

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

IN RE: :  
 :  
APPLICATION OF CELLCO PARTNERSHIP : DOCKET NO. 455  
D/B/A VERIZON WIRELESS FOR A :  
CERTIFICATE OF ENVIRONMENTAL :  
COMPATIBILITY AND PUBLIC NEED FOR :  
THE CONSTRUCTION OF A WIRELESS :  
TELECOMMUNICATIONS FACILITY AT 99 :  
EAST STREET, SOUTHLINGTON, :  
CONNECTICUT : FEBRUARY 13, 2015

**RESPONSES OF CELLCO PARTNERSHIP  
D/B/A VERIZON WIRELESS TO CONNECTICUT  
SITING COUNCIL PRE-HEARING INTERROGATORIES, SET ONE**

On January 26, 2015, the Connecticut Siting Council (“Council”) issued Pre-Hearing Questions – Set One to Cellco Partnership d/b/a Verizon Wireless (“Cellco”), relating to the above-captioned docket. Below are Cellco’s responses.

Question No. 1

Identify distances and directions to the adjacent sites with which the proposed facility would hand off signals. Are these the sites identified on page 9 of the application?

Response

Yes. The proposed Southington East Street Facility will interact with the three (3) existing cell sites discussed on page 9 of the Application (Milldale; Southington 2 and Berlin 3) and with its existing Southington facility located at 625 Spring Street.

Cellco’s Milldale at 1394 Meriden-Waterbury Turnpike in Southington is located approximately 1.75 miles southwest of the proposed East Street Facility. Cellco’s Southington 2 cell site at 168 Center Street in Southington is located approximately 1.5 miles northwest of the

proposed East Street Facility. Cellco's Berlin 3 cell site at 1684 Chamberlain Highway in Berlin is located approximately 3.0 miles east of the proposed East Street Facility. Cellco's Southington cell site at 625 Spring Street in Southington is located approximately 4.0 miles northwest of the proposed East Street Facility.

#### Question No. 2

What is the lowest height at which Cellco's antennas could achieve its coverage objectives at the proposed site? What problems would Cellco experience with antennas below this height? Submit propagation maps showing the coverage at ten feet below this height.

#### Response

After analyzing this location, Cellco's RF Engineers have determined that an 80-foot antenna height is, in fact, the lowest height at which Cellco can satisfy its wireless service objectives. Lowering the antennas to a centerline height of 70 feet above ground level ("AGL") would have a significant impact on coverage from this site, particularly to the north, east and southeast due to its proximity of mature trees (some between 70 and 80 feet tall) that surround the cell site and the larger Town-owned parcel, generally. At 70 feet AGL, the coverage footprint from the site would shrink from 11.92 square miles (at 80 feet AGL) to 10.86 square miles at 700 MHz frequencies; 13.3 square miles (at 80 feet AGL) to 12.40 square miles at 850 MHz frequencies; 7.3 square miles (at 80 feet AGL) to 6.78 square miles at 1900 MHz frequencies; and 5.63 square miles (at 80 feet AGL) to 5.14 square miles at 2100 MHz frequencies. Plots showing Cellco's wireless service at an antenna height of 70 feet AGL are included in Attachment 1 of these responses.

#### Question No. 3

Of the letters sent to abutting property owners, how many certified mail receipts did

Cellco receive? If any receipts were not returned, which owners did not receive their notice?

Did Cellco make additional attempts to contact those property owners?

Response

Cellco received return receipts (green cards) for all but one of the abutting property owners listed in Attachment 4 of the Application. The notice to Rene Hall at 163 East Street was returned marked “unclaimed” after three (3) attempts were made by the Post Office to deliver the notice. The notice was sent again, via regular mail, on January 15, 2015.

Question No. 4

What are the signal strengths for which Cellco designs its system? For in-vehicle coverage? For in-building coverage?

Response

Cellco’s minimum design threshold for CDMA its signal strength is -85 dBm, Receive Signal Strength Indicator (RSSI) for in-vehicle service and -75 dBm RSSI for in-building service. For its LTE signal strength, Cellco’s minimum design threshold is 114 dB Reverse Link Operational Path Loss (RL OPL) for in-vehicle service and 95 dB RL OPL for in-building service.

