



Homeland Towers, LLC

NY578 GRANITE SPRINGS SITE

62 Granite Springs Rd
Yorktown, New York

RF COVERAGE AND ANALYSIS REPORT

February 24, 2026

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EXPERT WITNESS RF ANALYSIS AND REPORT

The subject site was identified as a suitable location for a wireless communications facility and meets Verizon Wireless's coverage objectives in the Town of Yorktown and supports additional carrier collocation. The proposed NY578 Granite Springs site will be located on a proposed 130-foot monopole located at 62 Granite Springs Rd in Yorktown, NY. Verizon Wireless proposes to install its antennas at the centerline of 126 feet Above Ground Level (AGL).

QUALIFICATIONS

V-COMM, L.L.C. is a telecommunications engineering firm primarily focused on providing engineering and related services to municipalities and wireless carriers in the telecommunication industry. V-COMM was founded in 1995 with the intent of providing services to the emerging wireless and wired segments of the telecommunication industry. V-COMM's client base includes governmental entities, PCS operators, cellular, paging, ESMR and microwave operators, utility/telecommunications cooperatives, cable TV operators and Competitive Local Exchange Carriers (CLECs). Primary engineering and related services performed for these clients over the past twenty years include:

- RF Network Design, Implementation and Optimization
- Interconnect Network Design, Implementation and Optimization
- Telephony Signaling (SS-7) and Vertical Systems Design and Implementation
- Local Government Communication Systems
- Project Management of Network Implementation
- Expert Witness Zoning Testimony
- License Tender/Bid Technical Support

(Please see Mr. Vilecco's and Mr. Stern's resumes at the end of the report)



WIRELESS SYSTEMS

The FCC licenses a specific and limited amount of radio frequency (RF) spectrum to each wireless carrier and stipulates that each carrier efficiently uses that spectrum to adequately service the public in its licensed areas. Proper network design and functionality requires the continuous reuse of the allocated radio frequencies throughout the licensed service area. This is accomplished by building small radio base stations, or cell sites, in a particular pattern (also known as a grid, which resembles honeycomb “cells” (hence the origin of the name “cellular” phones). The reuse of frequencies throughout the grid allows the wireless carrier the technical ability to provide service and is essential to the proper functionality of a cellular telephone system. By implementing this necessary technique (as originally defined by Bell Labs and further refined by the wireless industry), the same radio frequency can be reused at reasonably close intervals throughout the licensed area, without causing interference and defeating the functionality of the system. Noisy or dropped calls or the inability to originate a call are typical manifestations of interference.

When designing a wireless network, an RF Engineer starts with a theoretical grid pattern and applies it to the licensed area. Each licensed area has many variables that can affect the design and must be considered. These variables include terrain features, location of neighboring cell sites, land use considerations, zoning ordinances, availability of existing structures, traffic distribution and many others. In order to provide effective coverage while maintaining an efficient frequency reuse plan, the design engineer must perform a balancing test of all applicable variables. In short, there is often very limited flexibility as to where a cell site can be placed, and still work properly within the network.

The primary variables that the engineer must take into consideration are the location and the overall height of the cell site. If a cell site is too high, the signal will travel too far, and cause unacceptable interference throughout the rest of the wireless network. If a cell site is too low, it will fail to service the cell, and will fail to reach the neighboring cells and provide proper “handoff” to the neighboring cell.

A proper wireless network design begins with carefully and strategically located cell sites. As mentioned above, cell site location is critical to proper network functionality. Every cell site requires a structure for the antennae, such as a tower, building, steeple, water tank or sufficiently high structure on which antennas can be mounted. Typically, radio-transmitting equipment necessary for the antennas to function (i.e., the base station) is located at the base of the structure. Radio signals leave the base station and travel through transmission lines to the antennas, or from fiber optic cable to the remote radio head (RRH) at the top of structure and then to the antennas. Radio signals are broadcast through the antennas and travel to the customer’s wireless phone, completing a call to the user. When a wireless user places a call, the signal is received by the antennas and travels down the transmission line and into the base station. The base station converts the signal into digital data and combines it with all the other wireless calls and digital traffic at that cell site. This data is then sent over fiber optic digital lines to the main switching computer. The main switching computer or Mobile Switching Center (MSC) is interconnected to the Public Switched Telephone Network (PSTN) and Internet Service Providers (ISP), where calls are routed to other wireless or land-line phones or internet locations.



As this technology enables mobile calling, once a wireless call is originated and the customer travels away from the cell site of origination, the system tracks the changes and begins a process of determining whether there is an available cell site that would provide more reliable service. Upon determination of a stronger serving site, the system automatically switches the wireless customer over to the new cell site. This process is known as a “handover” or “handoff” and allows for proper, seamless coverage within a wireless carrier’s service area. By design, this process is supposed to happen so quickly that the wireless customer does not perceive it. If the network is designed properly, there is no interruption of service and connection quality remains adequate. This necessary design requires the proper location of sites, with minimal variance from the original grid pattern.

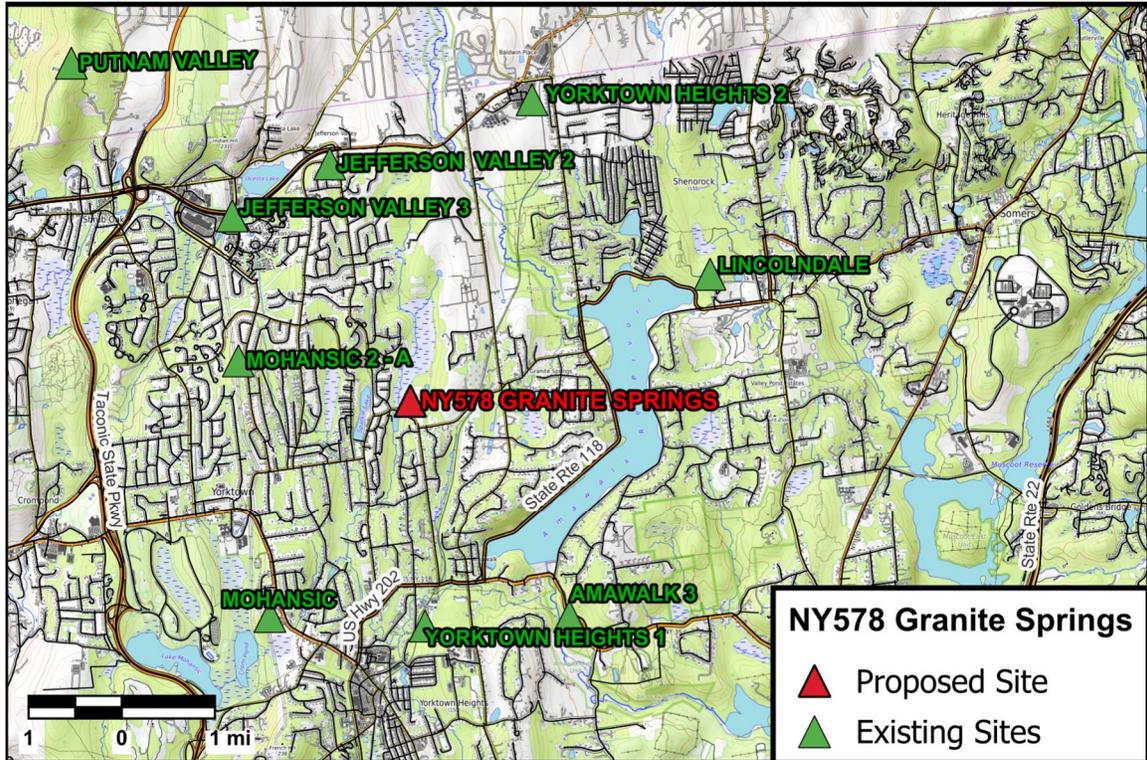
EXISTING AND PROPOSED SITES IN & NEAR YORKTOWN, NY

V-COMM has identified the existing surrounding sites in the area of the proposed structure in the Town of Yorktown based on information provided by Verizon Wireless. The proposed and existing sites are listed in Table 1 below, and are depicted in the map shown in Figure 1.

TABLE 1 – EXISTING AND PROPOSED SITES IN AND AROUND THE TOWN OF YORKTOWN, NY

Cell Name	Address	Structure Type	Antenna C/L in Ft.
NY578 Granite Springs (Proposed Site)	62 Granite Springs Rd Yorktown, NY	Monopole	126
Jefferson Valley 2	3830 Gomer St Yorktown Heights, NY	Rooftop	50
Jefferson Valley 3	3600 Hill Blvd Jefferson Valley, NY	Monopole	127
Putnam Valley	15 Bel Lago Dr Putnam Valley, NY	Monopole	105
Lincolndale	87 US-202 Mahopac, NY	Monopole	98
Yorktown Heights 1	2200 Greenwood St Yorktown Heights, NY	Monopine	125
Yorktown Heights 2	80 Route 6 Somers, NY	Rooftop	93
Amawalk 3	2580 Route 35 Somers, NY	Monopine	117
Mohansic	2281 Crompond Rd Yorktown Heights, NY	Monopole	150
Mohansic 2-A	3101 – 3103 Quinlan St Yorktown Heights, NY	Monopole	123

Figure 1 – Existing Verizon Wireless Facilities





RF COVERAGE

V-COMM analyzed whether there was sufficient reliable RF coverage in the area of the proposed site and found insufficient and inadequate reliable coverage for Verizon Wireless in the 2100 MHz frequency band in this section of the Town of Yorktown. In cases where the existing reliable coverage in the 2100 MHz band is not adequate but there is reliable coverage on the 700 MHz band, all traffic is forced to the lower band channels. This represents only about 10% of the spectrum available to Verizon. A new facility is needed to fill the gap in high-band coverage to provide reliable service across all radio spectrum available to Verizon Wireless.

