

**COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT**

DATE: January 17, 2019

TO: Zoning Hearing Officer

FROM: Planning Staff

SUBJECT: Consideration of a Use Permit Renewal, pursuant to Section 6500 of the San Mateo County Zoning Regulations, to allow for the continued operation of an existing wireless telecommunications co-location facility, located at 208 County Club Drive in the unincorporated Country Club Park area of San Mateo County.

County File Number: PLN 2002-00333 (Holloway/Crown Castle)

PROPOSAL

The applicant, acting on behalf of the property owner, proposes to renew the existing co-location wireless telecommunication facilities currently in effect. The existing co-location facility consists of a 465 sq. ft. lease area containing a 50-foot tall monopole and associated equipment owned and operated by AT&T and T-Mobile. No change has been proposed to the existing ground mounted cabinets at the base of the monopole nor is the lease area proposed for expansion.

Both carriers are proposing maintenance items that include the following: (1) AT&T will replace nine pole-mounted antennas, install an additional three antennas on the existing monopole, one new cabinet, and other associated equipment within the lease area; and (2) T-Mobile will add three antennas to their existing six antennas. These modifications qualify under the Federal Preemption as modifications that do not constitute a substantial change as defined by the Federal Communications Commission.

RECOMMENDATION

That the Zoning Hearing Officer approve the Use Permit Renewal, PLN 2002-00333, by making the required findings and adopting the conditions of approval listed in Attachment A.

BACKGROUND

Report Prepared By: Bryan Albini, Project Planner, 650/363-1807

Applicant: Jason Osborne, Crown Castle for AT&T Wireless and T-Mobile

Owner: Jaylene Holloway Trust

Location: 208 Country Club Drive (Country Club Park)

APN: 013-141-010

Size: 39,200 sq. ft. (0.9-acre)

Existing Zoning: R-1/CCP (One-Family Residential/Country Club Park District)

General Plan Designation: Low Density Residential (0.3 – 2.3 density units per acre)

Sphere-of-Influence: City of South San Francisco

Existing Land Use: Single-family residence and telecommunications co-location facility

Water Supply: California Water Service Company

Sewage Disposal: Septic system

Flood Zone: Zone X (area of minimal flood risk); FEMA Panel No. 06081C0043E; effective October 16, 2012

Environmental Evaluation: The project is categorically exempt under the provisions of Class 1, Section 15301, of the California Environmental Quality Act (CEQA) Guidelines for the operation, repair, maintenance, and permitting, leasing, licensing, or minor alteration of existing public or private structures.

Setting: The project site is a corner parcel bounded by Country Club Drive to the south and Blondin Way to the southwest, located within the residential area known as Country Club Park and is directly adjacent to the City of South San Francisco boundary. The property contains one single-family residence, a detached garage, an existing cellular facility and associated equipment in the rear, right corner of the parcel. The property is bordered on all sides by trees, with mature Monterey cypress trees offering screening around the 50-foot monopole.

Chronology:

<u>Date</u>	<u>Action</u>
September 5, 1996	- USE 96-0029 is approved by the Zoning Hearing Officer for a new 45-foot tower with six (6) antennas and a 10 sq. ft. equipment cabinet on behalf of Pacific Bell. A renewal schedule was not included as a condition of approval.

- May 30, 2002

 - AT&T submits a new use permit application (PLN 2002-00333) to replace the existing 45-foot tall monopole with a new 50-foot tall monopole that would support six (6) existing antennas and six (6) new antennas. The application also requested approval of one existing equipment cabinet and three additional cabinets.

- November 21, 2002

 - PLN 2002-00333 is approved by the Zoning Hearing Officer for a new 50-foot tall monopole with 12 antennas and a 162 sq. ft. fenced enclosure with four equipment cabinets. This permit superceded the initial Use Permit (USE 96-0029) and consolidated both Cingular's and AT&T's facilities.

- December 17, 2007

 - T-Mobile submitted a Use Permit Renewal application for PLN 2002-00333 to allow the continued operation of the 12 antennas existing facility.

- August 21, 2008

 - Zoning Hearing Officer approves the continued operation of the T-Mobile cellular facility to be renewed in 2018.

- June 3, 2010

 - AT&T submitted a Use Permit application under PLN 2010-00174 for the addition of three panel antennas to the existing monopole and two additional equipment cabinets. This case was later closed because the addition of AT&T's facilities qualified as a co-location onto T-Mobile's facilities. Both carriers are being processed under the subject 2002 Use Permit.

- February 26, 2013

 - Minor amendment for three additional panel antennas and surge protection unit approved under federal preemption.

- April 19, 2013

 - Minor amendment approved for the addition of three panel antennas, two new equipment boxes, and a 100 sq. ft. expansion in lease area at the base of the monopole.

- July 9, 2015

 - Minor amendment approved to replace three existing antennas, two new equipment cabinets and three surge suppressors within the lease area.

- April 17, 2018

 - Use Permit Renewal application submitted.

- January 17, 2019

 - Zoning Hearing Officer Meeting to consider Use Permit Renewal.

DISCUSSION

A. KEY ISSUES

1. Compliance with the Conditions of the Last Approval

All of the Use Permit's conditions of approval outlined in both PLN 2002-00333 are assessed below with regard to compliance and whether the conditions should be retained or revised.

- a. **This approval applies only to the proposal, documents and plans described in this report and materials approved by the Zoning Hearing Officer on August 21, 2008. The Community Development Director may approve minor revisions or modifications to the project if they are consistent with the intent of and in substantial conformance with this approval.**

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes, but modified as follows: This approval applies only to the proposal, documents and plans described in this report and materials approved by the Zoning Hearing Officer on January 17, 2019. The Community Development Director may approve minor revisions or modifications to the project if they are consistent with the intent of and in substantial conformance with this approval.

- b. **This permit shall be valid for ten (10) years from the date of approval. Renewal of this permit shall be applied for six (6) months prior to its expiration (August 21, 2018) to the Planning and Building Department and shall be accompanied by the renewal application and fees applicable at that time.**

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes, but modified as follows: This permit shall be valid for ten (10) years from the date of approval. Renewal of this permit shall be applied for six (6) months prior to its expiration (January 17, 2029) to the Planning and Building Department and shall be accompanied by the renewal application and fees applicable at that time.

- c. **Any change in use or intensity shall require an amendment to the Use Permit. Amendment to this Use Permit requires an application for amendment, payment of applicable fees, and may entail consideration at a public hearing.**

Compliance with Condition? Yes, modifications to the antenna array were made and approved as minor modifications that qualified under the Federal Preemption.

