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## TECHNICAL REPORT to the TOWN OF NEW CANAAN

T-MOBILE NORTHEAST LLC (T-MOBILE)

# PROPOSED NEW CANAAN MONOPOLE TOWER TELECOMMUNICATIONS FACILITY

208 VALLEY ROAD NEW CANAAN, CONNECTICUT

T-Mobile Northeast, LLC 35 Griffin Road South Bloomfield, Connecticut 06002

## **Table of Contents**

<u>Page</u>
ntroduction3
Section 1
Site Justification
Section 2
Site Search Process and Selection5
Section 3: Site Details
General Facility Description
Site Evaluation Report9
Facilities and Equipment Specification11
Environmental Assessment Statement

#### Introduction

T-Mobile Northeast LLC, a subsidiary of T-Mobile USA, Inc., d.b.a. T-Mobile ("T-Mobile") hereby submits this Technical Report to the Town of New Canaan ("Town") pursuant to General Statutes § 16-50/. T-Mobile proposes to install a wireless telecommunications facility ("Facility") on an approximately 42 acre parcel located at 208 Valley Road and owned by Silver Hill Hospital, Inc. ("Property" or "Site"). The Facility would consist of a 120 foot monopole structure with antenna arrays concealed within the tower at centerlines of approximately 117 and 107 feet above grade level ("AGL"), and related equipment located nearby on a concrete equipment pad within the proposed compound area. The Facility, if approved, would provide wireless communications service in this area of New Canaan.

The Connecticut Siting Council ("Council") has already approved T-Mobile's application for a 120 foot telecommunications facility on the Property. The Council determined that such a facility would alleviate a demonstrated need for improved wireless services in this area of the Town without adversely impacting the community or the environment.

The purpose of this Technical Report is to provide the Town with updated information regarding the proposed Facility. This information addresses the already established need for the proposed Facility (Section 1), the site selection process (Section 2), the Facility design and environmental effects, if any, associated with the proposed Facility (Section 3).

Correspondence and/or communications regarding this Technical Report should be addressed to the attorneys for the applicant:

Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604 (203) 368-0211

Attention: Julie D. Kohler, Esq.

Jesse A. Langer, Esq.

#### SECTION 1

#### Site Justification

On October 26, 2004, the Council approved an Application for a Certificate of Environmental Compatibility and Public Need for the construction and operation of a wireless telecommunications facility at the proposed Site (Docket No. 243). The Council determined that the facility proposed in 2004 addressed a demonstrated coverage need without adversely impacting the community or the environment. Copies of the Council's Findings of Fact as well as its Decision and Order are included herein. T-Mobile seeks to install a telecommunications facility similar to the facility previously approved by the Council.

The Council's previous determination remains true. The proposed Facility is necessary to enhance wireless service availability to existing and future T-Mobile wireless device users. Enhanced coverage provided by the Facility would allow T-Mobile subscribers to use voice and data services reliably as well as to connect to Emergency 911 services. The intended coverage area of the Facility includes Valley Road and Silvermine Road, just east of Route 123.

Included herein are propagation plots prepared by T-Mobile that depict (1) coverage from existing and approved surrounding sites; (2) predicted coverage from the proposed Site with antennas mounted at approximate centerlines of 117 and 107 feet AGL; and (3) coverage from the proposed Site with existing and approved sites. These plots reaffirm the Council's previous ruling that a coverage gap exists and that the proposed Facility would remedy that gap.

# **ATTACHMENT A**

DOCKET NO. 243 - Omnipoint Facilities Network 2, L.L.C., a subsidiary of T-Mobile, USA, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 270 Valley Road, New Canaan, Connecticut.

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#### Findings of Fact (Reopening) Introduction

- Omnipoint Facilities Network 2, LLC a subsidiary of T-Mobile, USA, Inc. (T-Mobile), in accordance
  with provisions of General Statutes §§ 16-50g through 16-50aa applied to the Connecticut Siting
  Council (Council) on February 25, 2003 for the construction, operation, and maintenance of a
  wireless telecommunications facility at 270 Valley Road, New Canaan, Connecticut. The application
  was denied by the Council on February 18, 2004. (T-Mobile 1, p. 1)
- On June 23, 2004, the Council voted to reopen this application for the limited purpose of considering a site for a tower facility at 208 Valley Road in New Canaan, on property owned by the Silver Hill Foundation, Inc. which is the location of Silver Hill Hospital (Silver Hill). (record)
- 3. T-Mobile is licensed by the Federal Communications Commission (FCC) to provide wireless personal communication service (PCS) in Connecticut. T-Mobile is licensed to operate at 1900 MHz PCS frequencies. (T-Mobile 8, Tab 7)
- 4. The purpose of the proposed Silver Hill facility is to provide coverage to the existing gap along Route 106. (T-Mobile 8, Tab 7)
- 5. The parties in this proceeding are the applicant, Marie Louise Brown, Iona C. Hubbard, the Citizens for Responsible Cellular Planning, Dayton Ogden, Jr. and Margaret R. Ogden, the Town of New Canaan, and the First Taxing District of the City of Norwalk (Water Department). The intervenors are AT&T Wireless PCS, LLC d/b/a AT&T Wireless, Diane M. Baldwin, Janet Z. Congdon, John D. Hough and Sally N. Hough, and Nancy G. Neuser and Gary A. Neuser. (Transcript 5, 4:00 p.m., 07/15/04 (Tr. 5), pp. 5-7; Transcript 6, 7:00 p.m., 07/15/04 (Tr. 6), pp. 5, 6)
- 6. Pursuant to General Statutes § 16-50m, the Council, after giving due notice thereof, held a public hearing for the reopened proceeding on July 15, 2004, beginning at 4:00 p.m. and continuing at 7:00 p.m. in the auditorium of the New Canaan Town Hall, 77 Main Street, New Canaan, Connecticut. (Tr. 5, p. 3; Tr. 6, p. 3)
- 7. The Council and its staff made inspections of the proposed Silver Hill site on July 15, 2004, beginning at 3:00 p.m. The applicant flew a balloon, from 12:00 p.m. to 7:00 p.m., approximately 50 feet to the southwest of the proposed site to simulate the height of the tower proposed at this location. The balloon was flown to a height of 126 feet above ground level (agl) to compensate for the six foot decrease in elevation. (Tr. 6, p. 127)
- 8. T-Mobile located the proposed facility to provide wireless telecommunications service to the eastern portion of New Canaan and the western portion of Wilton. (T-Mobile 1, p. 6)

- 9. On June 14, 2004, notice of the proposed Silver Hill site was provided to all abutting landowners. Notice of the proposed Silver Hill site was sent to all parties and intervenors and local and State officials via Certified Mail on June 14, 2004. Public notice of the application was published in <u>The Stamford Advocate</u> on June 15, and June 16, 2004 and in the <u>New Canaan News-Review</u> on June 17, and June 24, 2004. (T-Mobile 8, Tab 5, Tab 6, Tab 7; Affidavit of Publications)
- 10. Pursuant to General Statutes § 16-50j (h), the following State agencies were solicited to submit written comments regarding the proposed facility on June 29, 2004; 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)
- 11. Responses were received from the DPH on July 7, 2004 and the DOT on July 7, 2004 both stating that they have no comments on the reopened application. (record)
- 12. The following agencies did not offer comments on the application: DEP, CEQ, DPUC, OPM, and DECD. (record)

#### **Telecommunications Act**

- 13. In issuing cellular licenses, the federal government has preempted the determination of public need for cellular service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. (Council Admin. Notice, no. 7, Telecom. Act 1996)
- 14. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Admin. Notice, no. 7, Telecom Act 1996)
- The Telecommunications Act of 1996 prohibits local and State entities from discriminating among providers of functionally equivalent services. (Council Admin. Notice, no. 7, Telecom. Act 1996)
- 16. The Telecommunications Act of 1996, a federal law passed by the United States Congress, prohibits any State or local agency 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 Federal Communications Commission's (FCC) 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 Admin. Notice, no. 7, Telecom. Act 1996)

#### Site Search

- 17. There are no existing structures within the search ring that would be suitable for the location of wireless telecommunications equipment. (T-Mobile 8, Tab 7)
- 18. During the original Docket No. 243 proceeding, T-Mobile was aware that the Silver Hill site was technologically viable and the preferred option of the parties and intervenors of the docket. At the time, the Silver Hill property was not available for lease. (T-Mobile 8, Tab 7)