The subject site was identified as a suitable location for a wireless communications facility and meets Verizon Wireless' coverage objectives in the Town of Yorktown. The proposed NY578 Granite Springs site will be located on a proposed 130-foot monopole located at 62 Granite Springs Rd in the Town of Yorktown, NY. Verizon Wireless proposes to install its antennas at the centerline of 126 feet above ground level (AGL). This represents the minimum height needed to provide the coverage to the surrounding area for the Verizon Wireless network and allow space for future carrier collocation. The height of the subject site places it above all the vegetation and terrain elevations in the targeted coverage area, increasing the site's coverage and service area. Considering the coverage area and design requirements for this town, the proposed site proves to be a suitable location. The proposed monopole will have the ability to support collocation of at least two (2) to three (3) additional wireless service providers, enabling them to add antennas to the monopole to supply supplementary coverage to the areas surrounding the site, as well. It will also allow space on the tower for the Town's emergency service facilities.

For this section of the Town of Yorktown, the subject site serves a predominately suburban region with heavily forested areas. As the antenna center line (ACL) descends from the proposed 126 feet, it enters a range where clutter becomes an increasingly problematic factor. Examples of clutter are trees, houses, buildings, soil, and other physical objects on the ground. Clutter attenuates or weakens and disperses the RF energy necessary for wireless telecommunications.

The propagation maps shown below provide the service area for the Reference Signal Received Power (RSRP) level that is the minimally acceptable received signal level for adequate service. The radio signal propagation and RSRP level includes the surrounding environment and the attenuation of in-building and in-vehicle use of service. The propagation maps below show the minimum acceptable coverage criteria (LTE signal level requirement of -95 dBm) to provide reliable wireless service to customers located inside buildings. In-building coverage is used as the target for reliable coverage because a majority busy hour traffic occurs after 7pm, when traffic on the roads is minimal and people are using their devices at their residences.

The propagation map shown in Figure 2 depicts the Best Server plot, color coding each sector of a site to identify the sector providing strongest coverage into an area. This is not a traditional coverage map. This map was generated at 700 MHz to show which surrounding site provides the strongest signal in a given area. In the area of the proposed facility, a majority of the area is covered by the Mohansic 2 site. The sites Yorktown Heights 1 and Mohansic provide the strongest coverage into the residential areas to the south of

the proposed site. The sites Yorktown Heights 1 and Lincolndale provide strongest coverage to the east of the proposed site in Somers. As will be shown in Figure 4, none of these sites provide coverage in 2100 MHz in the area of the proposed site.

The propagation map shown in Figure 3 depicts the existing wireless service from the nearest sites in the 700 MHz band. This map shows that there are gaps in coverage that do not maintain reliable indoor coverage (shown as -95 dBm in green), These gaps include areas along Curry Street and Douglas Drive north of the proposed site, and Gregory Street and Dunning Drive to the southwest of the proposed site.

The propagation map shown in Figure 4 depicts wireless service from the nearest existing sites in the 2100 MHz band. This map shows that there is a gap in coverage in this area including residential communities along Granite Springs Road, Curry Street, Douglas Drive, Hyatt Street, Broad Street, Loader Road, and Quaker Church Road.

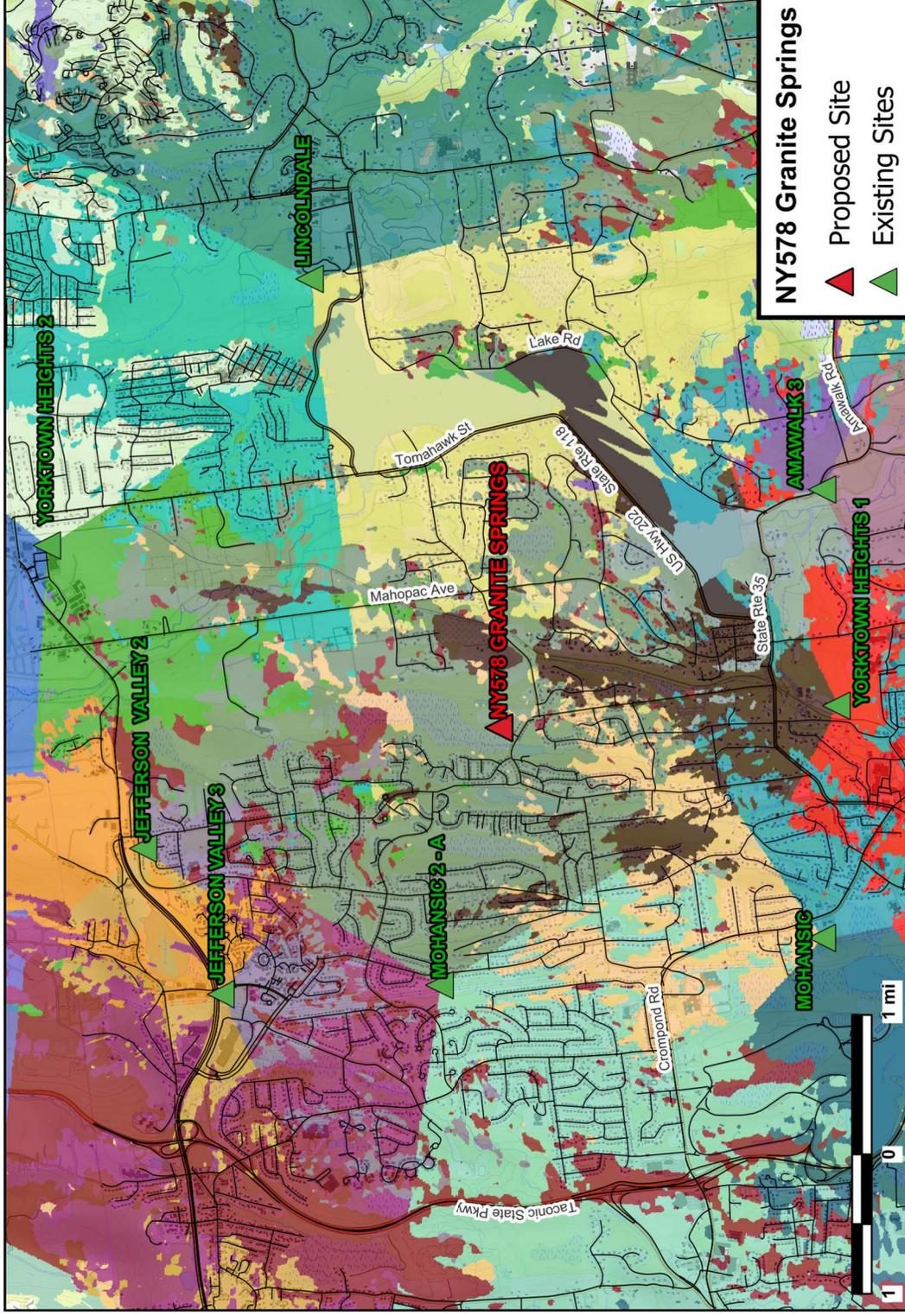
The propagation map shown in Figure 5 depicts the wireless service from the nearest existing sites with the addition of the proposed site in the 700 MHz band. This map shows there is increased reliable indoor, coverage in 700 MHz band along Granite Springs Road, Curry Street, Hyatt Street, Quaker Church Road, and Evergreen Street.

The propagation map shown in Figure 6 depicts wireless service from the nearest existing sites with the addition of the proposed site in the 2100 MHz. This map shows that there is new, reliable coverage in the area including residential communities along Granite Springs Road, Curry Street, Douglas Drive, Hyatt Street, Broad Street, and Quaker Church Road.

The propagation maps show in Figures 3 through 5 show that there is a significant gap in coverage in the 2100 MHz band. The proposed site will fill that coverage gap, while also providing additional enhanced coverage in the area in the 700 MHz band. This site will offload traffic on the 700 MHz band from the neighboring Mohansic 2-A, Mohansic, and Yorktown Heights 1 sites. By offloading this traffic on 700 MHz and providing reliable 2100 MHz coverage, data capacity availability will be greatly increased in the area.

The proposed site is meant to increase reliable coverage in the area of Yorktown. A new site may also be required in the future to the west in the area of Granite Springs Road and Tomahawk Street in Somers.

Figure 2 – Best Server 700 MHz



* This is NOT a coverage map. This is a Best Server map meant to show the site that provides the strongest signal in an area.

