

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
: :
APPLICATION OF SBA TOWERS II, LLC : DOCKET NO. 378
FOR A CERTIFICATE OF : :
ENVIRONMENTAL COMPATIBILITY AND : :
PUBLIC NEED FOR THE CONSTRUCTION, : :
MAINTENANCE AND OPERATION OF A : :
WIRELESS TELECOMMUNICATIONS : :
FACILITY OFF RABBIT HILL : :
ROAD, WARREN, CONNECTICUT : :
: APRIL 29, 2009

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

On April 13, 2009, the Connecticut Siting Council (“Council”) issued Pre-Hearing Interrogatories to the Applicant, Cellco Partnership d/b/a Verizon Wireless (“Cellco”), relating to the above-captioned docket. Below are Cellco’s responses.

Question No. 1

What is Cellco’s minimum signal level threshold for this area?

Response

Cellco’s coverage thresholds are -75 dBm for reliable in-building service and -85 dBm for reliable in-vehicle service.

Question No. 2

How do Cellco’s 700 MHz, cellular and PCS systems interact?

Response

As its technology evolves over the next several years, Cellco expects that its current cellular and PCS systems together with its new 4th Generation (“4G”) 700 MHz system will provide its customers with advanced wireless services throughout its network in Connecticut and nationwide. Each of these wireless systems will provide customers with advanced voice and data services including but not limited to high speed wireless internet access, video downloads and mobile television in addition to the more traditional voice and data (text and e-mail) services Cellco customers enjoy today. Due to its larger band width, many of Cellco’s 4G services will utilize its 700 MHz spectrum. Cellco expects that all three wireless systems will interact as one integrated unit providing a broad range of advanced wireless services.

As has been discussed in prior Council dockets, customers seeking to use the Cellco network will be directed to a particular channel from a particular cell site in the coverage area where the customer is located. Depending upon the availability of a channel, a wireless call would, in all likelihood, be directed to an available cellular channel first. If no cellular channel is available at a particular cell site the call would search for and initiate on a PCS channel in the same area. If a customer is traveling while making a call, a call in progress would be “handed-off” from one cell to the next. Again, depending upon availability of channels on the adjacent cells, a call that starts on Cellco’s cellular network would first attempt to hand-off to another cellular channel, if one is available. If not, the system is designed to hand-off that call to either a PCS or, in the future, an LTE (700 MHz) channel. Provided Cellco maintains reliable signal strength in a particular area, the network will allow for the hand-off of call between cell sites at all of the available wireless frequencies deployed at those cell sites, without interruption.

Question No. 3

Provide Cellco's antenna specifications, including type, make, size, model, number of channels, and maximum power output.

Response

PCS Antennas

Alpha Sector – 147 ft.

Antenna Type: LPA –
185063/12_4CF

Frequency: Tx: 1970-1980
MHz; Rx: 1890-1900 MHz

No. Channels: 14

ERP/Channel: 490.38 W Max

Beta Sector – 147 ft.

Antenna Type: LPA –
185063/12_4CF

Frequency: Tx: 1970-1980
MHz; Rx: 1890-1900 MHz

No. Channels: 14

ERP/Channel: 490.38 W Max

Gamma Sector – 147 ft.

Antenna Type: LPA –
185063/12_4CF

Frequency: Tx: 1970-1980
MHz; Rx: 1890-1900 MHz

No. Channels: 14

ERP/Channel: 490.38 W Max

Cellular Antennas

Alpha Sector – 147 ft.

Antenna Type: LPA –
80063/6CF

Frequency: Tx: 869-880,890-
891.5 MHz; Rx: 824-835,
845-846.5 MHz

No. Channels: 9

ERP/Channel: 407.41 W Max

Beta Sector – 147 ft.

Antenna Type: LPA –
80063/6CF

Frequency: Tx: 869-880,890-
891.5 MHz; Rx: 824-835,
845-846.5 MHz

No. Channels: 9

ERP/Channel: 407.41 W Max

Gamma Sector – 147 ft.

Antenna Type: LPA –
80063/6CF

Frequency: Tx: 869-880,890-
891.5 MHz; Rx: 824-835, 845-
846.5 MHz

No. Channels: 9

ERP/Channel: 407.41 W Max

700 MHz Antennas

Alpha Sector – 147 ft.