- 19. T-Mobile has since reached an agreement with Silver Hill to construct, operate and maintain a wireless telecommunications facility on the Silver Hill Hospital property. T-Mobile, the Town of New Canaan, and the abutting landowners of Silver Hill Hospital are in agreement that this site has less visual impact than the originally proposed site. (T-Mobile 8, Tab 7)
- 20. T-Mobile analyzed three locations on the Silver Hill property, including the proposed site. The rejected locations include a site on the southwest corner of the property and a site located approximately 50 feet to the southwest of the proposed site. (Tr. 6, p. 105)

#### **Site Description**

- 21. T-Mobile proposes to construct a 120-foot silhouette pole at the proposed Silver Hill site, which would contain up to three sets of antennas within the pole. T-Mobile would locate antennas at the 117-foot level. Space would remain available at the 107-foot level and the 97-foot level for future carriers. The silhouette pole would be painted brown. (T-Mobile 8, Tab 1; Tr. 5, pp. 13, 30)
- 22. T-Mobile could design the 120-foot silhouette pole to support a future additional extension if the Council so ordered. (Tr. 6, p. 114)
- 23. The proposed Silver Hill site would include a 60-foot by 40-foot compound within a 75-foot by 75-foot leased area. The equipment compound would be enclosed by a six-foot high chain link fence with a stockade gate. Eight-foot high arborvitae or similar shrubs would be planted around the compound. T-Mobile would install equipment on a five-foot by ten-foot concrete pad. A gravel surface would be established within the tower compound. (T-Mobile 8, Tab 1, Tab 3; Tr. 5, p. 13)
- 24. Utilities would run underground to the north of the access road from an existing utility pole located on Valley Road. (T-Mobile 8, Tab 1)
- 25. The proposed Silver Hill site would be located on an approximately 42 acre parcel owned by the Silver Hill Foundation, Inc. The parcel is zoned as two-acre residential. (T-Mobile 8, Tab 3)
- 26. The proposed Silver Hill site is located approximately 102 feet from the originally proposed site on the Water Department property at 270 Valley Road. (Tr. 5, p. 43)
- 27. The ground elevation at the proposed Silver Hill site is approximately 265 feet above mean sea level (amsl). (T-Mobile 9, viewshed analysis)
- 28. The proposed Silver Hill site is located approximately 94 feet south of the Water Department property. The tower setback radius would extend onto the Water Department property by approximately 26 feet. T-Mobile could design the silhouette pole with a yield point that would allow the tower to collapse upon itself and remain within the tower setback radius. (T-Mobile 8, Tab 1; Tr. 6, p. 135)
- 29. Access to the proposed site would be from an existing paved drive extending from Valley Road for approximately 630 feet, then continuing an additional 42 feet to the compound. (T-Mobile 8, Tab 3)
- 30. AT&T Wireless has expressed interest in locating equipment at the proposed facility. (Tr. 6, p. 113)
- 31. T-Mobile would make reasonable space available on the proposed silhouette pole for municipal antennas, at no cost to the Town. (Tr. 6, pp. 115, 116)

- 32. The Water Department has a need for a facility on which to locate a Supervisory Control and Data Acquisition (SCADA) antenna; however the Water Department prefers not to locate equipment outside of their property due to security concerns. If the proposed Silver Hill site was approved by the Council, the Water Department would give consideration to locating on that structure but currently intends to apply for an additional tower structure on the Water Department property. (Tr. 6, pp. 57, 60, 92)
- 33. There are approximately 26 properties within a 1,000-foot radius of the proposed site. (T-Mobile 8, Tab 3)

#### **Environmental Considerations**

- 35. The State Historic Preservation Office has determined that the proposed facility would have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (T-Mobile 8, Tab 8)
- 36. The proposed project would not likely affect threatened or endangered species or critical habitats, based on a National Environmental Policy Act (NEPA) review using the Connecticut Department of Environmental Protection Natural Diversity Database. (T-Mobile 8, Tab 8)
- 37. Approximately nine trees would have to be removed for the construction of the proposed Silver Hill site and access road. The number of trees to be removed could be reduced by building a retaining wall along the west side of the compound, which could be determined by the Council in the Development and Management (D&M) Plan. (T-Mobile 8, Tab 3; Tr. 5, pp. 16, 22-24)
- 38. There are no wetlands in the vicinity of the proposed site. (T-Mobile 8, Tab 3)
- 39. The applicant performed an air-space analysis for the originally proposed facility, which determined that the site would not constitute an obstruction or hazard to air navigation. The proposed tower would not require hazard lighting or paint striping. (T-Mobile 1, p. 26)
- 40. The electromagnetic radio frequency power densities, calculated using the FCC Office of Engineering and Technology Bulletin 65, using conservative worst-case approximation of radio frequency power density levels at the base of each tower assuming all antennas are pointed at the base of the tower and all channels are operating simultaneously, would be 6.4 percent of the American National Standards Institute (ANSI) Standard for the proposed site. (T-Mobile 1, p. 13, Tab 1)

#### Visibility

- 41. A field investigation was used to perform a viewshed analysis of an approximately 8,035-acre (two mile radius) area around the proposed facility. The analysis concludes that approximately 0.20% of the two-mile area would have at least a partial view of the proposed tower. Visibility of the proposed structure would primarily impact the immediate area; specifically a portion of Valley Road to the northwest and southeast of the proposed site. The surrounding tree height ranges from 70-95 feet agl and consists primarily of hardwoods and pines. A map depicting the visibility of the proposed tower is included as Figure 1. (T-Mobile 9, Viewshed Analysis)
- 42. The proposed silhouette pole would be visible from approximately three to four residences. (Tr. 6, p. 128)

43. The visibility of the proposed tower, based on photographs taken of a balloon flown at 120 feet agl from public roadways, would be as follows:

#### Visibility of Proposed 120-foot Tower

Location	Visibility	Approx. Portion of Tower Visible (ft.)	Approx. Distance (ft.) and direction
Valley Road	Yes	25	475 NW
Valley Road	Yes	50	317 E
Valley Road	Yes	50	1,056 SE
Valley Road	No	None	265 N
Valley Road	No	None	898 SE
Wardwell Drive	No	None	580 SW
Salem Road	No	None	1,478 S
Devon Wood Lane	No	None	2,006 SW
Intersection of Valley Road and Ferris Hill Road	No	None	2,640 NW
Fawn Lane	No	None	3,170 N
Turning Mill Lane	No	None	1,162 NE
East Hills Drive	No	None	7,392 SW
Intersection of Valley Road and Benedict Hill	No	None	10,032 NW
Intersection of Old Kings Hwy. and Perry Avenue	No	None	8,765 NW

(T-Mobile 9, Viewshed Analysis)

#### Existing and Proposed Wireless Coverage T-Mobile Coverage

- 44. T-Mobile operates a personal communications service network using a 1900 MHz frequency signal allocated by the FCC. T-Mobile designs the system for in-vehicle coverage with a minimum signal level threshold of -85 dBm, but also intends to provide coverage for in-building uses, with a minimum signal level threshold of -76 dBm for residential structures and -70 dBm for commercial structures. (T-Mobile 1, p. 3; T-Mobile 4, Tr. 1, p. 89, 93)
- 45. Adjacent existing T-Mobile facilities that would interact with the proposed facility are as follows:

Location	Antenna Height agl (ft)		
39 Locust Avenue, New Canaan	46		
46 Fenwood Lane, Wilton	122		

(T-Mobile 2, Q. 2; T-Mobile 3, Q. 23)

- 46. Use of alternative technologies like microcells, or the use of smart antennas or multiplexing, which would allow multiple carriers to share the same antenna, would not be adequate to provide coverage to this area. (T-Mobile 1, p. 24, 25)
- 47. The proposed silhouette structure would provide coverage similar to a traditional monopole structure. A traditional monopole can accommodate multiple carriers with a ten-foot separation between each carrier. Some carriers prefer to occupy two levels on a silhouette pole to accommodate additional antennas allowing for greater capacity. A traditional monopole could accommodate more carriers than a silhouette structure of the same height. (T-Mobile 2, Q. 14; Tr. 6, p. 116, 133)

- 48. To maintain operations during power outages, the proposed site would include a battery back-up system. During a substantial power outage, a gas generator may be brought to the proposed site. (T-Mobile 2, Q. 21)
- 49. Existing T-Mobile facilities in New Canaan and Wilton leave gaps in wireless coverage in the eastern New Canaan and western Wilton area. T-Mobile uses the minimum signal level threshold of -85 dBm. Existing gaps in coverage, at 1900 MHz, within a three-mile radius of the proposed site are presented in the table below.

