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RADIO FREQUENCY ELECTROMAGNETIC FIELDS EXPOSURE REPORT

Prepared for County of San Diego

Site: North County Regional Center

Located at:

325 S. Melrose Drive
Vista, CA 92081
Latitude: 33.1900° / Longitude: -117.2569°

COMPLIANT
WITH FCC RF SAFETY GUIDELINES

EXECUTIVE SUMMARY

Dtech Communications, LLC ("Dtech") has been retained by the County of San Diego to determine whether its wireless communications facility complies with the Federal Communications Commission ("FCC") Radio Frequency ("RF") Safety Guidelines. This report contains an on-site, measurement analysis of the Electromagnetic Fields ("EMF") exposure resulting from the facility. The table below summarizes the results at a glance:

Table 1: EMF Facility Summary

Site Address	325 S. Melrose Drive, Vista, CA 92081
Access to Antennas Locked	Yes
RF Sign(s) @ Access Point(s)	Yes
Max EMF Level on Roof, Near Antennas	0.62% Occupational
Max EMF Level on Ground	0.65% General Population
FCC Compliant	Yes

Table 2: EMF Carrier Summary of Existing Conditions

Wireless Carrier	FCC Compliant	*RF Sign(s)/Barriers @ Antennas*
Cricket	Yes	None
Sprint-Nextel	Yes	Notice

BACKGROUND

Dtech uses the FCC's guidelines described in detail in the Office of Engineering & Technology, Bulletin No. 65 ("OET-65") "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Radiation". Table 3 below summarizes the current Maximum Permissible Exposure ("MPE") safety limits classified into two groups: General population and Occupational.

Table 3: FCC MPE Limits (from OET-65)

Frequency (MHz)	General Population/ Uncontrolled MPE (mW/cm^2)	Averaging Time (minutes)	Occupational/ Controlled MPE (mW/cm^2)	Averaging Time (minutes)
30-300	.2	30	1.0	6
300-1500	Frequency (MHz)/1500 (0.2 – 1.0)	30	Frequency (MHz)/300 (1.0 – 5.0)	6
1500-100,000	1.0	30	5.0	6

General population/uncontrolled limits apply in situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment, and may not be fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment, and those persons have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

It is important to understand that the FCC guidelines specify *exposure* limits not *emission* limits. For a transmitting facility to be out of compliance with the FCC's RF safety guidelines an area or areas where levels exceed the MPE limits must, first of all, be in some way *accessible* to the public or to workers. When accessibility to an area where excessive levels is appropriately restricted, the facility or operation can certify that it complies with the FCC requirements.

SITE DESCRIPTION

The wireless telecommunication facility is located at 325 S. Melrose Dr , Vista**,** CA 92081. The facility consists of 3 wireless carriers or operators. The antennas are typically grouped into sectors pointing in different direction to achieve the desired areas of coverage. The table below summarizes the existing carriers located at this facility:

Table 4: Site Technical Specifications

	Sprint	*Cricket*	*RCS Sheriff*
Num of sectors	3	3	3
Sector Orientation (°T)	60/150/320	80/180/300	0/45/160
Num of Antenna per sector	2	1	1
Antenna Bottom Tip Height Above Ground/Roof (feet)	80, 96.2, 96.2/ -4, 12.2, 12.2	80/-4	91.3/7.3 96/1.3 90.7/6.7
Antenna Type	4' panel (all sectors)	4' panel (all sectors)	Microwave (all sectors)

Figure 1: Site map

Figure 2: Site Diagram (Not to scale)

