COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: April 6, 2023

TO: Zoning Hearing Officer

FROM: Planning Staff

SUBJECT: Consideration of a Use Permit Renewal, pursuant to Section 6512.6 of the San Mateo County Zoning Regulations, to allow the continued operation of an existing telecommunications facility located at 1452 Bel Aire Road in the unincorporated San Mateo Highlands area of San Mateo County.

County File Number: PLN 2000-00611 (T-Mobile)

PROPOSAL

The project applicant, Sydney Sigmund of Crown Castle Wireless, proposes on behalf of T-Mobile to renew an existing Use Permit (PLN 2000-00611) to allow the continued operation of a wireless telecommunication facility located on a monopole at the California Water Service property located at 1452 Bel Aire Road.

RECOMMENDATION

Approve the Use Permit renewal by making the required findings and adopting the conditions of approval in Attachment A.

BACKGROUND

Report Prepared By: Tiare Peña, Project Planner, 650/363-1850

Applicant: Sydney Sigmund/Crown Castle LLC

Owner: California Water Service Company

Public Notification: Ten (10) day advanced notification for the hearing was mailed to property owners within 300 feet of the project parcel and a notice for the hearing posted in a newspaper the San Mateo Times

Location: 1452 Bel Aire Road, San Mateo

APN: 041-111-020

Size: 0.517 acre (22,520.52 sq. ft.)

Existing Zoning: R-1/S-8 (Single-Family Residential)

General Plan Designation: Low Density Residential

Sphere-of-Influence: City of San Mateo

Existing Land Use: California Water Service Company water tower, existing multiple cellular facilities

Water Supply: N/A

Sewage Disposal: N/A
Flood Zone: FEMA Flood Zone X (Areas of Minimal Flooding); Community Panel No. 06081C0165E, Effective Date: October 16, 2012

Environmental Evaluation: The project is categorically exempt pursuant per Section 15301, Class 1, of the California Environmental Quality Act (CEQA) Guidelines for the continued operation of existing public or private facilities involving no alterations or expansion of use and no physical changes are proposed.

Setting: The parcel is located approximately one mile east of Interstate 280 and less than 0.25 miles from the College of San Mateo campus in a developed residential area. The parcel is developed with existing cellular facilities and water tower. Existing mature vegetation surrounds the development which is located at an elevation of 100 feet above the surrounding residences.

Chronology:

Date		Action
December 7, 2000	-	Use Permit for T-Mobile approved at Zoning Hearing Officer Public Hearing
July 5, 2005	-	Use Permit Renewal approved at Zoning Hearing Officer Public Hearing
June 20, 2013	-	Use Permit Renewal approved at Zoning Hearing Officer Public Hearing
January 6, 2021	-	Use Permit Amendment to add a back-up diesel generator on a new concrete pad. ***Scope qualifies for minor modification under AB 2421.
October 26, 2022	-	Application for Use Permit Renewal submitted
April 6, 2023	-	Zoning Hearing Officer Public Hearing

DISCUSSION

A. KEY ISSUES

1. Compliance with Conditions of Last Approval

Staff has reviewed the previous Use Permit conditions of approval for T-Mobile (PLN 2000-00611), last approved June 20, 2013, and has determined that T-Mobile is in compliance with all previous conditions, see Attachment D of this report. No physical changes are proposed as part of the renewal. Previous conditions that remain relevant, are included in Attachment A of this staff report.

2. Conformance with Wireless Telecommunication Facilities Ordinance

Cellular facilities under renewal are subject to the applicable development, design, and performance standards for new facilities. Compliance with these standards is discussed below:

Development and Design Standards discuss locating facilities in areas other than sensitive habitats or residential zoning districts and utilizing landscaping and painting equipment to blend with the existing vegetation. The project site is not located in a mapped sensitive habitat; however, the facility is located on a residentially zoned parcel.

The Highlands area of the county consists of two zoning district types, residential and Resource Management. Relocating this facility to a Resource Management zoned parcel would not be practical since relocation would likely require new site ground disturbance to install a facility that would provide the same or potentially less coverage to the area given the existing topography. The facility is screened by landscaping and painted to blend the existing vegetation.

3. Performance Standards for Wireless Telecommunication Facilities

The Performance Standards section discusses maintenance of the facility, co-location availability for public safety communications, and Federal Communications Commission (FCC) licensing.

4. Conformance with Use Permit Findings

For the Use Permit Renewal to be approved by the Zoning Hearing Officer, the following findings must be made:

a. **That the establishment, maintenance and/or conducting of the use will not, under the circumstances of the particular case, be detrimental to the public welfare or injurious to property or improvements in said neighborhood.**

The submitted Radio Frequency Electromagnetic Fields Report (RF) prepared by Michael McGuire, P.E. of Site Safe LLC finds that this site in in compliance with all FCC requirements with the maximum theoretical percentage of the FCC's General Public MPE limits: General Public Levels: Exposure Type: Spatial Average Reference Level: Ground Crown Castle: 79.9% Composite: 79.9

b. **That this personal telecommunications facility is necessary for the public health, safety, convenience or welfare of the community.**

Staff believes that the continued use of this facility will allow for increased clarity, range, and capacity of the existing cellular network and will enhance services for the public. Contiguous cellular coverage is not only important in the conduction of day-to-day business and conversations, but also provides important assistance in emergency situations. By utilizing this site, missed or "dropped" calls will be minimized and seamless coverage will be possible between areas to the north and south of this site for residents, commuters, and emergency response.

B. ENVIRONMENTAL REVIEW

The project is categorically exempt pursuant per Section 15301, Class 1, of the CEQA Guidelines for the continued operation of existing public or private facilities involving no alterations or expansion of use as no physical changes are proposed.

C. REVIEWING AGENCIES

Building Inspection Section
Department of Public Works
Cal-Fire

ATTACHMENTS

A. Recommended Findings and Conditions of Approval
B. Location and Vicinity Map
C. Project Plans
D. Radio Frequency Report
E. Conditions from the 2013 Use Permit Approval

TGP:cmc – TGPHH0067_WCU.DOCX

Attachment A

County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2000-00611 Hearing Date: April 6, 2023

Prepared By: Tiare Peña
Project Planner For Adoption By: Zoning Hearing Officer

RECOMMENDED FINDINGS

Regarding the Environmental Review

1. That the project is categorically exempt pursuant per Section 15301, Class 1, of the CEQA Guidelines for the continued operation of existing public or private facilities involving no alterations or expansion of use as no physical changes are proposed.

Regarding the Use Permit Renewal, Find:

2. That the establishment, maintenance and/or conducting of the proposed use, under the circumstances of the particular case and as conditioned, will not be detrimental to the public welfare or injurious to property or improvements in said neighborhood. The cumulative radio frequency level for this project is in compliance with the Federal Communications Commission's requirements for the applicable public exposure limit at ground level for areas accessible to the public.

3. That the renewal of this cellular telecommunications facility is necessary for the public health, safety, convenience, or welfare. This facility contributes to an enhanced wireless network for increased clarity, range, and system capacity.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. This approval applies only to the proposal, documents, and plans described in this report and submitted to and approved by the Zoning Hearing Officer on April 6, 2023. Modifications beyond that which were approved by the Zoning Hearing Officer will be subject to review and approval by the Community Development Director and may require review at a public hearing. Minor modifications that are

largely consistent with this approval may be approved at the discretion of the Community Development Director.