Question No. 5

What are the existing signal strengths within the area Cellco is seeking to cover from this site?

Response

CDMA signal levels in the area, without the existing Meriden (West Peak) facility on the air, range from -74 dBm to -97 dBm. LTE signal levels in the area, without the existing Meriden (West Peak) facility on the air, range from 109 dB to 135 dB.

Question No. 6

Does Cellco have any statistics on dropped calls and/or ineffective attempts in the vicinity of the proposed facility? If so, what do they indicate? Does Cellco have any other indicators of substandard service in this area?

Response

Yes. The existing Meriden (West Peak) facility experiences an average of 371 drop calls in a day which is 1.03% of the total call volume and an average of 417 ineffective attempts which is 1.5% of total call attempts in a day. Cellco relies on several other indicators of substandard service including its monthly baseline drive data, propagation modeling tools, customer complaints and system performance monitoring reports.

Question No. 7

What are the respective lengths of the coverage gaps on Route 120 and Route 364 that Cellco is seeking to cover from the proposed site at cellular frequencies? At PCS frequencies? At AWS frequencies? At 700 MHz frequencies?

Response

Coverage Gaps without Meriden (West Peak) in Miles

<u>Frequency</u>	<u>Route 120</u>	<u>Route 364</u>
700 MHz	1.7	1.85
850 MHz	1.2	2.3
1900 MHz	1.9	1.7
2100 MHz	1.6	1.4

Question No. 8

Would any blasting be required to develop the site?

Response

Cellco does not anticipate the need to blast in order to construct the East Street Facility. However, a full Geotechnical Survey will be completed following Council approval of this docket and submitted as a part of the Development & Management (“D&M”) Plan.

Question No. 9

Provide an estimate of the residential population living within the area that would be covered from the proposed facility.

Response

According to 2010 Census Data, Cellco estimates that there are 16,693 residences within the 11.92 square mile coverage footprint at 700 MHz; 17,461 residences within the 13.3 square mile coverage footprint at 850 MHz; 11,144 residences within the 7.3 square mile coverage footprint at 1900 MHz; and 9,000 residences within the 5.63 square mile coverage footprint at 2100 MHz. (Note: The coverage footprint provided in this response for Cellco’s 700 MHz and 2100 MHz frequencies in these responses are accurate and are intended to correct the figures provided in the application narrative (p. 8).

Question No. 10

Provide an estimated traffic count for those portions of Route 120 and Route 364 that would be covered from the proposed facility.

Response

According to 2010 Census Data, 3,321 residences along Route 120 and 3,456 residences along Route 364 would be covered by the proposed facility.

Question No. 11

Provide the power output of Cellco's generator in kilowatts.

Response

The proposed generator will have a power output of 35 kW.

Question No. 12

How long could Cellco's propane generator operate before needing to be refueled?

Response

The 35 kW propane fueled generator, with the proposed 1000 gallon propane tank, can run for approximately 130 hours at full load before needing to be refueled.

Question No. 13

Would there be any interruption in service between the time power goes out and the generator come on?

Response

No. Battery back-up systems are installed in the proposed shelter and would provide back-up power in any intervening period, between the time commercial power is interrupted and the back-up generator is fully engaged.

Question No. 14

Would either tower be visible from any hiking trails within the two mile radius area used for the visibility analysis?

Response

Cellco assumes the reference to "either tower" means the traditional monopole design and the "tree tower" described in the Application. No views are anticipated from any of the trails within the study area used for the visibility analysis. As discussed in that report, there is the potential for seasonal direct lines of sight towards the proposed tower location from the upper west-facing slopes of the Hanging Hills within West Peak State Park, which include a trail

system. However, the combination of the separating distances, aspect and low facility height would make it difficult to readily identify the tower, regardless of its style. A “tree tower” situated with existing pine trees as a backdrop would make it nearly impossible to distinguish the facility from the natural environment.