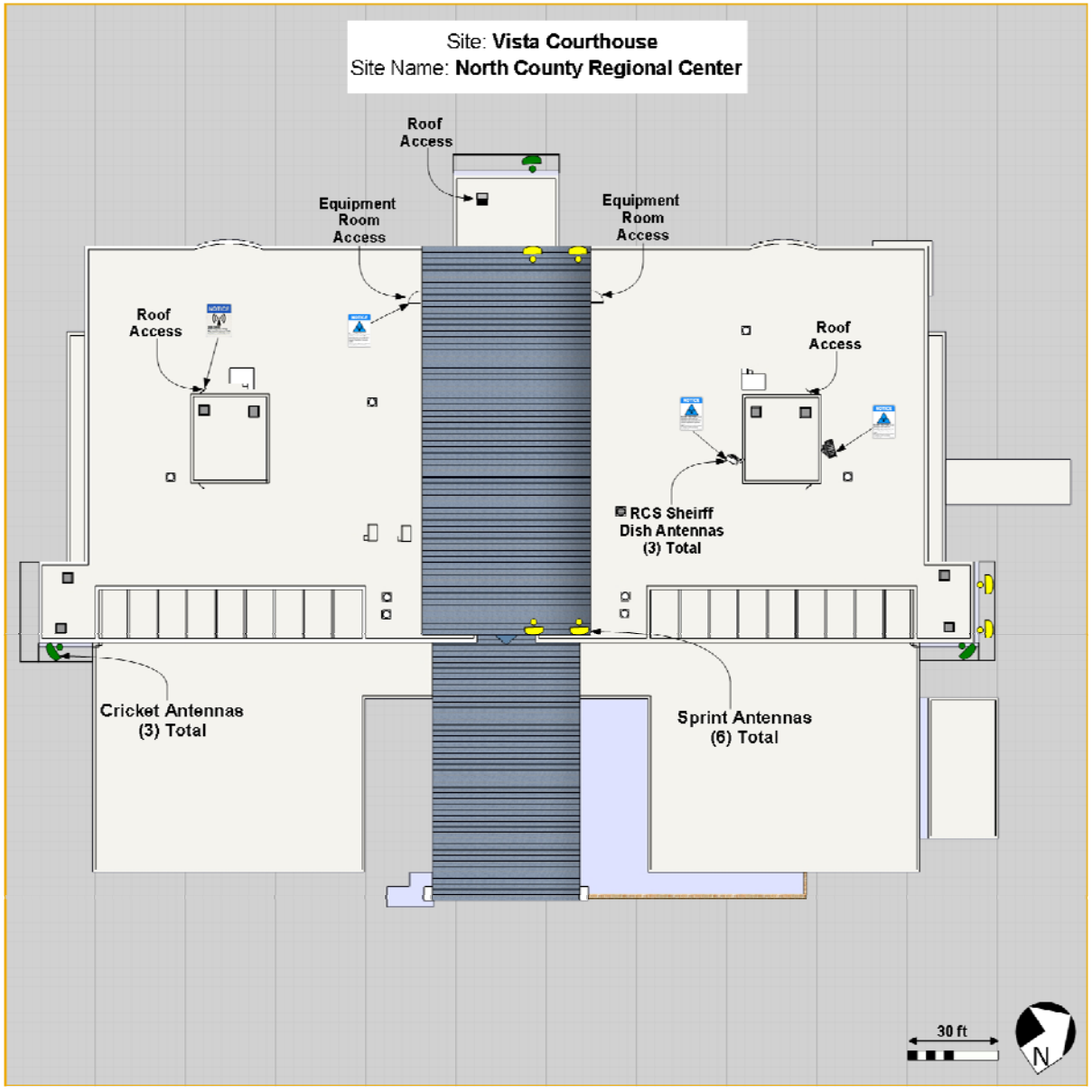