Figure 3 – Verizon Wireless Existing 700 MHz Coverage

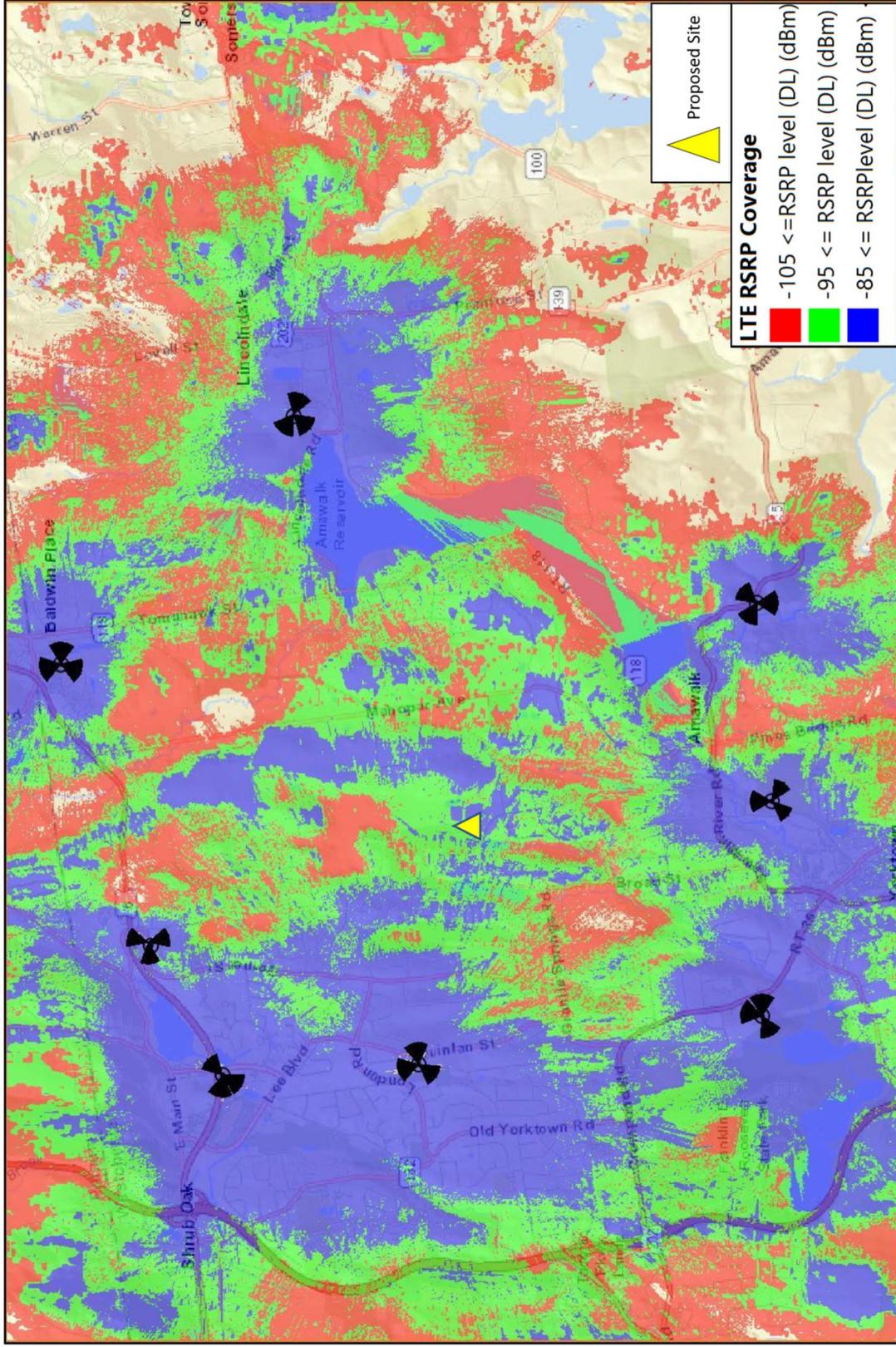


Figure 4 – Verizon Wireless Existing 2100 MHz Coverage

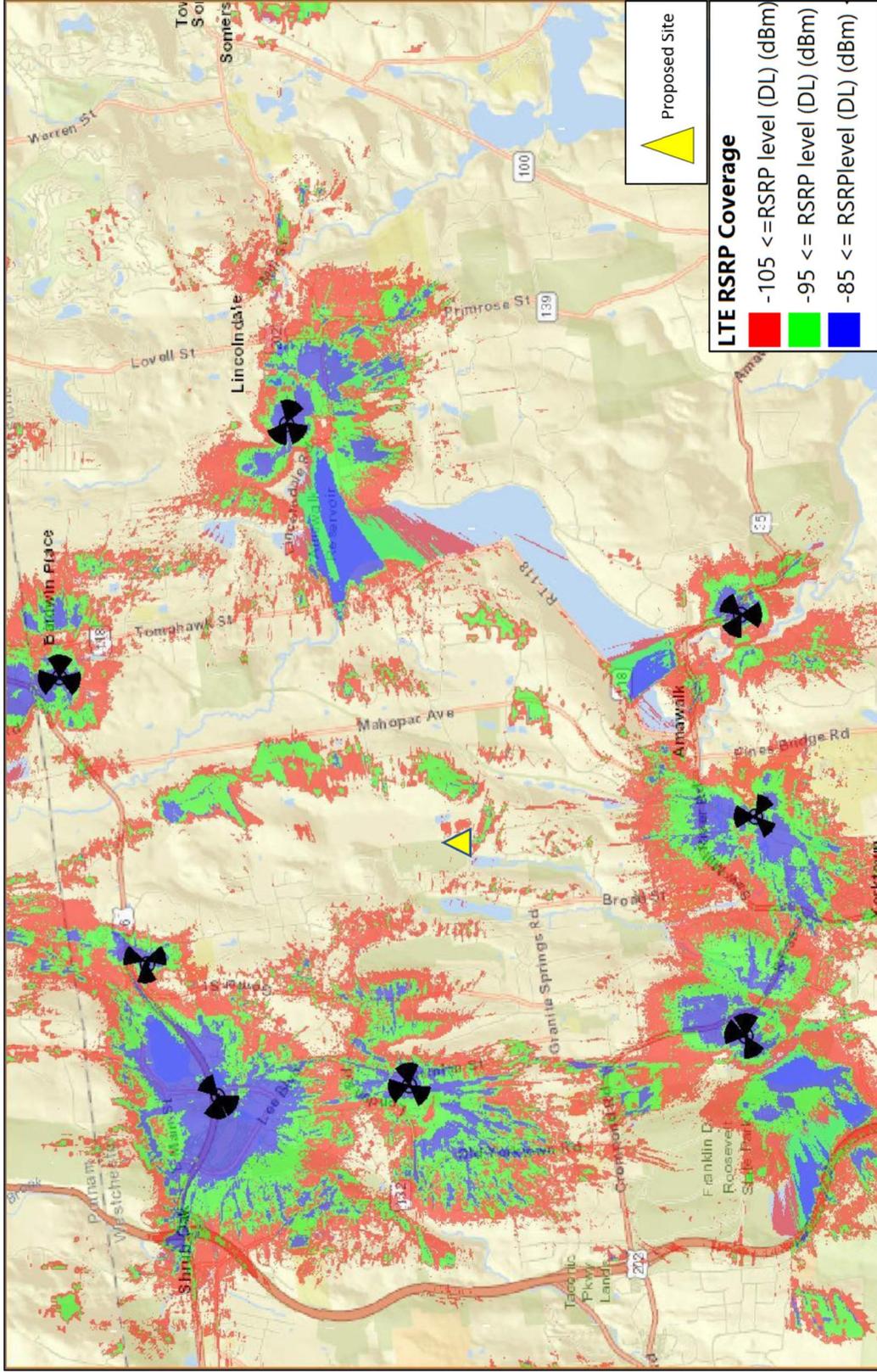


Figure 5 – Verizon Wireless Proposed 700 MHz Coverage with NY578 Granite Springs

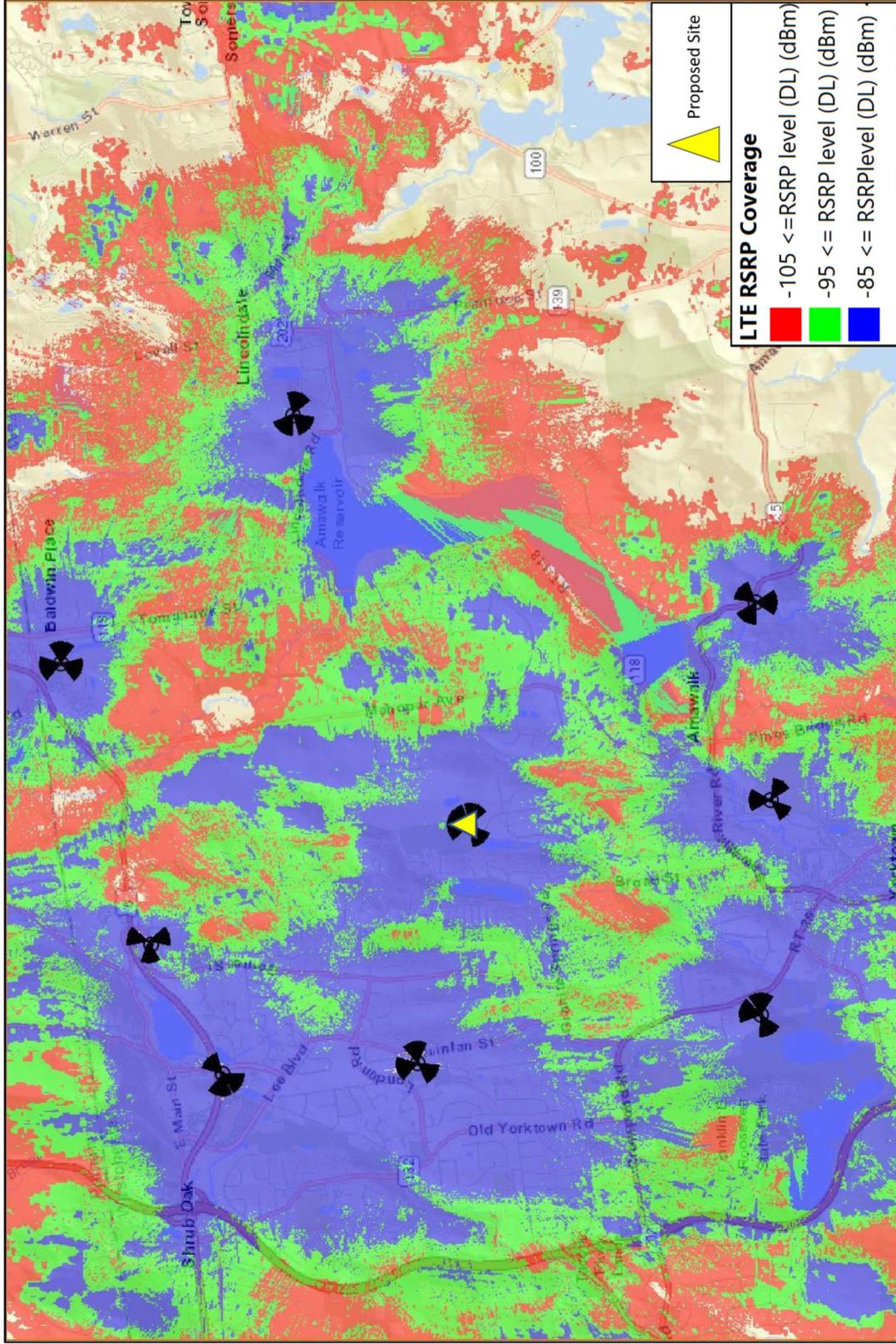
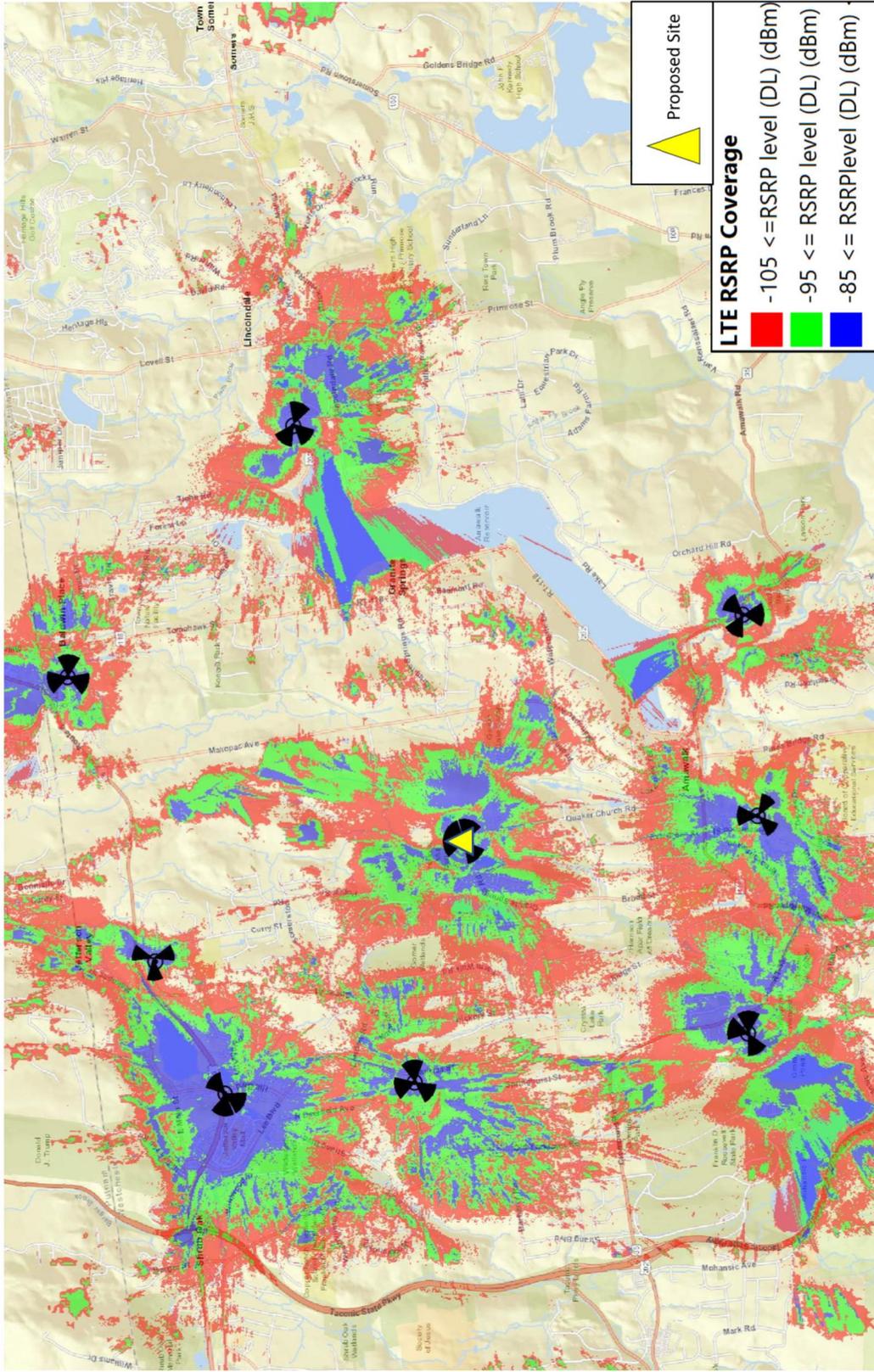


Figure 6 – Verizon Wireless Proposed 2100 MHz Coverage with 'NY578 Granite Springs'





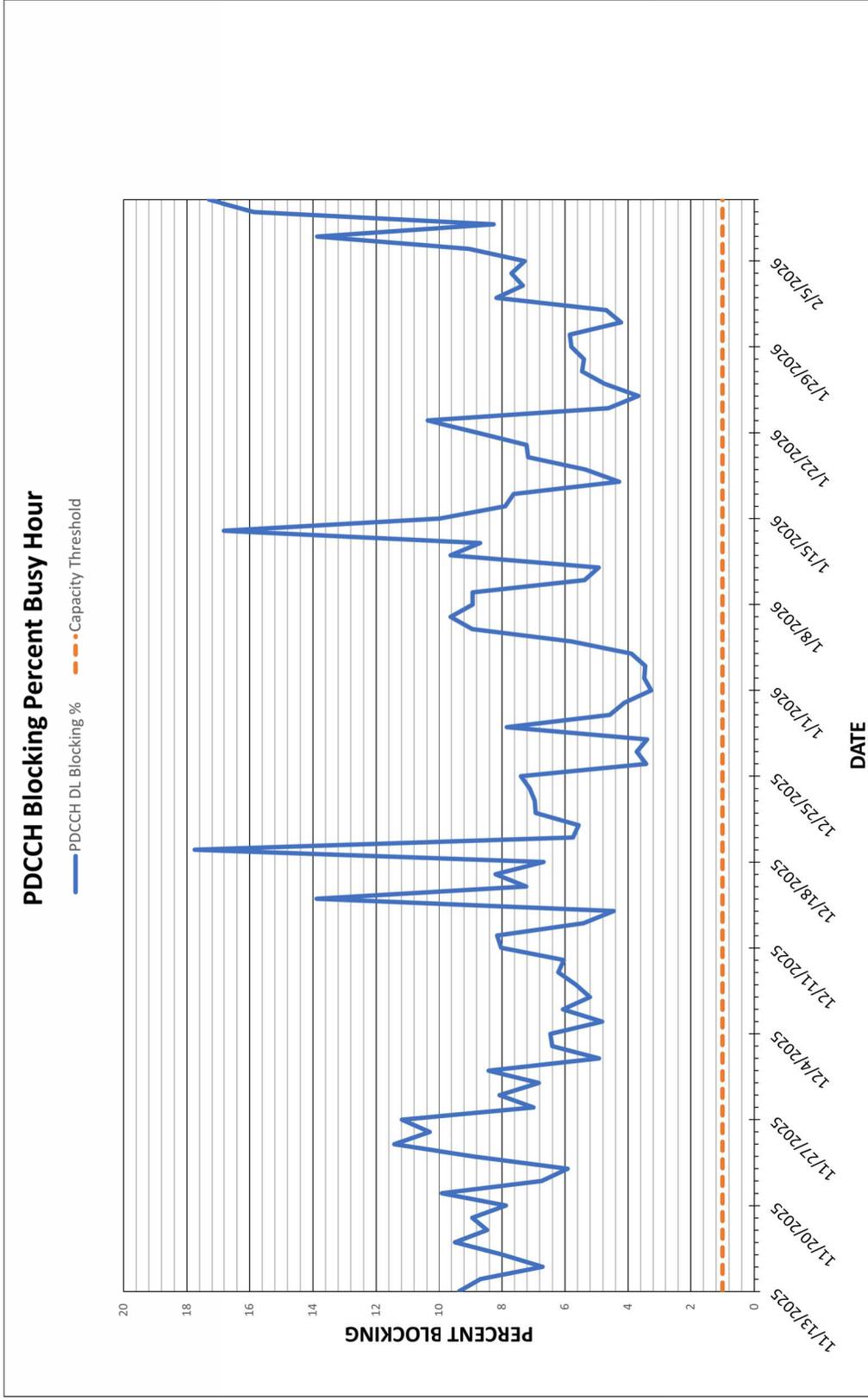
CAPACITY

As stated earlier, Verizon Wireless relies on all of their spectrum to provide reliable service to their customers. When a portion of that spectrum is not available, there is less capacity available to the network to service customers. The area of the proposed site lacks coverage in mid-band frequencies, leading all service requests to be provided by low-band frequencies representing approximately 10% of the spectrum available to Verizon Wireless to provide services. Without this mid-band spectrum, the network attempts to schedule all traffic to the low-band frequencies in this area. This causes the network to reach exhaust and block requests being made by users to access the network. Users would see their devices would have coverage, but usage requests (phone calls, text messages, videos, etc.) would be delayed or rejected.