Recommend to Retain Condition? Yes, but modified as follows: This use permit shall be for the proposed project only. Any change or change in intensity of use shall require an amendment to the applicable use permit. Amendments to the use permit require an application for amendment, payment of applicable fees, and consideration at a public hearing.

- d. **The monopole and antennas shall continue to be maintained a dark green color similar to the “Hunter Green” color sample submitted during the initial building permit application. The applicant shall schedule an appointment with Current Planning within 60 days of this approval to verify that the monopole and antennas have been painted a new, fresh coat of dark green paint. Any proposed change in color must be approved by the Current Planning Section prior to its implementation. Failure to comply with the new coat of paint, Planning staff shall schedule this project for reconsideration of the Use Permit Renewal with the Zoning Hearing Officer.**

Compliance with Condition? Yes. The monopole and antennas have been maintained a dark green color since the previous Use Permit Amendment in 2008, and throughout all subsequent minor modification applications in 2013 and 2015. The proposed additional panels will also match the existing material and colors of the antennas currently in place (see Attachment E).

Recommend to Retain Condition? Yes, but modified as follows: The applicant shall continue to maintain the monopole and antennas a dark green color. Any additional antennas or modifications to the monopole are required to be verified for color and materials prior to the final inspection of the associated building permit.

- e. **The applicant shall continue to maintain the fence a light tan color similar to the “Suede” color sample submitted during the initial building permit application. Any proposed change in color must be approved by the Current Planning Section prior to its implementation.**

Compliance with Condition? Yes.

Recommend to Retain Condition? Yes.

- f. **The applicant shall continue to maintain in perpetuity, to the extent practicable, the trees and vegetation that act as the screening for the facility.**

Compliance with Condition? Yes. The applicant has not proposed any modification to the surrounding vegetation at this time.

Recommend to Retain Condition? Yes.

- g. **This permit does not allow for the removal of any trees. Removal of any tree with a diameter equal to or greater than 12 inches as measured 4.5 feet above the ground shall require a separate tree removal permit.**

Compliance with Condition? Yes. The applicant has not proposed any tree removal at this time.

Recommend to Retain Condition? Yes.

Additional Recommended Conditions of Approval

Staff recommends the addition of Condition Nos. 7 through 10 listed in Attachment A as standard conditions of approval typically associated with telecommunications facility permits.

2. Conformance with the General Plan

The project continues to comply with all applicable General Plan Policies, with specific discussion of the following:

Visual Quality Policies

Policy 4.21 (*Utility Structures*) requires minimizing adverse visual impacts generated by utility structures. The existing monopole is screened from view by mature trees along Country Club Drive and Blondin Way. The continued operation and modification of the facility limits the visual impacts since the development remains clustered and no additional ground disturbance is proposed. The monopole and existing antennas have been painted dark green to blend in with the surrounding vegetation and the fence has been maintained a tan color. The additional mounted antennas will be painted with the approved color to minimize visual impacts.

3. Compliance with Zoning Regulations

The parcel is zoned R-1/CCP (Single-Family Residence/Country Club Park). Wireless Telecommunications Facilities are allowed uses in this zoning district subject to the following development standards.

	Minimum Required	Existing
Front Yard Setback	20 feet	210 feet (No Change)
Right Side Yard Setback	10 feet	15 feet (No Change)
Left Side Yard Setback	10 feet	132 feet (No Change)
Rear Yard Setback	20 feet	32 feet (No Change)

No change has been proposed to the height of the monopole. However, small changes to antennas are covered under the Federal Preemption and are capped at a 10% expansion to the existing height. The existing height of the monopole is 50 feet. The top of the replacement/new panel antennas are proposed at approximately 53 feet, which is less than 10% of the existing height. The modifications are consistent with the Federal Preemption and do not constitute a substantial change to the facility. See Section 4, for further discussion.

4. Compliance with the Wireless Telecommunication Facilities Ordinance

Staff has determined that the project complies with the applicable standards of the Wireless Telecommunication Facilities (WTF) Ordinance, as discussed below:

a. Development and Design Standards

Section 6512.2.A: States that new wireless telecommunication facilities shall be prohibited in Sensitive Habitats, as defined by Policy 1.8 of the General Plan (*Definition of Sensitive Habitats*) for facilities proposed outside of the Coastal Zone.

The existing facility is not located in a Sensitive Habitat area, as defined by Policy 1.8 of the General Plan and the project is not located in the Coastal Zone.

Section 6512.2.B: New wireless telecommunication facilities shall not be located in areas zoned Residential (R), unless the applicant demonstrates, by a preponderance of the evidence, that a review has been conducted of other options, and no other sites or combination of sites allows feasible service or adequate capacity and coverage. This review shall include, but is not

limited to, identification of alternative site(s) within 2.5 miles of the proposed facility.

The existing cellular facility is located within a residential area and has been in continuous operation since 1997. No alternative site analysis was submitted as part of this Use Permit Renewal for alternative locations since the existing facility will remain at this location.

Section 6512.2.C: New wireless telecommunication facilities shall not be located in areas where co-location on existing facilities would provide equivalent coverage with less environmental impact.

The existing facility has been used as a co-location site since 2010 and continues as a co-location site with renewal of the Use Permit.

Section 6512.2.D: Except where aesthetically inappropriate, new wireless telecommunication facilities must be constructed so as to accommodate co-location, and must be made available for co-location unless technologically infeasible.

As mentioned above, the existing facility is currently a co-location facility with AT&T and T-Mobile serving as the current carriers. There is no anticipation of including additional carriers at this time.

Sections 6512.2.E and F: Seek to minimize and mitigate visual impacts from public views by siting new facilities outside of the public view, using natural vegetation for screening, painting equipment to blend with existing landscaping, and designing the facility to blend in with the surrounding environment.

The existing 50-foot monopole is located in the rear interior corner of the subject property, approximately 200 feet from Country Club Drive, and is screened by tall Monterey pine trees that surround the perimeter of the property. The tree canopy exceeds the height of the monopole and attached antenna panels.

Since the granting of the Use Permit in 2002, the conditions of approval required that the existing monopole and antenna equipment be painted a dark green to blend in with the surrounding vegetation, while the fencing enclosure be maintained a light tan. These conditions have been upheld by the property owner, and will be included in the conditions of approval as part of this Use Permit Renewal.

Section 6512.2.G: The exteriors of wireless telecommunication facilities shall be constructed of non-reflective materials.

The existing wireless telecommunications facility is constructed of non-reflective materials. The new and replacement antenna panels included as part of this permit will also be constructed of non-reflective materials.

Section 6512.2.H: The wireless telecommunication facility shall comply with all the requirements of the underlying zoning district(s), including, but not limited to, setbacks, Design Review in the DR District(s), Architectural Review in designated Scenic Corridors, and Coastal Development Permit regulations in the CZ or CD zones.