Question No. 15

What are the heights of the transmission line structures in the near vicinity of the proposed tower? Did Cellco investigate the possibility of using one of these structures for its antennas? If so, what was Cellco's determination as to their feasibility?

Response

Cellco estimates the existing lattice transmission line towers near the East Street Facility are between 80 and 90 feet tall. Cellco did not consider use of these towers due to its continuing concern for limited and controlled access to these structures, imposed by CL&P, making installation and maintenance of cell site equipment a significant challenge and inconsistent with Cellco's continuing efforts to provide high quality, reliable wireless service throughout its service territory.

Question No. 16

Has the Town of Southington made any formal expression of interest in using the proposed tower?

Response

Yes. As mentioned in the Application, the Town of Southington asked Cellco to build a tower 10 feet higher than needed so that they might utilize the top portion of the tower in the future for its municipal services and/or emergency services communications purposes.

Question No. 17

Will the proposed facility support text-to-911 service? Is additional equipment required for this purpose?

Response

Yes, the proposed Southington East Street Facility will support text-to-911 as soon as the Public Safety Answering Point (PSAP) is capable of receiving text-to-911. No additional cell site equipment is necessary to support text-to-911 service.

Question No. 18

Would Cellco's antennas comply with E911 requirements?

Response

Yes.

Question No. 19

Are you aware of any Public Safety Answering Points in the area of the proposed site that are able to accept text-to-911?

Response

Not at this time.

Question No. 20

Cellco's site plans indicate that trees would be planted along the fence line of the facility compound. Does Cellco know what kinds of trees it would plant?

Response

Evergreen trees will be used to provide a year-round screen of the proposed compound to the west and south/southeast. Norway spruce (*Picea abies*) or white spruce (*Picea glauca*), or a combination of both, would likely be used as evergreen tree species due to their suitability to the