In 5G and LTE, these access requests are provided by the Physical Downlink Control Channel (PDCCH). The PDCCH acts as a scheduler, containing the information necessary for user equipment to access the network. If there are no resources available to schedule a user, this will be reflected as blocking on the PDCCH. To maintain an acceptable grade service, the percent blocking on the PDCCH is targeted to stay below 1% during the network busy hour.

The Mohansic 2 Alpha sector provides a majority of the low-band coverage into the area of the proposed site today as shown in Figure 2. Figure 7 depicts the previous three months of busy hour data for the PDCCH Blocking Percentage for this sector. Over the past three months, this sector has exceeded the 1% blocking threshold on the PDCCH, averaging around 8% blocking during busy hour and having a peak of 17.75% blocking during busy hour. This sector cannot service all the usage requests made to the network due to the lack of available spectrum resources in this area. The proposed site would offload the users to new low-band coverage and new mid-band coverage, providing capacity relief to the Mohansic 2 Alpha sector. Users can expect a more reliable connection to the network during busy hours and in emergencies when usage requests are increased.

Figure 7 – Mohansic 2 (Alpha Sector)





HEIGHT ANALYSIS

V-COMM also reviewed if the proposed 130-foot tower was the minimum height to increase coverage but also allow for collocation on the tower. The propagation maps in Figure 7 and Figure 8 depict the predicted coverage if the proposed tower was reduced to 110 feet (106-foot antenna centerline).

Figure 7 shows a reduction in the enhanced coverage area in the 700 MHz band the proposed site will add when compared against Figure 5 from earlier. Figure 8 shows a reduction in the reliable in-building coverage area in the 2100 MHz band the proposed site will add when compared against Figure 6. There is less in-building coverage to the north along Curry Street and other secondary roads. There is also less in-building coverage to the west along Granite Springs Road and Hyatt Street.

As the top proposed height is reduced, the planned collocation spaces will become unable to provide sufficient reliable coverage to their customers. Due to the reduction in reliable coverage footprint, future collocation at 96, 86, and 76 feet would be likely infeasible.

Figure 7 – Verizon Wireless 700 MHz Coverage at 106 ft

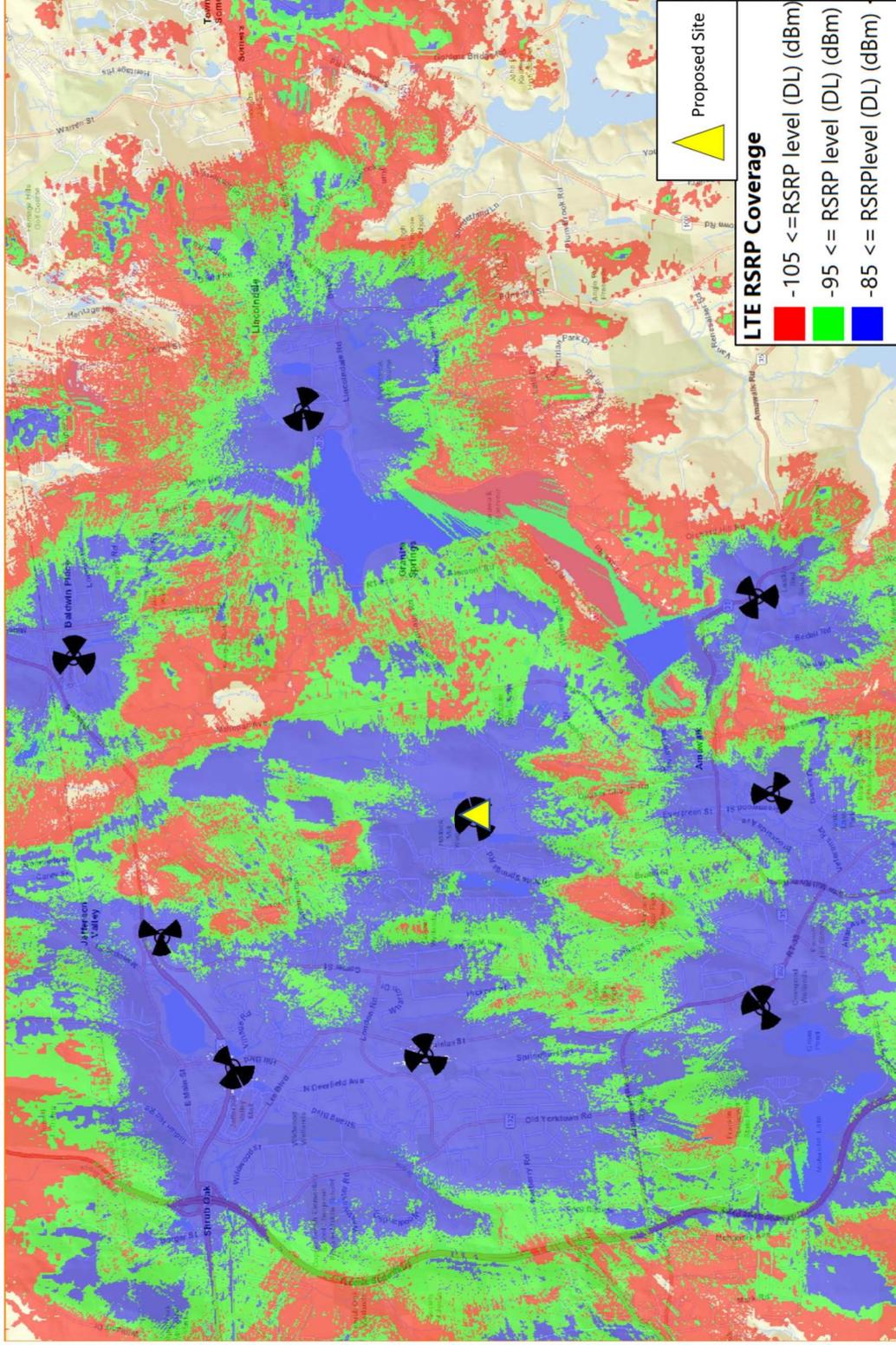
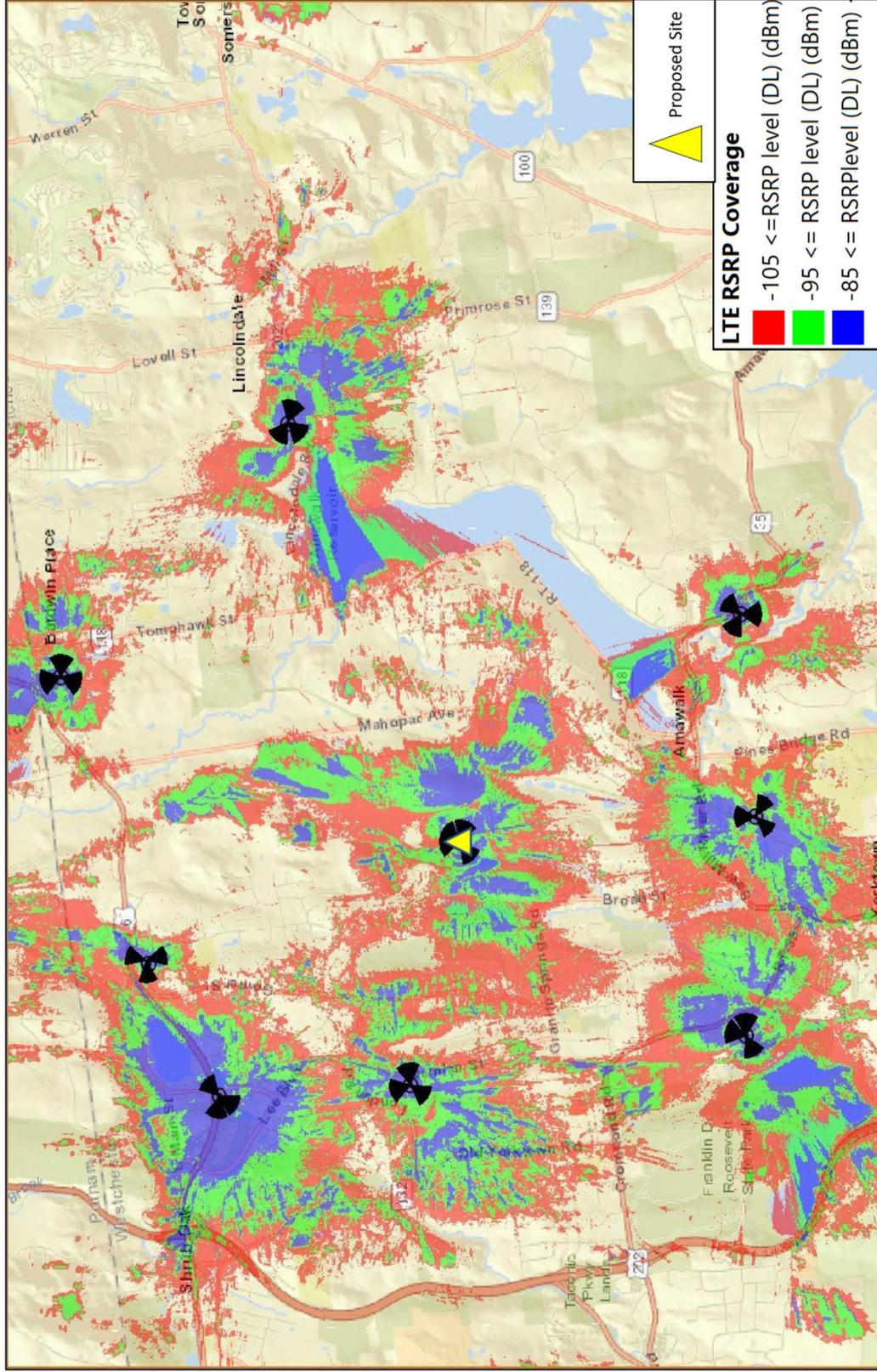


Figure 8 – Verizon Wireless 2100 MHz Coverage at 106 ft





SITE TECHNICAL INFORMATION

Verizon Wireless will deploy three (3) types of Remote Radio Units (RRU) and two (2) types of antennas at this facility. The tables below detail the frequency band and technology each will support.