2. This permit shall be valid for ten (10) years from the date of this approval and shall expire on April 6, 2033. If continuation of this use is desired, the applicant shall file a use permit renewal application with the Planning and Building Department six months prior to its expiration and pay the fees applicable at that time.

3. This use permit renewal shall be for the continued operation of the existing telecommunication facility only. Any substantial change or change in intensity of use shall require an amendment to the use permit, which requires an application for amendment, payment of applicable fees, and consideration at a public hearing.

4. The applicant shall continue to maintain the color of all existing facilities in a manner that is consistent with the color samples on file. Over time paint colors fade and, as result, facilities may become more visually prominent than initially proposed. The applicant shall continue to take all necessary measures to ensure that the site remains consistent with all approved colors.

5. This installation shall be removed in its entirety at that time when this technology becomes obsolete, when the facility is no longer needed to achieve coverage objectives, or if the facility remains inactive for six consecutive months. If any of these circumstances occur, the entire facility, including all antennas and associated equipment, cables, power supplies, etc., shall be removed and the site shall be returned to its pre-construction state to the extent practicable.

6. The applicant shall keep their FCC license active and in good standing throughout this permit's 10-year term. The applicant shall immediately notify the Planning and Building Department if any changes to their license occur.

Cal-Fire

7. Access to the site shall be maintained.

TGP:cmc – TGPHH0067_WCU.DOCX

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT B

Wireless Telecommunications Facility Photo Key
827707 SF197 Cal Water Tank
1452 Bel Aire Rd., San Mateo, CA 94402

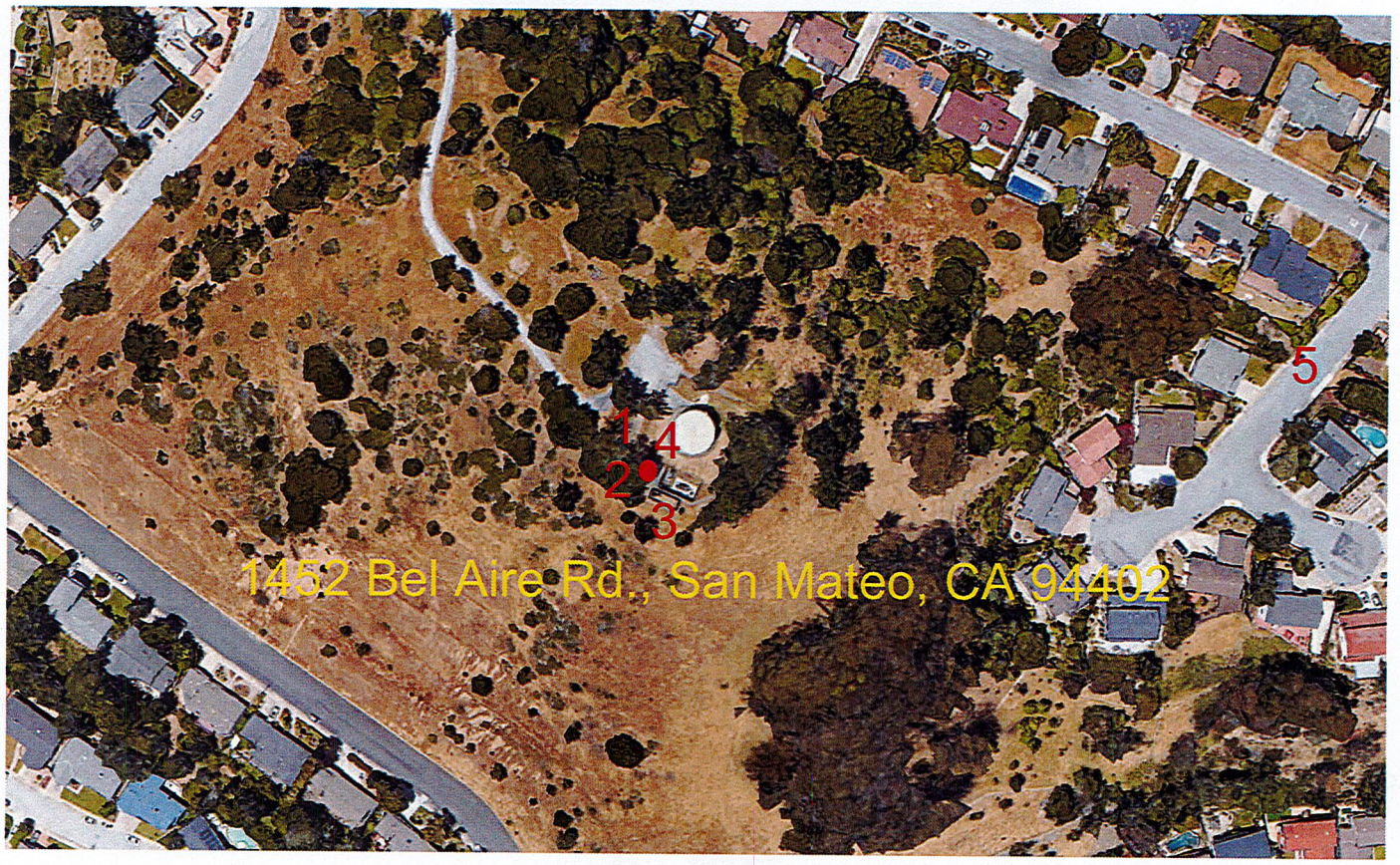


Photo 1

San Mateo County

1452 Bel Aire Road

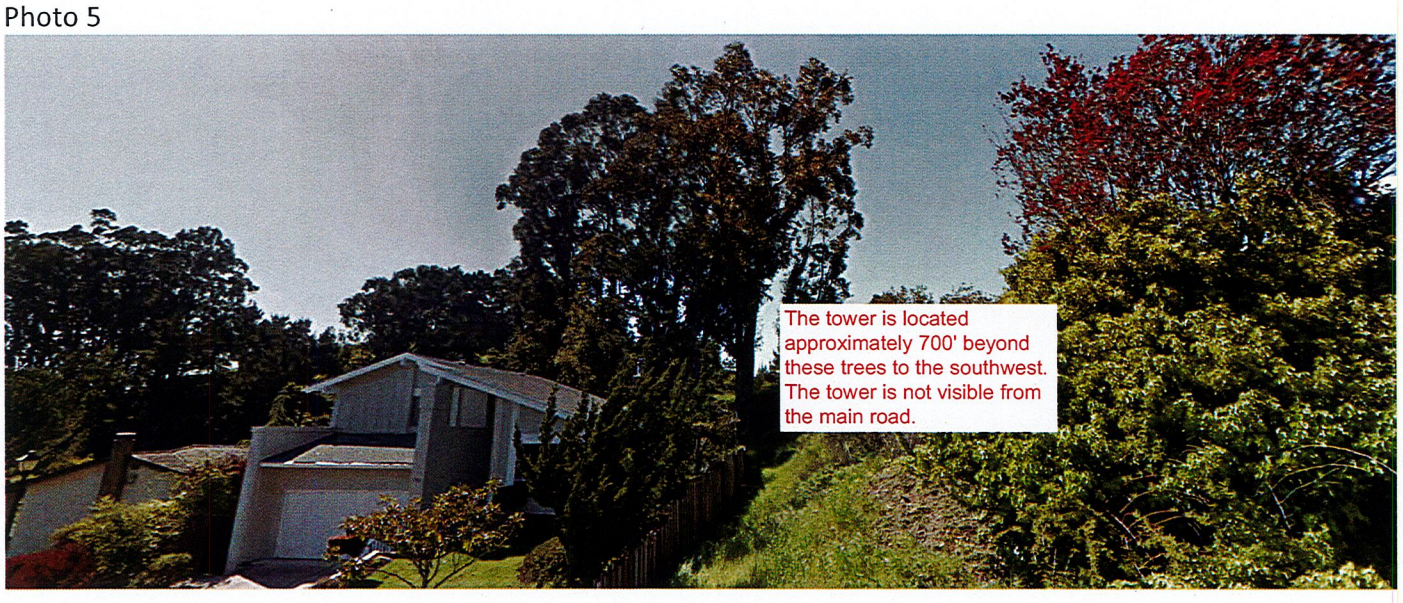
0.01 0 0.00 0.01 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

