

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
: :
APPLICATION OF CELLCO PARTNERSHIP : DOCKET NO. 502
D/B/A VERIZON WIRELESS FOR A :
CERTIFICATE OF ENVIRONMENTAL :
COMPATIBILITY AND PUBLIC NEED FOR :
THE CONSTRUCTION, MAINTENANCE :
AND OPERATION OF A WIRELESS :
TELECOMMUNICATIONS FACILITY AT :
118 NEWTON ROAD, WOODBRIDGE, :
CONNECTICUT : AUGUST 17, 2021

**RESPONSES OF CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS
TO WNNET'S PRE-HEARING INTERROGATORIES**

On June 29, 2021, Intervenor, WNNET, issued Pre-Hearing Interrogatories to Cellco Partnership d/b/a Verizon Wireless ("Cellco"), relating to Docket No. 502. Below are Cellco's responses.

Question No. 1

Referring to the Application, provide the following:

- a) For each alternate site to the one applied for, please describe the studies performed to determine the technical suitability of the site to provide the wireless coverage desired.
- b) For each study described in the previous sub-part of this interrogatory, please provide the data generated for each site so that the same may be evaluated for accuracy?
- c) For each study described in sub-part a of this Interrogatory, please provide the identity of the technical tools used to perform the study and the assumptions or

inputs that gave rise to the data outputs so that the same may be reproduced and evaluated for accuracy.

- (1) Please provide the test data in non-proprietary format with column headers, such as .csv file.
- (2) Please include all inputs and assumptions (such as EIRP, transmit antenna, receive antenna and link budget parameters) used to gather the data.
- (3) Indicate whether any post processing was performed on the drive test data supplied and what was done to it.

Response

- a) Some of the alternates were ruled out because they were too close to Cellco's existing cell sites. Others were ruled out because they were simply too far from the search area and could not possibly meet the coverage objective. The remainder were evaluated using an industry standard propagation software.
- b) Cellco uses the Atoll propagation software from Forsk (www.forsk.com). We use proprietary RF propagation models which are calibrated by an independent 3rd company.
 - 1) No test data was generated; only propagation plots.
 - 2) The Total ERP for each band is shown in Attachment 5 of the Technical Report that was submitted to the Council. The transmit / receive antennas are shown in Attachment 7 to the Application that was submitted to the Council.
 - 3) No drive test was performed on any of the alternate sites.

Question No. 2

Please state whether the Applicant considered using small cell technology to provide additional coverage and or capacity for the area targeted for coverage in this application.

Response

See Celco's Response to Council Interrogatory No. 11.

Question No. 3

If small cell technology¹ was considered, please describe any studies which were conducted to determine the suitability of small cell technology placed on or near state highways or rights-of-way would serve to provide the coverage and capacity required to meet the public need.

Response

See Celco's Response to Question No. 2 above.

Question No. 4

For any study identified in the previous interrogatory, please provide the data generated for each site so that the same may be evaluated for accuracy and provide the identity of the technical tools used to perform the study and the assumptions or inputs that gave rise to the data outputs so that the same may be reproduced and evaluated for accuracy.

- (a) Please provide the test data in non-proprietary format with column headers, such as .csv file.
- (b) Please include all inputs and assumptions (such as EIRP, transmit antenna, receive antenna and link budget parameters) used to gather the data.

¹ Small cell installation being defined in this instance as a wireless telecommunications facility less than 50 ft in height utilizing either CRAN or DAS-type configurations.

- (c) Indicate whether any post processing was performed on the drive test data supplied and what was done to it.

Response

See Cellco's Response to Question No. 2 above.

Question No. 5

Please state whether Verizon Wireless has implemented small cell installations for the purpose of providing coverage or capacity in Connecticut and how many such installations exist.

Response

Cellco has installed approximately 400 small cell facilities across the State of Connecticut. We estimate about 98% are for capacity enhancement and about 2% for very small localized coverage enhancement.

Question No. 6

Please state whether Verizon Wireless has implemented small cell installations for the purpose of providing coverage or capacity in other states and how many such installations exist.

Response

Cellco objects to the question as information related to the installation of small cells facilities outside the State of Connecticut is not relevant to the current proceeding.