As discussed in Section 2, the existing monopole is located on a residential parcel zoned R-1/CCP (One-Family Residential/ Country Club Park District), and is compliant with setback requirements. The height of the monopole and antenna panels is approximately 53 feet which exceeds the maximum height allowed of 28 feet for non-residential uses. Installation of this facility occurred prior to the County's Wireless Telecommunications Facilities Ordinance in 2008 where the height requirement of new facilities is restricted by the applicable zoning district. In this case, the existing monopole height of 50 feet was permitted and proposed modifications to this facility are compliant with the Federal Preemption which allows for the removal and replacement of equipment provided the height of the tower does not increase by more than 10 percent. The proposed modifications are compliant with this requirement as discussed in Section 3, above. Design Review, Architectural Review, and Coastal Development regulations are not applicable in this area.

Section 6512.2.I.2: States that new equipment located on existing facilities in the public right-of-way in any Residential (R) District shall be allowed to exceed the maximum height for structures allowed in that district by 10% of the height of the existing facility, or by 5 feet, whichever is less.

The existing wireless facility is not located in the public right-of-way.

Section 6512.2.J: In any Residential (R) district, accessory buildings in support of the operation of the wireless telecommunication facility may be constructed, provided that they comply with the provisions of Sections 6410 through 6411 regarding accessory buildings.

No accessory buildings are proposed; the facility equipment is located within a fenced lease area.

Section 6512.2.K: In any Residential (R) district, ground-mounted towers, spires, and similar structures may be built and used provided that they shall not cover, in combination with any accessory building(s), shelter(s), or cabinet(s), or other above-ground equipment used in support of the operation of the wireless telecommunication facility, more than 15% in area of the lot nor an area greater than 1,600 square feet. Buildings, shelters, and cabinets shall be grouped. Towers, spires, and poles shall also be grouped, to the extent feasible for the technology.

The existing lease area is 465 sq. ft. which is below the 1,600 sq. ft. and 5,880 sq. ft. (15% of 39,200 sq. ft.) maximum. No new structures will be built or used in support of the operation of the wireless telecommunication facilities.

Section 6512.2.L: Diesel generators shall not be installed as an emergency power source unless the use of electricity, natural gas, solar, wind, or other renewable energy sources are not feasible.

No generators are proposed.

b. Performance Standards

The proposed projects meet the required standards of Section 6512.3 (*Performance Standards for New Wireless Telecommunication Facilities that are not Co-Location Facilities*) for lighting, licensing, provision of a permanent power source, timely removal of the facility, and visual resource protection. There is no lighting proposed, the facility operates under licenses issued from both the Federal Communications Commission (FCC) and the California Public Utilities Commission (CPUC), power for the facilities will be provided by PG&E, visual impacts will continue to be minimal, and conditions of approval will require maintenance and/or removal of the facilities when they are no longer in operation. Furthermore, road access to the proposed project sites is existing and no noise in excess of San Mateo County's Noise Ordinance will be produced.

5. Compliance with Use Permit Findings

For the use permit under review by the Zoning Hearing Officer, staff has made the following findings:

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

Wireless telecommunication facilities, when proposing new equipment, require the submittal and review of radio frequency (RF) reports to ensure that the emissions from the proposed antennas does not exceed the FCC’s public exposure limits. The applicant, on behalf of AT&T, submitted a RF report conducted by OSC Engineering, confirming that the proposed additional three (3) panels proposed will comply with prevailing standards for limiting public exposure to radio frequency energy and, thus, will not cause significant impact to the environment (See Attachment E).

Additionally, the applicant submitted a separate report on behalf of T-Mobile conducted by Sitesafe, Inc., who found that the predicted Maximum Power Density at 2 meters above ground level from the proposed operation is no more than 6.102% of the maximum in any accessible area on the ground and would not result in exposure of the public to excessive levels of radio-frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307, concluding that T-Mobile’s proposed operation is completely compliant (See Attachment F). The reports, based on worst-case predictive modeling, found that for a person anywhere at ground level, the maximum RF exposure level due to the proposed AT&T/T-Mobile operation is calculated to be no more than 16.091% of the maximum of the applicable public exposure limit at this site. The worst-case emitted power density may exceed the FCC’s general public limit within approximately 10 feet of the proposed antennas at the antenna face level (42 feet above ground level for the AT&T antennas, 52 feet above ground level for the T-Mobile antennas). The existing wireless telecommunication facility will not be accessible to the general public because of the facility’s location on private property and the existing security fencing around the lease area that encloses the monopole and equipment cabinets, therefore no mitigation measures are necessary to comply with FCC public exposure guidelines.

Wireless Services Carrier	Ground Floor Radio Frequency Exposure	Composite Site Exposure
AT&T	14.1% (AGL)	16.091% (AGL)
T-Mobile	6.102% (AGL)	

With the discussion above, staff has determined that the proposed project, as conditioned, will not have a negative environmental, health, or visual impact on persons or property within the project vicinity.

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

Staff has determined that continued operation and maintenance of the existing cellular facility at this location will allow for increased clarity, range, and capacity of the existing cellular network and will enhance services for the public. The proposed additional antennas on an existing wireless facility is the least intrusive option available to expand AT&T's and T-Mobile's network capacity and service coverage in this area.

B. ENVIRONMENTAL REVIEW

The project is categorically exempt pursuant to Section 15301, Class 1, of the California Environmental Quality Act (CEQA) Guidelines for the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

C. REVIEWING AGENCIES

Building Inspection Section
Cal-Fire
City of South San Francisco

ATTACHMENTS

- A. Recommended Findings and Conditions of Approval
- B. Vicinity Map
- C. Project Plans
- D. Photo Simulations
- E. Electromagnetic Energy (EME) Exposure Report prepared by OSC Engineering on behalf of AT&T, dated April 6, 2018
- F. RF Emissions Compliance Report prepared by SiteSafe, Inc. on behalf of T-Mobile, dated September 22, 2017

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County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2002-00333 Hearing Date: January 17, 2019

Prepared By: Bryan Albini, Project Planner For Adoption By: Zoning Hearing Officer

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That this project is categorically exempt from environmental review, per Class 1, Section 15301, of the California Environmental Quality Act (CEQA) Guidelines for the operation, repair, maintenance, and permitting, leasing, licensing, or minor alteration of existing public or private structures.