# Existing Coverage (see Figure 2)

Route	Existing Gaps (miles) < -85 dBm	Total Road Miles within  a Three Mile Radius		
106	2.7	4.6		
Total	2.7 miles	4.6 miles		

(T-Mobile 8, Supplemental, Exhibit B)

51. Existing coverage combined with antennas on the proposed tower at 139 feet agl, at 1900 MHz, would leave the following gaps within a three mile radius of the proposed site as follows:

#### Proposed Site at 117 Feet agl (see Figure 3)

Route	Gaps (miles) < -85 dBm	Total Road Miles within a Three Mile Radius		
106	1.1	4.6		
Total	1.1 miles	4.6 miles		

(T-Mobile 8, Supplemental, Exhibit B)

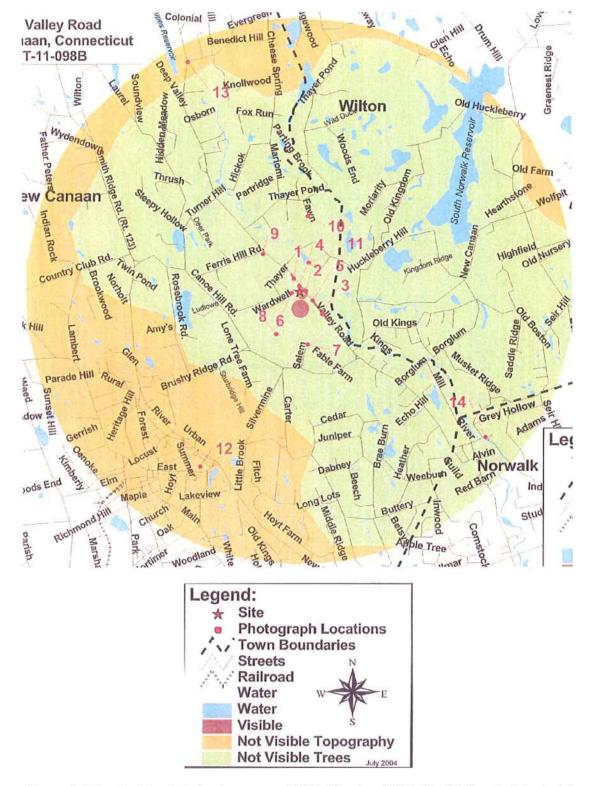
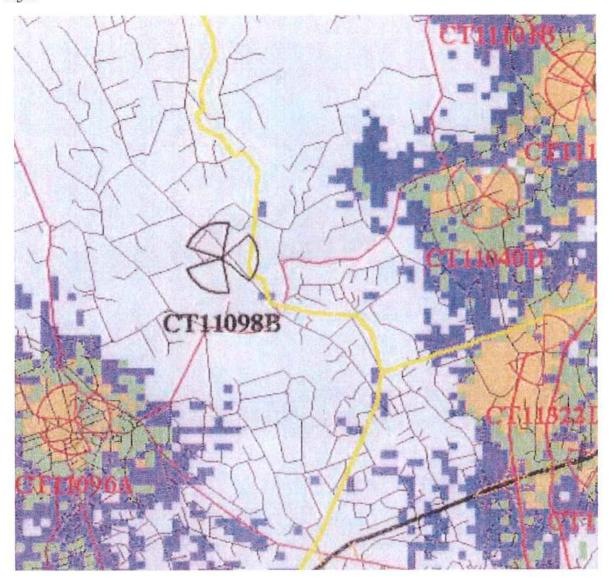
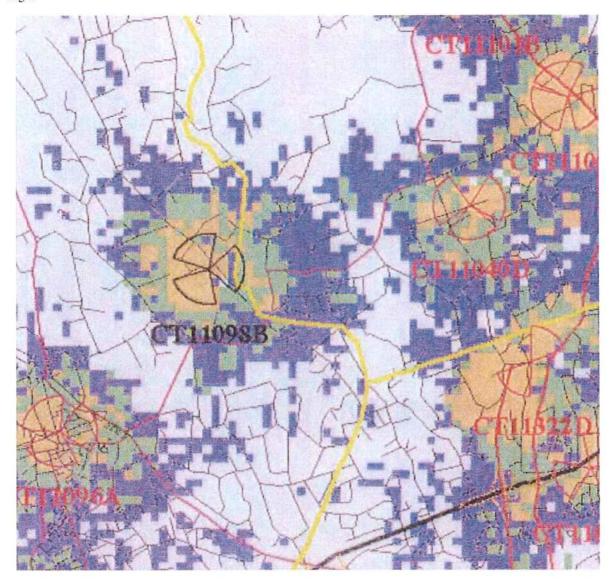


Figure 1. Viewshed Analysis for the proposed T-Mobile site. (T-Mobile 9, Viewshed Analysis)



**Figure 2.** Existing T-Mobile Coverage in New Canaan at a scale of 1:60,000. (T-Mobile 8, Supplemental, Exhibit B)



**Figure 3.** Existing T-Mobile coverage with coverage from the proposed site at 117 feet agl at a scale of 1:60,000. (T-Mobile 8, Supplemental, Exhibit B)

## Connecticut Siting Council

#### Decisions

<b>DOCKET NO. 243 -</b> Omnipoint Facilities Network 2, L.L.C.,	}	Connecticut
a subsidiary of T-Mobile, USA, Inc. application for a Certificate of Environmental Compatibility and Public Need	}	Siting
for the construction, maintenance and operation of a wireless telecommunications facility at 270 Valley Road, New Canaan,	}	Council
Connecticut		October 26, 2004

#### **Decision and Order**

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Omnipoint Facilities Network 2, L.L.C., a subsidiary of T-Mobile, USA, Inc. (T-Mobile), hereinafter reffered to as the Certificate Holder, located at 208 Valley Road, New Canaan, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

- 1. The tower shall be constructed as a silhouette pole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of T-Mobile and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level, including appurtenances.
  - 2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of New Canaan, for comment, and all parties and intervenors as listed in the service list and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping;
    - b) provisions for the construction of a retaining wall to minimize vegetative clearing; and
    - c) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
- 3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
- 4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
- 5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic

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reasons precluding such tower sharing.

- The Certificate Holder shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.
- 7. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
- 8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
- 9. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved. Any request for extension of this period shall be filed with the Council not later than sixty days prior to the expiration date of this Certificate and shall be served on all parties and intervenors and the Town of New Canaan, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the <u>Hartford Courant</u>, the <u>Stamford Advocate</u>, and <u>The New Canaan Advertiser</u>.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

#### Applicant

Omnipoint Facilities Network 2, LLC A subsidiary of T-Mobile, USA, Inc.

#### Its Representative

Stephen J. Humes, Esq. McCarter & English, LLP CityPlace I 185 Asylum Street Hartford, CT 06103

#### Intervenor

AT&T Wireless PCS, LLC d/b/a AT&T Wireless

#### Its Representative

Christopher B. Fisher, Esq. Cuddy & Feder LLP 90 Maple Avenue White Plains, NY 10601-5196

#### Party

Iona C. Hubbard 17 Wardwell Drive New Canaan, CT 06840

#### Party

#### Its Representative

Marie Louise Brown

Mark R. Carta, Esq. Christoffel Krediet, Esq.

Rucci, Burnham, Carta & Edelberg, LLP 30 Old King's Highway South P.O. Box 1107

Darien, CT 06820

#### Party

#### Its Representative

The Citizens for Responsible Cellular Planning

The Citizens for Responsible Cellular Planning c/o Ms. Diane Baldwin, Co-Chairperson 22 Wardwell Drive New Canaan, CT 06840

#### Intervenor

Diane M. Baldwin 22 Wardwell Drive New Canaan, CT 06840

#### Party Its Representative

Dayton Odgen, Jr. Margaret R. Ogden Mark R. Carta, Esq. Christoffel Krediet, Esq. Rucci, Burnham, Carta & Edelberg, LLP 30 Old King's Highway South P.O. Box 1107 Darien, CT 06820

#### Intervenor

John D. Hough, Trustee Sally N. Hough, Trustee 310 Valley Road New Canaan, CT 06840

#### Intervenor

Janet Z. Congdon 34 Wardwell Drive New Canaan, CT 06840

#### Party Its Representative

The Town of New Canaan

John W. Cannavino, Esq.

