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engineering & business consulting

September 7, 2022

Mr. Jerry Hittleman
Senior Planner
Rincon Consultants, Inc.
437 Figueroa St., Suite 203
Monterey, CA 93948

Reference: Modification of Existing Telecommunications Site
Install an additional wireless provider
Monterey Marriott
350 Calle Principal

Dear Mr. Hittleman:

We have completed our review of the Dish Wireless application to install wireless communications equipment at this existing telecommunications site referenced above regarding its compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (pursuant to OET Bulletin 65 Edition 97-01).¹

In support of the application, Dish Wireless has submitted engineering design documents listing modifications proposed to the antenna mounting structures, as well as the technical specifications of the principal telecommunications equipment (i.e., antennas, electronic devices, and cabling), including all equipment that is designed to emit radio frequency (RF) signals.

The documentation includes an engineering study of Radiofrequency (RF) field emissions prepared by the engineering consulting firm of EBI Consulting, Burlington, MA. . That study calculates the general public and occupational levels of RF exposure in the vicinity of the proposed facility and finds that, if appropriate steps are taken to mitigate exposure, the facility would be within the FCC's allowable exposure limits.²

¹ Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65, edition 97-01, FCC Office of Engineering & Technology. Washington, D.C. 20554, https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65c.pdf.

² The FCC's rules establish exposure limits for the general public (persons who are not trained to work around RF equipment), and occupational exposure limits, which apply to persons who *are* trained to work around RF equipment. For general public exposure, the analysis must show that the public cannot access any area where exposure limits would be exceeded. For occupational exposure at elevated locations on the tower, areas where exposure limits would be exceeded must be marked off and appropriate warning signs must be posted.

Columbia Telecommunications Corporation

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In the application submission, Dish Wireless/EBI provides a list of proposed mitigation measures to be undertaken to prevent occupational exposure, including (a) restricting access to the rooftop; (b) marking and signage alerting persons to the risk presented in certain areas, and (c) appropriate RF training by Dish Wireless and the building's facilities manager.

We have independently reviewed the engineering drawings and find the design to be entirely consistent with the requirements of the City Code relating to structural integrity and safety of the installation (setting aside RF exposure). Further, we reviewed the EBI analysis of RF exposure that would be produced by this proposed modification³ and are presenting our independent findings with respect to that analysis in this project.

We concur with the EBI's analysis that installing an additional wireless provider to this facility will fully comply with the FCC's RF exposure requirements.

In the independent performed analysis, we included the following information from other applications we reviewed for the city at these sites:

- The proposed Dish Wireless antennas are radiating an Effective Radiating Power (ERP) of 32 kilowatts (kW) in each of the three beam sectors centered at 100°, 205°, and 310° at the height of 96 feet above ground level (AGL).
- Verizon wireless antennas aggregate five wireless bands with an ERP of 51 kW in each of the three beam sectors centered at 90°, 200°, and 305 ° at the height of 119.5 feet above ground level (AGL).
- T-Mobile wireless antennas mounted on each of the three beam sectors centered at 130°, 220°, and 320° at 109 feet AGL. The estimated total effect radiating power per sector is 3.1 kW in the low band, 6 kW in the PCS band, and 4.5 kW in the AWS band.
- Sprint wireless antennas mounted on each of the three beam sectors centered at 110°, 200°, and 290° at 95 ft. AGL The estimated ERP per sector is 2 kW in the low band, 6 kW in the PCS band, and 4.5kW in the 2.4 GHz mid-band.
- The electromagnetic exposure produced by this site (i.e., the antenna mounted by all wireless carriers on the building) will propagate a maximum distance in a line from the focal point of each antenna's three sectors. The line-of-sight path will exceed the FCC's RF emission guideline for general public exposure at 200 feet or less at any bearing from the top of the Marriott building wireless antenna mounting areas.

³ Radio Frequency Electromagnetic Energy (RF-EME) Report 350 Calle Principal, Monterey, CA, 8/5/22 Stephen Mulrenan EBI, Consulting Burlington, MA

- The radiation from the Dish Wireless antennas mounted at 96' AGL will be less than 5% of the FCC's public exposure limit at ground level. This reduction in radiation exposure is due to the characteristics of the antenna, which focuses the RF radiation outward from the antenna and simultaneously suppresses radiation in the downward direction.