RRUs

Make	Model	700	850	1900	AWS	C-Band
Samsung	MT6413-77A					5G
Samsung	RF4461d-13A	LTE	5G, LTE			
Samsung	RF4461d-25A			5G	LTE	

Antennas

Make	Model	700	850	1900	AWS	C-Band
CommScope	NHH-65C-HG-R2B	LTE	5G, LTE	5G	LTE	
Samsung	MT6413-77A					5G

Sectors

	Sector 1	Sector 2	Sector 3	Sector 4
Azimuth	110	230	350	40

Technologies

Protocol	Band	Channel	Center Frequency (MHz)	Bandwidth (MHz)	Transmit Power (dBm)	Effective Radiated Power (W/MHz)
LTE	B13 (700)	5230	751	10	46	81.42 ERP
LTE	B5 (850)	2560	885	10	46	365.44 ERP
LTE	B4 (2100)	2050	2120	20	49	223.73 EIRP
5G	n5 (850)	177000	885	10	46	365.44 ERP
5G	n2 (1900)	396000	1980	20	49	243.92 EIRP
5G	n77 (C-Band)	650006	3750.09	100	54.4	1170.73 EIRP
5G	n77 (C-Band)	655324	3,829	60	54.4	1480.85 EIRP

EXISTING SITE TECHNICAL INFORMATION

The table below contains all information used to generate the coverage studies. All coverage studies were generated in ATOLL.

<u>Site</u>	<u>Sector</u>	<u>Carrier</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Antenna</u>	<u>Azimuth (°)</u>	<u>Centerline (ft)</u>	<u>Total EIRP (W)</u>
JEFFERSON_VALLEY2	1	B4_20MHz_2050	41.335517	-73.787242	NNH4-45A-R3B-V1_Port 10 - 45_02DT_2110	165	50	1207.26
JEFFERSON_VALLEY2	1	B13_10MHz_5230	41.335517	-73.787242	NNH4-45A-R3B-V1_Port 4 - 45_02DT_0718	165	50	397.92
JEFFERSON_VALLEY2	2	B4_20MHz_2050	41.335517	-73.787242	NNH4-45A-R3B-V1_Port 10 - 45_02DT_2110	265	50	1207.26
JEFFERSON_VALLEY2	2	B13_10MHz_5230	41.335517	-73.787242	NNH4-45A-R3B-V1_Port 4 - 45_02DT_0718	265	50	397.92
JEFFERSON_VALLEY2	3	B4_20MHz_2050	41.335517	-73.787242	NNH4-45A-R3B-V1_Port 10 - 45_02DT_2110	15	50	1207.26
JEFFERSON_VALLEY2	3	B13_10MHz_5230	41.335517	-73.787242	NNH4-45A-R3B-V1_Port 4 - 45_04DT_0718	15	50	397.92
JEFFERSON_VALLEY_3	1	B4_20MHz_2050	41.329218	-73.802364	NHH-65B-HG-R2B_P3-6_T00_2110-Blended	45	127	1887.99
JEFFERSON_VALLEY_3	1	B13_10MHz_5230	41.329218	-73.802364	NHH-65B-HG-R2B_P1-2_T00_0750-Blended	45	127	881.05
JEFFERSON_VALLEY_3	2	B4_20MHz_2050	41.329218	-73.802364	NHH-65B-HG-R2B_P3-6_T00_2110-Blended	210	127	1887.99
JEFFERSON_VALLEY_3	2	B13_10MHz_5230	41.329218	-73.802364	NHH-65B-HG-R2B_P1-2_T00_0750-Blended	210	127	881.05
JEFFERSON_VALLEY_3	3	B4_20MHz_2050	41.329218	-73.802364	NHH-65B-HG-R2B_P3-6_T00_2110-Blended	280	127	1887.99
JEFFERSON_VALLEY_3	3	B13_10MHz_5230	41.329218	-73.802364	NHH-65B-HG-R2B_P1-2_T00_0750-Blended	280	127	881.05
PUTNAM_VALLEY	1	B4_20MHz_2050	41.347036	-73.827357	xx_2100MHz_2DT_Port3_V0P-MX10FIT665-	41	105	1548.82
PUTNAM_VALLEY	1	B13_10MHz_5230	41.347036	-73.827357	xx_750MHz_2DT_Port2_V0P-MX10FIT665-	41	105	575.44
PUTNAM_VALLEY	2	B4_20MHz_2050	41.347036	-73.827357	xx_2100MHz_2DT_Port3_V0P-MX10FIT665-	150	105	1548.82
PUTNAM_VALLEY	2	B13_10MHz_5230	41.347036	-73.827357	xx_750MHz_2DT_Port2_V0P-MX10FIT665-	150	105	575.44
PUTNAM_VALLEY	3	B4_20MHz_2050	41.347036	-73.827357	xx_2100MHz_2DT_Port3_V0P-MX10FIT665-	260	105	1548.82

Site	Sector	Carrier	Latitude	Longitude	Antenna	Azimuth (°)	Centerline (ft)	Total EIRP (W)
PUTNAM_VALLEY	3	B13_10MHz_5230	41.347036	-73.827357	MX10FIT665-xx_750MHz_2DT_Port2_V0P	260	105	575.44
LINCOLNDALE	1	B4_20MHz_2050	41.322316	-73.728187	JAHH-65A-R3B_0DT_2100MHZ	110	98	1395.08
LINCOLNDALE	1	B13_10MHz_5230	41.322316	-73.728187	JAHH-65A-R3B_7_02EDT	110	98	570.03
LINCOLNDALE	2	B4_20MHz_2050	41.322316	-73.728187	JAHH-65A-R3B_0DT_2100MHZ	222	98	1395.08
LINCOLNDALE	2	B13_10MHz_5230	41.322316	-73.728187	JAHH-65A-R3B_7_02EDT	222	98	570.03
LINCOLNDALE	3	B4_20MHz_2050	41.322316	-73.728187	JAHH-65A-R3B_0DT_2100MHZ	305	98	1395.08
LINCOLNDALE	3	B13_10MHz_5230	41.322316	-73.728187	JAHH-65A-R3B_7_02EDT	305	98	570.03
YORKTOWN_HEIGHTS_2	1	B4_20MHz_2050	41.342756	-73.755828	SBNHH-1D65B-B P3-6_T00_Az+0_2110-Blended	92	93	1782.38
YORKTOWN_HEIGHTS_2	1	B13_10MHz_5230	41.342756	-73.755828	SBNHH-1D65B-B P1-2_T00_Az+0_0750-Blended	92	93	732.82
YORKTOWN_HEIGHTS_2	2	B4_20MHz_2050	41.342756	-73.755828	SBNHH-1D65B-B P3-6_T00_Az+0_2110-Blended	202	93	1782.38
YORKTOWN_HEIGHTS_2	2	B13_10MHz_5230	41.342756	-73.755828	SBNHH-1D65B-B P1-2_T00_Az+0_0750-Blended	202	93	732.82
YORKTOWN_HEIGHTS_2	3	B4_20MHz_2050	41.342756	-73.755828	SBNHH-1D65B-B P3-6_T00_Az+0_2110-Blended	342	93	1782.38
YORKTOWN_HEIGHTS_2	3	B13_10MHz_5230	41.342756	-73.755828	SBNHH-1D65B-B P1-2_T00_Az+0_0750-Blended	342	93	732.82
AMAWALK 3_L	1	B4_20MHz_2050	41.282403	-73.750119	NHH-65A-R2B_PORT 3 +45_00DT_2110	40	117	1297.18
AMAWALK 3_L	1	B13_10MHz_5230	41.282403	-73.750119	NHH-65A-R2B_PORT 1 +45_00DT_0752	40	117	562.08
AMAWALK 3_L	2	B4_20MHz_2050	41.282403	-73.750119	NHH-65A-R2B_PORT 3 +45_00DT_2110	180	117	1297.18
AMAWALK 3_L	2	B13_10MHz_5230	41.282403	-73.750119	NHH-65A-R2B_PORT 1 +45_00DT_0752	180	117	562.08
AMAWALK 3_L	3	B4_20MHz_2050	41.282403	-73.750119	NHH-65A-R2B_PORT 3 +45_00DT_2110	300	117	1297.18
AMAWALK 3_L	3	B13_10MHz_5230	41.282403	-73.750119	NHH-65A-R2B_PORT 1 +45_00DT_0752	300	117	562.08
MOHANSIC 3	1	B13_10MHz_5230	41.28244167	-73.796525	NHH-65A-R2B_PORT 1 +45_01DT_0752	90	150	562.08
MOHANSIC 3	2	B13_10MHz_5230	41.28244167	-73.796525	NHH-65A-R2B_PORT 1 +45_01DT_0752	242	150	562.08
MOHANSIC 3	3	B13_10MHz_5230	41.28244167	-73.796525	NHH-65A-R2B_PORT 1 +45_01DT_0752	15	150	562.08