M. Juliet Bonazzoli, Esq. Cummings & Lockwood

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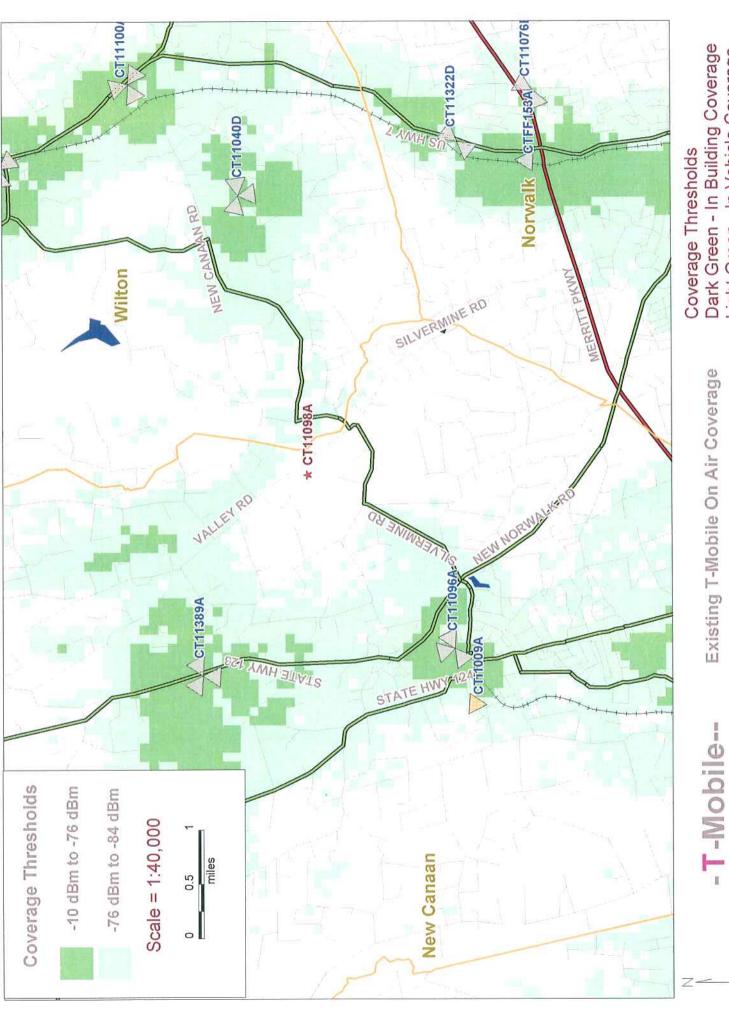
#### Intervenor Its Representative

The First Taxing District of the City of Norwalk

Anthony M. Macleod Whitman Breed Abbott & Morgan LLC 100 Field Point Road

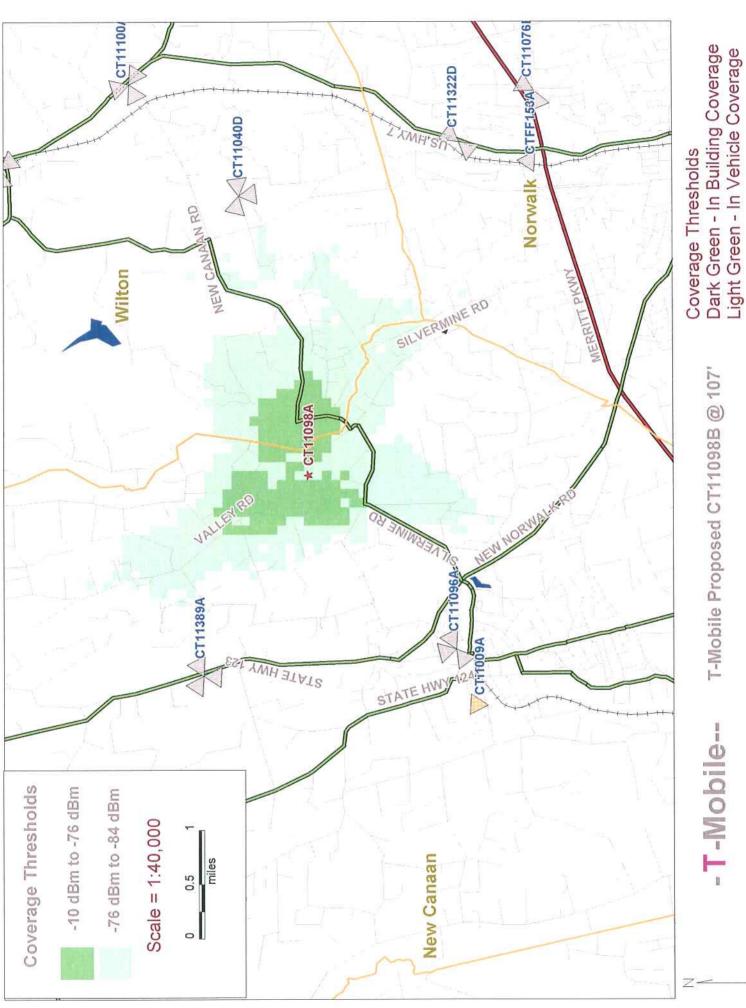
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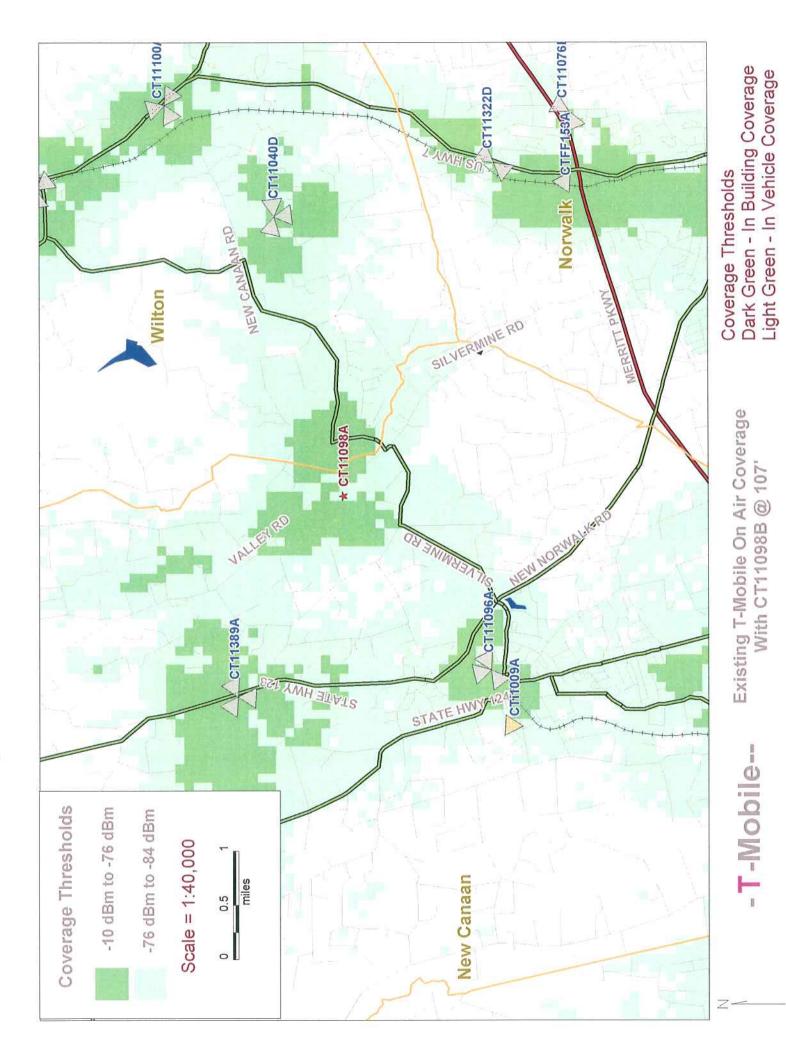