Beta Sector – 147 ft.

Gamma Sector – 147 ft.

Antenna Type: BXA–
70063/6_4CF (1)

Antenna Type: BXA–
70063/6_4CF (1)

Antenna Type: BXA–
70063/6_4CF (1)

Frequency: 776 – 787 MHz

Frequency: 776 – 787 MHz

Frequency: 776 – 787 MHz

No. Channels: 1

No. Channels: 1

No. Channels: 1

ERP/Channel: 832.9 W Max

ERP/Channel: 832.9 W Max

ERP/Channel: 832.9 W Max

Question No. 4

Did Cellco perform a drive test of the proposed site? If so, please submit.

Response

No.

Question No. 5

Provide a multi-signal level propagation plot, at a scale of 1:30,000, depicting coverage from existing sites and proposed Site A at a tower height of 137 feet.

Response

The coverage plots requested are included as a part of Attachment 1.

Question No. 6

Describe why the proposed Site B facility would not be able to provide adequate coverage to the target service area. Submit coverage plots, as appropriate.

Response

The Site B tower site is located approximately 800 feet north of the Site A tower location and therefore 800 feet further from Route 202, Cellco's primary coverage objective. The Site B tower location was evaluated at various heights up to 199 feet above ground level at both cellular and PCS frequencies. Existing topography to the southeast of the Site B location would block Cellco's line-of-sight to portions of Route 202 resulting in significant gaps in coverage. These gaps are illustrated on the cellular and PCS coverage plots included in Attachment 2.

Question No. 7

Did Cellco have a search ring in this area prior to the filing of this application? If so, provide a map depicting the search ring and describe the properties and/or structures identified for possible use prior to selecting the proposed site.

Response

Yes. Cellco established the search ring for its so called "Washington NE" cell site in June of 2004. This search area was discussed with the Council in the context of Cellco's Washington North application (Docket No. 332) and at the Council's Docket No. 332 hearing on June 21, 2007 and July 10, 2007. In Docket No. 332, Cellco RF Engineers described the future need for an additional cell site to the east of its 6 Mountain Road (Washington North) tower site to provide continuous coverage along Route 202 between its then-proposed Washington North cell site and existing Litchfield SW cell site. Cellco was aware of Optasite's interest in the Tanner Farm property at that time and identified it as a location that could satisfy its Washington NE coverage objectives. A copy of Cellco's Search Ring Map for its Washington NE search area is included behind Attachment 3.

Question No. 8

Provide a power density analysis according to the methodology prescribed in the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) assuming all Cellco antennas are oriented towards the base of the tower and all channels are operating simultaneously.

Response

See table included in Attachment 4.

CERTIFICATE OF SERVICE

I hereby certify that on the 29th day of April, 2009, a copy of the foregoing was sent,
postage prepaid, to:

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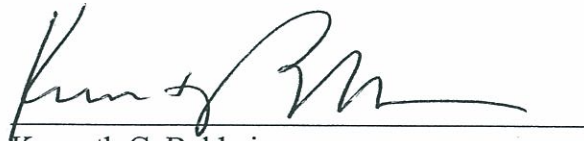
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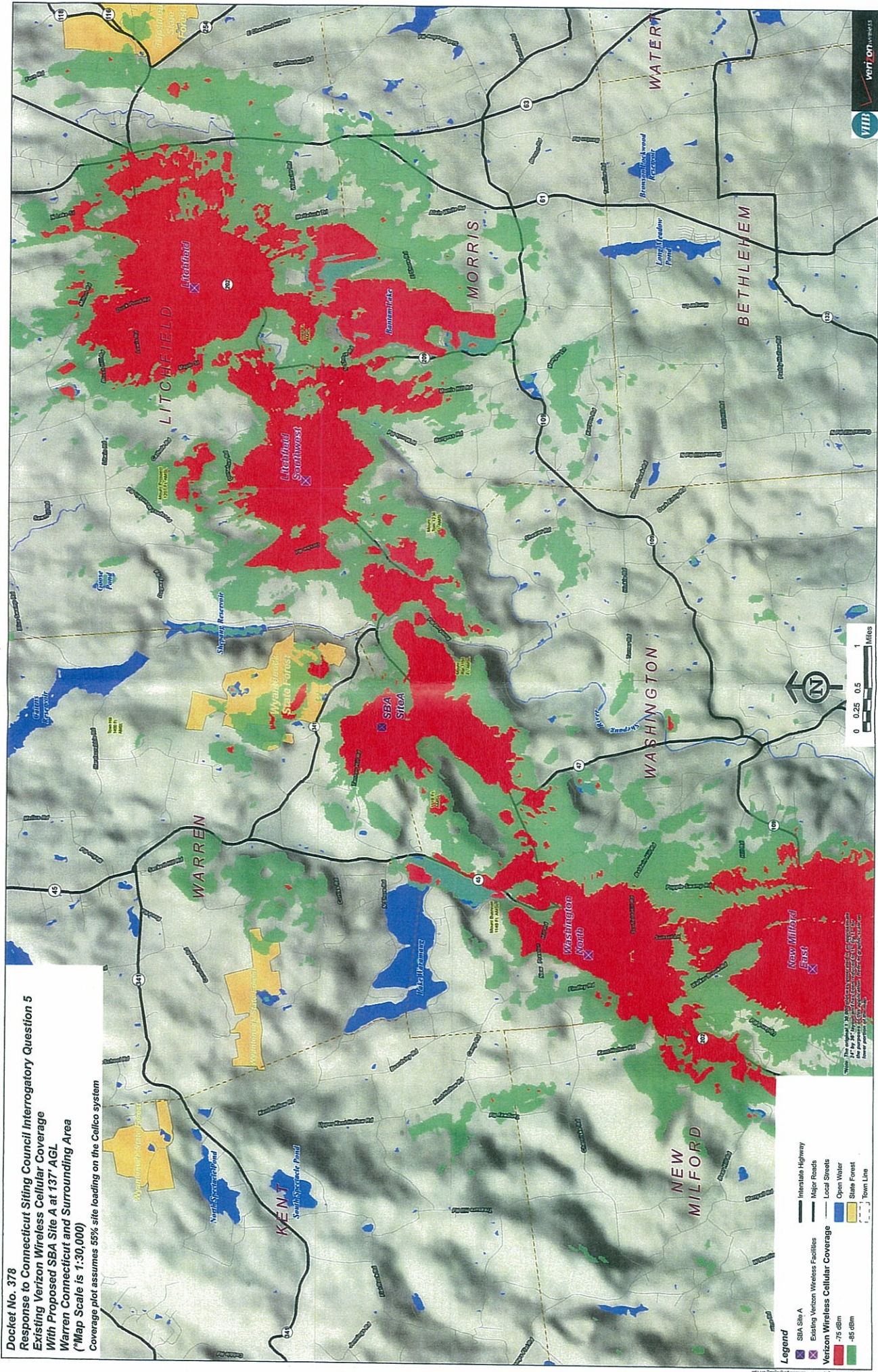
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Kenneth C. Baldwin

Docket No. 378
 Response to Connecticut Siting Council Interrogatory Question 5
 Existing Verizon Wireless Cellular Coverage
 With Proposed SBA Site A at 137' AGL
 Warren Connecticut and Surrounding Area
 (*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Celco system

