1, p. 10)

42. Access to the proposed compound would be via an existing gravel driveway extending from Hilliard Street for a distance of approximately 270 feet to the compound. The access road would not require any additional construction or clearing. (Applicants 1, p. 10, Tab B)
43. Utilities would extend underground from a new utility pole along Hilliard Street within a ten-foot wide utility easement to the west of the access road from a new utility pole along Hilliard Street. (Applicants 1, p. 10, Tab B)
44. Development of the proposed site would not require blasting. (Applicants 2, R. 9)
45. The tower setback radius would extend onto adjacent properties to the northeast, east, south and west. The property to the northeast is 318 Adams Street, owned by Leonard E. Belcher Inc. The proposed tower would extend over the property line by approximately 100 feet. The property to the east is 330 Adams Street, owned by Leonard E. Belcher Inc.; the proposed tower would extend over the property line by approximately 110 feet. Hilliard Mills LLC owns the property to the south, at 370 Adams Street; the proposed tower would extend over the property line by approximately 90 feet. Hilliard Mills LLC also owns the property to the west, 642 Hilliard Street; the proposed tower would extend over the property line by approximately 12 feet. (Applicants 1, Tab B)
46. Optasite would design the proposed tower with a yield point to allow the tower setback radius to remain within the lessor's property boundaries. (Applicants 2, R. 11)
47. The 318 Adams Street and 330 Adams Street parcels, which are used as one property, are zoned industrial and currently in use as a gas station. The 370 Adams Street property is zoned industrial and is vacant land. The 642 Hilliard Street property is zoned industrial and contains a mill that is being renovated for tenants. (Applicants 2, R. 10)
48. There are 44 residences within a 1,000-foot radius of the proposed site. The nearest residence is approximately 380 feet south of the tower site located at 88 Wedgewood Drive. (Applicants 2, R. 12; Tr. 1, pp. 37, 38)
49. The property is a former industrial mill, which now has commercial use tenants. Property to the north and east of the proposed site is industrial. Property to the south is moderately dense residential. (Applicants 1, p. 18)
50. The estimated construction cost of the proposed facility, not including antennas or radio equipment, is:

Tower and foundation (incl. installation)	\$74,000
Site development	\$74,000
Utility installation	\$31,000
<b>Total</b>	<b>\$179,000</b>

(Applicants 1, p. 21)

#### Environmental Considerations

51. The E.E. Hilliard Woolen Mill, which is located on the host property and the property adjacent to the proposed site at 642 Hilliard Street, possesses historic and architectural importance and is eligible to be listed on the National Register of Historic Places by the National Park Service. According to the SHPO, the proposed facility would have no adverse effect on the E.E. Hilliard Woolen Mill. (Applicants 1, p. 13, Tab N; Applicants 2, R. 15; Tr. 1, p. 46, 97)

52. The Barn owl, a state endangered species, historically was present along the Hockanum River near the proposed site. Barn owl habitat includes grassy fields, old fields and wet meadows. The proposed project would occur entirely on a gravel driveway and parking area associated with the existing mill building and is adjacent to a gasoline service station; therefore, barn owl habitat would not be impacted by the proposed project. (Applicants 1, p. 13, Tab N)
53. The nearest wetland is located more than 114 feet to the south of the proposed site. A Professional Soil Scientist, in accordance with the Connecticut Inland Wetlands and Watercourses Act, delineated the wetland boundary. The wetland boundary edge was determined based on soil profiles from hand dug test holes using a hand auger and spade. (Applicants 1, Tab B, Tab J; Applicants 3, R. 27)
54. The proposed facility is not located within a floodplain, as defined by the Federal Emergency Management Agency. The base flood elevation in the area of the proposed site ranges between 88 feet and 91 feet amsl. The ground elevation at the base of the proposed structure is 94 feet amsl. (Applicants 1, p. 15; Tr. 1, pp. 40, 41; Applicants 7)
55. A penstock is located approximately 15 feet south of the nearest boundary of the proposed compound. The proposed tower foundation would be located approximately 45 feet from the penstock. The penstock was likely at one time an open channel used for the mill that has since been filled in. (Tr. 2, p. 57)
56. Vegetation near the proposed site consists of mature, mixed deciduous hardwood species with an average height of approximately 60 feet. (Applicants 1, p. 12)
57. The proposed facility would not require obstruction marking and/or lighting. The nearest airport to the proposed site is the Hartford Brainard Airport located 5.7 miles to the southwest. (Applicants 1, p. 20; Applicants 2, R. 17)
58. The maximum power density from the radio frequency emissions of T-Mobile's proposed antennas would be  $0.05 \text{ mW/cm}^2$  or 5.3% 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. (Applicants 1, Tab O)