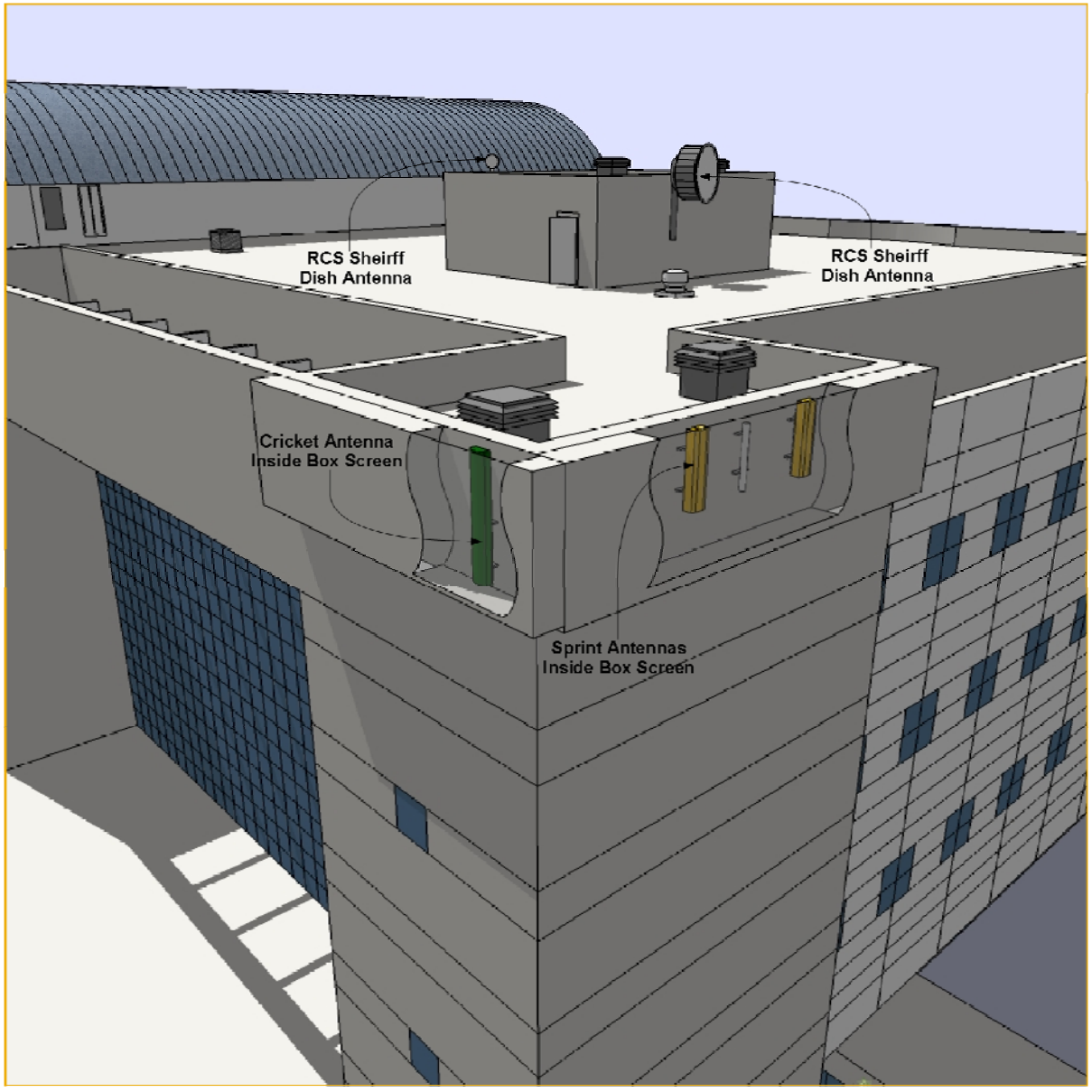