1: 282

Photo 4

Photo 5



COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT C

CROWN CASTLE

SITE NAME:	SF197 CAL WATER TANK	BUSINESS UNIT #:	827707
SITE TYPE:	SINGLE USE	SITE ADDRESS:	1452 BEL AIRE RD SAN MATEO, CA 94402
TOWER HEIGHT:	11'-0"	COUNTY:	SAN MATEO
		JURISDICTION:	SAN MATEO COUNTY

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	SF197 CAL WATER TANK
SITE ADDRESS:	1452 BEL AIRE RD SAN MATEO, CA 94402
COUNTY:	SAN MATEO
MAP/PARCEL #:	041-111-020
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	37.529514
LONGITUDE:	-122.341169
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	625'-3"
CURRENT ZONING:	R-1
JURISDICTION:	SAN MATEO COUNTY
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	CALIFORNIA WATER SERVICE COMPANY 1720 N. FIRST ST. SAN JOSE, CA 95112
TOWER OWNER/APPLICANT:	CROWN CASTLE 4301 HACIENDA DRIVE, SUITE 410 PLEASANTON, CA 94588
ELECTRIC PROVIDER:	PACIFIC GAS & ELECTRIC 800-743-5000
TELCO PROVIDER:	AT&T MOBILITY 611

PROJECT TEAM

A&E FIRM:	TELCYTE INFRASTRUCTURE SERVICES 3450 N HIGLEY RD, SUITE 102 MESA, AZ 85215 CWOLFE@TELCYTE.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	4301 HACIENDA DRIVE, SUITE 410 PLEASANTON, CA 94588 CAMPBELL A&Z, LLC - ENTITLEMENT CONSULTANT MICHAEL J CAMPBELL 602-616-8396 CAMPBELLAZ1@EARTHLINK.NET

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
C-1.1	OVERALL SITE PLAN
C-1.2	SITE PLAN
C-2	EXISTING ELEVATION
C-3	EXISTING ANTENNA PLAN & SCHEDULE

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT DESCRIPTION

CROWN CASTLE PROPOSES TO RENEW THE USE PERMIT FOR AN EXISTING WIRELESS COMMUNICATION FACILITY.

- NO CHANGES ARE PROPOSED TO THE PROJECT.

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER

LOCATION MAP

NO SCALE

FROM SAN FRANCISCO INTERNATIONAL AIRPORT. HEAD NORTHWEST TOWARD US-101 N (0.2 MI). TAKE I-280 S TO CA-35/HAYNE RD. TAKE EXIT 36 FROM I-280 S (10.3 MI). MERGE ONTO US-101 N 1.3 MI. USE THE RIGHT 2 LANES TO TAKE EXIT 423B FOR I-380 W TOWARD SAN BRUNO/INTERSTATE 280 0.9 MI. CONTINUE ONTO I-380 W 1.0 MI. USE THE LEFT 2 LANES TO TAKE EXIT 5B TO MERGE ONTO I-280 S TOWARD SAN JOSE 6.8 MI. TAKE EXIT 36 FOR HAYNE RD TOWARD BLACK MOUNTAIN RD 0.3 MI. CONTINUE ON CA-35. TAKE CRYSTAL SPRINGS RD TO ASCENSION DR IN HIGHLANDS-BAYWOOD PARK (3.0 MI). TURN RIGHT ONTO CA-35/HAYNE RD (SIGNS FOR VISTA PT/PARK & RIDE). CONTINUE TO FOLLOW CA-35 1.3 MI. TURN LEFT ONTO CRYSTAL SPRINGS RD 0.9 MI. TURN RIGHT ONTO POLHEMUS RD 0.4 MI. TURN LEFT ONTO ASCENSION DR

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2019 CBC (2018 IBC W/AMMENDMENTS)
MECHANICAL	2019 CMC (2018 IMC W/AMMENDMENTS)
ELECTRICAL	2019 CEC (2017 NEC W/AMMENDMENTS)
FIRE	2019 CFC (2018 IFC W/AMMENDMENTS)

CALL CALIFORNIA ONE CALL
(800) 227-2600
CALL 3 WORKING DAYS
BEFORE YOU DIG!

811

JURISDICTIONAL APPROVAL:

CROWN CASTLE
1505 WESTLAKE AVENUE NORTH, SUITE 800
SEATTLE, WA 98109

TELCYTE INFRASTRUCTURE SERVICES
3450 N HIGLEY RD - SUITE 102,
MESA, AZ 85215

BU #: 827707
SF197 CAL WATER TANK
1452 BEL AIRE RD
SAN MATEO, CA 94402
EXISTING 11'-0" SINGLE USE

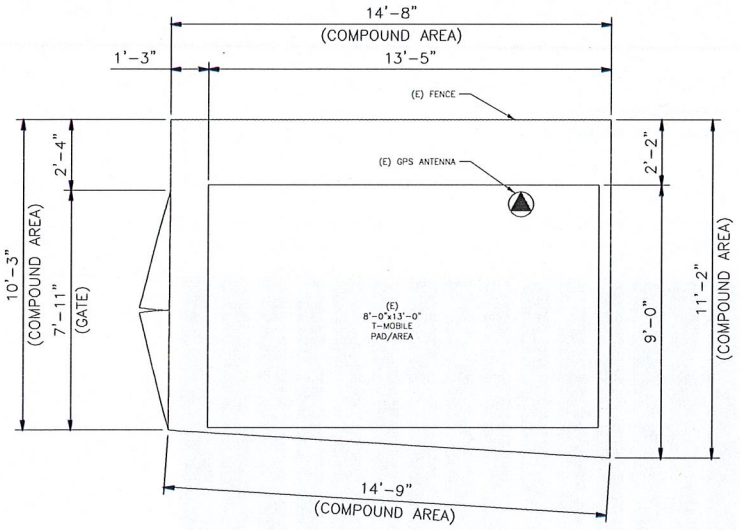
ISSUED FOR:

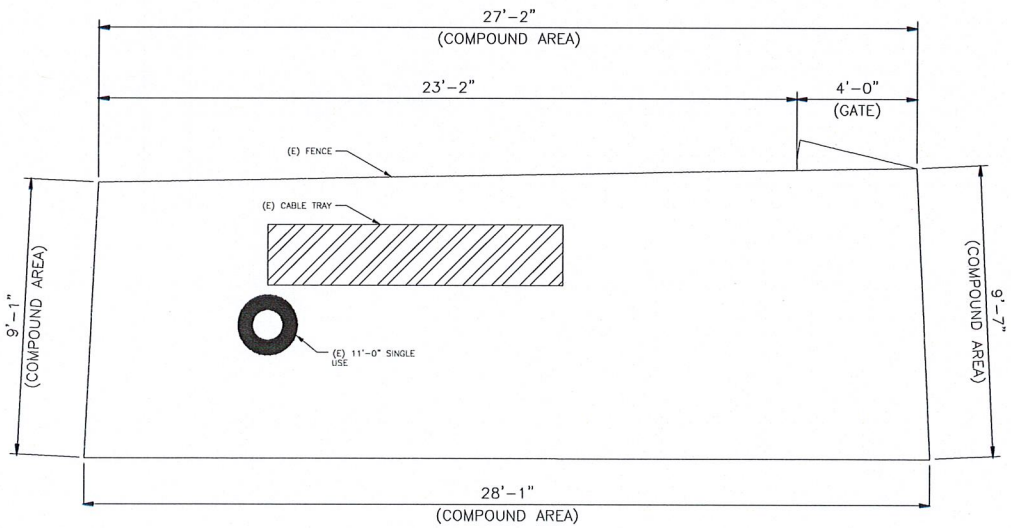
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/05/22	MM	CUP RENEWAL	JD

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-1

REVISION: 0





1 SITE PLAN
SCALE: 2 1 0 2 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

N

JURISDICTIONAL APPROVAL:

CROWN CASTLE
1505 WESTLAKE AVENUE NORTH, SUITE 800
SEATTLE, WA 98109

TELCYTE
INFRASTRUCTURE SERVICES
3450 N HIGLEY RD - SUITE 102,
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BU #: **827707**
SF197 CAL WATER TANK
1452 BEL AIRE RD
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EXISTING 11'-0" SINGLE USE

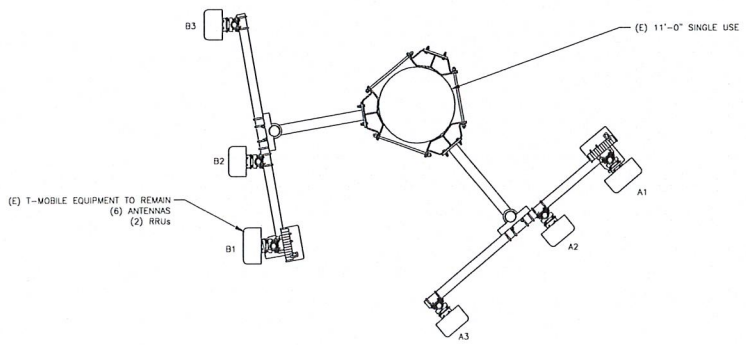
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/05/22	MM	CUP RENEWAL	JD

SHEET NUMBER:	REVISION:
C-1.2	0

EQUIPMENT SCHEDULE

POSITION	ANTENNA				RADIO			TMA		SURGE PROTECTION		CABLES			
	CARRIER	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
ALPHA															
A1	T-MOBILE	(E) RFS/CELWAVE APXVF18-C-A20	140°	10'-0"	1	(E) RRUS 11 B12	TOWER	–	–	–	–	3	COAX	7/8"	40'-0"
A2	T-MOBILE	(E) ERICSSON AIR 21 B4A B2P	140°	11'-0"	–	–	–	–	–	–	–	3	COAX	7/8"	40'-0"
A3	T-MOBILE	(E) ERICSSON AIR 21 B4A B2P	140°	11'-0"	–	–	–	–	–	–	–	2	COAX	7/8"	40'-0"
BETA															
B1	T-MOBILE	(E) RFS/CELWAVE APXVF18-C-A20	270°	10'-0"	1	(E) RRUS 11 B12	TOWER	–	–	–	–	2	COAX	7/8"	40'-0"
B2	T-MOBILE	(E) ERICSSON AIR 21 B4A B2P	270°	11'-0"	–	–	–	–	–	–	–	–	–	–	–
B3	T-MOBILE	(E) ERICSSON AIR 21 B4A B2P	270°	11'-0"	–	–	–	–	–	–	–	8	COAX	1/2"	40'-0"



1 EXISTING T-MOBILE ANTENNA PLAN @10'-0"
SCALE: 2" 1" 0 2" 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

JURISDICTIONAL APPROVAL:

CROWN CASTLE
1505 WESTLAKE AVENUE NORTH, SUITE 800
SEATTLE, WA 98109

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ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/05/22	MM	CUP RENEWAL	JD

SHEET NUMBER: C-3
REVISION: 0

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT D

SiteSafe
A QualTek Company

8618 Westwood Center Drive, Suite 315, Vienna, VA 22182
703.276.1100 • 703.276.1169 fax
info@sitesafe.com • www.sitesafe.com

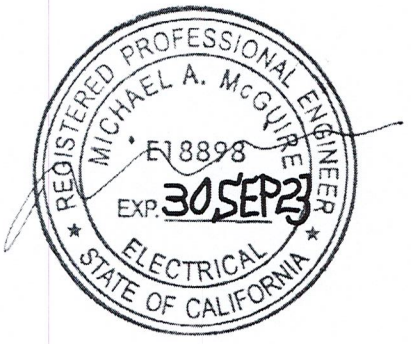
Crown Castle
Site ID – 827707
Assessment Purpose – CUP Renewal
Site Name – SF197 Cal Water Tank
Site Compliance Report

1452 Bel Aire Road
San Mateo, CA 94402

Latitude: N37-31-46.25
Longitude: W122-20-28.21
Structure Type: Monopole

Report generated date: February 22, 2023
Report by: Benjamin Schnable
Customer Contact: Jim Lee

Crown Castle is compliant with the FCC Rules and Regulations.



sealed 22feb2023

Crown Castle
SF197 Cal Water Tank - 827707
Radio Frequency (RF) Site Compliance Report

1452 Bel Aire Road, San Mateo, CA 94402

8618 Westwood Center Drive • Suite 315 • Vienna, VA 22182
703.276.1100 • info@sitesafe.com

Table of Contents

1 Executive Summary

Crown Castle has contracted with Site Safe, LLC (Sitesafe), an independent Radio Frequency (RF) regulatory and engineering consulting firm, to determine whether the communications site, 827707 - SF197 Cal Water Tank, located at 1452 Bel Aire Road, San Mateo, CA, is in compliance with the Federal Communications Commission (FCC) Rules and Regulations for RF exposure.

This report contains a detailed summary of the RF environment at the site including:

- Diagram of the site
- Inventory of the make / model of all antennas
- Theoretical MPE based on modeling

This report addresses exposure to radio frequency electromagnetic fields in accordance with the FCC Rules and Regulations for all individuals, classified in two groups, "Occupational or Controlled" and "General Public or Uncontrolled."