#### Visibility

59. The proposed tower would be visible year-round from approximately 45 acres within a two-mile radius of the proposed site. Most of the visibility associated with the proposed tower is located within 0.25 miles of the facility. The tower would be seasonally visible from approximately 17 additional acres also primarily within approximately 0.25 miles of the proposed site. Visibility of the proposed tower is depicted in Figure 3 of this document. (Applicants 1, Tab K)
60. The proposed tower would be visible year-round from portions of New State Road, Hilliard Street and Adams Street to the north/northeast and portions of Wedgewood Drive, Englewood Drive and Middle Turnpike East to the south. The tower would also be visible year-round from areas along and to the west of the I-84 corridor and several private properties to the east and northeast. (Applicants 1, Tab K)

61. The proposed tower would be visible from specific locations within a two-mile radius of the site as presented in the table below:

Location	Visible	Approx. Portion of Tower Visible	Approx. Distance to Tower
Adams Street (#368)	Yes	20 feet-above trees	0.12 miles southeast
Hilliard Street	Yes	10 feet-above building	0.12 miles west
Wedgewood Drive (#88)	Yes	Entire tower-through trees	466 feet south
West Middle Turnpike (#515)	Yes	5 feet-above trees	0.25 miles south
Adams Street (#273)	Yes	75 feet-above trees	0.15 miles north
New State Road (#409)	Yes	20 feet-above trees	0.5 miles north
New State Road (#313)	Yes	15 feet-above trees	0.34 miles north
Hilliard Street near New State Road	Yes	60 feet-above building	0.22 miles west
Hilliard Street near #586	Yes	45 feet-above trees	0.17 miles northeast
Hoffman Road (#1)	Yes	20 feet-above trees	0.21 miles east

(Applicants 1, Tab K)

62. Land use surrounding the proposed site is comprised of commercial and industrial parcels to the north, east and west. Medium-density residential parcels are located to the south of the site, just beyond a wooded area along the southern boundary of the host property and along Wedgewood Drive and Englewood Drive. (Applicants 1, Tab K)
63. The proposed structure would be visible year-round from portions of approximately 16 residential properties within two-miles of the site. Specifically, two residences along Adams Street, four residences adjacent to the intersection of Adams Street and Middle Turnpike East, three residences along Wedgewood Drive and four properties along Englewood Drive. (Applicants 1, Tab K)
64. Seasonal visibility of the proposed structure from residential properties includes 12 additional residences within a two-mile radius of the site. Four residences along Hoffman Road, four residences along Wedgewood Drive, and four properties along Englewood Drive would have seasonal views of the proposed tower. (Applicants 1, Tab K)
65. Optasite would install four to six foot white pines or arborvitae on all sides of the equipment compound. Optasite would be willing to plant the landscaping in a staggered formation on the north, west and east sides of the compound. (Applicants 1, Tab B; Applicants 2, R. 22)

**Existing and Proposed Wireless Coverage – T-Mobile**

66. T-Mobile operates in the 1935 – 1945 MHz frequency bands at a signal level service design of -84 dBm for this area, which is adequate for in-vehicle coverage. The signal level threshold for in-building coverage is -76 dBm. (Applicants 1, Tab G; Applicants 2, R. 18, 19)
67. The proposed flush mounted antennas would be adequate to satisfy the anticipated traffic for the site. (Applicants 2, R. 8)
68. The existing T-Mobile coverage gap 1.2 miles along Route 6 and 0.75 miles along Middle Turnpike West. Coverage from existing sites is depicted in Figure 4 of this document. (Applicants 1, Tab G; Applicants 2, R. 20)

69. The proposed site would fill T-Mobile's coverage gap along Route 6 and Middle Turnpike West. T-Mobile coverage from existing sites and the proposed site at 147 feet agl is depicted in Figure 5. (Applicants 1, Tab G)
70. At the 137-foot level on the proposed structure, T-Mobile coverage would begin to fall below the -84 dBm signal level threshold along Hilliard Street to the northeast of the proposed site. (Tr. 1, p. 80)
71. T-Mobile would use an existing tower at 60 Adams Street in the future to provide additional in-building coverage and provide capacity in the area of I-84 and Adams Street. (Tr. 1, p. 56)