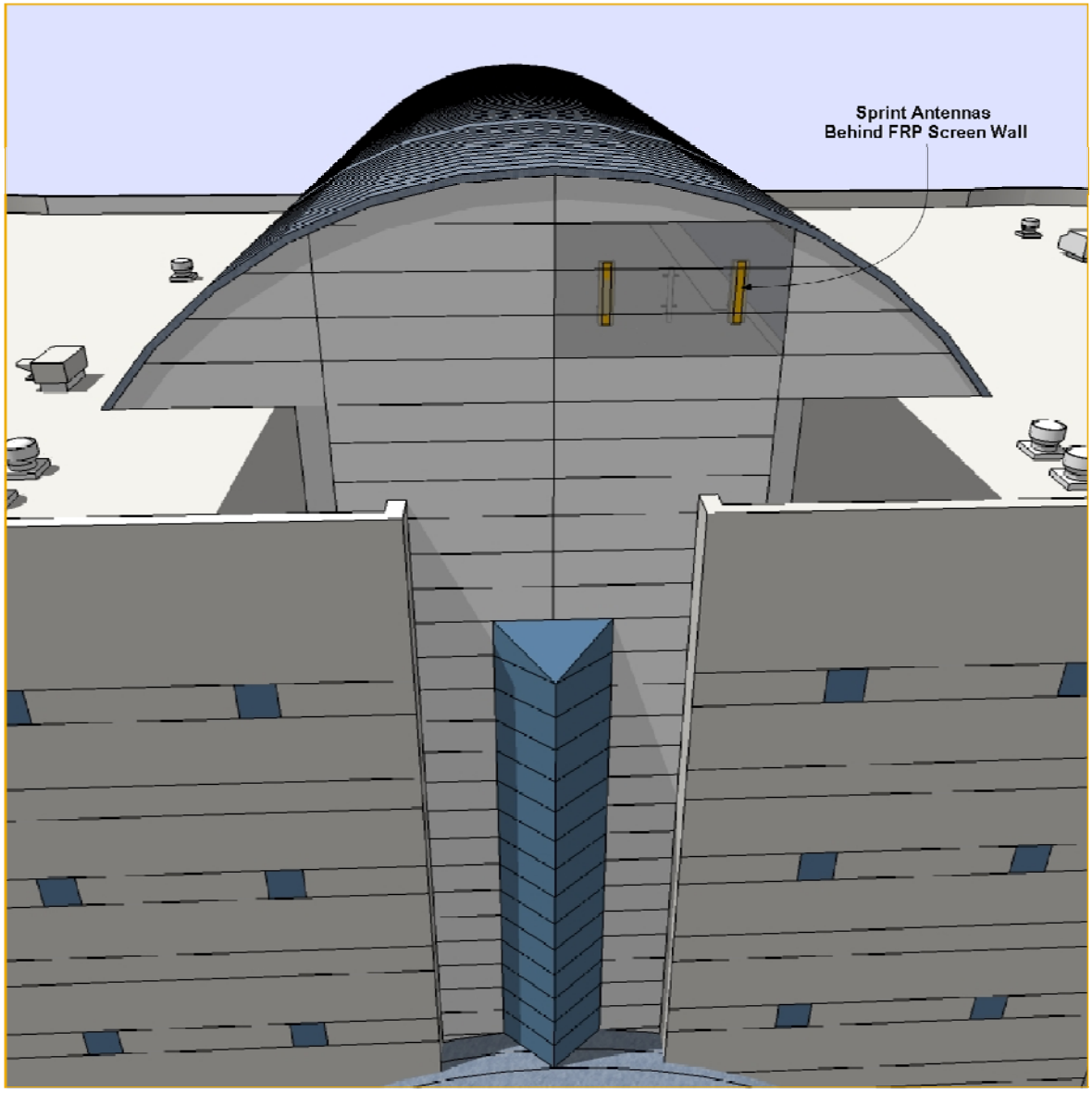