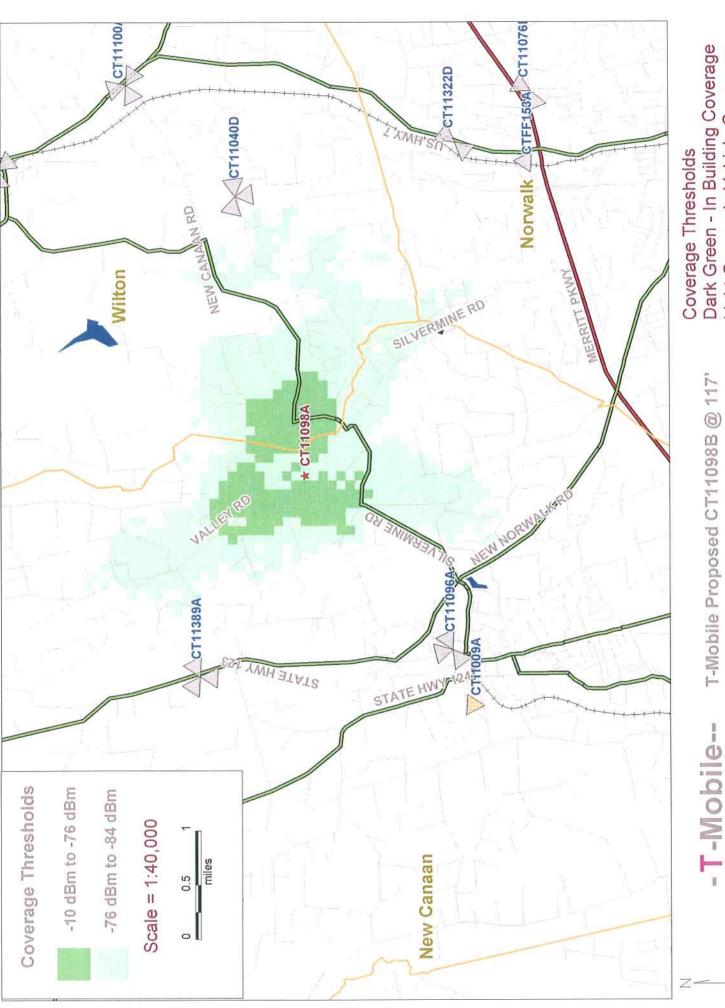
Existing T-Mobile On Air Coverage

Dark Green - In Building Coverage Light Green - In Vehicle Coverage



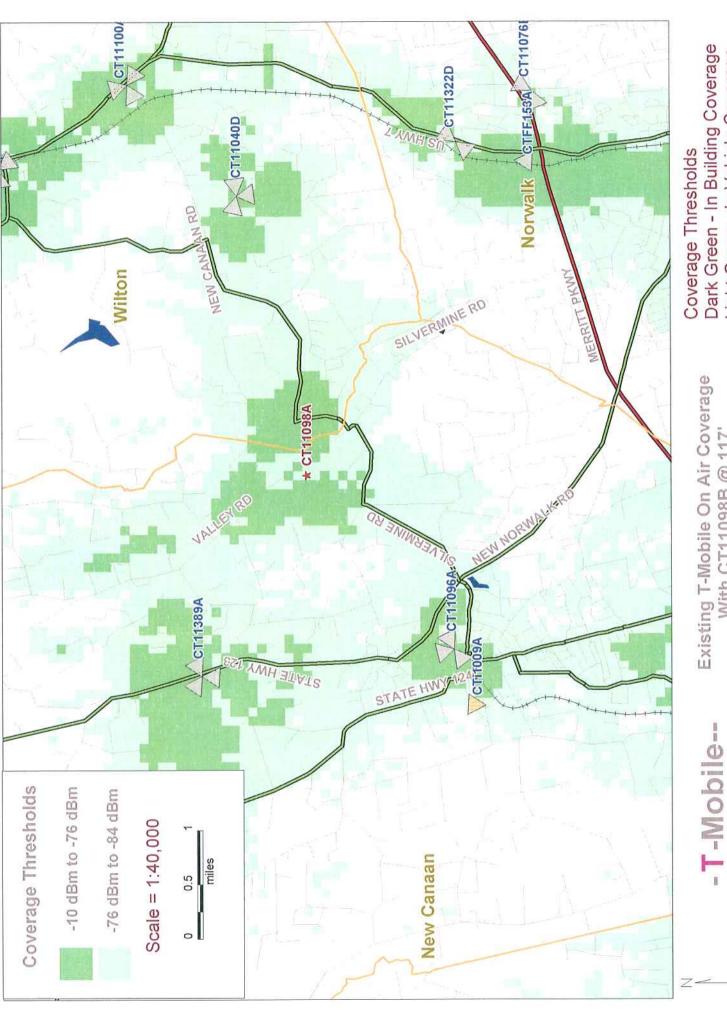
T-Mobile Proposed CT11098B @ 107





T-Mobile Proposed CT11098B @ 117

Dark Green - In Building Coverage Light Green - In Vehicle Coverage



Existing T-Mobile On Air Coverage With CT11098B @ 117

Dark Green - In Building Coverage Light Green - In Vehicle Coverage

#### **SECTION 2**

#### Site Search Process and Selection

General Statutes § 16-50I (e) requires T-Mobile to provide the Town with a technical report considering, *inter alia*, "the site selection process." When filing its application for a certificate of environmental compatibility and public need with the Connecticut Siting Council, T-Mobile must include a statement that describes "the narrowing process by which other possible sites were considered and eliminated." Regs., Conn. State Agencies § 16-50j-74(j). In accordance with these requirements, this Technical Report details the description of the general site search process, the identification of the target search area and the alternative locations considered for development of the proposed Facility.

As a wireless carrier licensed by the Federal Communications Commission ("FCC"), T-Mobile investigates prospective sites in an area based upon the needs of its wireless infrastructure. T-Mobile chooses a target area central to the area in which it has identified coverage and/or capacity needs after extensive research of that particular area. The area targeted is the geographical location where the installation of a site would, based on general radio frequency engineering and system design standards, likely address the identified problem. T-Mobile's goal is to locate sites that will remedy coverage or capacity issues, and cause the least environmental impact. In this case, T-Mobile has searched for a site in this area, and has identified the Property as the best possible location for a wireless facility.

T-Mobile is sensitive to State and local desires to minimize the construction of new towers, and it does not pursue development of a new facility where an acceptable existing structure can be found. In general, T-Mobile's site acquisition personnel study the area in and near the search area to determine whether any suitable structure exists. If T-Mobile cannot find a structure with appropriate height and structural capabilities, it turns to industrial and commercial areas or individual parcels that have appropriate environmental and land use characteristics. The list of potential locations is limited by the willingness of property owners to make their properties available for a telecommunications facility. Radio frequency engineers study potentially suitable and available locations to determine whether those locations will meet the technical requirements for a telecommunications facility. The list of possible alternative sites may be further narrowed by T-Mobile's analysis of potential environmental effects and benefits. The weight given to relevant factors varies for each search, depending on the nature of the area and the availability of potential sites.

In 2004, the Council concluded that there were no existing towers, transmission line structures or other suitable structures in the area of New Canaan subject of this site search. T-Mobile's subsequent site search confirmed the Council's earlier ruling. The nearest towers and suitable structures are already in use by T-Mobile. Moreover, any other existing towers are too far from the target area to provide coverage specifically to

the target area. Finally, there are no other suitable areas of commercial or industrial use in or near the target area.

Based upon T-Mobile's previous site search, the only feasible alternative was 270 Valley Road (Map 44 / Bock 108 / Lot 21), which abuts the Property to the north. The First Taxing District of Norwalk owns the parcel. T-Mobile initially selected this parcel in 2004 since the Property was not available for lease. The Town and those abutters that intervened in the proceedings in 2004 agreed that the Property was a better alternative than this parcel.

T-Mobile's investigation confirms the Council's previous ruling that the Property is the best site for the Facility. The Property is a developed parcel. There are no wetlands on or within the immediate vicinity of the site of the proposed Facility. The nearest wetland system is approximately 400 feet to the northeast. Additionally, views of the proposed Facility would be limited by the existing mature vegetation in the area, the relatively low height of the tower and the stealth design of the tower.

### **SECTION 3**

### **PROPOSED SITE**

208 Valley Road New Canaan, Connecticut

Land of Silver Hill Hospital, Inc.