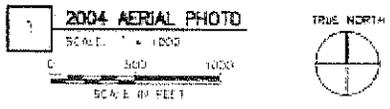


Figure 1. Location of proposed site. (Applicants 1, Tab B)

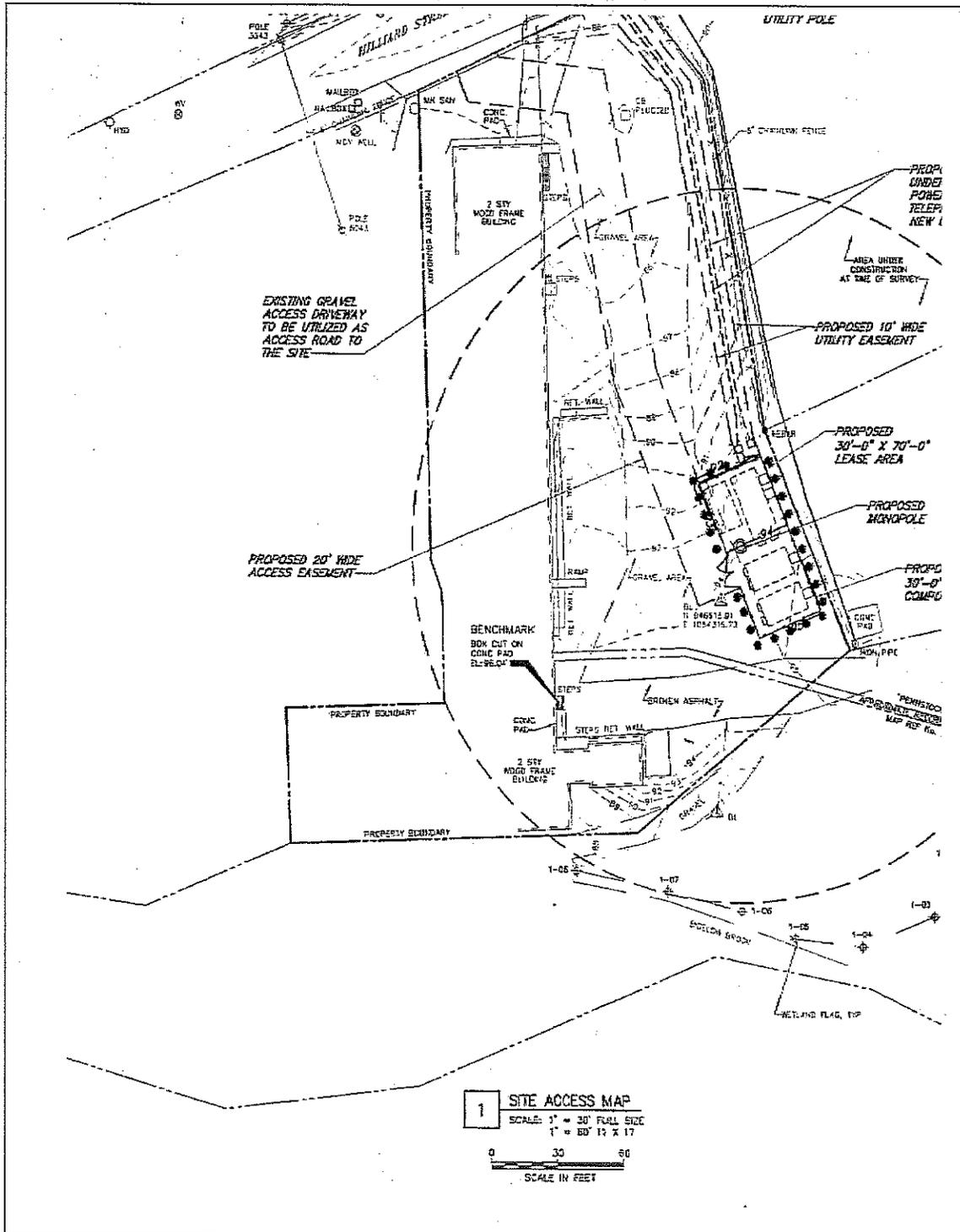


Figure 2. Location of the proposed compound and access road. (Applicants 1, Tab B)