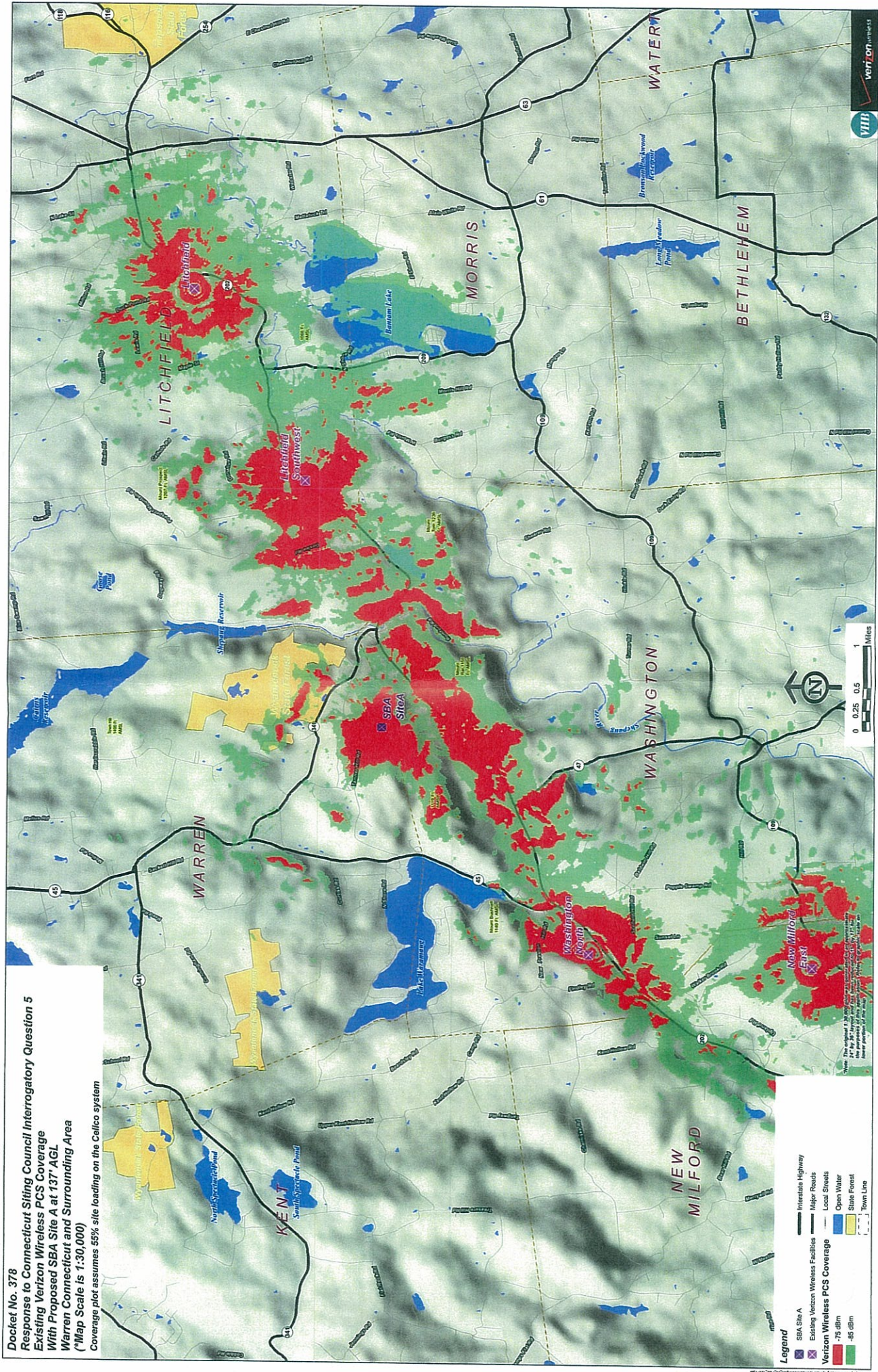


Legend

- SBA Site A
- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facilities
- Verizon Wireless Cellular Coverage
- 75 dBm
- 45 dBm
- Interstate Highway
- Major Roads
- Local Streets
- Open Water
- State Forest
- Town Line



Docket No. 378
 Response to Connecticut Siting Council Interrogatory Question 5
 Existing Verizon Wireless PCS Coverage
 With Proposed SBA Site A at 137' AGL
 Warren Connecticut and Surrounding Area
 (*Map Scale is 1:30,000)
 Coverage plot assumes 55% site loading on the Celco system