Notwithstanding this objection, Cellco's Connecticut-based RF Engineering team has no direct knowledge of the use of small cell facilities in other states but expects that the use of small cells to address precise coverage and capacity problems is common among all wireless carriers.

Question No. 7

Please state whether Verizon Wireless is a carrier providing wireless telecommunications service through the small cell array located in Chilmark, Massachusetts.

- (a) If so, please provide a description of the number of nodes in that array, the type and capacity of power backup utilized, the square area of the coverage provided by the array (or a map of the coverage provided at the frequency bands utilized by Verizon) and the height of the antennas used by Verizon, the heights and types of the structures on which they are installed, the ERP used and the reason a macro tower was not utilized to provide coverage to that community.

Response

Cellco objects to the question as information about a small cell array in Chilmark, Massachusetts is not relevant to the current proceeding. Notwithstanding this objection, Cellco can confirm that it is collocated on the outdoor DAS (Distributed Antenna System) owned by American Tower Corporation in Chilmark, MA.

Question No. 8

The quality of the scans of the technical submissions to the Council are of limited quality such that text is illegible (e.g.: the limitations text at the bottom of the visual impact study cannot be read) preventing an understanding of the document. Please provide electronic original copies (typically pdf files from original electronic documents, not scans) of all materials submitted to Council.

Response

PDF files of all application materials are available on the Council's web site. Also, attached for WNNET's convenience is a disk containing a complete electronic copy of the Woodbridge North 2 Application.

Question No. 9

Please provide the SARF (site acquisition request form) and associated graphics (such as a search ring map and coverage maps produced contemporaneously with the SARF) that resulted in the present proposal.

Response

The search area maps for the Woodbridge North 2 Facility are available in Attachment 8 of the Application. The SARF information for the 118 Newton Road site is included in Attachment 1.

Question No. 10

Please provide copies of any communications between Verizon and its site acquisition personnel (including without limitation site acquisition company, employees and/or agents) regarding the initiation of and pursuit of site acquisition for the respective search ring.

Response

The SARF was issued in 2014 and the site acquisition agent involved at that time has moved on to another job. We were not able to retrieve any emails relating to the initiation or pursuit of that search ring.

Question No. 11

Provide the analysis and/or documentation upon which Verizon personnel determined there was a coverage and/or capacity need that led to the selection of a search ring and generation of a SARF. Such material may include, without limitation, coverage maps produced contemporaneously with the decision to establish a search ring, capacity metrics and trends for sectors of surrounding cell sites.

Response

The SARF was issued in 2014, and Cellco does not have any of the contemporaneous material you requested.

Question No. 12

In Attachment 14 of the Application, the general power density table first column deviates from the model found in the referenced Nov 10, 2015 Council memorandum by not including the air-interface technology with each band in the "Operator" column.

- (a) Which of the several frequency bands depicted in the table in Attachment 14 and the Attachment 6 coverage maps are presently providing which services?
- (b) Which are scheduled to be migrated to providing 5G NR services and when?

Response

- a) 850MHz will be providing a mix of 4G and 5G NR service
700MHz, 1900MHz, and 2100MHz will be providing 4G service.
- b) 2100MHz and possibly others will eventually be migrated to 5G NR.

Question No. 13

FCC licenses for WPLM399, WPOH945, WRDG500, WRBA734 and WRBA735 were included in the licenses in Appendix 05. Are these intended to be used at the site?

- (a) If so, are there coverage maps for these licenses provided?
- (b) Also, if so, why were they not included in the RF emissions analysis and the site drawings? And
- (c) if not, why were they included in the Appendix?

Response

WPLM399 (31GHz), WPOH945 (29GHz), WRDG500 (37GHz), WRBA734 (27GHz) and WRBA735 (27GHz) will not be deployed at this site for the foreseeable future and that is why we didn't provide coverage maps or RF emissions analysis for them.

All licenses currently owned by Cellco were included in Attachment 5 of the Application for completeness.

Question No. 14

CBRS (3.6 GHz band) and C Band (3.8 GHz band) equipment is included in Appendix 07 Antenna and Equipment Specs. No licenses and no coverage maps are provided for this band. These bands are not mentioned in the application narrative (p.8) What is Verizon's intention with regard to deployment of this kind of equipment at the proposed site?