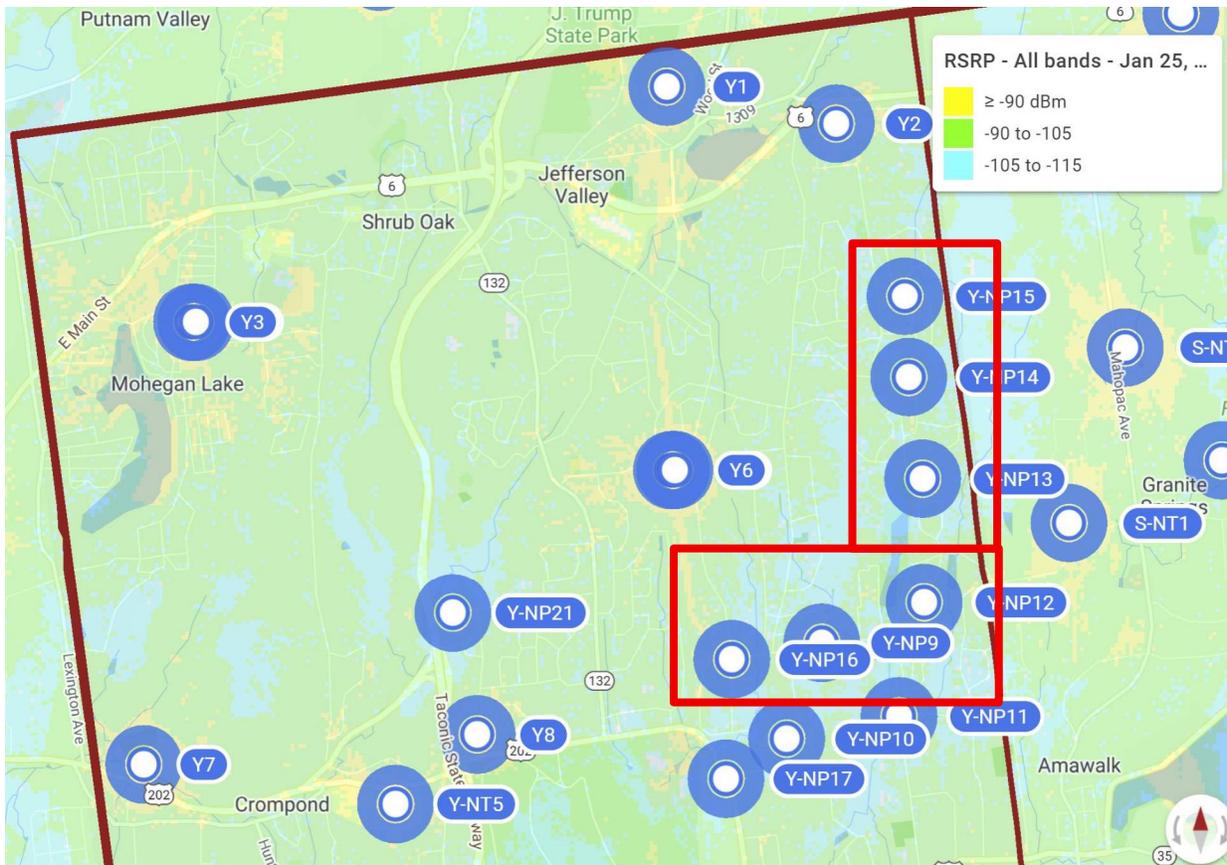
Site	Sector	Carrier	Latitude	Longitude	Antenna	Azimuth (°)	Centerline (ft)	Total EIRP (W)
YORKTOWN HEIGHTS_L - A	1	B13_10MHz_5230	41.28131389	73.77244444	MX12FIT465-01_Port1_+45_02DT_0750	122	125	575.17
YORKTOWN HEIGHTS_L - A	2	B13_10MHz_5230	41.28131389	73.77244444	MX12FIT465-01_Port4_-45_04DT_0750	222	125	536.78
YORKTOWN HEIGHTS_L - A	3	B13_10MHz_5230	41.28131389	73.77244444	MX12FIT465-01_Port1_+45_02DT_0750	0	125	575.17
MOHANSIC_2	1	B13_10MHz_5230	41.31226111	73.80142778	NHH-65B-R2B_Port 2 -45_00DT_0752	80	126	803.53
MOHANSIC_2	2	B13_10MHz_5230	41.31226111	73.80142778	NHH-65B-R2B_Port 2 -45_05DT_0752	215	126	803.53
MOHANSIC_2	3	B13_10MHz_5230	41.31226111	73.80142778	NHH-65B-R2B_Port 2 -45_04DT_0752	342	126	803.53



WIRELESS TELECOMMUNICATIONS INFRASTRUCTURE ANALYSIS REPORT

A Cityscape Consultants report detailing the existing wireless facilities and proposing possible solutions for enhancing wireless coverage was generated for the County of Westchester. The Town of Yorktown is discussed in Appendix I. The report proposed six (6) small cell facilities in the same area identified as the gap with unreliable coverage identified earlier, as shown in Figure 9. This map is on page I21 of the referenced report.

Figure 9 – Proposed Small Cell Map



The report proposed that these small cell facilities be 50 ft in height. The coverage depicted in Figure 9 is midband coverage, which includes the 2100 MHz band modelled by Verizon earlier in this justification report. Figure 9 uses the greater than -90 dBm coverage (yellow coverage) on the map to show indoor coverage,



V-COMM has reviewed Appendix I – Wireless Telecommunications Infrastructure Analysis and find the recommendations of the report do not provide reliable coverage with the use of small cells in the area of the proposed Granite Springs facility for the following reasons:

- Existing utility poles in this area of Yorktown are not what is proposed in the report

The existing utility poles in this area of the Town of Yorktown are lower than the proposed 50 feet utility poles. V-COMM estimates them to be 35 feet. New utility poles would need to be coordinated with the pole owner and all tenants to achieve the new height. These new utility poles would not be uniform with other poles in the area.

If the poles are not replaced, the mounting height will be approximately 35 ft, directly next to the high power electrical lines. This will bring the antennas into more clutter, not able to clear most rooftops of the residences in the area they are planned to cover.

- Additional ground equipment will be needed in the area

The radio equipment to power the pole-mounted small cells would need to be housed in the vicinity of the poles. This would require ground level cabinets to be placed street-side near each pole that will have a small cell deployed.

- These small cell deployments do not typically lend themselves to collocation

Typical installations for small cells on utility poles do not allow for collocation. If one wireless service provider builds small cells on a pole, other wireless service providers would need to place their equipment on different poles to achieve their coverage goals.

- Coverage in the Cityscape Consultants report does not supply necessary coverage

The Cityscape Consultants report states that indoor coverage on their maps is represented by -90 dBm shown as yellow coverage on their map. V-COMM outlined earlier that Verizon considers indoor coverage part of reliable service as most device use occurs indoors at the residences. The map in Figure 9 does not show indoor coverage between the proposed small cells. Instead, they are only improving on-street and in vehicle coverage, which V-COMM agrees that this is all these small cell facilities would reliably enhance.

A 50-foot small cell facility would typically provide a 800 – 1,000 foot radius around the facility, depending on the clutter in the area. The coverage from six (6) 50-foot small cell facilities would still have gaps in indoor coverage throughout the proposed area of coverage of the Granite Springs facility.

Small cell facilities also do not have backup systems to provide power in the event of a utility service interruption.



CONCLUSION

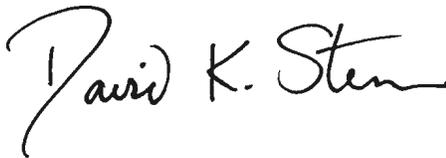
V-COMM reviewed the materials for proposed site "NY578 Granite Springs" and prepared an analysis of the existing cell sites and their respective RF coverage. With the current existing sites, there is a significant gap in coverage which can restrict wireless customers from originating, maintaining and/or receiving wireless voice and data service in the area surrounding the proposed site.

The proposed site will remedy the gaps at low band frequencies, provide new coverage at the mid-band frequencies and reduce user blocking in the area around the site. The proposed site at 130ft AGL will provide collocation opportunities for all of the FCC Licensed carriers in this market and for public safety equipment.



Dominic C. Villecco
President, V-COMM, L.L.C.

2/24/2026



David K. Stern
Vice President, V-COMM, L.L.C.

2/24/2026

Dominic C. Villecco
President and Founder
V-COMM, L.L.C.

Dominic Villecco, President and founder of V-COMM, is a pioneer in wireless telecommunications engineering, with 38 years of executive-level experience and various engineering management positions previously. Under his leadership, V-COMM has grown from a start-up venture in 1996 to a highly respected full-service consulting telecommunications engineering firm.

In managing V-COMM's growth, Mr. Villecco has overseen expansion of the company's portfolio of consulting services, which today include a full range of RF and Network support, network design tools, measurement hardware, and database services as well as time-critical engineering-related services such as business planning, zoning hearing expert witness testimony, regulatory advisory assistance, and project management.

Before forming V-COMM, Mr. Villecco spent 10 years with Comcast Corporation, where he held management positions of increasing responsibility, his last being Vice President of Wireless Engineering for Comcast International Holdings, Inc. Focusing on the international marketplace, Mr. Villecco helped develop various technical and business requirements for directing Comcast's worldwide wireless venture utilizing current and emerging technologies (GSM, PCN, ESMR, paging, etc.).

Previously he was Vice President of Engineering and Operations for Comcast Cellular Communications, Inc. His responsibilities included overall system design, construction and operation, capital budget preparation and execution, interconnection negotiations, vendor contract negotiations, major account interface, new product implementation, and cellular market acquisition. Following Comcast's acquisition of Metrophone, Mr. Villecco successfully merged the two technical departments and managed the combined department of 140 engineers and support personnel.

