



HAROLD E. PELLOW & ASSOCIATES, INC.
CONSULTING ENGINEERS · PLANNERS · LAND SURVEYORS
ESTABLISHED 1969

HAROLD E. PELLOW, *PRESIDENT*
NJ - P.E. & L.S., NJ - P.P., NJ - C.M.E.

ANN PELLOW WAGNER
NJ - C.L.A., VA - C.L.A., PA - C.L.A.
(5/26/84 - 7/27/89)

DAVID B. SIMMONS, JR., *VICE PRESIDENT*
NJ - P.E. & L.S., NJ - P.P., NJ - C.M.E.
NY - P.E. & L.S., PA - P.E. & L.S.

CORY L. STONER, *EXEC. VICE PRESIDENT*
NJ - P.E., NJ - C.M.E.

MATTHEW J. MORRIS
NJ - L.L.A., NJ - P.P.

THOMAS G. KNUTELSKY, *ASSOCIATE*
NJ - P.E.

December 3, 2020

MEMORANDUM TO: Vernon Township Land Use Board (*via email*)

FROM: Cory L. Stoner, P.E., C.M.E., Land Use Board Engineer

SUBJECT: ENGINEERING REVIEW

Diamond Communications LLC and T-Mobile Northeast LLC
Preliminary & Final Site Plan Application (LUB #10-18-7)
Block 378 Lot 17 (Formerly Block 141 Lot 12.02)
Located 13 Vanderhoof Court
Vernon Township, Sussex County
HPA No. 18-271

Dear Land Use Board Members:

The Applicant has submitted updated documents in support of the application to construct a wireless communication facility which will now consist of a 160 foot tall lattice tower within a 30' x 50' fenced facility along with all appurtenant equipment. Based on a review of the updated information submitted in support of this application, I offer the following comments:

1. The documents reviewed included the following:
 - a. Plans entitled, "New Wireless Communication Facility, Vernon Substation, 13 Vanderhoof Court, Vernon, NJ Block 141 Lot 12.02 Sussex County", prepared by FCA Architects, consisting of fourteen (14) sheets, dated September 26, 2018 and last updated October 26, 2020.
 - b. A Survey entitled, "Boundary Survey NJ208 Vernon Sub RFQ, Township of Vernon, Sussex County, New Jersey", prepared by Jonathan Murphy Professional Land Surveyor and dated September 25, 2018.
 - c. A document entitled, "Photographic Simulations, Proposed 160-Foot-Tall T-Mobile Wireless Telecommunications Facility, Site ID # NJ07320, 13 Vanderhoof Court Vernon, New Jersey", prepared by Ricci Planning and dated December 19, 2019.
 - d. A document entitled, "Photographic Simulations, Proposed T-Mobile Wireless Telecommunications Facility, Site ID # NJ07320, 13 Vanderhoof Court Vernon, New Jersey", prepared by Ricci Planning and dated September 27, 2018.

- e. A document entitled, "Independent Radio Frequency Report Regarding a proposed Wireless Communications Facility for T-Mobile, Site ID NJ07320, 13 Vanderhoof Court Vernon, New Jersey Sussex County", prepared by Pier Con Solutions, LLC and dated June 13, 2019.
 - f. A document entitled, "Evaluation of the Radiofrequency Environment in the Vicinity of the Proposed NJ07320C Wireless Facility, 13 Vanderhoof Court Vernon, NJ 07462 Located in the County of Sussex", prepared by Pier Con Solutions, LLC and dated May 20, 2019.
 - g. Environmental Impact Statement prepared by Diamond Communications, LLC and dated October 2020.
 - h. Applications, checklists, and other miscellaneous correspondence
2. **Completeness:** Based on a review of the application, it was found that a few items required by the Preliminary and Final Site Plan Checklist have been requested to be waived. In brief, these items include:
- a. Existing topography with maximum contour intervals of two feet for the entire property. The Applicant is requesting a waiver from providing topography for the entire site. Since the Applicant has provided topography in the vicinity of the proposed tower and compound area, I have no objection to a partial waiver for the purpose of hearing this application.
 - b. Existing wells, septic, water bodies on and within 200 feet of the subject parcel: The Applicant has requested a waiver from providing this information. Due to the fact that the project is a proposed communication tower and will not require a well or septic or pose any threat to nearby wells, septic or water bodies, I do not object to waiving these items.
 - c. Stormwater Management Plan and Report. The plans show a total area of disturbance of 11,429.90 s.f. Since the improvements proposed with this project will not be considered a major project under the NJDEP stormwater regulations, I do not object to waiving the need for detailed stormwater calculations.
 - d. Plans to be titled "Final Construction Drawings". Plans stating "Final Construction Drawings" will need to be submitted after an approval is granted.
 - e. Engineers cost estimate of site improvements. The Applicant has stated that this will be provided after board approval is granted.

I have no objection to granting waivers from providing the Site Plan Checklist items listed above for the purpose of hearing this application.