Regarding the Use Permit, Find:

2. That the establishment, maintenance, and/or conducting of the uses will not, under the circumstances of these particular cases, be detrimental to the public welfare or injurious to the property or improvements in said neighborhood because the projects will meet current Federal Communications Commission (FCC) standards as shown in the radio frequency radiation reports and have been conditioned to maintain valid FCC and California Public Utilities Commission (CPUC) licenses.
3. That the telecommunication facility is necessary for the public health, safety, convenience, or welfare of the community in that installing cellular facilities at this location will provide increased and improved cellular coverage in the area for residents, commuters, and emergency personnel.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. This approval applies only to the proposal, documents and plans described in this report and materials approved by the Zoning Hearing Officer on January 17, 2019. The Community Development Director may approve minor revisions or modifications to the project if they are consistent with the intent of and in substantial conformance with this approval.

2. This permit shall be valid for ten (10) years from the date of approval. Renewal of this permit shall be applied for six (6) months prior to its expiration (January 17, 2029) to the Planning and Building Department and shall be accompanied by the renewal application and fees applicable at that time.
3. This use permit shall be for the proposed project only. Any change or change in intensity of use shall require an amendment to the applicable use permit. Amendments to these use permits require an application for amendment, payment of applicable fees, and consideration at a public hearing.
4. The applicant shall continue to maintain the monopole and antennas a dark green color. Any additional antennas or modifications to the monopole are required to be verified for color and materials prior to the final inspection of the associated building permit.
5. The applicant shall continue to maintain the fence a light tan color similar to the "Suede" color sample submitted during the initial building permit application. Any proposed change in color must be approved by the Current Planning Section prior to its implementation.
6. The applicant shall continue to maintain in perpetuity, to the extent practicable, the trees and vegetation that act as the screening for the facility.
7. This permit does not allow for the removal of any trees. Removal of any tree with a diameter equal to or greater than 12 inches as measured 4.5 feet above the ground shall require a separate tree removal permit.
8. The applicant shall maintain all necessary licenses and registrations from the Federal Communications Commission (FCC) and any other applicable regulatory bodies for the operation of the subject facility at this site. The applicant shall supply the Planning Department with evidence of such licenses and registrations. If any required license is ever revoked, the applicant shall inform the Planning Department of the revocation within ten (10) days of receiving notice of such revocation.
9. This facility and all equipment associated with it shall be removed in its entirety by the applicant within ninety (90) days if the FCC license and registration are revoked or if the facility is abandoned or no longer needed. The owner and/or operator of the facility shall notify the Planning Department upon abandonment of the facility.
10. There shall be no external lighting associated with this use. Wireless telecommunication facilities shall not be lighted or marked unless required by the FCC or Federal Aviation Administration (FAA).

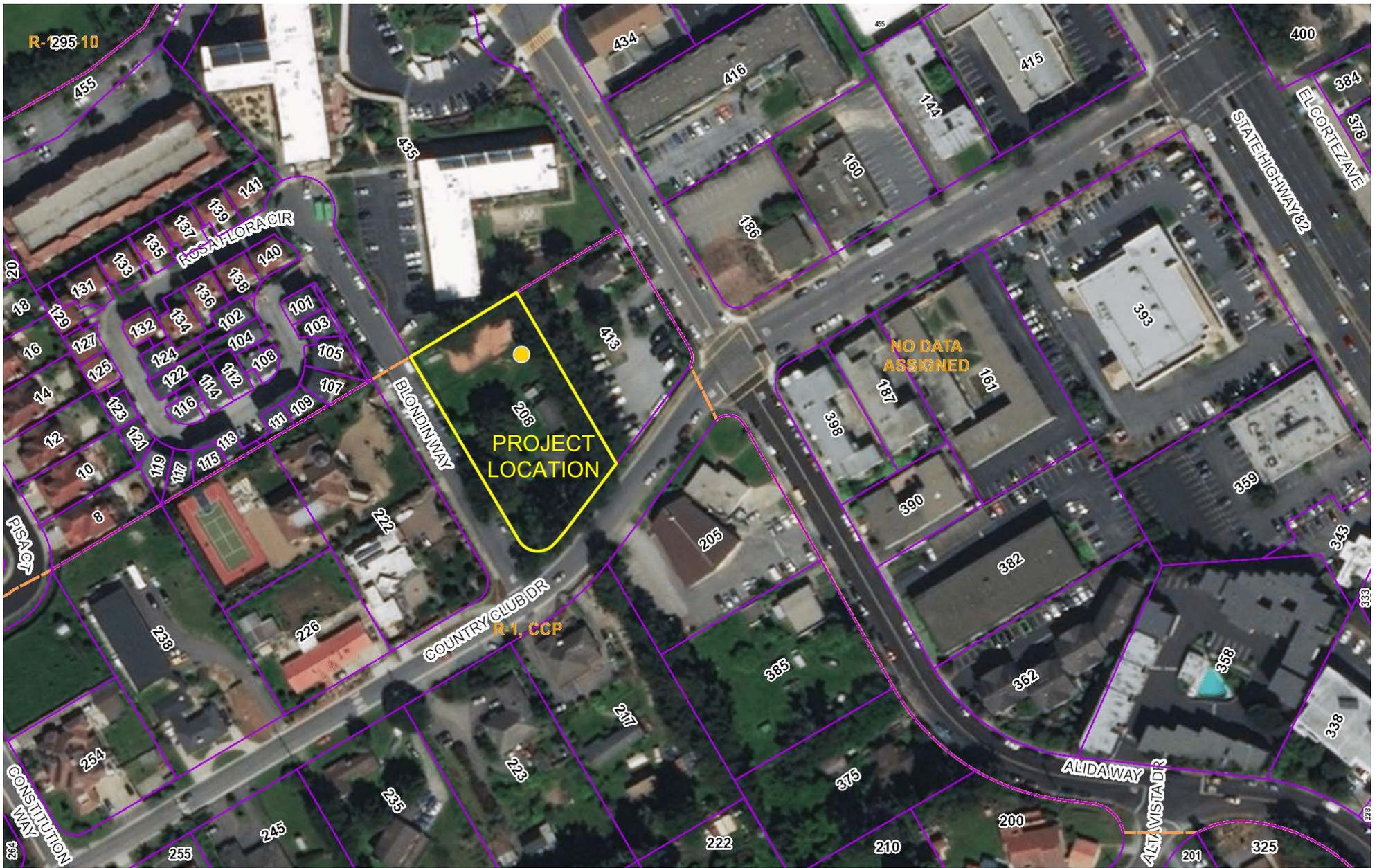
Building Inspection Section

11. A building permit shall be issued prior to the start of any construction work associated with this amendment approval.