Mr. Villecco served as Director of Engineering for American Cellular Network Corporation (AMCELL), where he managed all system implementation and engineering design issues. He was responsible for activating the first cellular system in the world utilizing proprietary automatic call delivery software between independent carriers in Wilmington, Delaware. He also had responsibility for filing all FCC and FAA applications for AMCELL before it was acquired by Comcast.

Prior to joining AMCELL, Mr. Villecco worked as a staff engineer at Sherman and Beverage (S&B), a broadcast consulting firm. He designed FM radio station broadcasting systems and studio-transmitter link systems, performed AM field studies and interference analysis and TV interference analysis, and helped build a sophisticated six-tower arrangement for a AM antenna phasing system. He also designed and wrote software to perform FM radio station allocations pursuant to FCC Rules Part 73.

Mr. Villecco started his career in telecommunications engineering as a wireless engineering consultant at Jubon Engineering, where he was responsible for the design of cellular systems, both domestic and international, radio paging systems, microwave radio systems, two-way radio systems, microwave multipoint distribution systems, and simulcast radio link systems, including the drafting of all FCC and FAA applications for these systems.



Over the past twenty years, Mr. Vilecco had been previously qualified and provided expert witness testimony in the following venues:

- Avalon Borough, NJ
- Belleville, NJ
- Belmar, NJ
- Berkeley Heights Township, NJ
- Bernards Township, NJ
- Bernardsville, NJ
- Branchburg, NJ
- Bridgewater Township, NJ
- Brielle, NJ
- Bushkill Township, PA
- Colts Neck Township, NJ
- Cranbury Township, NJ
- Cresskill, NJ
- Cross Village / Emmett County, MI
- Cumru Township, PA
- Exeter Township, PA
- Fair Haven, NJ
- Fanwood Borough, NJ
- Franklin, NJ
- Freehold, NJ
- Garfield, NJ
- Glen Gardner, NJ
- Glen Rock, NJ
- Hampton Borough, NJ
- Hanover, NJ
- Hardyston Township, NJ
- Harrington Park, NJ
- Helmetta, NJ
- Hempstead, NY
- Highland Park, NJ
- Hoboken, NJ
- Holmdel Township, NJ
- Hopewell Borough, NJ
- Hopewell Township, NJ
- Howell Township, NJ
- Knowlton township, NJ
- Jersey City, NJ
- Kearny, NJ
- Kingston, NJ
- Lawrence Township, NJ
- Little Egg Harbor Twp., NJ
- Little Silver Borough, NJ
- Long Valley, NJ
- Lower Alsace Twp., PA
- Middletown Township, NJ
- Millstone Township, NJ
- Morris Township, NJ
- Neptune Township, NJ
- Newark, NJ
- New Castle County, DE
- New Providence, NJ
- N. Caldwell Township, NJ
- Orange, NJ
- Plainfield, NJ
- Princeton Township, NJ
- Reading Township, NJ
- Ridgefield, NJ
- Rochelle Park, NJ
- Rutherford, NJ
- Saddle Brook Township, NJ
- Sayreville, NJ
- Somers Point, NJ
- Somerville, NJ
- South Brunswick, NJ
- South Coventry Twp., PA
- South Plainfield, NJ
- Stone Harbor, NJ
- Tenafly, NJ
- Upper Allen Township, PA
- Upper Freehold, NJ
- Wall Township, NJ
- Wallington, NJ
- Wantage Township, NJ
- Washington Township, NJ
- Wayne Township, NJ
- Weehawken Township, NJ

Nextwave Personal Communications, Inc. vs. Federal Communications Commission (FCC)*

Pocket Communications, Inc. vs. Federal Communications Commission (FCC)*

*In these cases, Mr. Vilecco was retained by the FCC and the Department of Justice as a technical expert on their behalf, pertaining to matters of wireless network design, optimization and operation.

David K. Stern
Vice President and Co-Founder
V-COMM, L.L.C.

David Stern, Vice President and co-founder of V-COMM, has 35 years of hands-on operational and business experience in telecommunications engineering. While at V-COMM, Mr. Stern oversaw the design and implementation of several major Wireless markets in the Northeast United States, including T Mobile - New York, Verizon Wireless, Unitel Cellular, West Virginia Wireless, South Canaan Cellular and Conestoga Wireless. In his position as Vice President, he has testified at a number of Zoning and Planning Boards in New Jersey, New York, Pennsylvania, West Virginia and Michigan, and qualified as an Expert Witness in US Federal District Court and Ocean County Superior Court, including:

- Bayonne, NJ
- Berkeley Township, NJ
- Brick, NJ
- Bridgewater Township, NJ
- Byram Township, NJ
- Carteret, NJ
- Cedar Grove, NJ
- Charlevoix, MI
- Charleston, WV
- Chatham Borough, NJ
- Chatham Township, NJ
- Clinton Township, NJ
- Cranford, NJ
- Dumont, NJ
- East Brunswick, NJ
- East Hempfield, PA
- Edgewater, NJ
- Edison, NJ
- Elizabeth, NJ
- Elmwood Park, NJ
- Englewood Cliffs, NJ
- Fairfield, NJ
- Fairlawn, NJ
- Fanwood, NJ
- Fort Lee, NJ
- Franklin Township, NJ
- Freehold Township, NJ
- Galloway Township, NJ
- Hackensack, NJ
- Haledon, NJ
- Hazlet, NJ
- Hempstead, NY
- Highland Park, NJ
- Hillsborough Township, NJ
- Hoboken, NJ
- Holmdel, NJ
- Hopatcong, NJ
- Hopewell Township, NJ
- Howell Township, NJ
- Huntington, NY
- Knowlton township, NJ
- Jersey City, NJ
- Keyport, NJ
- Kingwood Township, NJ
- Lakewood, NJ
- Lancaster, PA
- Lawrence Township, NJ
- Little Egg Harbor, NJ
- Livingston, NJ
- Lodi, NJ
- Long Branch, NJ
- Long Hill Township, NJ
- Lyndhurst, NJ
- Manchester Township, PA
- • Manheim Township, PA
- Manalapan Township, NJ
- Marlboro Township, NJ
- Millstone Township, NJ
- Monroe Township, NJ
- Montgomery Township, NJ
- Montville Township, NJ
- Morris Township, NJ
- Mount Freedom, NJ
- Neptune, NJ
- Newark, NJ
- New Brunswick, NJ
- New Holland, PA
- Newton, NJ
- North Bergen, NJ
- North Brunswick, NJ
- Nutley, NJ
- Oakland, NJ
- Old Bridge, NJ
- Old Tappan, NJ
- Paramus, NJ
- Parsippany/Troy Hills, NJ
- Patterson, NJ
- Peapack/Gladstone, NJ
- Perth Amboy, NJ
- Plainsboro, NJ
- Piscataway, NJ



- Randolph Township, NJ
- Red Bank, NJ
- Rochelle Park, NJ
- Rockleigh, NJ
- Sayreville, NJ
- Shrewsbury, NJ
- South Plainfield, NJ
- South Brunswick, NJ
- Stafford Township, NJ
- Teaneck, NJ
- Tenafly, NJ
- Tewksbury, NJ
- Trenton, NJ
- Union, NJ
- Union City, NJ
- Vernon, NJ
- Wall Township, NJ
- Wantage Township, NJ
- Washington Township, NJ
- Wayne, NJ
- West Caldwell, NJ
- West Milford, NJ
- West New York, NJ
- West Orange, NJ
- Woodbridge, NJ

Mr. Stern has a formidable background in wireless technologies including GSM, CDMA, 4G-LTE, 5G, Project 25, and Wi-Fi. As an expert witness, David represented major wireless carriers, which aided in the expansion of their networks. One of his major accomplishments at V-COMM was the design and project management for Madison, NJ's Public Safety Communication Center. David was also a key in New York City's first PCS network launch. He is a member of APCO Region 8 and Region 28 Regional Planning Committees, and is dedicated to creating standards for 700 MHz Public Safety and Commercial Wireless deployments.

Prior to joining V-COMM, Mr. Stern spent seven years with Comcast Cellular Communications, Inc., where he held several engineering management positions. As Director of Strategic Projects, he was responsible for all technical aspects of Comcast's wireless data business, including implementation of the CDPD Cellular Packet Data network. He also was responsible for bringing into commercial service the Cellular Data Gateway, a circuit switched data solution.

Also, Mr. Stern was the Director of Wireless System Engineering, charged with evaluating new digital technologies, including TDMA and CDMA, for possible adoption. He represented Comcast on several industry committees pertaining to CDMA digital cellular technology and served on the Technology Committee of a wireless company on behalf of Comcast. He helped to direct Comcast's participation in the A- and B-block PCS auctions and won high praise for his recommendations regarding the company's technology deployment in the PCS markets.

At the beginning of his tenure with Comcast, Mr. Stern was Director of Engineering at Comcast, managing a staff of 40 technical personnel. He had overall responsibility for a network that included 250 cell sites, three Switching offices, four Motorola EMX-2500 switches, IS-41 connections, SS 7 interconnection to NACN, and a fiber optic and microwave "disaster-resistant" interconnect network.

Mr. Stern began his career at Motorola as a Cellular Systems Engineer, where he developed his skills in RF engineering, frequency planning, and site acquisition activities. His promotion to Program Manager Northeast for the rapidly growing New York, New Jersey, and Philadelphia markets gave him the responsibility for coordinating all activities and communications with Motorola's cellular infrastructure customers. He directed contract preparations, equipment orders and deliveries, project implementation schedules, and engineering support services.

Mr. Stern earned a BSEE from the University of Illinois, in Urbana, and is a member of IEEE.