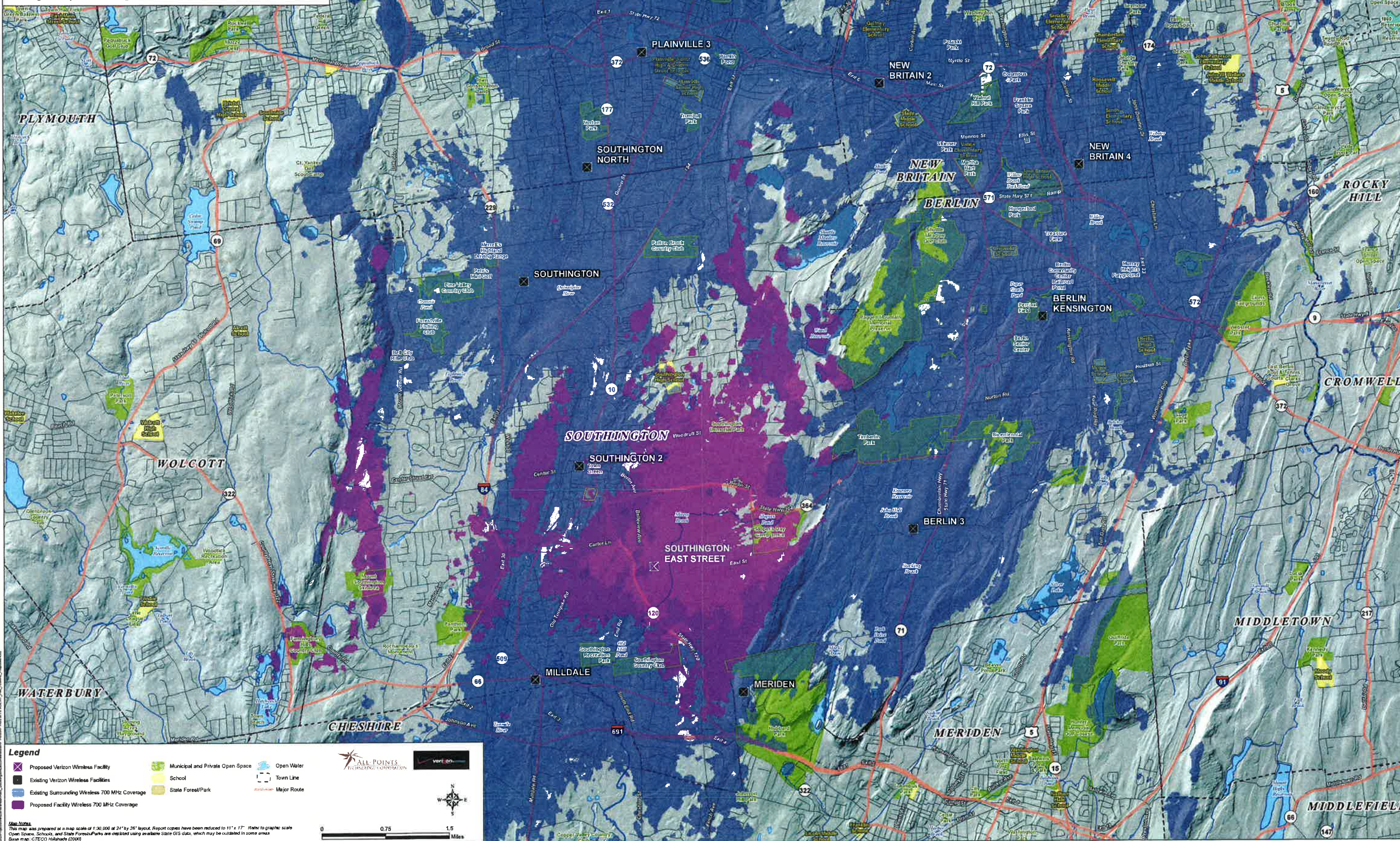


soil conditions surrounding the proposed facility and the fact that these species are seldom severely damaged by deer browse.

# **ATTACHMENT 1**

**Proposed Verizon Wireless 700 MHz Coverage  
at a 70-foot Antenna Centerline Height  
Southington, Connecticut and Surrounding Area  