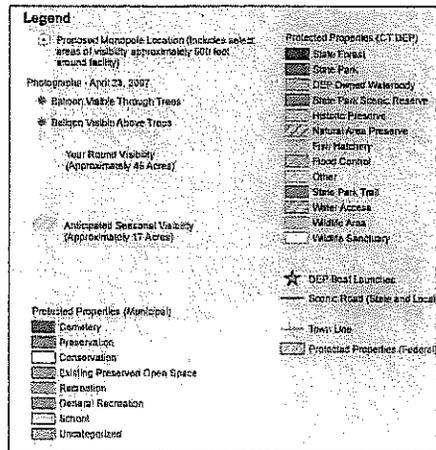
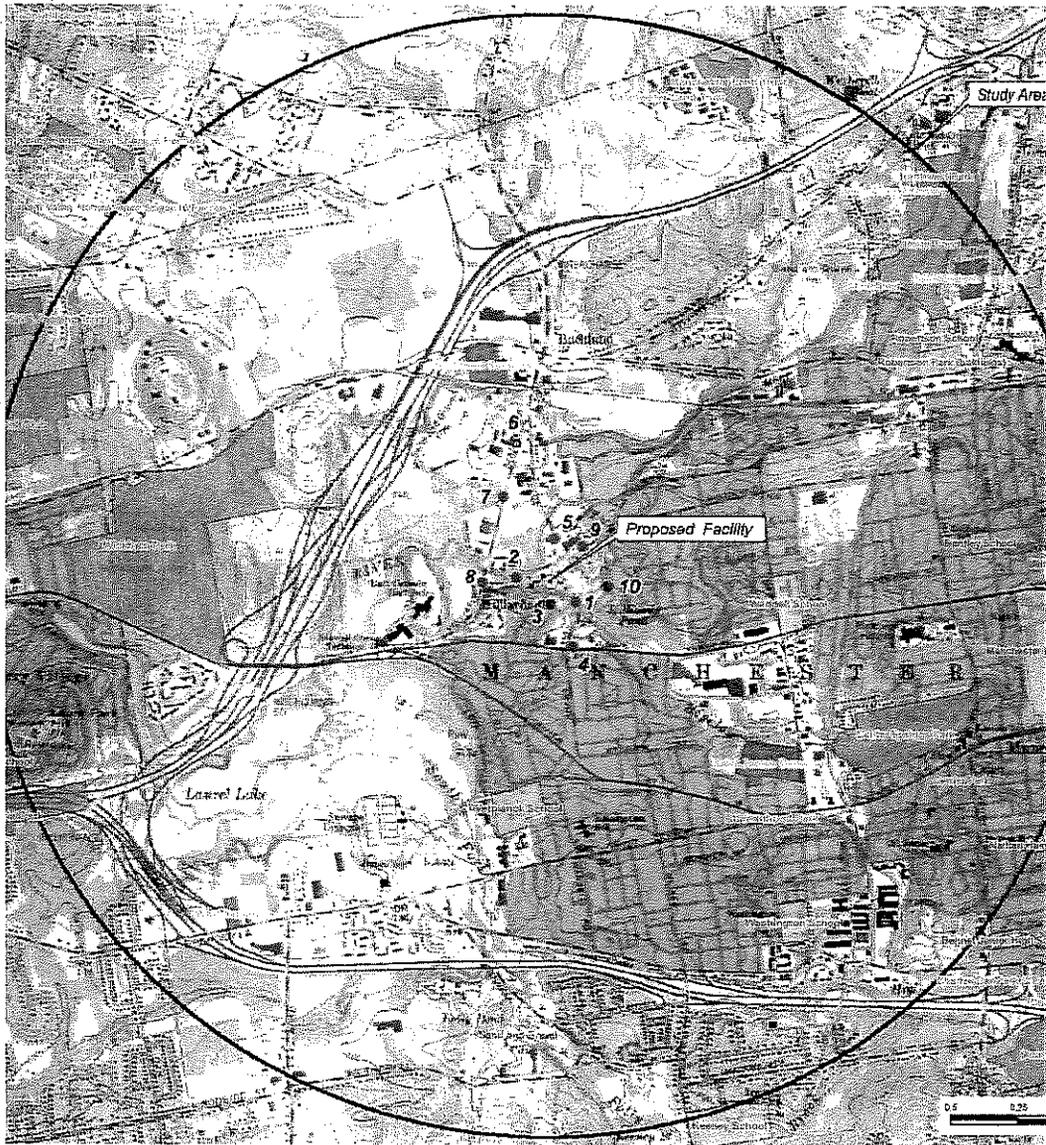