Cal-Fire

12. Address numbers assigned by the Planning and Building Department shall be posted on all dwelling units and commercial structures. Address numbers shall be a minimum of 4 inches in height, 1/2-inch stroke, on a contrasting background. Address numbers and directional signs may be required at the entrance to the driveway/access road, road forks, and intersections. When located on the street the numbers shall be visible from each direction of travel. This remote signage shall consist of a 6-inch by 18-inch green reflective metal sign with 3-inch reflective number/letters similar to Hy-Ko 911 or equivalent.
13. For any electrical panel fed by the generator, a permanent sign shall be posted on the disconnecting means. Such signage shall be red in color and reads "WARNING – This premise is provided with an alternate power source. Disconnecting of power at this location may not disable the electrical power source." Lettering shall be contrasting to the red background and be a minimum 1/2-inch tall and shall be permanently affixed on each electrical panel subject to back feed from the alternate power source. Any and all disconnects shall require signage as stated herein.
14. Any electrical panel subject to back feed shall have an additional permanent sign, red in color, stating location of alternate power source. Lettering shall be contrasting to the red background and be a minimum 1/2-inch tall and shall be permanently affixed on each electrical panel subject to back feed from the alternate power source.
15. All alternate power sources shall have permanent signage, red in color, posted in conspicuous place at the power source, or its main shut off. Such signage shall state instructions on how to disconnect power feeding other electrical panels including any orderly shutdown requirements. Any other shutoffs shall be identified. Lettering shall be contrasting to the red background and be a minimum 1/2-inch tall and shall be permanently affixed.
16. Knox locks or Knox key switch are required on all access gates. Contact our office for an application. 650/573-3846.
17. A 2A 10BC extinguisher with current tags is required on the premises.

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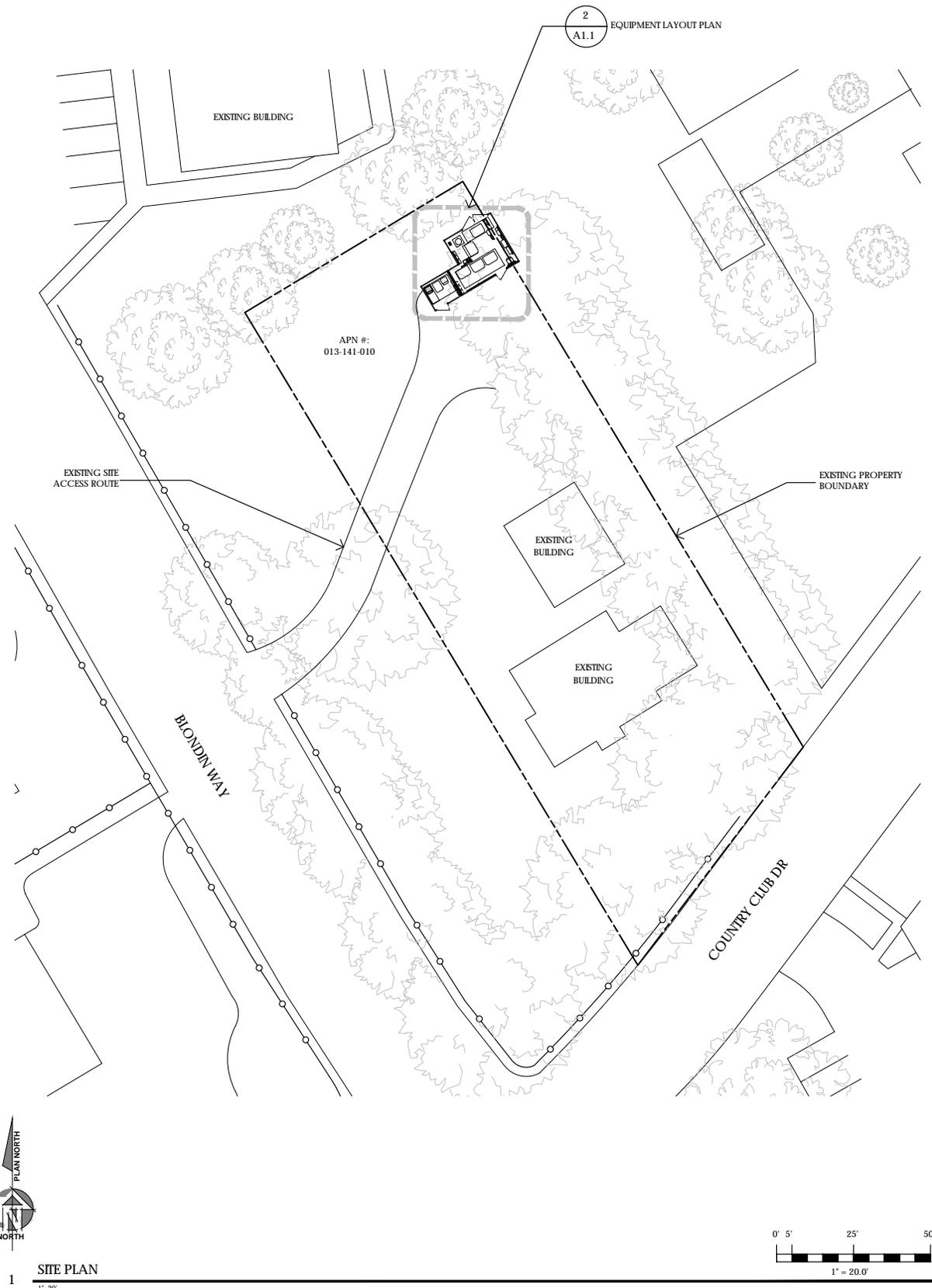