(\*Map Scale is 1:30,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



**Legend**

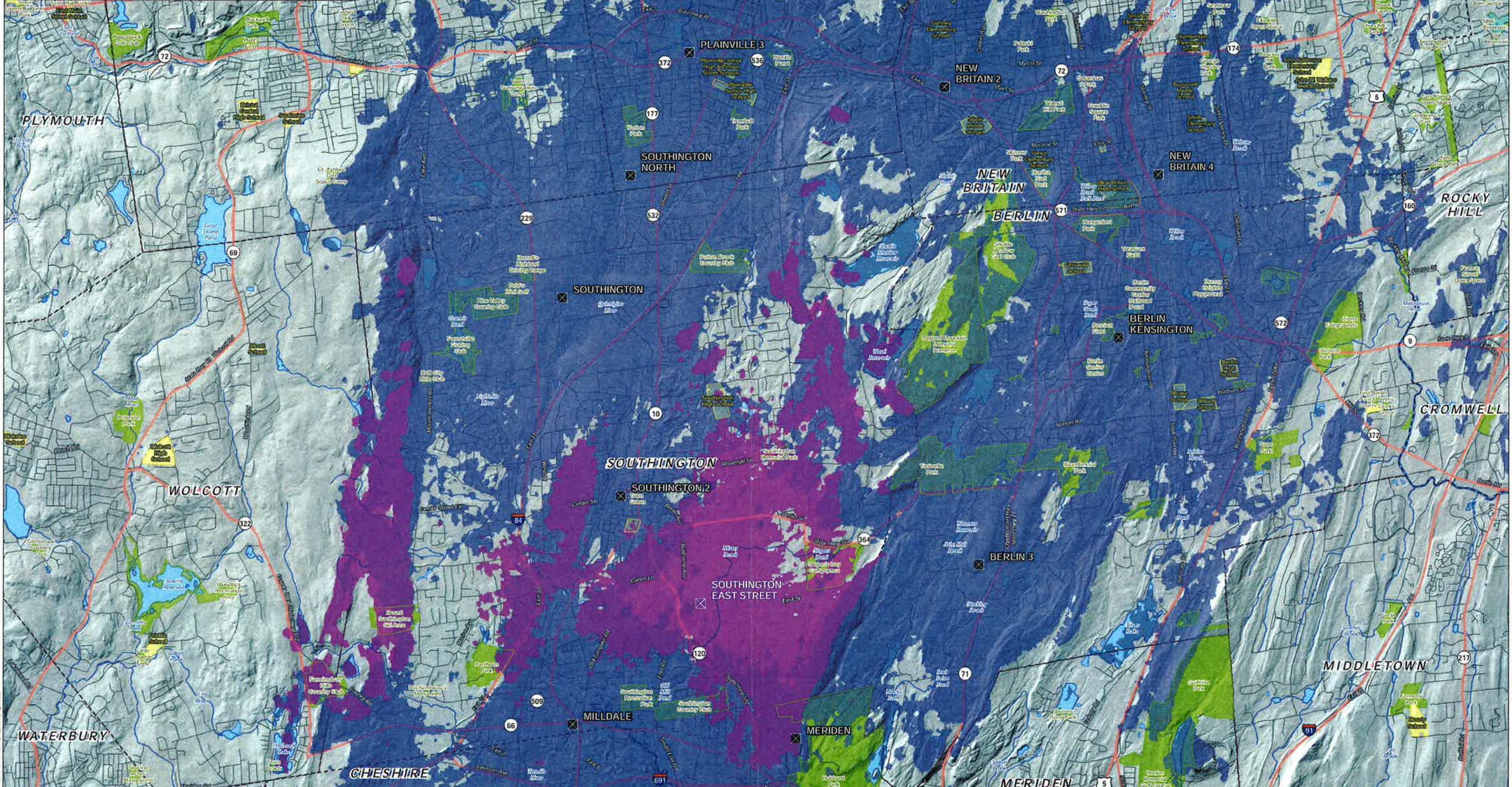
- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 700 MHz Coverage
- Proposed Facility Wireless 700 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