The Google Earth photo below (Figure 1) displays buildings in the area with within 400 feet of the area of study related to the proposed antenna site modification within the beam of the antenna panels might be exposed to direct radiation from Dish and the other existing wireless carriers over the FCC's guidelines for general public exposure. The yellow circle extends 400 feet from the tower. We have examined each of the buildings within that perimeter with regard to the heights/RF field intensity. We have determined that none of the buildings will be exposed to radiation above FCC guidelines for public exposure.

Figure 1: Google Earth Photo of Site

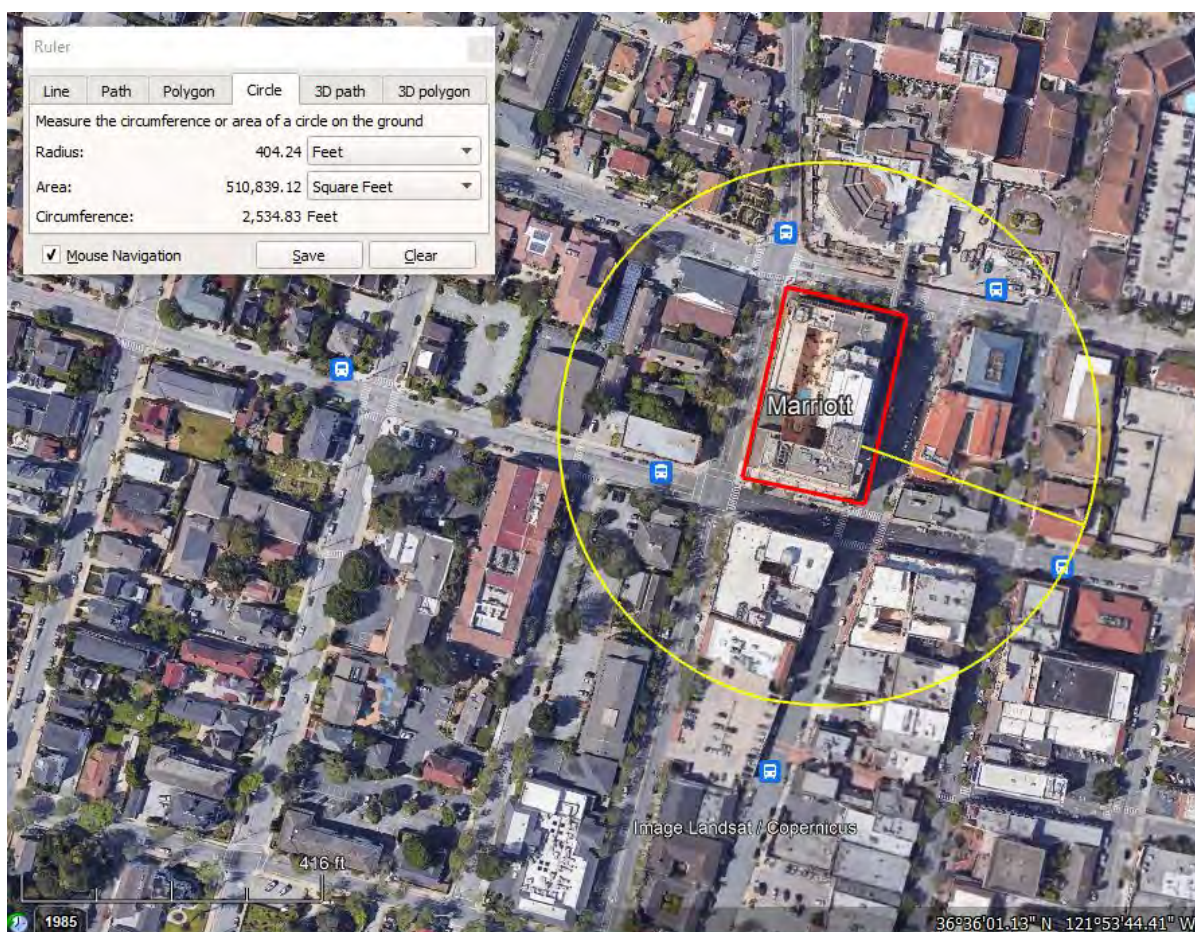
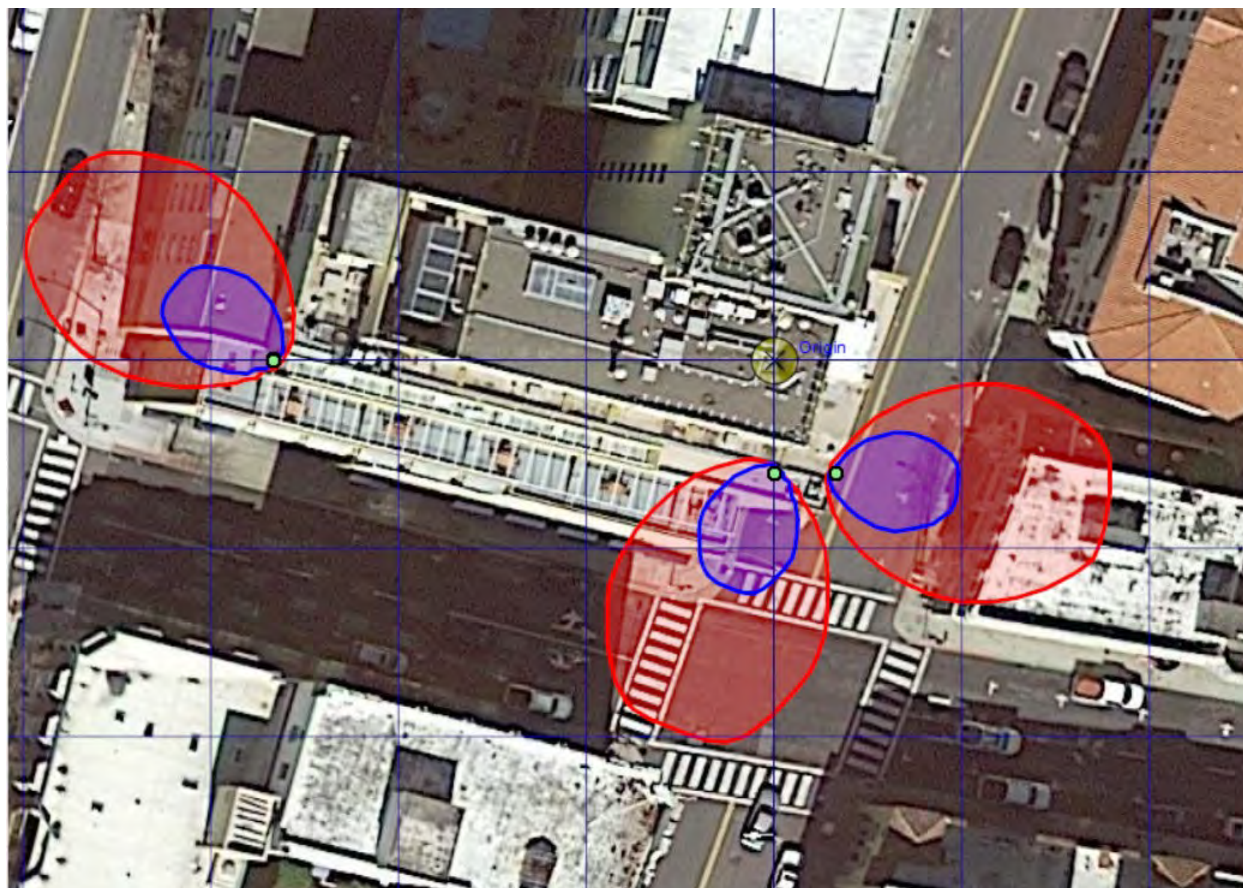


Figure 2 is a calculated RF exposure plot of each of the three Dish panel antenna sectors at mounting height (96' AGL).

Figure 2: Dish Wireless Exposure at Mounting Height



Map Key

- Blue – areas that exceed FCC Occupational Guidelines
- Red – Area exceeding FCC General Public Exposure Guidelines

Our review of the engineering documents provided by the applicant, along with the findings of our independent analysis of radiofrequency exposure levels, confirms that the Dish Wireless operation and this site in conjunction with that of the existing wireless will not exceed the RF exposure guidelines of the FCC.

Regards,

A handwritten signature in black ink, appearing to read "Lee Afflerbach". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Lee Afflerbach, P.E.
Project Manager
CTC Technology & Energy