Figure 3: Site Diagram (Not to scale)



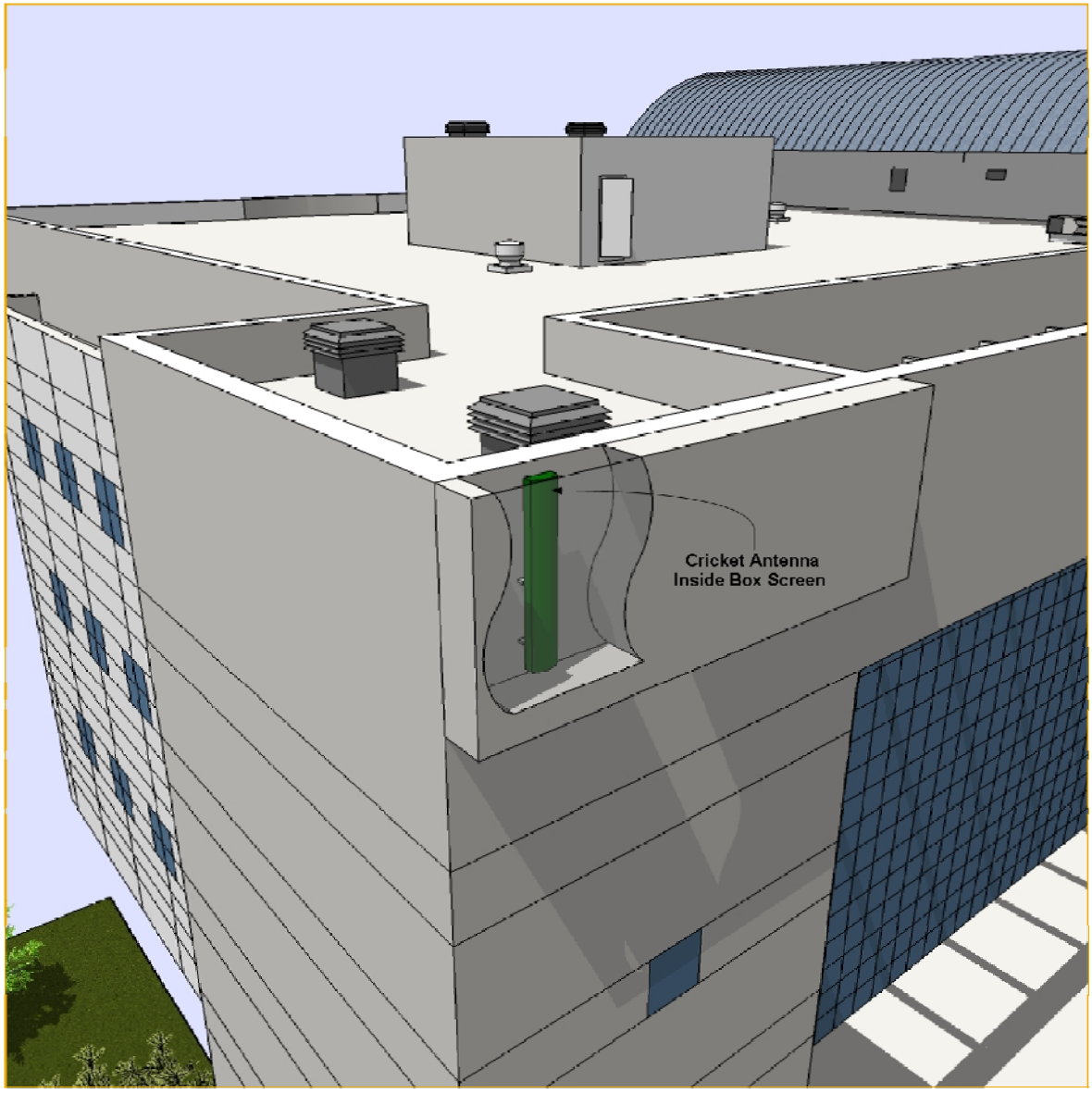
East View

Figure 4: Site Diagram (Not to scale)