**Map Notes**

This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17" (A) to graphic scale. Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas. Base map: ©TECO Highlands (2008)

0 0.75 1.5 Miles

**Proposed Verizon Wireless 850 MHz Coverage at a 70-foot Antenna Centerline Height Southington, Connecticut and Surrounding Area**  
 ("Map Scale is 1:30,000")  
 Coverage plot assumes 55% site loading on the Celco system  
 Coverage is depicted at a signal threshold of -85 dBm



**Legend**

Proposed Verizon Wireless Facility	Municipal and Private Open Space	Open Water
Existing Verizon Wireless Facilities	School	Town Line
Existing Surrounding Wireless 850 MHz Coverage	State Forest/Park	Major Route
Proposed Facility Wireless 850 MHz Coverage		

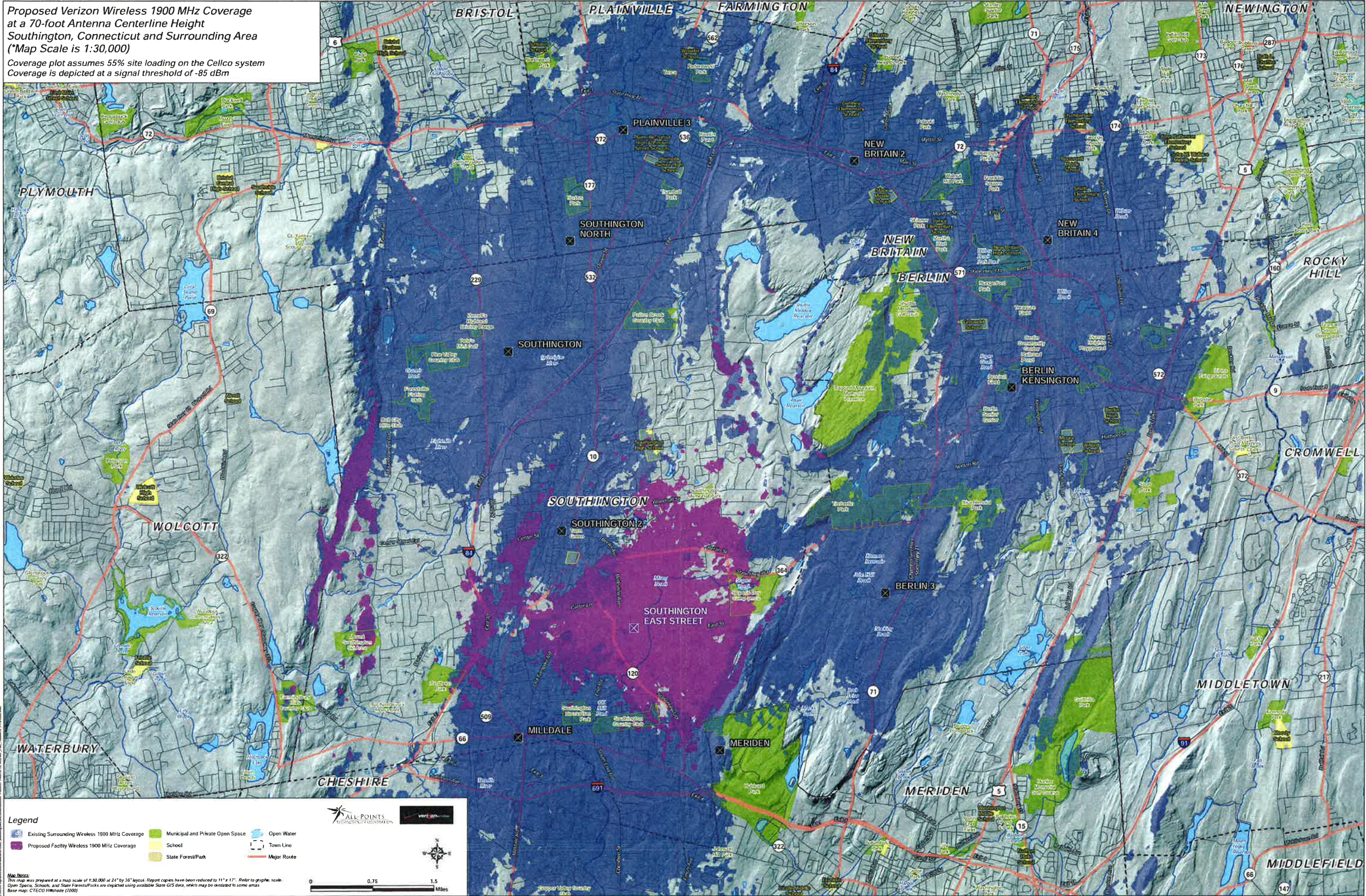
**Scale:** 0 0.75 1.5 Miles

**Map Notes:**  
 This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.  
 Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.  
 Base map: CTeco Hillsbase (2000)

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**Proposed Verizon Wireless 1900 MHz Coverage at a 70-foot Antenna Centerline Height Southington, Connecticut and Surrounding Area (\*Map Scale is 1:30,000)**

Coverage plot assumes 55% site loading on the Cellco system  
Coverage is depicted at a signal threshold of -85 dBm