San Mateo County Zoning Hearing Officer Meeting

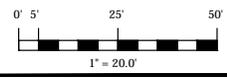
Owner/Applicant: _____

Attachment: _____

File Numbers: _____



1 SITE PLAN
1"=20'

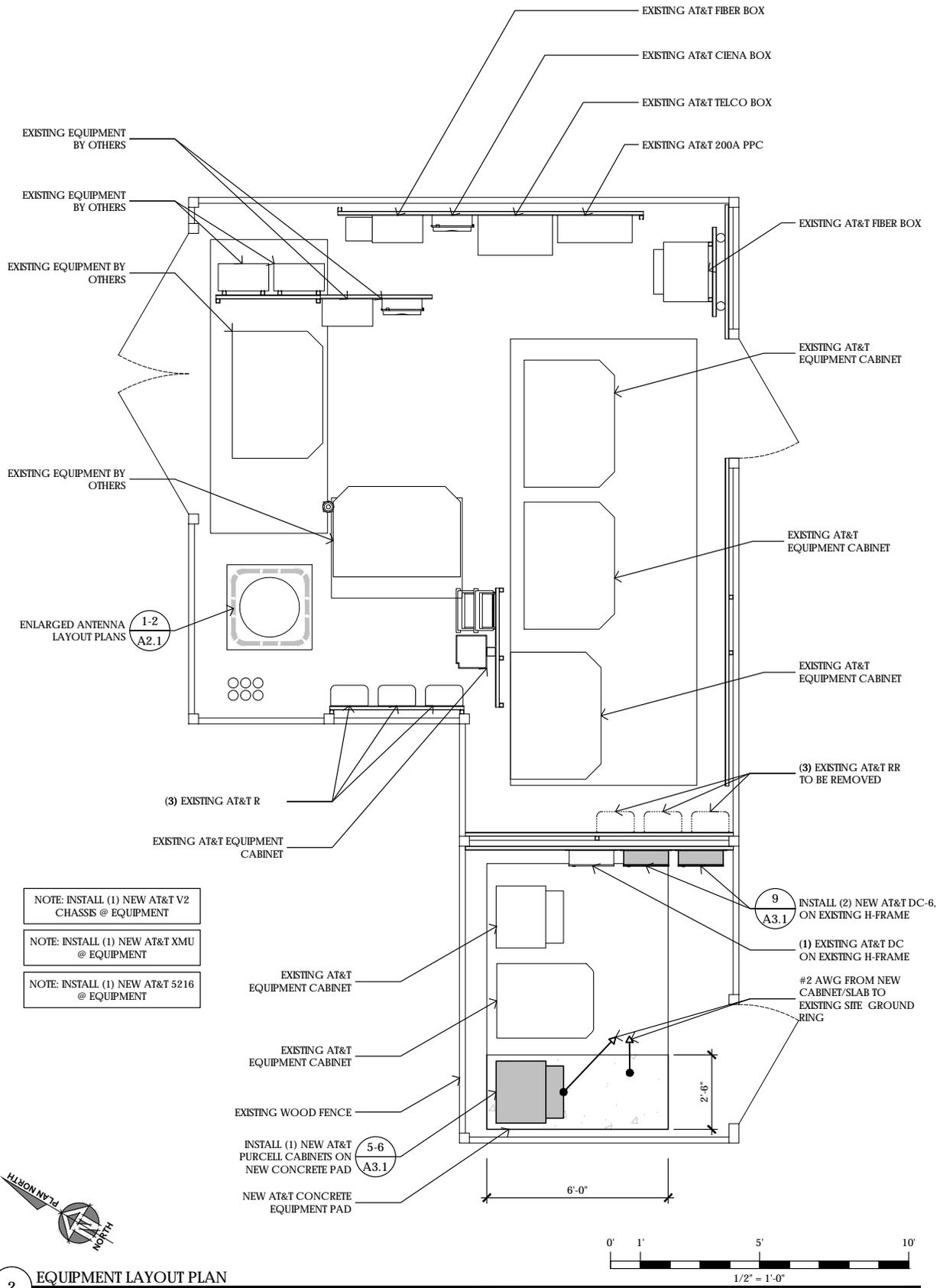


San Mateo County Zoning Hearing Officer Meeting

Owner/Applicant: _____

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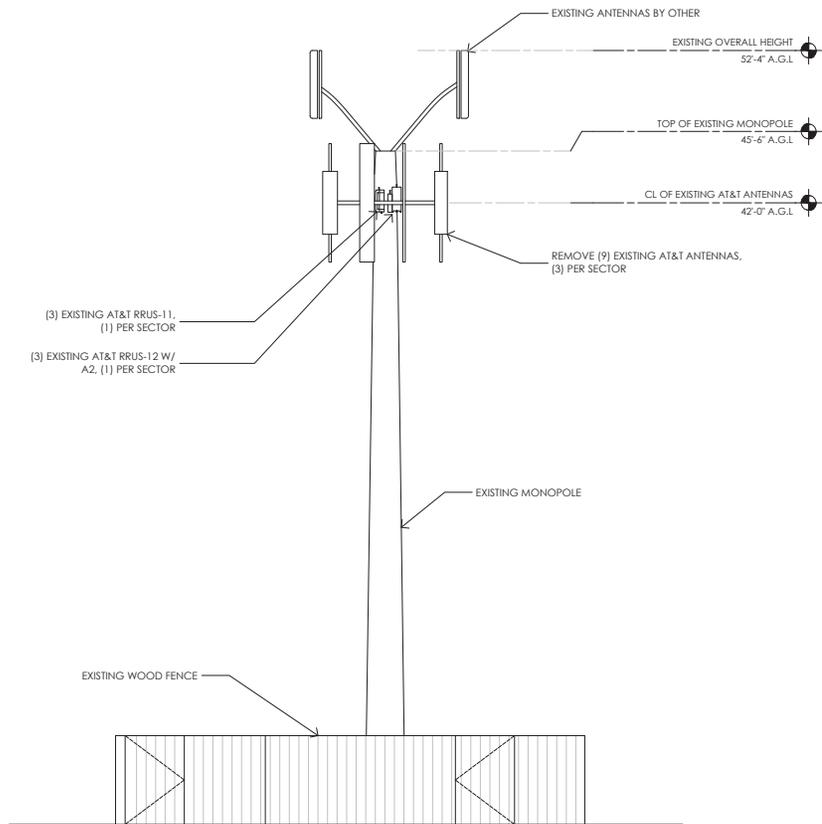
2 EQUIPMENT LAYOUT PLAN
1/2" = 1'-0"

