

September 14, 2012
File: 147 190175

Mr. John Ewasutyn
Chairman, Town of Newburgh Planning Board
Old Town Hall
308 Gardnertown Road
Newburgh, New York 12550

Re: Sprint Nextel Corp. Permit Application for Upgrade – Case No. 2012-16
409 Quaker Street
Wallkill, New York
Technical Review Report

Dear Mr. Ewasutyn:

This letter report was prepared to summarize HDR's technical review of an application prepared by Snyder & Snyder LLP, an agent of Sprint Nextel Corp. (Sprint), to modify its existing wireless telecommunication facility at the above-referenced location (the site) in the Town of Newburgh (Wallkill), New York. The site is an existing 150 ft monopole. This review includes a general assessment of Sprint's application by HDR, and consists of an analysis of the application materials submitted on July 23, 2012 and September 11, 2012. The applicant is seeking Planning Board approval and a Building Permit and for the proposed modifications.

This letter report is written for the review and comment of the Town of Newburgh Planning Board. Aside from the Building Permit, the applicant has not identified the need for variances or other approvals. A summary of findings and recommendations is included at the end of this report.

1. Application Review

Sprint is proposing modifications to its existing WTF as follows:

1. Replace four of its existing panel antennas with three new panel antennas. The dimensions of the new Sector 1 and Sector 2 panel antennas are 54" x 20" x 6.5". The dimensions of the new Section 3 panel antenna are 72" x 11.8" x 7". These dimensions are comparable with the existing antenna dimensions.
2. Replace antenna mounts in each sector, and add tiebacks between the monopole and the new pipe mounts).
3. Install radiohead units (2 per sector; 6 total), to enhance operations of Sprint's facility and local services (including "LTE"). The maximum dimensions of the

- radiohead units are 19.4" x 10.7" x 12.9". Two of these units will be mounted behind each of the 3 proposed panel antennas, on the new pipe mounts.
4. Replace one GPS unit (to be installed on existing mount located in Sector 3).
 5. Install new cables within the monopole and in underground conduits at the equipment compound.
 6. Remove the two existing equipment cabinets within the ground-based equipment compound, and install two new battery cabinets within the equipment compound plus one new multimodal equipment cabinet within the equipment compound.
 7. Install one junction box (ground level).

Based on a review of the original application materials, the following items were requested for clarification purposes:

- Completed application form for subdivision/site plan review
- Applicant's FCC license (copy)
- Structural Certification letter, attesting that proposed upgrade can be adequately supported by the existing structures. Letter should be prepared by a New York State licensed engineer.
- Brief narrative on Sprint's need for upgrade.
- Confirmation of new antennas (type, RX/TX frequency, and antenna power levels), for new panel antennas. Also provide a description of the RHH units and their function.
- Short EAF.

Upon review of original and supplemental applicant submittals, it was confirmed that the height of the monopole and the size of the dedicated equipment compound will not change. There will be a net decrease in the number of panel antennas (from 4 to 3), and the new antennas will be installed at the same height locations as the current antennas. There will be a net increase in some of the facility equipment:

- Radiohead Units will be installed behind/below each of the three proposed panel antennas.
- A new battery cabinet and junction box will be added to the ground-based compound area.

A radio frequency (RF) emissions report was not provided for the proposed upgrade. However, based on a review of the antenna specification and transmit powers by HDR, it is anticipated that ground-based RF emissions will be below (and in compliance with) the applicable maximum permissible exposure (MPE) level for the general public in all areas in the site vicinity.

2. Additional Application Issues and Considerations

Aesthetics

Based on a review of the upgrade application materials, the overall height of the existing 150 ft monopole is not proposed to be increased as part of this application. No tower lighting is required or proposed, and there will not be any significant alteration to the existing monopole configuration. The color of the proposed antennas was not provided. No modification to the parking area, fencing, ground-based lighting, or landscaping is proposed.

As noted, there will be a net decrease in the number of panel antennas at the site. The proposed equipment (including antennas, radiohead units, and ground-based equipment) does not appear to present significant visual impacts as compared with the existing facility's conditions.

Structural

A structural certification by the Applicant's NYS Professional Engineer was provided in the supplemental materials, confirming that the existing monopole structure and foundation can accommodate the proposed upgrade. The Applicant's engineer maintains full responsibility for the accuracy and adequacy of all aspects of the upgrade design and operation.

Structural calculations were also provided for the proposed antenna upgrade, and considered wind and dead loads. The analysis appeared to utilize the current TIA 222-G guidelines. HDR did not review the structural calculation in detail, as the certification letter from the Applicant's engineer appears adequate for the proposed upgrade.

3. Recommendations

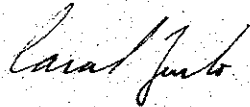
The following recommendations were identified based on HDR's technical review of the upgrade application. If the Sprint application is approved, the following should be considered as conditions of approval and conducted prior to or during equipment installation and/or operation.

- Security fencing around the ground-based equipment and FCC warning signage should be routinely inspected and maintained at the site.
- The proposed antennas, radiohead units, and mounting structures shall be color matched to the existing monopole colors.

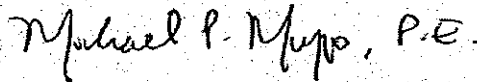
- Operations should be maintained in accordance with the Town's Wireless Ordinance and all other relevant Town codes. Any proposed increase in Sprint's number of antennas, antenna sizes, or number/sizes of ground-based equipment cabinets shall be approved by the Town prior to any modifications.

Please feel free to contact us should you have any questions on this report.

Sincerely,
Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering Inc.



Carol Zurlo
Project Scientist



Michael P. Musso, P.E.
Senior Project Engineer

cc: Snyder & Snyder, LLP