3. **Zoning:** The property in question is a located in the C-3 Zone. New Personal Wireless Communication Towers have specific bulk requirements listed in Section 330-187 of the Township Code. The bulk requirements for a proposed cell tower are as follows:

Item	Requirement	Proposed	Variance
Min. Tract Area	5 acres	5.52 acres	No
Tower Setback from Property Line for Residential Area	300 feet of 300% of the tower's height (whichever is greater)	70'-1"	Yes
Tower Setback from Property Line for Non-Residential Area	120% of the tower's height	70'-1"	Yes
Max. Security Fence Height	6 feet	6 feet	No
Max. Height of Accessory Building	15 feet	5'-11" top of equipment 8'-7' top of generator	No
Max. Area of Wireless Facility	1,500 square feet	1,500 square feet	No
Max. Tower Height	80 feet including antennas	160 feet to top of tower* 167 feet to top of antennas*	Yes
Prohibited Areas	Conservation District Agri-Eco District Mountain Conservation Zone All Residential Districts	C-3 Zone	No
Stealth Requirements	Must utilize stealth camouflaging techniques	None	Yes
Pole Type	Monopole / Stealth Tower	Lattice Tower	Yes
Signs	Max. 2 s.f. identification sign	3 sq. ft.	Yes
Lighting	Lighting must be focused inward to the site. No tower light except those required by federal govt.	Meets Standard	No
Existing Grade Elevation	No less than 700 ft. and no greater than 1,080 ft.	486 ft.	Yes

- a. Wireless telecommunications facilities are to be located on existing structures or towers and the Applicant will need to demonstrate that no existing tower structure or alternative technology can accommodate the applicant's proposed antenna.

- b. In order for the facility to be constructed as proposed, a number of variances from the requirements under this section of the Township Code will be required. The variances needed for this application include:
- i. Use (d) Variances – The Applicant is seeking a number of use variances. The Board Planner discusses in detail these variances in her report dated December 3, 2020. I will defer to the Board Planner on all use variance related items.
 - ii. Tower Setback from Property Line for Residential Area – The minimum setback from the property line of a residential area is 300 feet or 300% of the tower height, whichever is greater. The residential setback is required to be 480 feet where 70'-1" is proposed. This setback is 409'-11" less than what is required.
 - iii. Tower Setback from Property Line for Non-Residential Area – The minimum setback from the property line of a non-residential area is 120% of tower height. The non-residential setback is required to be 192 feet where 70'-1" is proposed. This is, 121'-1" less than required.
 - iv. Maximum Tower Height – The maximum overall height permitted for a tower is 80 feet (including antenna). The overall height of the proposed lattice tower is 167 feet and is 87 feet higher than the maximum height allowed.
 - v. Pole Type – Monopoles and stealth tower construction is to be used. The Applicant is proposing a lattice tower with no camouflage. The Applicant should be prepared to discuss why stealth technology is not proposed and also the proposed color of the structure.
 - vi. Sign – A 3 square foot sign is proposed where 2 square feet is permitted.
 - vii. Existing Grade Elevation – Towers are also prohibited from being located on sites with existing grades less than 700 feet.
- c. It should be noted that the front yard setback on the C-3 zone is 75 feet and the proposed facility is only 63'-5' feet from the front yard property line and will require a variance.
- d. The Applicant is proposing a 6' tall fence in the front yard where a 4' tall fence is permitted; a variance is required.

4. In addition to the variances listed above, Section 330-187 of the Township Code also lists a number of general requirements for all new towers and antennas. These additional requirements include the following:
 - a. Noise levels at any property line shall not be more than 50 decibels. The Applicant should be prepared to provide testimony regarding the noise levels associated with this facility specifically, the proposed generator.
 - b. Annual reports will need to be provided for the wireless facility. This should be a condition of any approval.
 - c. In the event of abandonment of the facility for a period of one year, the facility shall be removed, at the option of the Township, and at the sole expense of the owner. This should be a condition of any approval.
 - d. Site lighting shall be oriented inward towards the site to avoid off-site impact. No tower lighting, except regulatory lights required by law shall be permitted. There are two proposed lights within the fenced compound which meet this requirement.
 - e. The Applicant shall comply with New Jersey Radiation Protection Act and regulations and any other federal or local regulation in effect. The Applicant should provide testimony regarding this issue.
 - f. A site location analysis has been provided for the facility. The Applicant should be prepared to provide testimony before the Board regarding items such as location selection, relation to existing facilities and need.
 - g. The access to the facility shall conform to the driveway provisions of the Ordinance. Any driveway with a slope greater than 8% should be paved. However, due to the nature of the project and the infrequency of visits, I have no objection to the access remaining gravel.
 - h. One off-street parking stall shall be required for the facility. A parking space has been shown on the plan.
5. Other Comments:
 - a. The plans illustrate that a number of trees will be removed in order to construct the proposed tower and compound area. With residential properties being located in close proximity to the site, all tree removal shall be kept to a minimum. Any approval granted by the Board should be conditioned on the limits of disturbance being staked in the field and inspected by my office prior to

start of construction to make sure that limits of disturbance stay as depicted on the submitted site plan drawings.

- b. A key concern related to this facility will be the appearance of the tower structure from the surrounding areas. The areas of concern should include residential properties along Vanderhoof Court, areas along Route 94 and areas located on the opposite side of the valley along Sand Hill Road and County Route 517.
- c. Other approvals that will be required include but may not be limited to:
 - i. Sussex County Planning Board
 - ii. Sussex County Soil Conservation District
 - iii. Vernon Township Construction Department
 - iv. Vernon Township Fire Subcode Official

Very truly yours,



Cory L. Stoner, P.E., C.M.E.
HAROLD E. PELLOW & ASSOCIATES, INC.
Vernon Land Use Board Engineer

CLS:MJM:mjm:cls

K:\PROJECTS\MUNICIPAL\VERNON\LUB\18-271 - DIAMOND COMMUNICATIONS & T-MOBILE\LUB1-ENG.DOCX

cc: Via Email
Kim Decker, Planning & Zoning Secretary
Jessica Caldwell, P.P., A.I.C.P., Board Planner
Glenn Kienz, Esq., Board Attorney
Judith Fairweather, Esq., Applicant's Attorney