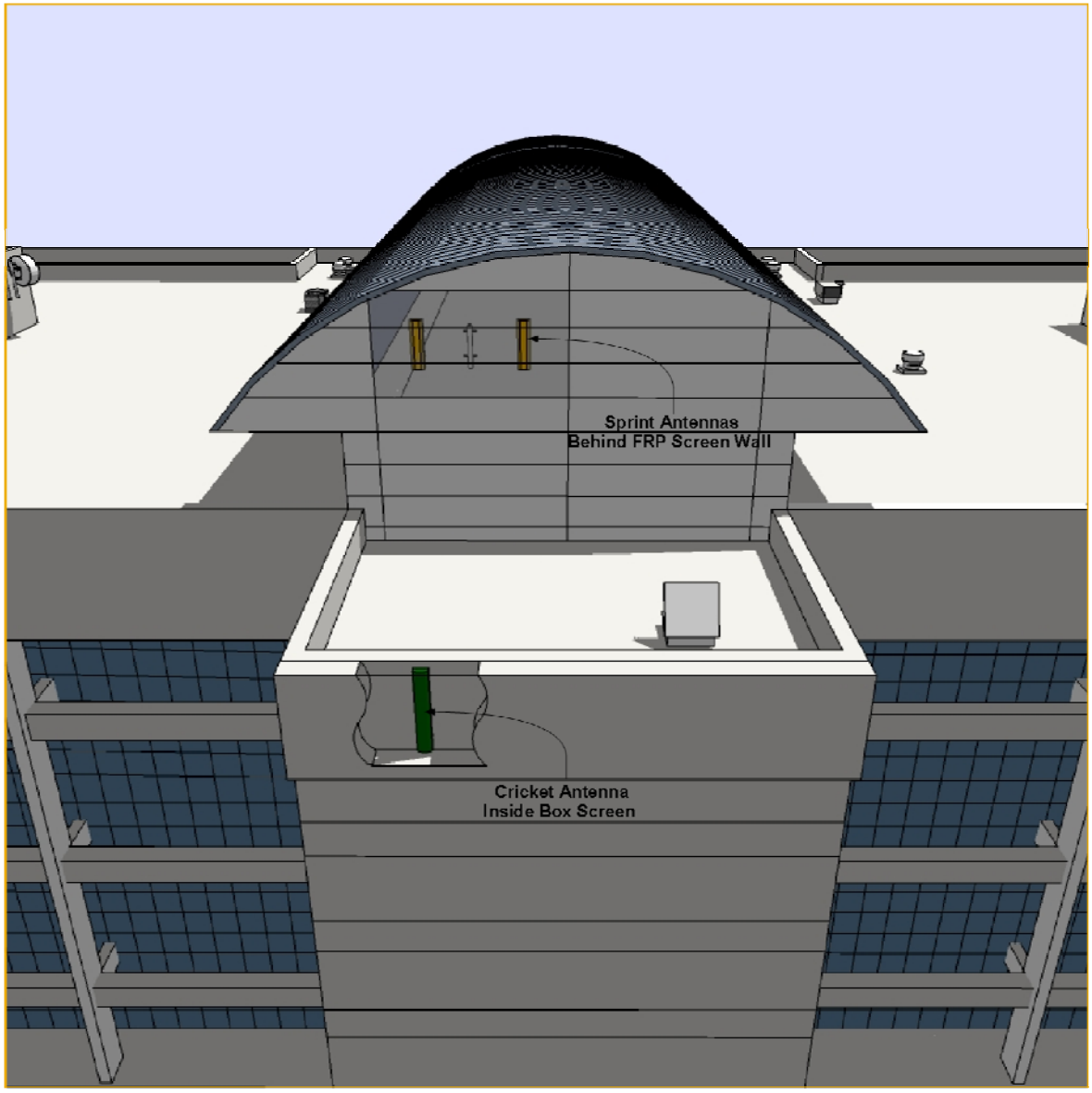
Southeast View

Figure 5: Site Diagram (Not to scale)



South View

Figure 6: Site Diagram (Not to scale)



Northwest View

Figure 7: Site photographs

North County Regional Center General site view

North County Regional Center General site view

North County Regional Center Access point

North County Regional Center Access sign(s)

Access to Equipment and other roof

Access Door to Equipment (notice signs)

SD-County RCS Sheriff Dish antenna

SD-County RCS Sheriff Dish antenna (notice/warning sign)

SD-County RCS Sheriff Dish antenna

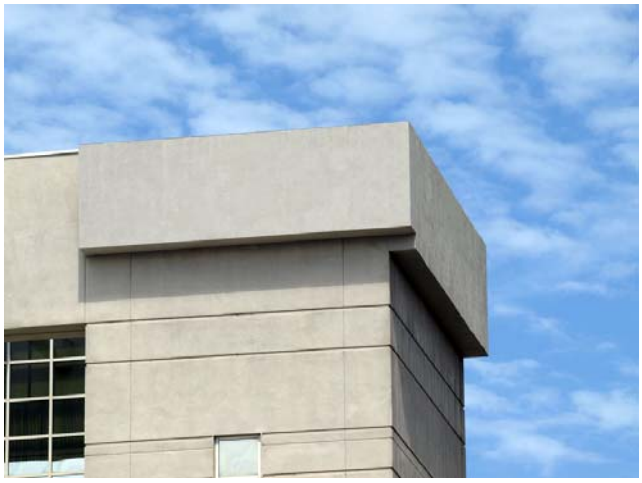
SD-County RCS Sheriff Dish antenna

SD-County RCS Sheriff Dish antenna

SD-County RCS Sheriff Dish antenna (notice sign)