San Mateo County Zoning Hearing Officer Meeting

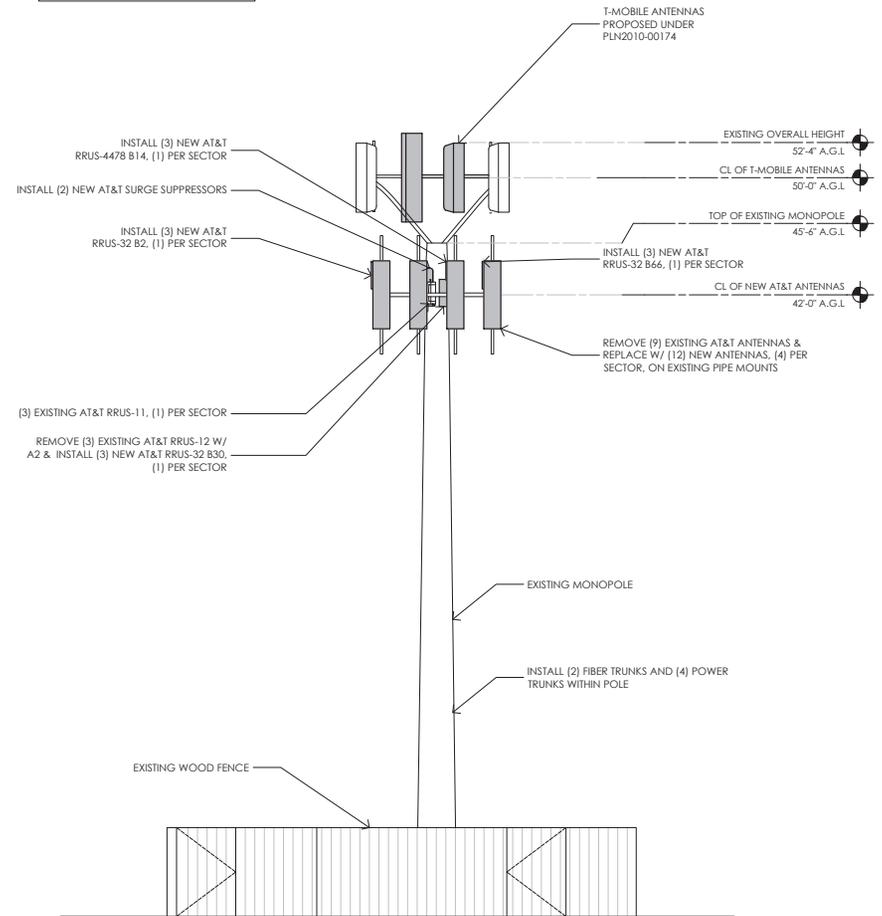
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NOTE: PAINT PROPOSED EQUIPMENT TO MATCH EXISTING



2 EXISTING SOUTHEAST ELEVATION
1/4" = 1'-0"

1 PROPOSED SOUTHEAST ELEVATION
1/4" = 1'-0"

San Mateo County Zoning Hearing Officer Meeting

Owner/Applicant: _____

Attachment: _____

File Numbers: _____



Existing



Proposed

CROWN CASTLE
3/21/18

SSF Backyard Site # 827687 CCL05639
208 Country Club Drive
San Francisco, CA

Looking West from Alida Way

View #2
Applied Imagination 510 914-0500

San Mateo County Zoning Hearing Officer Meeting

Owner/Applicant:

Attachment:

File Numbers:



Existing



Proposed

CROWN CASTLE
3/21/18

SSF Backyard Site # 827687 CCL05639
208 Country Club Drive
San Francisco, CA

Looking Northeast from Blondin Way
View #1
Applied Imagination 510 914-0500

San Mateo County Zoning Hearing Officer Meeting

Owner/Applicant:

Attachment:

File Numbers:

ATTACHMENT: E

ELECTROMAGNETIC ENERGY (EME) EXPOSURE REPORT



Site Name: El Camino Real - Ponderosa Road
Site ID: CCL05639
USID: 24168
FA Location: 10094008

Site Type: Monopole

Location: 208 Country Club Drive
South San Francisco, CA 94080

Latitude $\text{N}^{\circ}\text{C}'\text{E}''$: 37.6451917
Longitude $\text{W}^{\circ}\text{N}'\text{E}''$: -122.430275

Report Completed: April 06, 2018
AT&T M-RFSC Casey Chan

Prepared By:



Prepared for: AT & T Mobility
c/o Caldwell Compliance, Inc.
6900 Koll Center Parkway.
Ste. 401
Pleasanton, CA 94566

Site Overview and Description

- The antennas are mounted on a monopole
- The site consists of three (3) sectors with a total of twelve (12) antennas
- The site is within a fenced in area, access to the site is via a gate
- The site is co-located with T-Mobile antenna
- Co-located antennas are modeled with standard estimated values

	Sector A	Sector B	Sector G
Beamwidth	20°	260°	140°
Frequency	F	F	F
Power	100W	100W	100W
Antenna Type	Yagi	Yagi	Yagi
Antenna Height	100m	100m	100m
Antenna Azimuth	0°	0°	0°

Antenna Model	Yagi
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Compliance Notes

Occupational Safety & Compliance Engineering (OSC Engineering) has been contracted by Caldwell Compliance, Inc. to conduct an RF (radio frequency) computer simulated analysis. The Federal Communications Commission (FCC) has set limits on RF energy exposed to humans on a wireless cell site in order to ensure safety. The FCC has also mandated that all RF wireless sites must be in compliance with the FCC limits and a compliance check should be performed annually to ensure site compliance.

This report is an in-depth analysis summarizing the results of the RF modeling provided to us by AT&T and in relation to relevant FCC RF compliance standards. A reanalysis is recommended upon the site going on air.

OSC Engineering uses the FCC OET-65 as well as AT&T Standards to make recommendations based on results and information gathered from drawings and Radio Frequency Data Sheets.

For this report, OSC Engineering utilized Roofview® software for the theoretical analysis of the AT&T Cellular Facility.

A site-specific compliance plan is recommended for each transmitting site. This report serves as a single piece of the overall compliance plan.

Information utilized for this report: RFDS: SAN-FRANCISCO-SACRAMENTO_SAN-FRANCISCO_CNU5639_2018-LTE-Next-Carrier_LTE-3Cjb4379_3701843872_10094008_24168_04-19-2017_Final-RF-Approval_v4.00

DWGs: BU827687_CCL05639_SSF Backyard LTE 3C 100% CD Rev 1 (00237074-3xDEL El)

For the purpose of theoretical simulation, OSC Engineering models antennas as if they are operating at full power (100% capacity). This assumption yields more conservative (higher) results. On-site measurements may yield different results, as antennas do not always operate at full capacity. To the right is a result diagram of the site in question. The diagram is a color-coded map per ND-00059 levels, which coincide with FCC MPE Limits. Any exposure resulting in a level higher than 100% exceeds the limits and requires further action, such as barriers. A level exceeding 100% does not make a site out of compliance. All results are given in General Population percentages even when a site may be considered Occupational.