Crown Castle is compliant with the FCC Rules and Regulations, as described in OET Bulletin 65.

Crown Castle seeks a CUP renewal for the site.

This document and the conclusions herein are based on the information provided by Crown Castle.

If you have any questions regarding RF safety and regulatory compliance, please do not hesitate to contact Sitesafe's Customer Support Department at (703) 276-1100.

2 Site Compliance

2.1 Site Compliance Statement

Upon evaluation of the cumulative RF exposure levels from all operators at this site, Sitesafe has determined that:

Crown Castle is compliant with the FCC Rules and Regulations, as described in OET Bulletin 65.

The compliance determination is based on theoretical modeling, RF signage placement recommendations, and/or the level of restricted access to the antennas at the site.

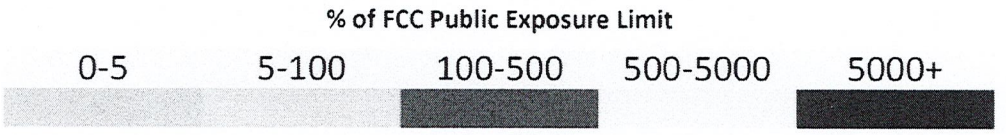
Note: Ensure all existing signage documented in this report still exist on site unless otherwise indicated.

3 Analysis

3.1 RF Exposure Diagram

The RF diagram(s) below display theoretical percentage of the Maximum Permissible Exposure for all systems at the site. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix B.

The key at the bottom of each diagram indicates if percentages displayed are referenced to FCC **General Public** Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:



This table displays the maximum theoretical percentage of the FCC's General Public MPE limits:

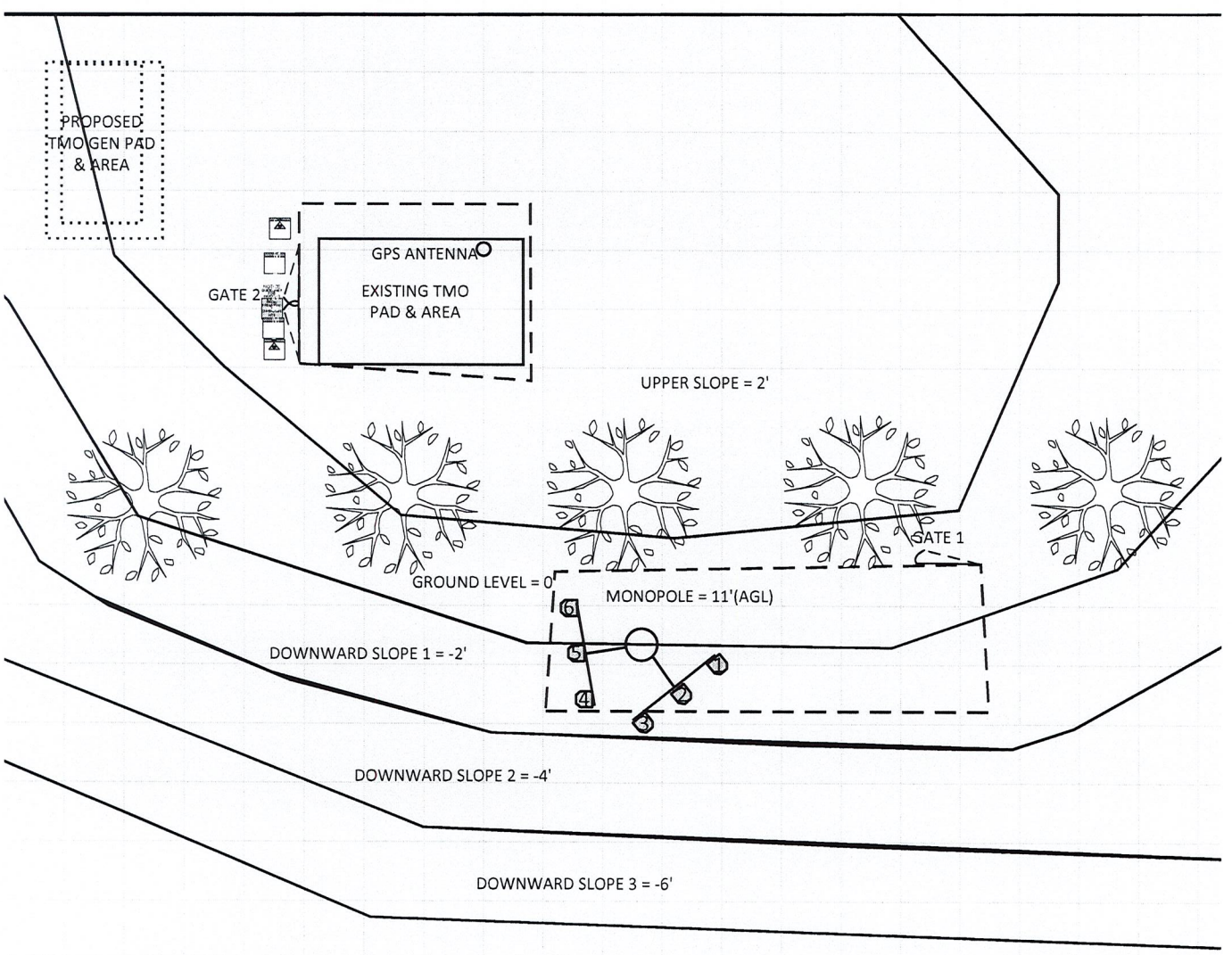
	General Public Levels:
Exposure Type:	**Spatial Average**
Reference Level:	**Ground**
Crown Castle:	79.9%
Composite:	79.9%

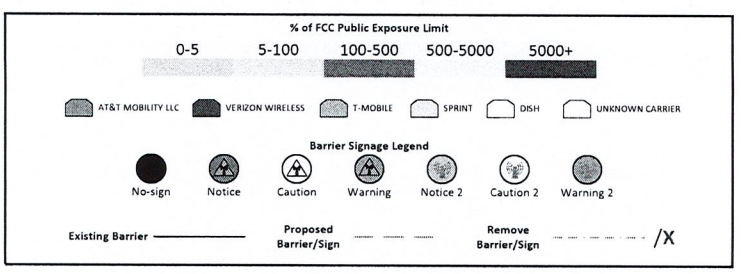
Note: On the diagrams shown below, each level is marked with a height. For all diagrams that are marked as *Spatially Averaged*, the modeling program will spatially average the exposure within the area six feet above each set level. This provides an accurate spatial average of the percentage of the FCC's MPE limits within an accessible area.

