



Hank Menkes, President
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April 14, 2017

Mr. Tavis Austin
Town Planner
Stratham Municipal Center
10 Bunker Hill Avenue
Stratham, NH 03885

Re: Proposed Verizon Wireless Facility, 58 Portsmouth Ave., Stratham, NH

At the request of the Planning Board of Stratham, NH and Mr. Tavis Austin, Town Planner, Menkes Associates, LLC reviewed the Cellco Partnership (d/b/a Verizon Wireless) application for a proposed new cell site to be located at 58 Portsmouth Avenue, Stratham, NH (current application). This application is an alternative site proposal in light of the Board denying the previous application for a cell site facility at 57 Portsmouth Avenue. Specifically, the following documents were reviewed:

- Stratham, NH Zoning Ordinance, adopted March 1987, last amended March 2016; Section 19: Telecommunications Facilities
- RF Report by C Squared Systems, LLC dated March 3, 2017 included in the Application for Special Exception, Conditional Use Permit, and Site Plan Review for Proposed Monopole at 58 Portsmouth Avenue by Cellco Partnership d/b/a Verizon Wireless, submitted by Mr. Victor Manougian, Esq., attorney at McLane Middleton
- Letter to Mr. Tavis Austin, Town Planner, Stratham, NH from Mr. Keith Vellante of C Squared Systems, LLC dated January 13, 2017 responding to the *Radio Frequency Evaluation and Recommendations* report prepared by Menkes Associates, LLC dated January 6, 2017
- RF Report by C Squared Systems, LLC dated October 31, 2016 included in the Application for Special Exception and Conditional Use Permit/ Site Plan Review for Proposed Monopole at 57 Portsmouth Avenue by Cellco Partnership d/b/a Verizon Wireless, submitted by Mr. Robert E. Baker, Esq., attorney at McLane Middleton
- Calculated Radio Frequency Emission Report for 28 Bunker Hill Avenue, Stratham, NH, dated August 17, 2015, prepared by C Squared Systems, LLC

- Preliminary Consultation Application, dated January 3, 2017, by Route 11 Investments Inc. for a proposed cell tower at 7 Portsmouth Avenue, Stratham, NH
- Preliminary Consultation Application, dated January 3, 2017, by Piper Real Estate Consulting Services for a proposed cell tower at 142 Portsmouth Avenue, Stratham, NH

Introduction

My comments on the Verizon Wireless application for a proposed cell site at 58 Portsmouth Avenue focus on the radio frequency aspects contained in the exhibits and reports, relative to the accuracy and completeness of the technical data and the appropriateness of the conclusions based on this data. Although not specifically mentioned in the current application, it is a matter of public record that the previous applications by Verizon Wireless for a cell site at 57 Portsmouth Avenue was denied by the Board, and that this current application is an alternative location to essentially address the same coverage and capacity objectives of the previous application. Should this application for a cell site at 58 Portsmouth Avenue be approved, it would supersede the need for a cell site at 57 Portsmouth Avenue.

For this application, C Squared Systems submitted a revised RF Report, dated March 3, 2017; as might be expected, since Verizon's fundamental objectives have not changed, the report is essentially a copy of the earlier report with some updates to reflect the effect of moving the proposed tower approximately 732 feet to the east, across Portsmouth Avenue. This is not to say, however, that there are not some measurable differences in the resulting system coverage as a result of this move. Consequently it is appropriate to discuss the current application relative to the previous application since the objectives are similar and Verizon has provided comments and further information based on the Menkes Associates, LLC *Radio Frequency Evaluation and Recommendations*, dated January 6, 2017, for the 57 Portsmouth Avenue application.