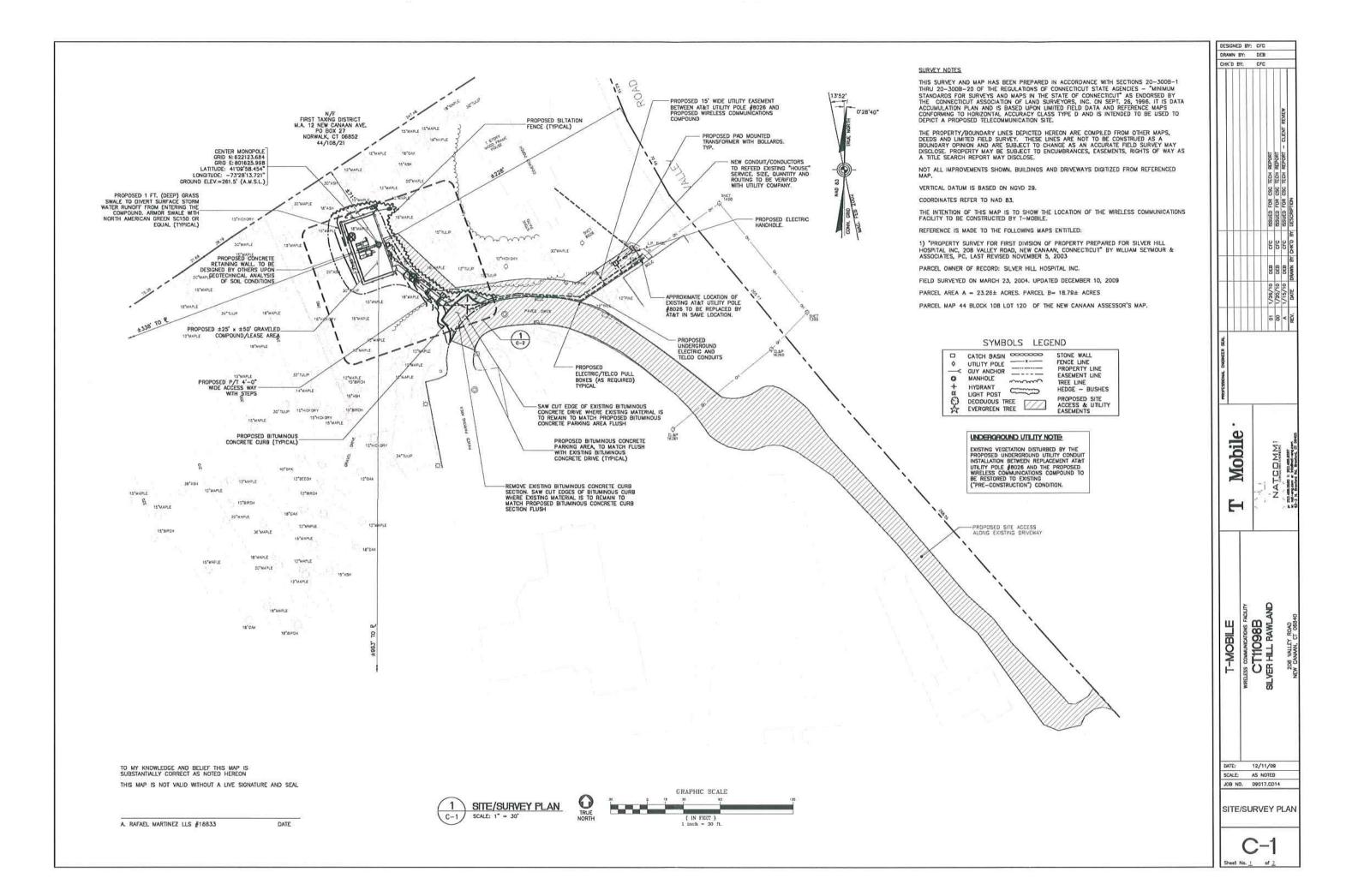
Assessor's Parcel ID
Map 44 / Block 108 / Lot 120
43 ± Acres
(Parcel A = 23.26 ± acres)
(Parcel B = 18.79 ± acres)

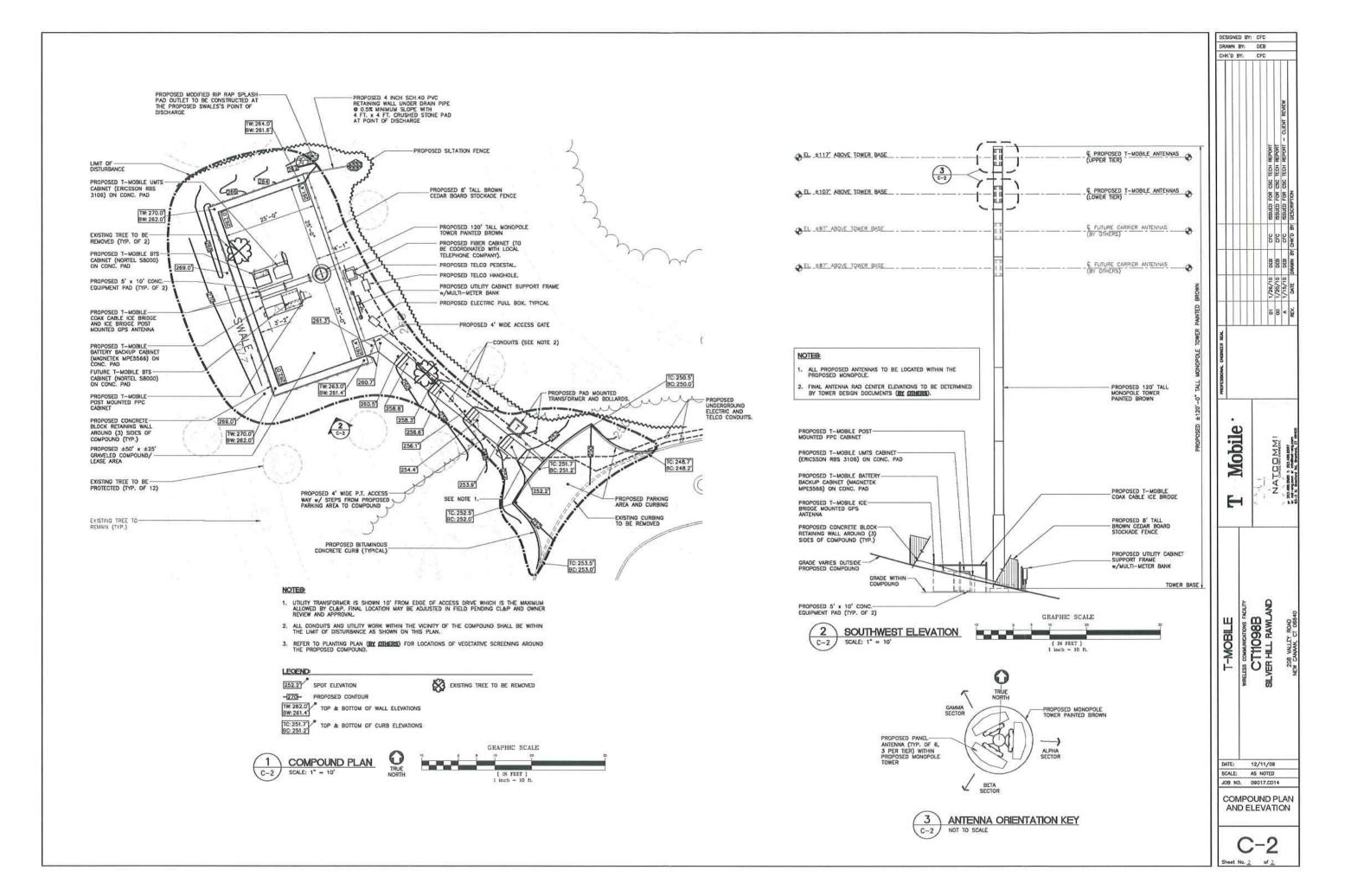
#### **GENERAL FACILITY DESCRIPTION**

The proposed Site would consist of a 1,250 square foot compound leased to T-Mobile. The Facility would be located in the northern portion of an approximately 42 acre parcel located on Valley Road in New Canaan. The Property consists of two parcels (parcel A =  $23.26 \pm acres$ ; parcel B =  $18.79 \pm acres$ ). The Facility would be located on parcel A. The Property is developed and currently used as a hospital. The Facility would consist of a 120 foot monopole structure with antennas concealed within the interior of the tower at heights of 117 and 107 feet AGL. The Facility would accommodate space for two additional wireless carriers.

Related equipment cabinets would be placed nearby within the compound. The equipment would be secured and concealed by an eight foot high brown cedar board stockade fence. Vehicle access to the Site would extend across an existing bituminous drive. Utility connections would extend underground from a replacement utility pole on the Property.

# **ATTACHMENT B**





#### SITE EVALUATION REPORT

#### I. LOCATION

A. <u>COORDINATES:</u> 41° 9'58.454" N

73° 28'13.721" W

B. GROUND ELEVATION: 261.5' ± AMSL

C. USGS MAP: USGS Quad Map for Norwalk, Conn. - NY

D. SITE ADDRESS: 208 Valley Road

New Canaan, CT 06840

E. <u>ZONING WITHIN ¼ MILE OF SITE</u>: The areas to the north, south, east and west are zoned for residential use.

#### II. DESCRIPTION

A. SITE SIZE: 1,250 square feet

B. TOWER TYPE/HEIGHT: 120 foot monopole

- C. <u>SITE TOPOGRAPHY AND SURFACE</u>: The subject Site is located on a partially developed parcel currently used as a psychiatric hospital. Some of the Property is wooded. The topography slopes from the northwest to the southeast.
- D. <u>SURROUNDING TERRAIN</u>, <u>VEGETATION</u>, <u>WETLANDS</u>, <u>OR WATER</u>: The Property is currently developed as a hospital. The terrain in the area of the proposed Facility is wooded. There are no wetlands located on the Property. The nearest wetland system is located approximately 400 feet to the northeast.
- E. <u>LAND USE WITHIN ¼ MILE OF SITE</u>: Other than the Property, which serves as a hospital, the areas surrounding the Site are primarily residential.