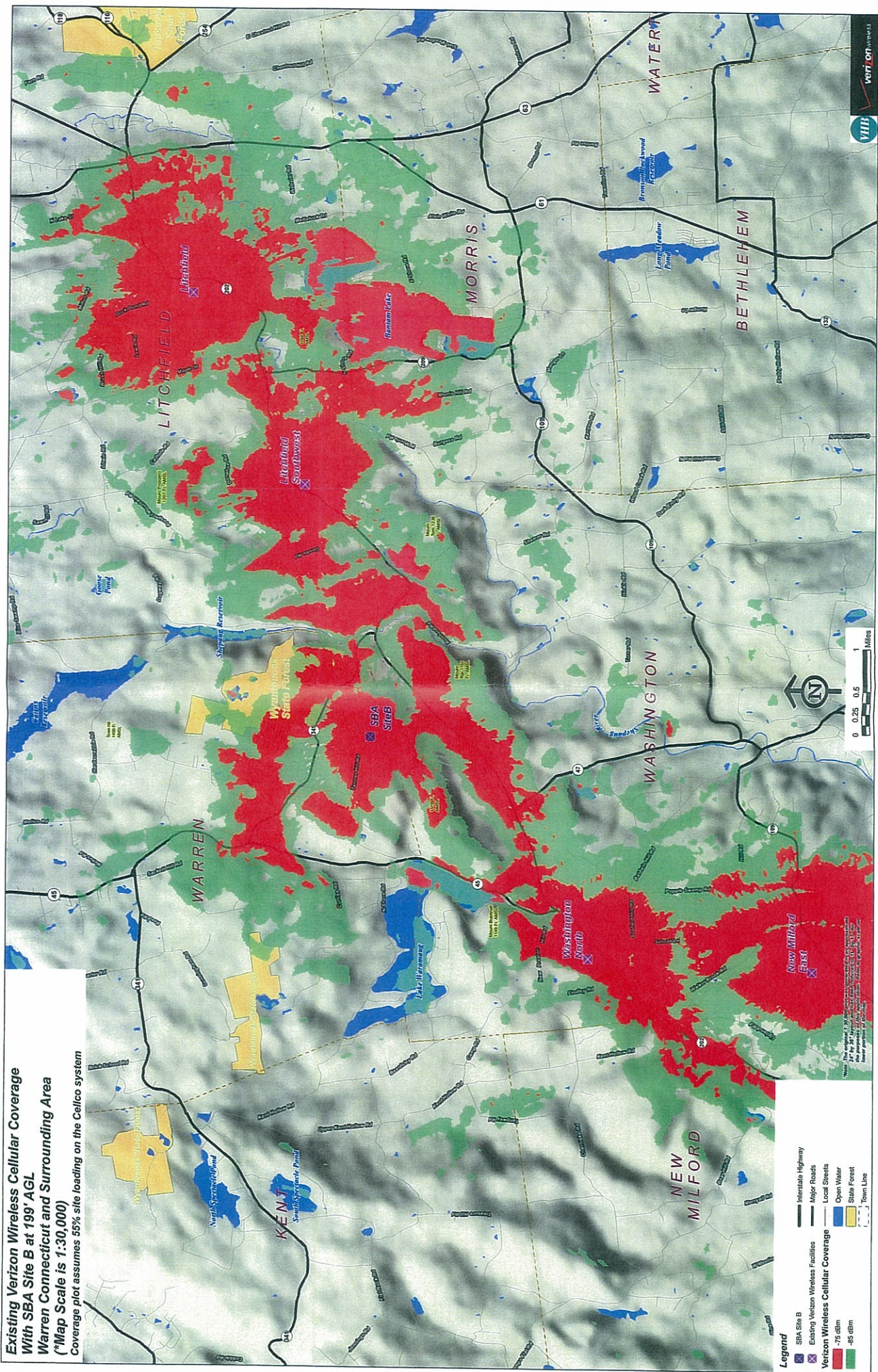
- Legend**
- SBA Site A
 - Existing Verizon Wireless Facilities
 - Verizon Wireless PCS Coverage
 - 75 dBm
 - 45 dBm
 - Interstate Highway
 - Major Roads
 - Local Streets
 - Open Water
 - State Forest
 - Town Line



*Note: The original 1:30,000 scale map was prepared by the Connecticut State Planning Office in 1988. The map data is based on the best available information at the time of the map's preparation.



**Existing Verizon Wireless Cellular Coverage
With SBA Site B at 199' AGL
Warren Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Celco system**