In the RF exposure simulations below, all heights are reflected with respect to the ground level. Each different area, rooftop, or platform level is labeled with its height relative to the main site level. Exposure is calculated appropriately based on the relative height and location of that area to all antennas. The analyzed elevations in the RF exposure simulations are as follows:

- GROUND LEVEL = 0'
- UPPER SLOPE LEVEL = 2'
- DOWNWARD SLOPE 1 = -2'
- DOWNWARD SLOPE 2 = -4'
- DOWNWARD SLOPE 3 = -6'

RF Exposure Simulation For: SF197 Cal Water Tank
Composite View





(Feet)

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www.sitesafe.com
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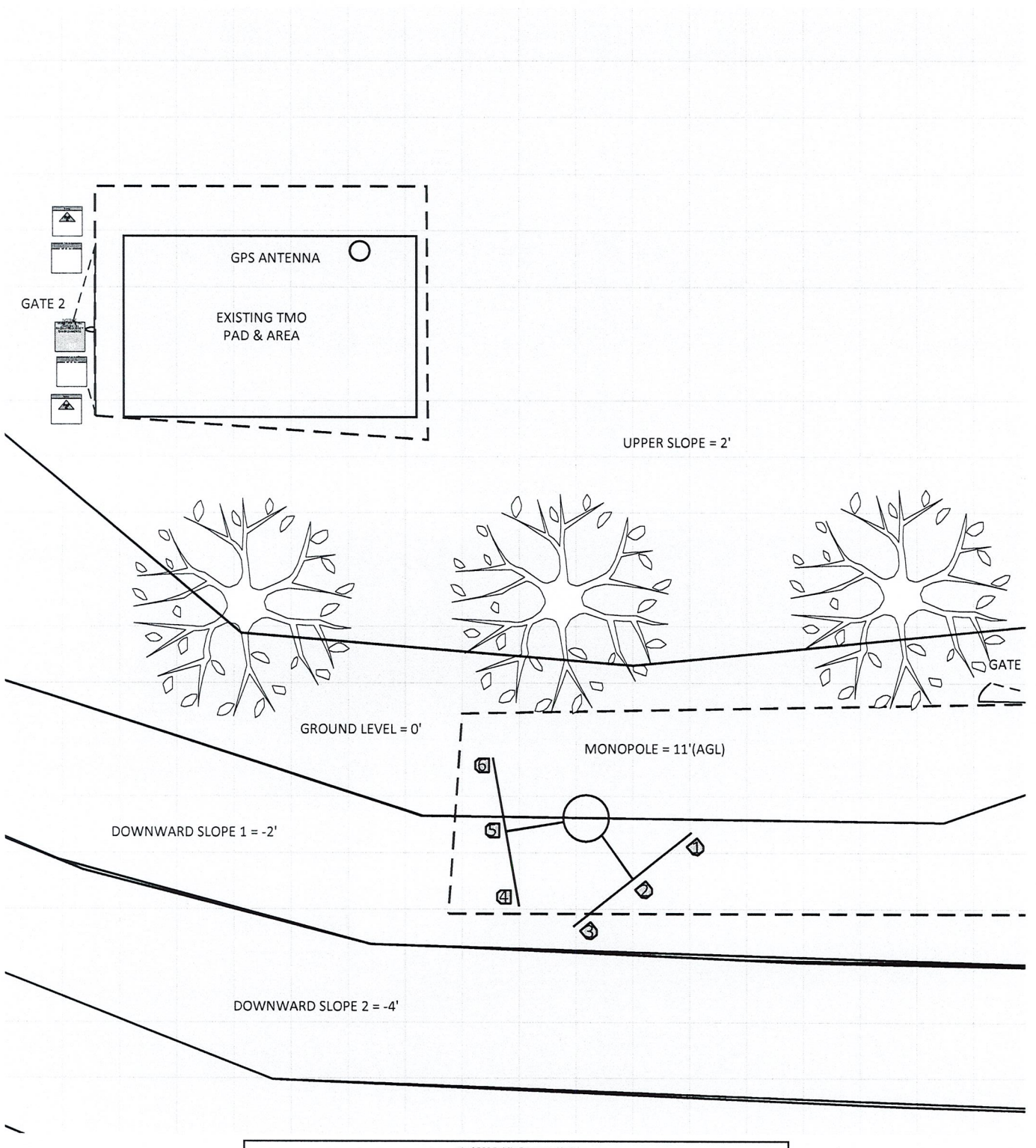
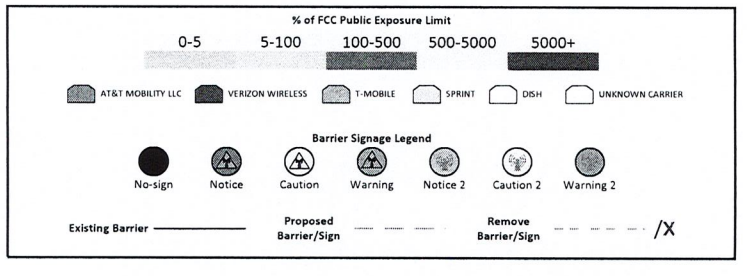
Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

RF Exposure Simulation For: SF197 Cal Water Tank
Detailed View





(Feet)

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www.sitesafe.com
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Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

4 Antenna Inventory

The Antenna Inventory shows all transmitting antennas at the site. This inventory was provided by the customer and was utilized by Sitesafe to perform theoretical modeling of RF exposure. The inventory coincides with the site diagrams in this report, identifying each antenna's location at 827707 - SF197 Cal Water Tank. The antenna information collected includes the following information:

- Licensee or wireless operator name
- Frequency or frequency band
- Transmitter power – Transmitter Power Output ("TPO"), Effective Radiated Power ("ERP"), or Equivalent Isotropic Radiated Power ("EIRP")
- Antenna manufacturer make, model, and gain

The following antenna inventory was provided by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make and Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	Power	Power Type	Power Units	TX Count	Misc Loss	Total ERP (Watts)	Z (ft)	MDT (Deg)	EDT (Deg)
1	T-MOBILE	RFS APXVF18-C-A20	Panel	700	LTE	140	67.0	6	13.40	30.00	TPO	Watt	2	0.00	1312.66	10	0	0
2	T-MOBILE	Ericsson AIR 21 B4A B2P	Panel	2100	LTE	140	65.0	4.7	15.37	30.00	TPO	Watt	2	0.00	2066.1	11	0	0
3	T-MOBILE	Ericsson AIR 21 B2A B4P	Panel	1900	LTE	140	65.0	4.7	15.37	63.00	EIRP	dBmW	2	0.00	2433.24	11	0	0
4	T-MOBILE	RFS APXVF18-C-A20	Panel	700	LTE	270	67.0	6	13.40	30.00	TPO	Watt	2	0.00	1312.66	10	0	0
5	T-MOBILE	Ericsson AIR 21 B4A B2P	Panel	2100	LTE	270	65.0	4.7	15.37	30.00	TPO	Watt	2	0.00	2066.1	11	0	0
6	T-MOBILE	Ericsson AIR 21 B2A B4P	Panel	1900	LTE	270	65.0	4.7	15.37	63.00	EIRP	dBmW	2	0.00	2433.24	11	0	0

Note: The Z reference indicates antenna height above the ground level (AGL). ERP values provided by the client and used in the modeling may be greater than are currently deployed. For additional modeling information, refer to Appendix B. Proposed equipment is tagged as *(Proposed)* under *Operator* or *Antenna Make and Model*.