#### III. FACILITIES

- A. POWER COMPANY: CL&P
- B. POWER PROXIMITY TO SITE: 225'±
- C. TELEPHONE COMPANY: AT&T
- D. PHONE SERVICE PROXIMITY: 225'±
- E. <u>VEHICLE ACCESS TO SITE</u>: Access to the proposed tower would be across an existing bituminous d drive.
- F. OBSTRUCTION: N/A
- G. <u>CLEARING AND FILL REQUIRED</u>: The total area of disturbance would be approximately 5,000 square feet. The Facility compound would require 10 cubic yards of fill material and 375 cubic yards of cut. T-Mobile would have to remove 2 trees.

#### IV. LEGAL

- A. PURCHASE [ ] LEASE [X]
- B. OWNER: Silver Hill Hospital, Inc.
- C. ADDRESS: P.O. Box Drawer D, New Canaan, Connecticut 06840
- D. DEED ON FILE AT: Volume 706, Page 979

### **FACILITIES AND EQUIPMENT SPECIFICATION** (TOWER & EQUIPMENT)

#### L **TOWER SPECIFICATIONS**

MANUFACTURER: TBD A.

B. TYPE: Monopole

C. HEIGHT: 120'

DIMENSIONS: The bottom of the monopole would have an approximate D. 24" to 36" maximum outer diameter and the top of the monopole would have an approximate 16" to 22" outer diameter.

#### 11. TOWER LOADING

#### T-MOBILE A.

1. MODEL:

- (6) RFS APX16-16DWV-S-E-ACU
- (3) RFS TMA ATMAA-1412D-1A20
- (3) ANDREW TMA ETW190VS12UB

2. DIMENSIONS: RFS APX 16: 53" H x 13"W x 3.15" D

TMAs: 19"H x 1 3/8" DIA. TYP.

- 3. TOWER POSITION: 117 and 107 feet AGL to the center of the antenna array
- 5. TRANSMISSION LINES: 18 lines
- FUTURE CARRIERS 2 additional carriers B.

#### III. **ENGINEERING ANALYSIS AND CERTIFICATION:**

In accordance with the 2005 Connecticut State Building Code and the Electronic Industries Association Standard EIA/TIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures" for Fairfield County, the tower would be designed to withstand pressures equivalent to a maximum 115 MPH wind. The foundation design would be based on soil conditions at the Site.

#### **ENVIRONMENTAL ASSESSMENT STATEMENT**

#### PHYSICAL IMPACT

#### A. WATER FLOW AND QUALITY

No water flow and/or water quality changes are anticipated as a result of the construction or operation of the Facility. The construction or operation of the proposed Facility would not impact any wetlands or watercourses. There are no wetlands or watercourse located on the Property. The nearest wetland system is located approximately 400 feet to the northeast. See attached Wetlands Compliance Letter. Finally, Best Management Practices will be implemented during construction to control storm water and erosion.

#### B. AIR QUALITY

Under ordinary operating conditions, the equipment that would be used at this Facility would emit no air pollutants of any kind. For limited periods during power outages, a portable generator might be utilized.

#### C. LAND

Some clearing and grading would be required for development of the proposed Site. See Site Evaluation Report, supra. The Facility would require the removal of two trees. The remainder of the Property would remain unchanged the construction and operation of the Facility.

#### D. NOISE

The Facility equipment after construction would not emit any noise other than the installed heating, air conditioning and ventilation systems. A portable generator might be employed during power outages. Some noise is anticipated during Facility construction, which is expected to take approximately eight weeks.

#### E. POWER DENSITY

The worst-case calculation of power density for the operation of T-Mobile's antenna arrays at the Facility would be approximately 9.0815 percent of the applicable FCC/ANSI standards. See attached Power Density Calculations.

#### F. VISIBILITY

The attached viewshed demonstrates that a very small portion of the two-mile study area (8,042 acres) would have limited views of the proposed Facility. Only 8 acres would have year-round views of portions of the Facility. This represents less than one-half of 1 percent (> 0.5%) of the study area. An additional 16 acres would have limited seasonal views (leaf-off) of portions of the proposed Facility. The visibility of the proposed Facility would be minimized by the existing mature vegetation in the area, the relatively low height of the proposed Facility and the stealth design of the tower (interior antennae). See attached Viewshed.

#### II. SCENIC, NATURAL, HISTORIC & RECREATIONAL VALUES

EBI Consulting has assessed whether the proposed Facility would implicate any of the criteria outlined in the FCC regulations implementing the National Environmental Policy Act of 1969 ("NEPA"). The proposed Facility would not implicate any of the criteria listed in § 1.1307(a) items (1) through (8) and preparation of an Environmental Assessment (EA) is not required. Furthermore, on November 4, 2009, the State Historic Preservation Officer ("SHPO") concluded that the proposed Facility would not impact any historic, architectural or archeological resources on or eligible for the National Register of Historic Places. See attached NEPA cover letter and SHPO letter.

# ATTACHMENT C





imagination innovation energy Creating results for our clients and benefits for our communities

January 21, 2010

Vanasse Hangen Brustlin, Inc.

Ref:

41608.00

Mr. Carlo Centore, P.E. Natcomm, LLC 63-2 North Branford Road Branford, CT 06405

Re:

Wetland Inspection: T-Mobile Site # CT11098B-Silver Hill Rawland

208 Valley Road

New Canaan, Connecticut

Dear Mr. Centore:

Vanasse Hangen Brustlin, Inc. (VHB) has completed on-site investigations to determine if wetlands and/or watercourses are located on the above-referenced Site. VHB has relied upon the accuracy of information provided by Natcomm, LLC regarding the proposed lease area, access road, and utility easement locations for identifying wetlands and watercourses within and proximate to said locations.

VHB understands that T-Mobile proposes to construct a telecommunications Facility in the northern portion of the Silver Hill Hospital property at 208 Valley Road in New Canaan, Connecticut; refer to the enclosed Site/Survey Plan. The Facility is proposed just north of the paved access drive to the Silver Hill Hospital's Acute Care Building in an upland forested area dominated by sugar maple, tuliptree and Eastern hemlock. An inspection on January 11, 2010 revealed no wetlands or watercourses identified (or delineated) on the subject property within 200 feet of proposed T-Mobile development activities. The New Canaan Inland Wetlands Commission typically regulates a 50 foot upland review area to wetlands and watercourses. The nearest wetland resource is associated with Silvermine Brook located approximately 400 feet northeast of the proposed Facility across Valley Road. Soils field classified in the vicinity of the proposed development are generally consistent with published data and consist of Paxton and Montauk fine sandy loams (soil symbol 84), which are well-drained deep glacial till soils. A copy of the soil survey is enclosed depicting the location of the proposed Facility and Silvermine Brook. Therefore, since the proposed Facility is well removed from wetland resource areas, the proposed development will not directly or indirectly affect wetlands or watercourses.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

