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Acoustics

Audiovisual

Telecommunications

Security

8 May 2015

Shannon McDougall
Cortel, Inc.
Email: shannon.mcdougall@cortel-llc.com

Subject: **Verizon Wireless Mountain View High School Antennae, Sunnyvale, CA**
CSA Project: 15-0297

Dear Shannon:

Verizon Wireless plans to locate 6 new antennae on a tower 74 feet from the centerline of Remington Court in Sunnyvale, California. As part of the approval process, the City requested a noise study to assess the potential noise disturbance from the related equipment and emergency generator. As requested, we analyzed the proposed equipment antennae noise. This letter summarizes our analysis and acoustical recommendations.

CRITERIA

City of Sunnyvale Municipal Code

19.54.050. [Wireless Telecommunication Facilities] Operation and Maintenance Standards.

(d) Each facility shall be operated in such a manner so as to minimize any possible disruption caused by *noise*. Backup generators shall only be operated during periods of power outages, and shall not be tested on weekends or holidays, or between the hours of 10:00 p.m. and 7:00 a.m. on weekday nights. At no time shall equipment *noise* from any source exceed an exterior *noise* level of 60 dB at the property line.

ANALYSIS

The proposed wireless site includes 6 new antennae and cabinets along with a 30 kW emergency generator. All equipment is located inside a 6-foot tall enclosure.

At a minimum, the barrier height should match the tallest piece of equipment and have a minimum surface weight of 3 lbs./ft². The fence construction may consist of ¾-inch marine grade plywood and should be free of any gaps or leaks. The inside of the enclosure should be treated with an acoustically absorptive material such as ¾-inch thick Pyrok Acoustament 40 or 2-inch thick P.E.P.P. panels.

Based on manufacturer's data, the cabinets generate 60 dB each when measured at 3 feet. The nearest property line is located 57 feet south of the proposed antennae location. At this distance, we calculate the combined noise of 6 antennae with the barrier noise reduction to be 37 dB. This noise level complies with the City of Sunnyvale noise limits for wireless telecommunication facilities.

The emergency generator noise output measures 69 dB at 23 feet. The nearest property line is located 57 feet south of the proposed antennae location. At this distance, we calculate the noise of the generator with the barrier noise reduction to be 56 dB. This noise level complies with the City of

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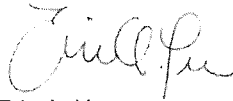
Verizon Wireless
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Sunnyvale noise limits for wireless telecommunication facilities. As stated in the ordinance, generator testing should only commence on weekdays between the hours of 7:00 a.m. to 10:00 p.m. We recommend testing the generator during the early afternoon hours midweek to minimize impacts to residential neighbors.

This concludes our analysis of the subject project. Please contact us if you have any questions.

Sincerely,

CHARLES M. SALTER ASSOCIATES



Eric A. Yee
Principal Consultant

2015-05-06 Env Noise Study (15-0297) Verizon Wireless MVHS.docx

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