Figure 3. Visibility of the proposed 150-foot tower within a two-mile radius of the site. (Applicants 1, Tab K)

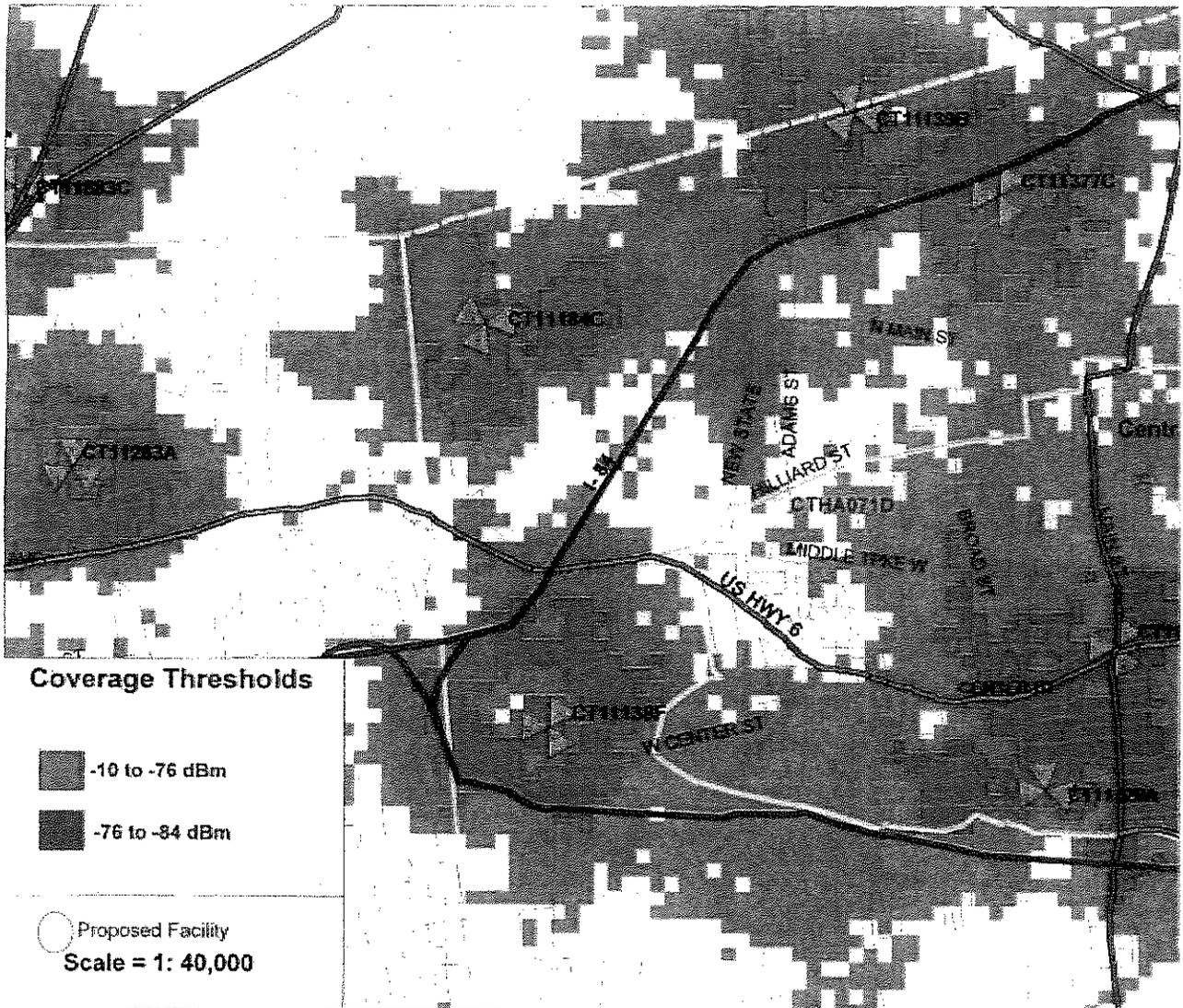


Figure 4. Existing T-Mobile coverage surrounding the proposed site. (Applicants 1, Tab G)