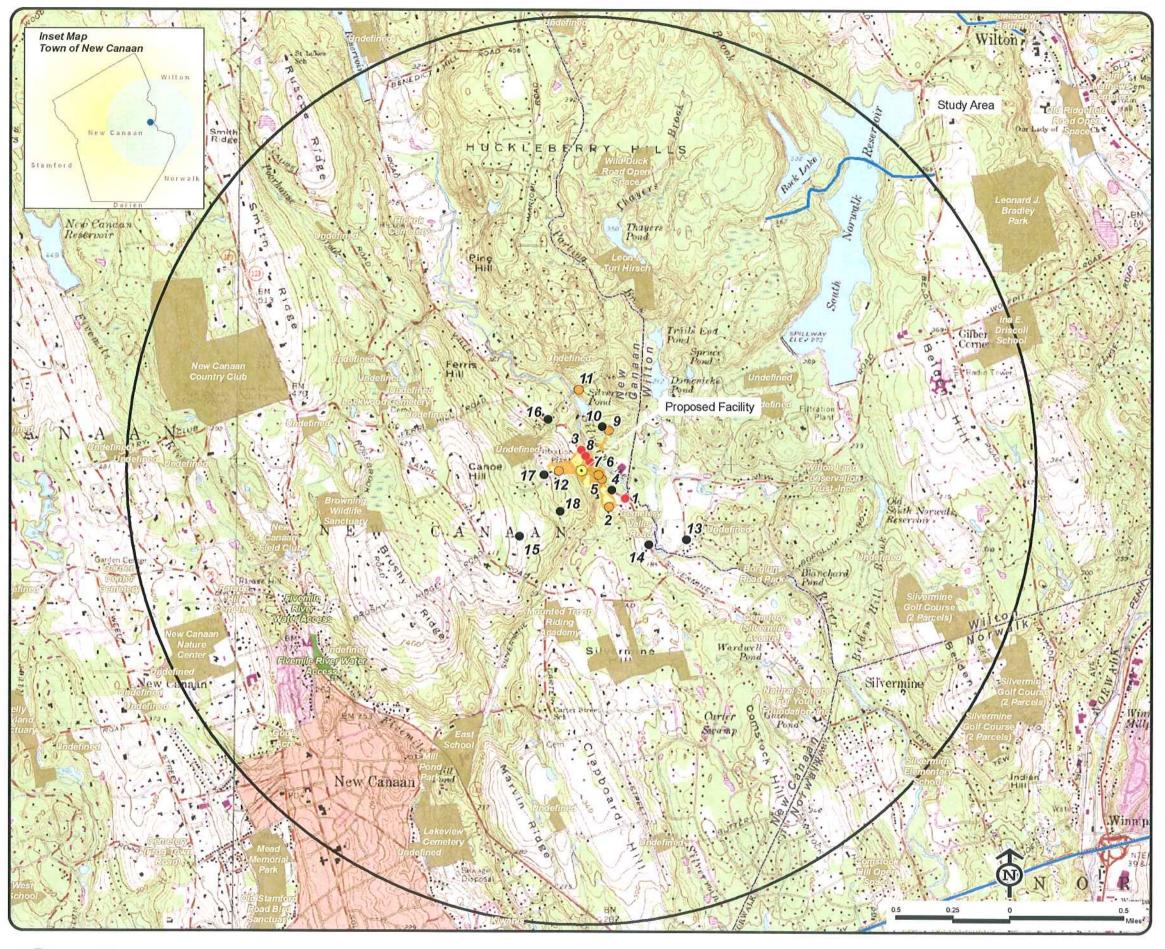
Dean Gustafson

Professional Soil Scientist

Enclosures

#### **Connecticut Market** T · Mobile Worst Case Power Density CT11098B Site Address: 208 Valley Road **New Canaan** Town: 120 ft. **Tower Height:** Facility Style: Monopole **UMTS Data GSM Data** Base Station TX output 40 W 20 W Base Station TX output Number of channels 2 Number of channels 8 APX16DWV-16DWV Antenna Model APX16DWV-16DWV Antenna Model Cable Size Cable Size 7/8 7/8 Cable Length 135 ft. Cable Length 125 ft. Antenna Height 107.0 ft. Antenna Height 117.0 ft. **Ground Reflection** 1.6 **Ground Reflection** 1.6 1945.0 MHz Frequency 2.1 GHz Frequency Jumper & Connector loss 1.50 dB Jumper & Connector loss 4.50 dB 18.0 dBi Antenna Gain 18.0 dBi Antenna Gain Cable Loss per foot Cable Loss per foot 0.0186 dB 0.0116 dB **Total Cable Loss** 1.4500 dB **Total Cable Loss** 2.5110 dB **Total Attenuation** 7.0110 dB **Total Attenuation** 2.9500 dB Total EIRP per Channel 54.00 dBm Total EIRP per Channel 61.07 dBm 1279.56 W (In Watts) (In Watts) 251.15 W Total EIRP per Sector Total EIRP per Sector 64.08 dBm 63.03 dBm 2009.19 W (In Watts) 2559.12 W (In Watts) 15.0500 10.9890 nsg nsg 0.035776 mW/cm^2 Power Density (S) = 0.055039 mW/cm^2 Power Density (S) = 9.0815% Equation Used (1000)(grf)2 (Power) 10 (nsg10)

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997



### Viewshed Analysis Proposed T-Mobile Wireless Telecomunications Facility CT11098B 208 Valley Road New Canaan, Connecticut

- Viewshed analysis conducted using ESRI's Spatial Analyst.
- Proposed Facility height is 120 feet.
- Existing tree canopy height estimated at 65 feet.
- Study Area is comprised of a two-mile radius surrounding the proposed facility and includes 8,042 acres of land.
- Results not varified by balloon float.

#### DATA SOURCES:

- Digital elevation model (DEM) derived from Connecticut LiDAR-based Digital Elevation Data (collected in 2000) with a 10-foot spatial resolution produced by the University of Connecticut and the Center for Land Use Education and Research (CLEAR); 2007
- Forest areas derived from 2006 digital orthophotos with 1-foot pixel resolution; digitized by VHB, 2008
- Base map comprised of Ansonia (1984), Milford (1984), New Haven (1984) and Woodmont (1984) USGS Quadrangle Maps
- Municipal and Private Open Space data layer provided by CT DEP, 1997
- Federal Open Space data layer provided by CT DEP, 2004 CT DEP Property data layer provided by CT DEP, Dec 2009
- CT DEP boat launches data layer provided by CT DEP, Dec 2009
- Scenic Roads layer derived from available State and Local listings

#### Map Compiled January, 2010

General Recreation

School



Scenic Road (State and Local)

--- Town Line







21 B Street Burlington, MA 01803 Tel: (781) 273-2500

Fax: (781) 273.3311

January 18, 2010

Mr. Hans Fiedler T-Mobile Northeast, LLC c/o HPC Development, LLC 46 Mill Plain Road, 2nd Floor Danbury, CT 06811

Subject:

National Environmental Policy Act (NEPA) Screening Report

Silver Hill Rawland/CT11098B

208 Valley Road, New Canaan, CT 06840

EBI Project #61095164

Dear Mr. Fiedler:

Attached please find our National Environmental Policy Act (NEPA) Screening Report, (the Report) for the proposed telecommunications installation at the address noted above (the Subject Property). The purpose of this Report is to evaluate the above-referenced property for environmental and historical concerns specified by the Federal Communications Commission (FCC) in 47 CFR 1.1307, T-Mobile Northeast LLC's scope-of-work, and general industry standards.

The Subject Property, known as Silver Hill Rawland/CT11098B, consists of an approximately 21.86-acre lot improved with the Silver Hills Hospital, a psychiatric hospital composed of nine building, paved parking areas, driveways, and a tennis court. The buildings are spread along the west side of valley Road. The remaining portions of the Subject Property are landscaped areas and wooded land. The buildings were constructed between 1900 and 1989. The area surrounding the Subject Property is composed of residential properties interspersed with wooded land.

As of the date of this Report, T-Mobile Northeast LLC, a Delaware limited liability company, as successor-in-interest to Omnipoint Communications, Inc., a Delaware corporation (hereinafter "T-Mobile") proposes to install a 120 foot brown-painted monopole located to the southwest of the northern most building at the above noted Project Site. The monopole will contain two tiers of three internal antennas at 117-feet and 107-feet above ground level. The associate equipment cabinets will be located on a 10-foot by 5-foot concrete pad. The equipment area will be connected to the antennas via an ice bridge then vertically within the monopole. A GPS antenna will be mounted to the ice bridge. The monopole and equipment area will be located within an 8-feet tall brown cedar stockade fenced equipment compound measuring 50-feet by 25-feet. The utility lines will be routed underground from an existing utility pole to be replaced by another entity and the proposed transformer to the proposed equipment compound. The utility pole and proposed transformer are located to the southeast of the Subject Property's northernmost building and the Project Site. Access to the Project Site will be gained via an existing driveway running southeast of the Project Site. To the southeast of the Project Site will be a proposed parking area and a 4-foot wide pedestrian access way leading to the Project Site from the existing driveway.

Please find the attached National Environmental Policy Act (NEPA) Checklist, NEPA Summary Report, and associated documentation for the above-referenced site. Based upon the results of our assessment, it appears that the proposed installation will not impact any of the criteria as outlined in 1.1307(a) items (1) through (8) and preparation of an Environmental Assessment (EA) for these criteria is not required.

The Report was completed according to the terms and conditions authorized by you. There are no intended or unintended third party beneficiaries to this Report, unless specifically named. EBI is an independent contractor, not an employee of either the property owner or the project proponent, and its compensation was not based on the findings or recommendations made in the Report or on the closing of any business transaction. Note that the findings of this Report are based on the project specifications provided to EBI and described in this Report. In the event that the design or location of the installation changes, please contact EBI as additional review and/or consultation may be required.

Thank you for the opportunity to prepare this *Report*, and assist you with this project. Please call us if you have any questions or if we may be of further assistance.

Respectfully Submitted,

Ms. Alexis Godat

Author/Architectural Historian

Mr. Michael Chun

Reviewer/Salesperson/Program Director

Direct# (646) 789-9206

Appendix A - NEPA Checklist

Appendix B - FCC NEPA Summary Report

Appendix C - Figures, Drawings, and Maps

Appendix D -SHPO Correspondence

Appendix E - Tribal Correspondence

Appendix F - Land Resources Map

Appendix G - Federal and State Fish and Wildlife Service Correspondence

Appendix H - Wetlands Map

Appendix I - FEMA Floodplain Map