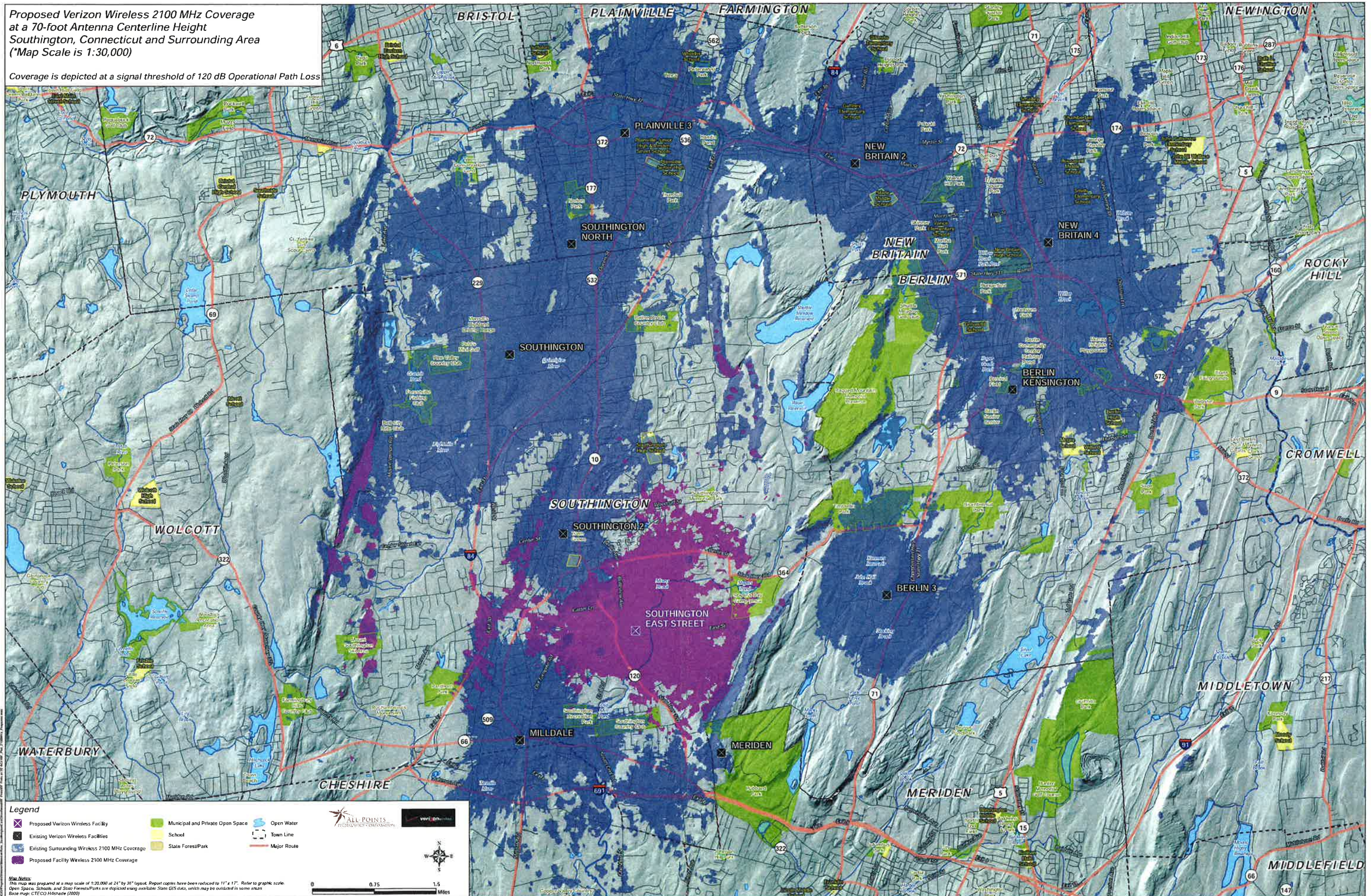


- Legend**
- Existing Surrounding Wireless 1900 MHz Coverage
  - Proposed Facility Wireless 1900 MHz Coverage
  - Municipal and Private Open Space
  - School
  - State Forest/Park
  - Open Water
  - Town Line
  - Major Route

**Map Notes:**  
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Open Space, Schools, and State Forest/Parks are depicted using available State GIS data, which may be outdated in some areas.  
Base map: CTECO Hillshade (2000)

**Proposed Verizon Wireless 2100 MHz Coverage  
at a 70-foot Antenna Centerline Height  
Southington, Connecticut and Surrounding Area  
(\*Map Scale is 1:30,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



- Legend**
- Proposed Verizon Wireless Facility
  - Municipal and Private Open Space
  - Open Water
  - School
  - Town Line
  - Existing Verizon Wireless 2100 MHz Coverage
  - State Forest/Park
  - Major Route
  - Proposed Facility Wireless 2100 MHz Coverage

**Map Notes:**  
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.  
Open Space, Schools, and State Forest/Parks are depicted using available State GIS data, which may be outdated in some areas.  
Base map: CTECO Hrsnade (2000)

**ALL POINTS**  
TECHNOLOGY CORPORATION

0 0.75 1.5  
Miles