5 Engineer Certification

The professional engineer whose seal appears on the cover of this document hereby certifies and affirms:

That I am registered as a Professional Engineer in the jurisdiction indicated in the professional engineering stamp on the cover of this document; and

That I, Michael A. McGuire, P.E., am currently and actively licensed to provide (in this state/jurisdiction as indicated within the professional electrical engineering seal on the cover of this document) professional electrical engineering services, as an employee of Hurricane Hill Development Company, PLLC, a duly authorized/registered engineering firm (in this state, as applicable) on behalf of Site Safe, LLC; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Benjamin Schnable.

February 22, 2023

Appendix A – Statement of Limiting Conditions

Sitesafe will not be responsible for matters of a legal nature that affect the site or property.

Due to the complexity of some wireless sites, Sitesafe performed this analysis and created this report utilizing best industry practices and due diligence. Sitesafe cannot be held accountable or responsible for anomalies or discrepancies due to actual site conditions (i.e., mislabeling of antennas or equipment, inaccessible cable runs, inaccessible antennas or equipment, etc.) or information or data supplied by Crown Castle, the site manager, or their affiliates, subcontractors or assigns.

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, observed during the survey of the subject property or that Sitesafe became aware of during the normal research involved in performing this survey. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data provided by a second party and physical data collected by Sitesafe, the physical data will be used.

Appendix B – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The site has been modeled with these assumptions to show the maximum RF energy density. Sitesafe believes this to be a *worst-case* analysis, based on best available data. Areas modeled to predict exposure exposure greater than 100% of the applicable MPE level may not actually occur but are shown as a *worst-case* prediction that could be realized real time. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Thus, at any time, if power density measurements were made, we believe the real-time measurements would indicate levels below those depicted in the RF exposure diagram(s) in this report. By modeling in this way, Sitesafe has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site complies with FCC standards with regards to Human Exposure to Radio Frequency Electromagnetic Fields from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to a half-wave dipole antenna.

Gain (of an antenna) – The ratio, usually expressed in decibels, of the power required at the input of a loss-free reference antenna to the power supplied to the input of the given antenna to produce, in a given direction, the same field strength or the same power density at the same distance. When not specified otherwise, the gain refers to the direction of maximum radiation. Gain may be considered for a specified polarization. Gain may be referenced to an isotropic antenna (dBi) or a half-wave dipole (dBd) antenna.

General Population/Uncontrolled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are *unaware* of the potential for exposure and who have no control over their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use its industry specific knowledge of antenna models to select a worst-case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of RF exposure on humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency Exposure or Electromagnetic Fields – Electromagnetic waves that are propagated from antennas through space.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy a 6-foot tall human body will absorb while present in an electromagnetic field of energy.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

Appendix C – Rules & Regulations

Explanation of Applicable Rules and Regulations

The FCC has set forth guidelines in OET Bulletin 65 for human exposure to radio frequency electromagnetic fields. Specific regulations regarding this topic are listed in Part 1, Subpart I, of Title 47 in the Code of Federal Regulations. Currently, there are two different levels of MPE - General Public MPE and Occupational MPE. An individual classified as Occupational can be defined as an individual who has received appropriate RF training and meets the conditions outlined below. General Public is defined as anyone who does not meet the conditions of being Occupational. FCC and OSHA Rules and Regulations define compliance in terms of total exposure to total RF energy, regardless of location of or proximity to the sources of energy.

It is the responsibility of all licensees to ensure these guidelines are maintained at all times. It is the ongoing responsibility of all licensees composing the site to maintain ongoing compliance with FCC rules and regulations. Individual licensees that contribute less than 5% MPE to any total area out of compliance are not responsible for corrective actions.

OSHA has adopted and enforces the FCC's exposure guidelines. A building owner or site manager can use this report as part of an overall RF Health and Safety Policy. It is important for building owners/site managers to identify areas in excess of the General Population MPE and ensure that only persons qualified as Occupational are granted access to those areas.

Occupational Environment Explained

The FCC definition of Occupational exposure limits apply to persons who:

- are exposed to RF energy as a consequence of their employment;
- have been made aware of the possibility of exposure; and
- can exercise control over their exposure.

OSHA guidelines go further to state that persons must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

In order to consider this site an Occupational Environment, the site must be controlled to prevent access by any individuals classified as the General Public. Compliance is also maintained when any non-occupational individuals (the General Public) are prevented from accessing areas indicated as Red or Yellow in the attached RF exposure diagram. In addition, a person must be aware of the RF environment into which they are entering. This can be accomplished by an RF Safety Awareness class, and by appropriate written documentation such as this Site Compliance Report.

All Crown Castle employees who require access to this site must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

Appendix D – General Safety Recommendations

The following are *general recommendations* appropriate for any site with accessible areas in excess of 100% General Public MPE. These recommendations are not specific to this site. These are safety recommendations appropriate for typical site management, building management, and other tenant operations.

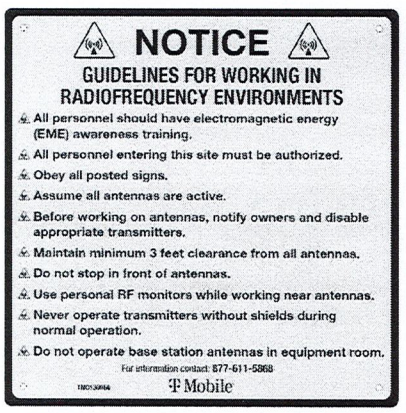
1. All individuals needing access to the main site (or the area indicated to be in excess of General Public MPE) should wear a personal protective monitor (PPM), successfully complete proper RF Safety Awareness training, and have and be trained in the use of appropriate personal protective equipment.

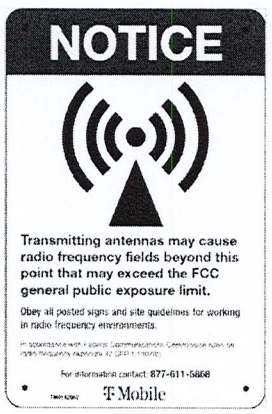
2. All individuals needing access to the main site should be instructed to read and obey all posted placards and signs.

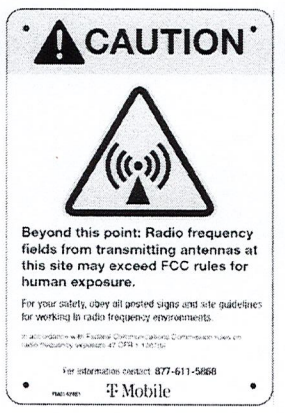
3. The site should be routinely inspected and this or similar report updated with the addition of any antennas or upon any changes to the RF environment including:

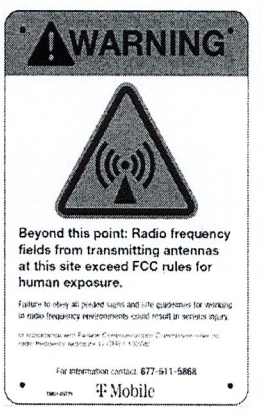
- adding new antennas that may have been located on the site
- removing of any existing antennas
- changes in the radiating power or number of RF emitters

4. Post the appropriate **NOTICE**, **CAUTION,** or **WARNING** sign at the main site access point(s) and other locations as required. Note: Please refer to RF Exposure Diagrams in Section 3.1 to inform <u>everyone</u> who has access to this site that beyond posted signs there may be levels in excess of the limits prescribed by the FCC. In addition to RF Advisory Signage, a RF Guideline Signage is recommended to be posted at the main site access point(s). The signs below are examples of signs meeting FCC guidelines.