Response

Cellco may deploy these frequencies in the future.

Question No. 15

Attachment 07 Antenna and Equipment specs shows three antennas: CBRS Clip-on, Commscope JHH-, and Samsung Massive MIMO. The narrative and site drawings call out 12 antennas for installation on the proposed tower.

(a) How many of each antenna type are proposed in each sector?

Response

The drawings show 12 antennas because that is what Cellco typically installs on new cell sites.

Question No. 16

In reference to Application narrative p.7 "significant portions of Town where reliable

service is lacking in all of Cellco's operating frequencies.”

- (a) Are significant portions of the Town lacking reliable 700 MHz Cellco service? If so, please describe.
- (b) Are significant portions of the Town lacking reliable 800 MHz Cellco service. If so, please describe.

Response

Significant portions of the town are lacking reliable 700 MHz and 850 MHz service. These are the areas shown in yellow on the existing coverage plots that were previously submitted. The area can be roughly described as a 1 mile radius circle around the proposed tower.

Question No. 17

Please provide drive test map documents of the March 10, 2021 drive test, if any were prepared.

- (a) Please provide drive test data in non-proprietary format with column headers, such as .csv file.
- (b) Please include all inputs and assumptions (such as EIRP, transmit antenna, receive antenna and link budget parameters) used to gather the data.
- (c) Indicate whether any post processing was performed on the drive test data supplied and what was done to it.

Response

The drive test plots are included in Attachment 2. The data was post-processed to model the proposed antennas and orientations:

Antennas: Commscope JAHH-65C-R3B.

Orientations: 60, 180, 300.

CERTIFICATION OF SERVICE

I hereby certify that on this 17th day of August 2021, a copy of the foregoing was sent, via electronic mail, to the following:

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Kenneth C. Baldwin

ATTACHMENT 1

SARF

| | |
|---|--|
| Project Name : <i>WOODBIDGE NORTH 2 CT - New Build</i> | Task Submitted On : <i>05/15/2014</i> |
| Task Submitted By : <i>Jaime Laredo</i> | |

Site Acquisition Request Form (SARF)

GeoPlan Market: NewEnglandWest **Location Name:** WOODBRIDGE NORTH 2 CT
Area: Northeast **Region:** New England West **Market:** Wallingford 1

Issue Date: *05/15/2014* **Site Name:** *WOODBIDGE NORTH 2 CT*
From: *Jaime Laredo* **Type:**
Request Type:

Project Title: *WOODBIDGE NORTH 2 CT - New Build* **Budget:**
Desired In-Service Date: *10/31/2015* **Site Location Type:** *Permanent*
Project Manager: *Maria Montrose* **Acquisition:**
Priority: *X*

Coverage Objective:
Coverage enhancement along Rt-63, Rt-67, and surrounding residences

Further Explanation:

Special Instructions:

Type of Site
 700

Preferred Location:

| | |
|--|--|
| <p>Center of Search Ring Latitude: <i>41-22-42.60 N</i> Longitude: <i>73-00-11.52 W</i> Datum: <i>NAD83</i> Radius of Search Ring (mi):</p> | <p>Street Address: Search Ring Center City: <i>Woodbridge</i> Search Ring Center County: <i>New Haven</i> Search Ring Center State: <i>CT</i> Search Ring Center Zip Code: <i>06525</i></p> |
|--|--|

| | |
|---|---|
| <p>Voltage (V): Amperage (A): Phase:</p> | <p>Donor Site Name: Donor Site Sector:</p> |
|---|---|

| | |
|--|---|
| <p>Antenna Center Line (ft AGL): <i>80.00</i> Building Height Req.:</p> | <p>Min Center Line (ft AGL): Max Center Line (ft AGL):</p> |
|--|---|

Generator?:

Equipment Requirements

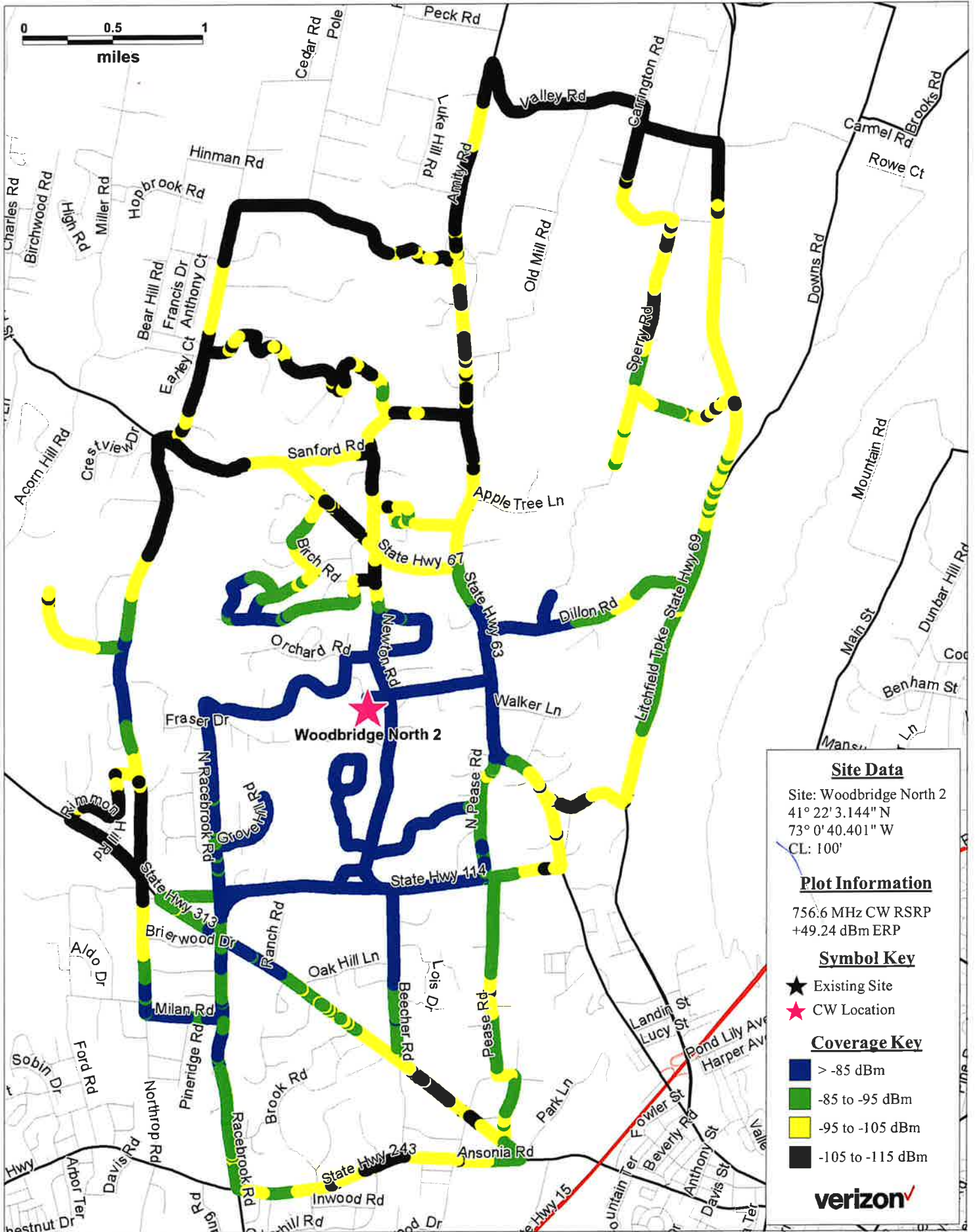
Number of Sectors

Whip:
Panel:
Link:

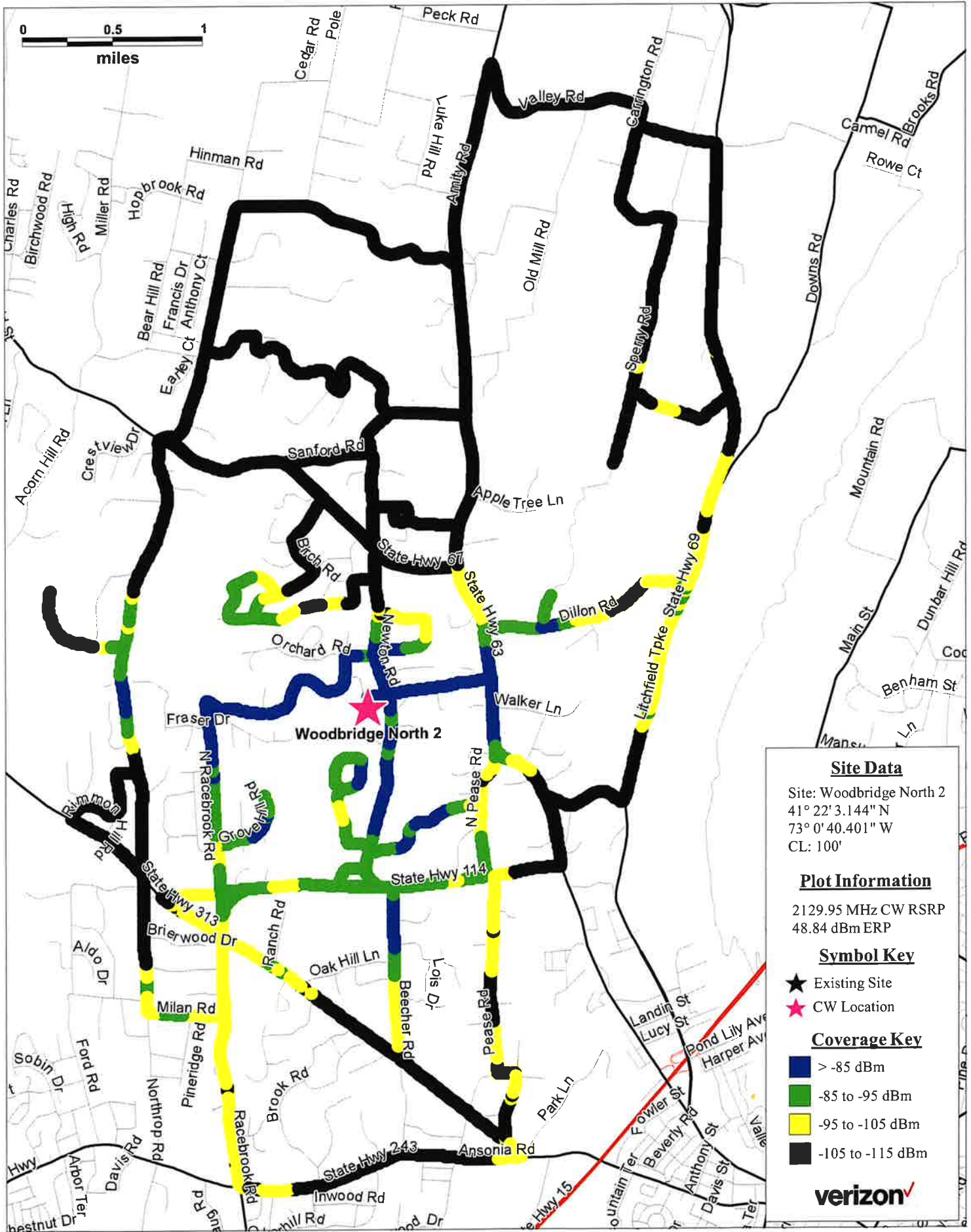
| Current | | Quantity | Size | Future | | Quantity | Size |
|---------|--|----------|------|--------|--|----------|------|
| Whip: | | | | Whip: | | | |
| Panel: | | | | Panel: | | | |
| Link: | | | | Link: | | | |

ATTACHMENT 2

WOODBIDGE N2 - CW Test - 756.6MHz



WOODBIDGE N2 - CW Test- 2,129.95MHZ



Site Data
 Site: Woodbridge North 2
 41° 22' 3.144" N
 73° 0' 40.401" W
 CL: 100'

Plot Information
 2129.95 MHz CW RSRP
 48.84 dBm ERP

Symbol Key
 ★ Existing Site
 ★ CW Location

Coverage Key
 > -85 dBm
 -85 to -95 dBm
 -95 to -105 dBm
 -105 to -115 dBm

verizon