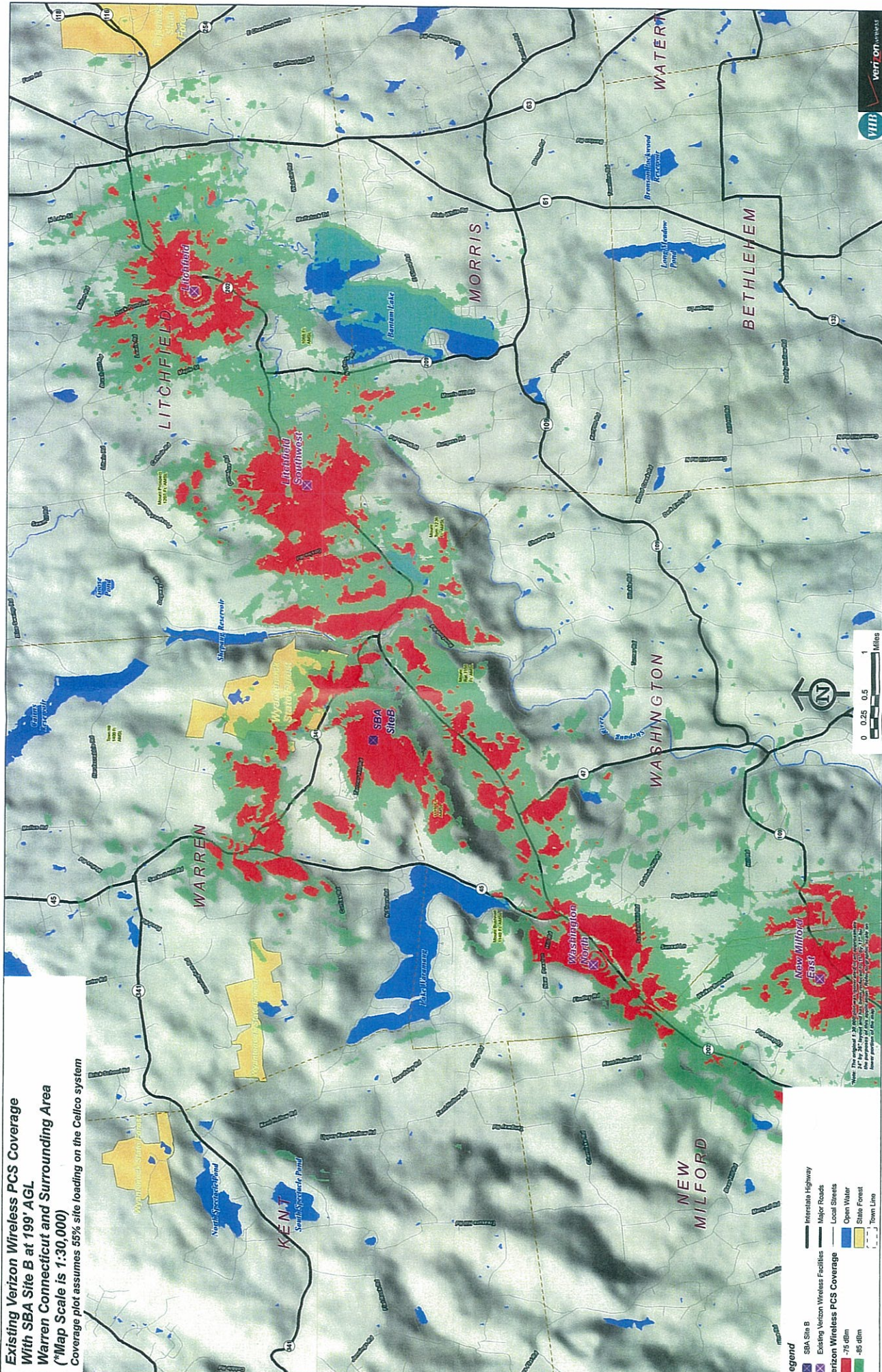
- Legend**
- X SBA Site B
 - X Existing Verizon Wireless Facilities
 - Verizon Wireless Cellular Coverage -75 dBm
 - -85 dBm
 - Interstate Highway
 - Major Roads
 - Local Streets
 - Open Water
 - State Water
 - State Forest
 - Town Line



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**Existing Verizon Wireless PCS Coverage
 With SBA Site B at 199' AGL
 Warren Connecticut and Surrounding Area
 (*Map Scale is 1:30,000)**
 Coverage plot assumes 55% site loading on the Cellico system