5. Ensure that the site door remains locked (or appropriately controlled) to deny access to the general public if deemed as policy by the building/site owner.

6. For a General Public environment the five color levels identified in this analysis can be interpreted in the following manner:

- Gray represents areas predicted to be at 5% or less of the General Public MPE limits. *The General Public can access these areas with no restrictions.*
- Green represents areas predicted to be between 5% and 100% of the General Public MPE limits. *The General Public can access these areas with no restrictions.*
- Blue represents areas predicted to be between 100% and 500% of the General Public MPE limits. *The General Public should be restricted from accessing these areas.*
- Yellow represents areas predicted to be between 500% and 5000% of the General Public MPE limits. *The General Public should be restricted from accessing these areas.*
- Red represents areas predicted to be greater than 5000% of the General Public MPE limits. *The General Public should be restricted from accessing these areas.*

7. For an Occupational environment the five color levels identified in this analysis can be interpreted in the following manner:

- Gray represents areas predicted to be at 1% or less of the Occupational MPE limits. *Workers can access these areas with no restrictions.*
- Green represents areas predicted to be between 1% and 20% of the Occupational MPE limits. *Workers can access these areas with no restrictions.*
- Blue represents areas predicted to be between 20% and 100% of the Occupational MPE limits. Workers can access these areas assuming they have basic understanding of EME awareness and RF safety procedures and understand how to limit their exposure.
- Yellow represents areas predicted to be between 100% and 1000% of the Occupational MPE limits. Workers can access these areas assuming they have basic understanding of EME awareness and RF safety procedures and understand how to limit their exposure. Transmitter power reduction and/or time-averaging may be required.
- Red represents areas predicted to be greater than 1000% of the Occupational MPE limits. These areas are not safe for workers to be in for prolonged periods of time. Special procedures must be adhered to, such as lockout/tagout or transmitter power reduction, to minimize worker exposure to EME.

8. Use of a Personal Protective Monitor (PPM): When working around antennas, Sitesafe strongly recommends the use of a PPM. Wearing a PPM will properly forewarn the individual prior to entering an RF exposure area.

Keep a copy of this report available for all persons who must access the site. They should read this report and be aware of the potential hazards with regards to RF and MPE limits.

Additional Information

Additional RF information is available at the following sites:
https://www.fcc.gov/general/radio-frequency-safety-0
https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety

OSHA has additional information available at:
https://www.osha.gov/SLTC/radiofrequencyradiation/index.html

Appendix E – Regulatory Basis

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for evaluating the effects of RF exposure in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limits. The General Public limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

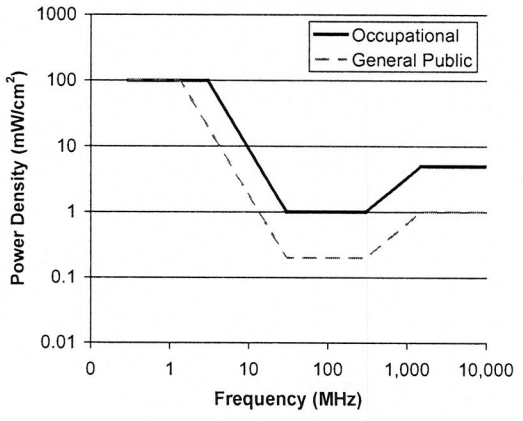
An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF hazard signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF hazard signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

FCC Limits for Maximum Permissible Exposure (MPE)

Plane-wave Equivalent Power Density



Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	$(900/f^2)$*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	$(180/f^2)$*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

Appendix F – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a worker's understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet-based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Site RF Exposure Diagram(s): Section 3 of this report contains RF Diagram(s) that outline various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst-case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT E

Attachment A

County of San Mateo
Planning and Building Department

FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2000-00611 Hearing Date: June 20, 2013

Prepared By: Melissa Ross, Project Planner Adopted By: Zoning Hearing Officer

FINDINGS

Regarding the Negative Declaration, Found:

1. That the project is Categorically Exempt under Provisions of Section 15301, Class 1, continued operation of an existing facility.

Regarding the Use Permit, Found:

2. That the establishment, maintenance and/or conducting of the proposed use, under the circumstances of the particular case and as conditioned, will not be detrimental to the public welfare or injurious to property or improvements in said neighborhood. The cumulative radio frequency level for this project site is in compliance with the Federal Communications Commission's requirements for the applicable public exposure limit at ground level for areas accessible to the public.

3. That the approval of this cellular telecommunications facility is necessary for the public health, safety, convenience, or welfare. This facility contributes to an enhanced wireless network for increased clarity, range, and system capacity, and therefore is a benefit to both public and private users.

CONDITIONS OF APPROVAL

Current Planning Section

1. This approval applies only to the proposal, documents, and plans described in this report and submitted to and approved by the Zoning Hearing Officer at its June 20, 2013 meeting. Minor revisions or modifications to this project may be made subject to the review and approval of the Community Development Director.

2. The replacement antennas shall be painted the color "Wall Courtyard" (Sherwin Williams #6640) prior to the building permit final inspection. An alternate color comparable to the approved color may be used subject to the review and approval of the Current Planning Section.

   If staff has determined that the color of the monopoles, antennas, or equipment cabinets are no longer in compliance with the approved color ("Wall Courtyard," Sherwin Williams #6440), the applicant shall repaint the structures with the approved color or similar color submitted for approval by the Community Development Director.

3. The applicant shall maintain the landscaping and irrigation system at all times while the communications facility is located on the property. The applicant shall replace any dead plant material immediately.

4. No tree cutting is allowed by this permit. Removal of any tree with a diameter greater than 12 inches as measured 4.5 feet above the ground shall require a separate tree removal permit.

5. The installation shall be removed in its entirety at that time when this technology becomes obsolete or this facility is no longer needed.

6. This use permit shall be valid for ten (10) years until June 20, 2023. The applicant shall file for a renewal of this permit six (6) months prior to expiration with the Current Planning Section, by submitting the applicable application forms and paying the applicable fees, if continuation of this use is desired. Any modification to this facility will require a use permit amendment. If an amendment is requested, the applicant shall submit the necessary documents and fees for consideration at a public hearing.

7. Prior to the building permit final inspection, the applicant shall install signs in accordance to the EBI Consulting firm's recommendation (TMO MAT RF Compliance Report dated March 25, 2013, Page 7, *Mitigation/Site Control Options*).

8. The applicant shall file, receive, and maintain all necessary licenses and registrations from the FCC, the CPUC and any other applicable regulatory bodies prior to initiating the operation of the wireless telecommunication facility. The applicant shall supply the Planning and Building Department with evidence of these licenses and registrations. If any required license is ever revoked, the applicant shall inform the Planning and Building Department of the revocation within ten (10) days of receiving notice of such revocation.

<u>Cal Fire</u>

9. Current paved access and turnaround shall be maintained.

10. Portable fire extinguishers with a minimum rating of 2A-10BC shall be placed throughout the project. Contact a licensed/certified fire extinguisher company for proper placement of the required extinguishers.