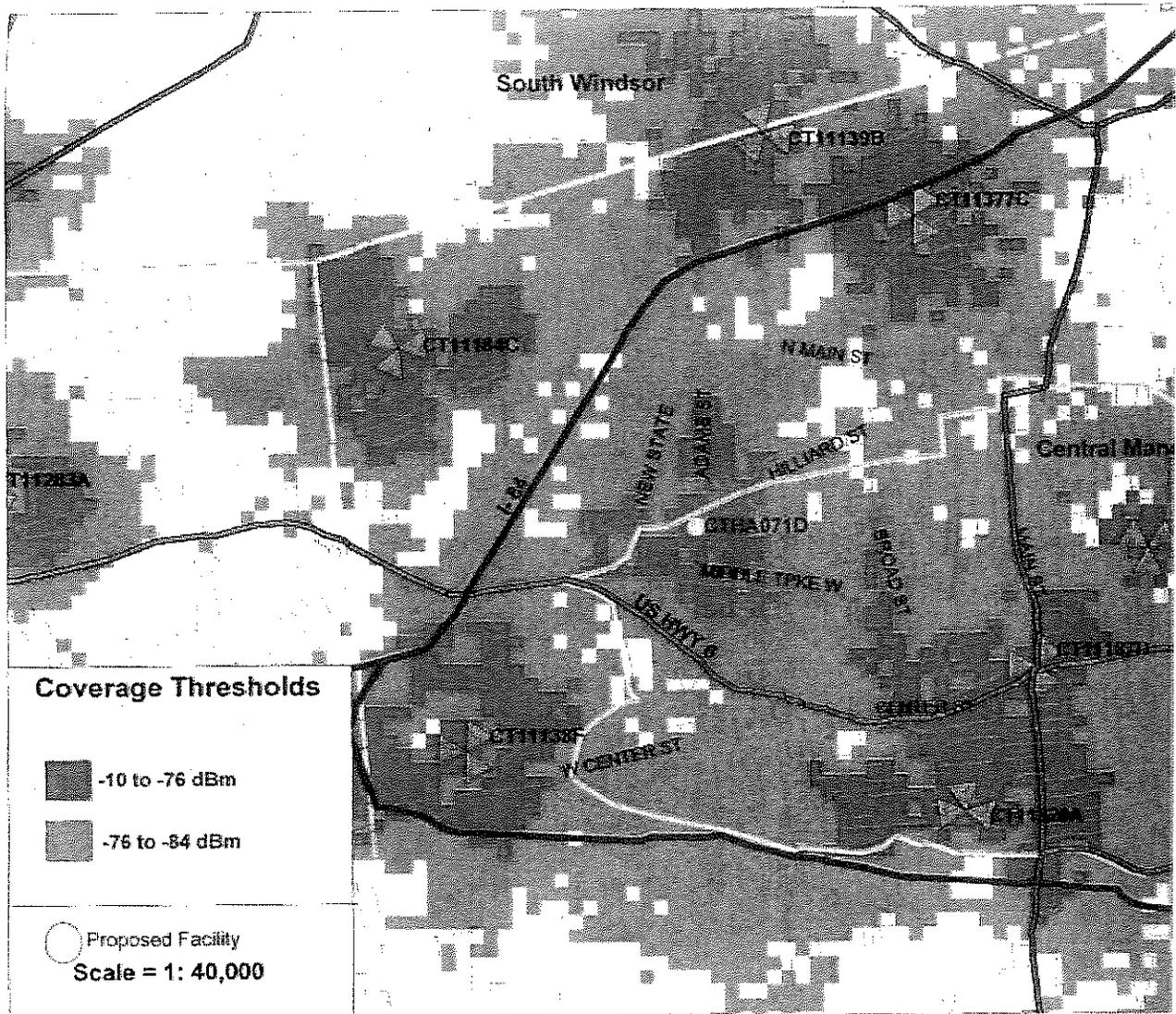


Figure 5. Coverage from existing T-Mobile sites and the proposed site at 147 feet agl.  
(Applicants 1, Tab G)