Cricket Cable tray to Sector 1


Cricket Sector 1


Cricket Sector 1


Cricket Sector 2


Cricket Sector 2


Cricket Sector 3

Sprint Cable tray to Sector 1

Sprint Sector 1

Sprint Sector 1

Sprint Sector 2

Sprint Sector 2

Sprint Sector 3

Sprint Sector 3

Sprint Equipment

Cricket Equipment

FIELD MEASUREMENT

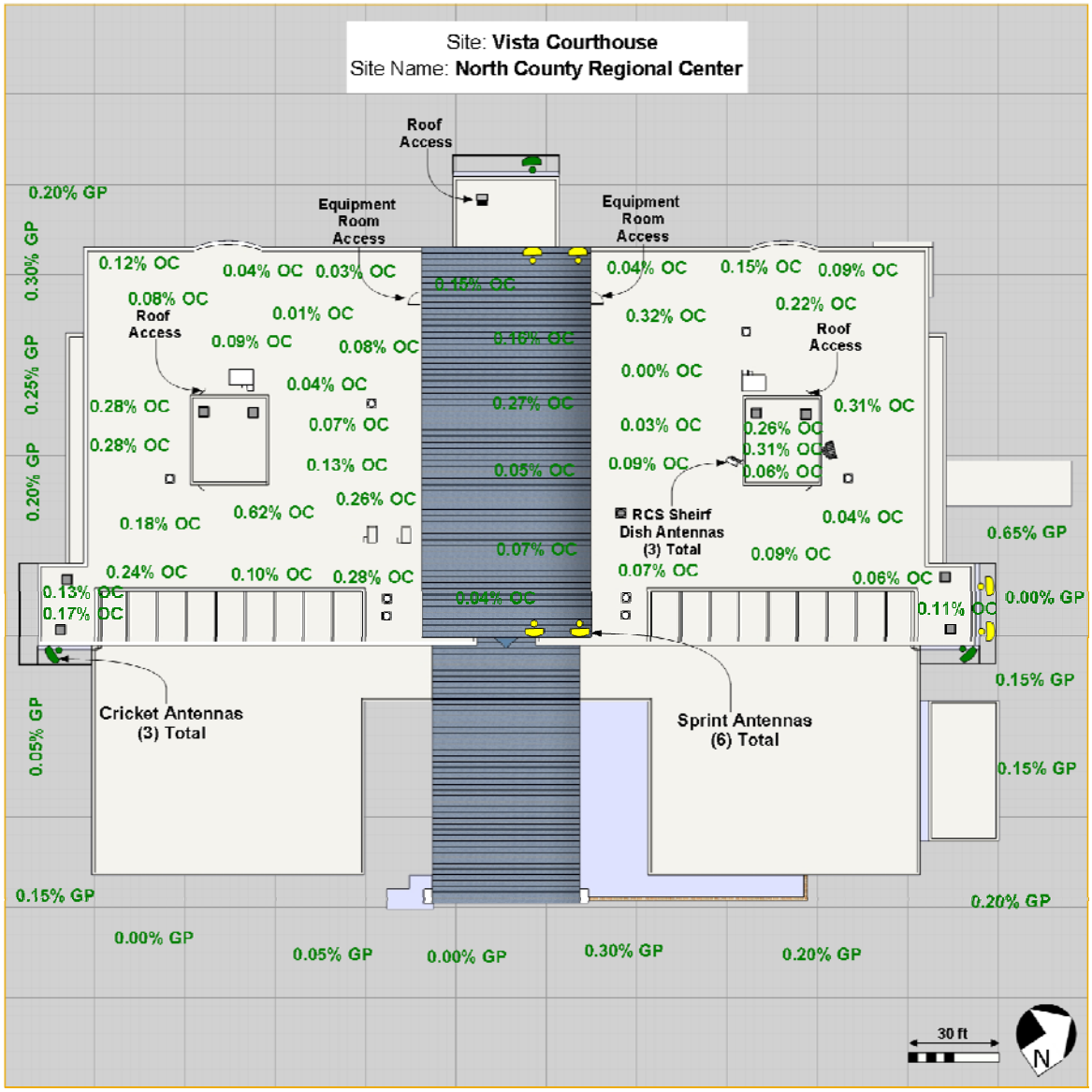
Field measurements were conducted at the subject site on 8/3/2010 9:30 AM by Yun-Yun Lee, Dtech Field Engineer. The Narda meter, model NBM-520 with EA 5091 Probe was used to conduct the measurements. This device is designed to measure frequencies between 300kHz and 50Ghz, well within the SMR, Cellular, and PCS frequency ranges (most major wireless operators). Therefore, the measured level is a cumulative RF energy resulting from all transmitters within the frequency ranges of the probe. The probe itself is frequency shaped and can automatically weigh each field contribution based on frequency. The output is given in percentage of the FCC's MPE Limits. A level higher than 100% is out of compliance.

Spatial averaging measurement technique was used. An area between 2 and 6 feet, approximately the size of an average human, is scanned in single passes from top to bottom in multiple planes. When possible, measurements were made at very close proximity to the antennas and inside the main beam where most of the energy is emitted. The maximum levels (max-hold) were recorded.

Field Measurement Result 23 June 2010

Below are the locations where measurements were conducted and their respective recorded levels given in percentages of the applicable FCC's MPE Limits. Again, a level higher than 100% is out of compliance.

Figure 6: Result Diagram- Roof Level (Not to scale)



On the main roof, the highest exposure level was measured at 0.62% of the applicable FCC's Occupational MPE Limits. On the ground, the highest level was measured at 0.65% of the General Population MPE Limits.

RECOMMENDATION(S)

On-site measurements at the facility, at ground level, resulted in exposure levels below the FCC's General Population MPE Limits. On the roof, the highest exposure level is below the FCC's Occupational and General Population MPE Limits. There are appropriate RF advisory signs posted at the roof access point(s) and/or near the antennas to establish awareness for potential RF exposure.