Current Application RF Updates and Changes

As mentioned, the current report by C Squared Systems is essentially a copy of the previous report with a few changes to reflect the new location of the proposed cell site. In particular, and in addition to being approximately 732 feet further east of the previous location, the elevation of the new site is higher than the previous site resulting in the tower height decreasing to 130 feet (from 150 feet), and some of the antenna orientations changing (as shown on the revised coverage plot). All told, these changes result in some variation in the resulting coverage from this new location and, surprisingly, a change in Verizon's coverage focus. In particular, lack of coverage along Route 85 is no longer mentioned as a concern, instead replaced by a focus on the lack of coverage along Bunker Hill Avenue and Frying Pan Lane. This is clearly a result of the fact that the new site does not provide reliable coverage along Route 85 but, conversely, does deliver slightly better coverage along Bunker Hill Avenue and Frying Pan Lane.

These changes in coverage are not unexpected when the radiated site is moved and the antenna orientations are modified. What is unexpected is that Verizon would dismiss their initial concern for reliable coverage along Route 85. This is, however, their prerogative.

RF Coverage and Sector Footprint Plots

The current application includes revised coverage and sector footprint plots, Attachments B and D in the C Squared Systems report, representing the result of moving the proposed cell site across Portsmouth Avenue. As mentioned above these plots show the expected changes from the move and are otherwise unremarkable.

In a letter to Mr. Tavis Austin from Mr. Keith Vellante of C Squared Systems, dated January 13, 2017, Mr. Vellante provided a response to the RF evaluation and comments contained in the Menkes Associates, LLC report of January 6, 2017 on the application for a cell site at 57 Portsmouth Avenue. In particular, the details of the propagation model and the associated data bases were identified and most importantly, actual measured drive test data was supplied. Additionally, he clarified that the target Reference Signal Received Power (RSRP) thresholds utilized to produce the coverage plots are on-street values rather than in-building targets. This supplementary technical data is sufficient to provide validation of the predicted Verizon coverage plots and accept them as representative for the purpose of determining the current coverage and proposed coverage in the area under consideration.

Radio Frequency Emissions Report

Although the current application should stand on its own with regards to completeness relative to the requirements of section 19 of the Town's zoning ordinance which requires that an RF emissions report be included, it's important to be pragmatic. As pointed out in Mr. Vellante's letter of January 13, 2017 an RF emissions report was submitted as part of an earlier application for a proposed Verizon Wireless cell site at 28 Bunker Hill Avenue in which the resulting RF exposure was significantly below FCC's maximum permissible exposure (MPE) limit. There is no reason to assume that a similar calculation for a well-engineered cell site at 58 Portsmouth Avenue would result in an RF exposure level that would exceed the FCC's MPE limit.

Alternative Sites

On January 3, 2017 Real Estate Consulting Services acting as agent for Route 11 Investment Inc. and Piper Real Estate Consulting Services filed two preliminary consultation applications with the Town of Stratham for proposed cell towers at 7 Portsmouth Avenue and 142 Portsmouth Avenue, respectively. No additional details on the respective service providers or the proposed height of the cell towers are public record at this time. Both of these proposed cell sites are south west of the proposed Verizon Wireless tower at 58 Portsmouth Avenue. At this time it cannot be determined with any certainty whether these proposed towers would be an alternative solution for Verizon Wireless without additional information such as the tower heights and predicted coverage plots of Verizon's coverage from these locations. It does, however, raise the question of whether two additional cell towers within a mile of each other are necessary.

Conclusion

The supplementary technical data regarding the propagation model and data bases employed along with actual measured drive test data are sufficient to provide validation of the predicted Verizon coverage plots and accept them as representative for the purpose of determining the existing coverage and proposed coverage in the area under consideration. Verizon's coverage gap is appreciable. A new cell site at 58 Portsmouth Avenue would mitigate, but not entirely eliminate that gap, and offload traffic from the surrounding cell sites. The eastern portion of Stratham would still experience unreliable service and necessitate an additional cell site to remedy. With the recent filing of two Preliminary Consultation Applications for additional cell towers on Portsmouth Avenue, the Board should pursue the possibility of service provider colocation to minimize the proliferation of cell towers in the area.

Prepared and submitted by:

A handwritten signature in black ink, appearing to read "H. E. Menkes". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

H. E. Menkes
President