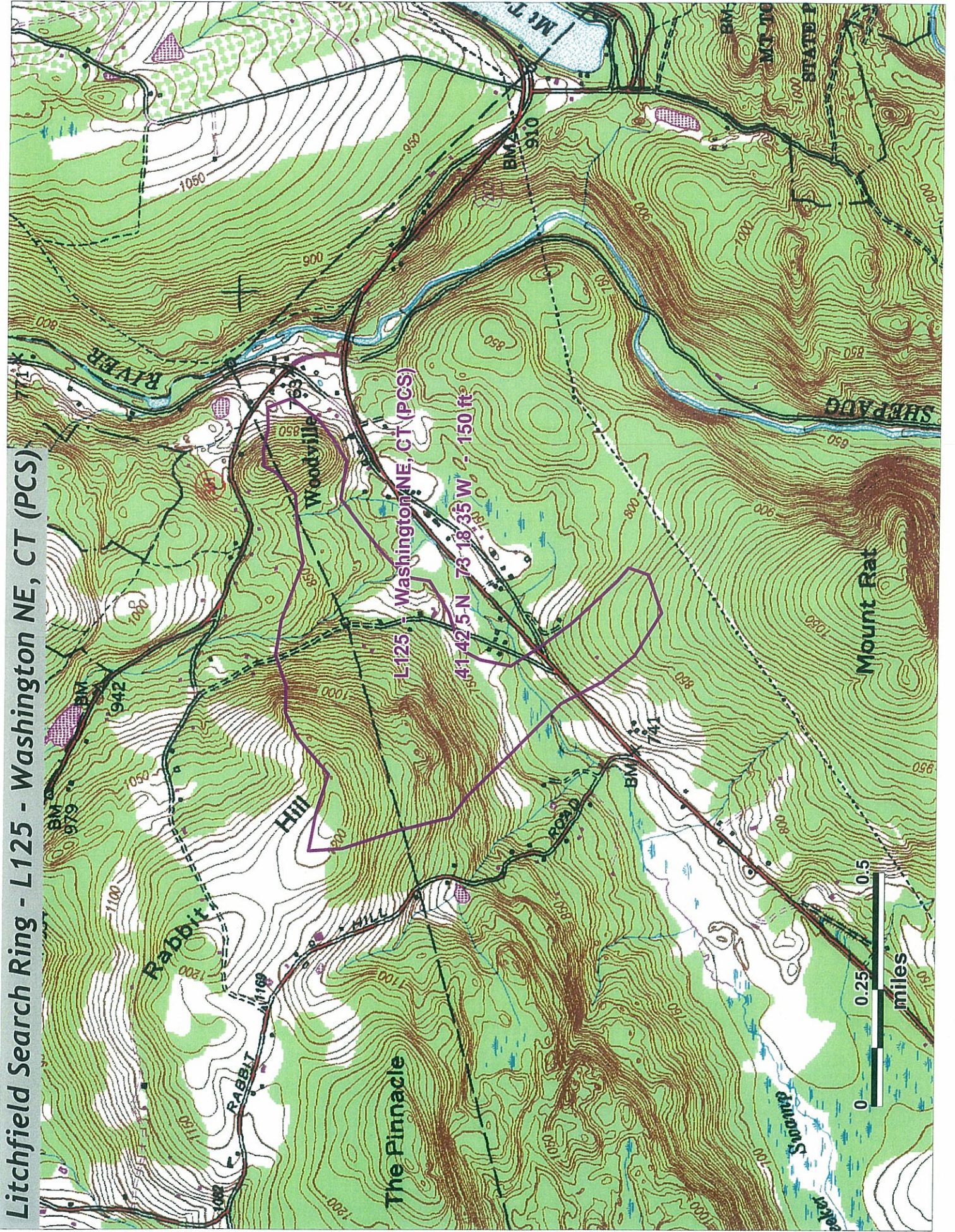
- Legend**
- X SBA Site B
 - X Existing Verizon Wireless Facilities
 - █ Verizon Wireless PCS Coverage -75 dBm
 - █ -85 dBm
 - Interstate Highway
 - Major Roads
 - Local Streets
 - █ Open Water
 - █ State Forest
 - Town Line



*Note: The original plot was prepared for the purpose of the SBA site at 199' AGL. The coverage shown on this map is for the purpose of the SBA site at 199' AGL. The coverage shown on this map is for the purpose of the SBA site at 199' AGL.



Litchfield Search Ring - L125 - Washington NE, CT (PCS)



General Power Density

Site Name: Washington NE, CT
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW PCS	1970	14	490.38	6865.32	147	0.1143	1.0	11.43%
VZW Cellular	875	9	407.41	3666.69	147	0.0610	0.583	10.47%
VZW 700	746	1	832.9	832.9	147	0.0139	0.4973	2.79%

Total Percentage of Maximum Permissible Exposure

24.68%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.