The following action(s) would be sufficient to meet the FCC's RF Safety Guidelines:

1) Access to the roof deck must be kept locked to restrict routine access by the general public.
2) Individuals entering the RF Controlled area (rooftop) should obey all posted signs and also be made aware of the potential 'HotZones' or overexposed areas. These areas are generally directly in front of the antennas and are typically in the air, not readily accessible without a ladder, lift, suspended platforms, etc. Individuals needing to work inside the potential HotZones for a prolonged period of time (as opposed to just passing through) must contact the landlord and/or appropriate carrier prior to commencing work.
3) Individuals entering the rooftop or working near/in front of antennas must receive appropriate RF safety training[1] and be made aware of the potential HotZones (areas exceeding the FCC's MPE Limits). In addition, contact information should be made available in the event work is required within the HotZones.

[1] See Appendix C for Dtech Communication's RF Safety training program - AntennaView

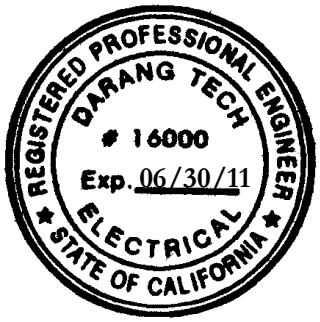
CONCLUSION

Based on the above results, analysis and recommendation(s), it is the undersigned's professional opinion that this telecommunication facility complies with the FCC's RF Safety Guidelines.

CERTIFICATION

This report has been prepared by or under the direction of the following Registered Professional Engineer: Darang Tech, holding California registration number 16000, with renewal date of 06/30/11.

Darang Tech, P.E.



References

[1] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Second Memorandum Opinion and Order, ET Docket 93-62, adopted August 25, 1997.

[2] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Report and Order, ET Docket 93-62, FCC 96-326, adopted August 1, 1996. Federal Register 41006 (1996).

[3] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Notice of Proposed Rulemaking, ET Docket 93-62, 8 FCC Rcd 2849 (1993).

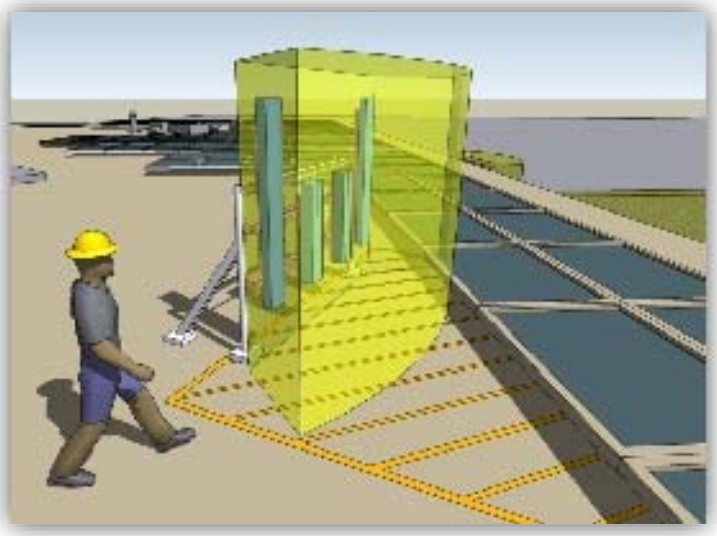
[4] The Telecommunication Act of 1996, 47 U.S.C. Section 332 (c)(7)(B)(iv).

[5] www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/
www.fcc.gov/oet/rfsafety

Appendix C - AntennaView

Dtech Communications offer a unique, online tool (AntennaView) to train, identify and inform individuals of site-specific HotZones – areas that exceed the FCC's Safety Limits. AntennaView is an online, interactive training tool that will educate nontechnical people in about ten minutes. It is a site-specific, RF safety training program that requires the end user to sign an online agreement thereby limiting the liability to the landlord and carriers. Some of the advantages include:

- Virtual walk-through in 3-D with corresponding photographs
- Site-specific, interactive, simple to understand
- Delivers pertinent information i.e. HotZones (areas exceeding FCC safety limits), site owners and contact numbers.
- User online agreement = accountability



We invite you to take a quick tour at www.AntennaView.com and see how easy to understand and informative AntennaView is.

Under Article 47 CFR § 11307(b), the FCC & OSHA mandates wireless operators/facility owners to have an RF survey completed including a safety plan and training to ensure that their tenants, employees and contractors who work in or around RF sites are aware of the potential risks posed by RF radiation. Most cell sites are located on building rooftops where HVAC contractors, window washers, painters, etc. routinely work and generally do not know what antennas even look like. Dtech Communications can help with ongoing FCC/OSHA compliance and provide practical training that is easy to understand by anyone regardless of their technical background.