Compliance Results of the Proposed Site (theoretical simulation)

Max RF Exposure Level simulated {AT&T antennas round} ;

14.1 % FCC General Population MPE Limit

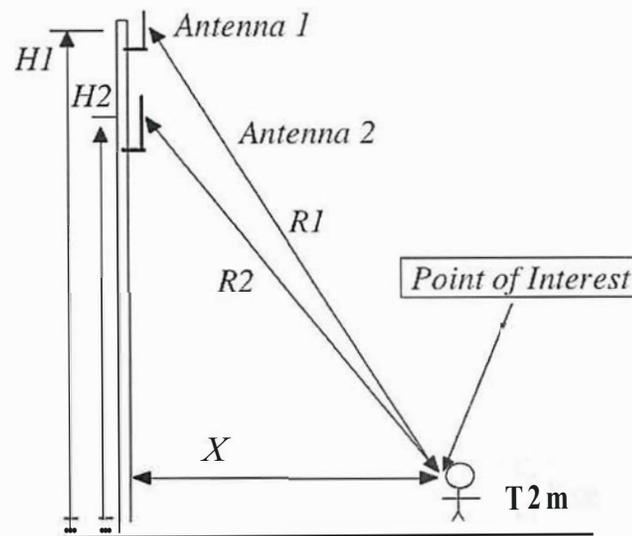
Max RF Exposure Level simulated {cumulative ground}:

14.2 % FCC General Population MPE Limit

FCC Regulations and Guidelines from OET 65

When considering the contributions to field strength or power density from other RF sources, care should be taken to ensure that such variables as reflection and re-radiation are considered. In cases involving very complex sites predictions of RF fields may not be possible, and a measurement survey may be necessary. The process for determining compliance for other situations can be similarly accomplished using the techniques described in this section and in Supplement A to this bulletin that deals with radio and television broadcast operations. However, as mentioned above, at very complex sites measurements may be necessary.

In the simple example shown in the below diagram, it is desired to determine the power density at a given location X meters from the base of a tower on which are mounted two antennas. One antenna is a CMRS antenna with several channels, and the other is an FM broadcast antenna. The system parameters that must be known are the total ERP for each antenna and the operating frequencies (to determine which MPE limits apply). The heights above ground level for each antenna, H_1 and H_2 , must be known in order to calculate the distances, R_1 and R_2 , from the antennas to the point of interest.¹



¹ OSC Engineering Inc. DT 04* €

Computer Simulation Analysis

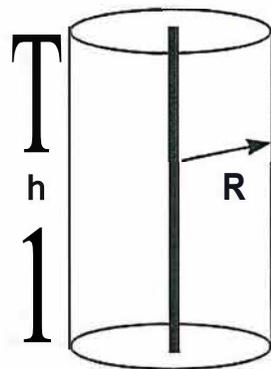
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"RoofView® is a software analysis tool for evaluating radiofrequency (RF) field levels at roof-top telecommunications sites produced by vertical collinear antennas of the type commonly used in the cellular, paging, PCS, ESMR and conventional two-way radio communications services."[Ⓓ]

"RF near-field levels are computed from selected antennas by applying a cylindrical model that takes into account the antenna's aperture height, mounting height above the roof, azimuthal beam width for directional antennas and the location of the antennas on the roof. Resulting, spatially averaged power densities are expressed as a percentage of a user selectable exposure limit depending on frequency. The entire roof is composed of one-square-foot pixels and RF fields are computed for each of these pixels for each selected antenna."[Ⓔ]

Computer simulations produced for clients are simulated with "Uptime = 100%". This means that all transmitters associated with an antenna are considered to be "on".⁴

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$$S = \frac{p}{2\pi Rh}$$

[Ⓓ] Roofview User Guide 4.15, Page 7, Richard A Tell Associates

³ Rootview User Guide 4.15, Page 7, Richard A Tell Associates

⁴ Rootview User Guide 4.15, Page 10, Richard A Tell Associates

⁵ Roofview User Guide 4.15, Page 45, Richard A Tell Associates

Certification

The undersigned is a Professional Engineer, holding a California Registration No. 19677

Reviewed and approved by:



John B. Bachoua, PE

Date: April 06, 2018

The engineering and design of all related structures as well as the impact of the antennas on the structural integrity of the design are specifically excluded from this report's scope of work. This report's scope of work is limited to an evaluation of the Electromagnetic Energy (EME) RF emissions field generated by the antennas listed in this report. When client and others have supplied data, it is assumed to be correct.

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OSC Engineering uses the FCC's and clients' guidelines to model the computer simulation. Explained in detail in Office of Engineering & Technology, Bulletin No. 65 ("OET-65") "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Radiation".

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General population/uncontrolled⁷ exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

⁶ OET-65 "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" pg. 9.

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Limits for Maximum Permissible Exposure (MPE)⁸

"The FCC Exposure limits are based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies whole-body absorption is less efficient, and, consequently, the MPE limits are less restrictive."

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Occupational/Controlled Exposure Limit (mW/cm²)	General Population/Uncontrolled Exposure Limit (mW/cm²)	Plane-wave equivalent power density (W/m²)	Reference
0.3-3.0	0.1	0.05	(100)*	H
3-30	0.1	0.05	(100)*	6
30-300	0.1	0.05	1.0	H
300-1500	--	--	f/300	H
1500-100,000	--	--	5	6

(B) Limits for General Population /Uncontrolled Exposure

Frequency Range (MHz)	Occupational/Controlled Exposure Limit (mW/cm²)	General Population/Uncontrolled Exposure Limit (mW/cm²)	Plane-wave equivalent power density (W/m²)	Reference
0.3-3.0	0.1	0.05	(100)*	6
3-30	0.1	0.05	(180/f²)†	6
30-300	0.1	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = Frequency in MHz

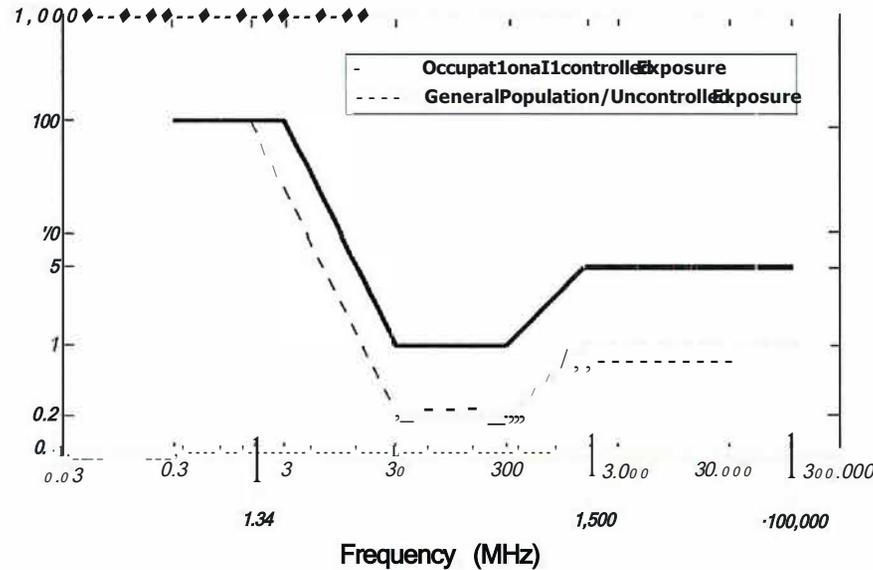
† f < Plane-wave equivalent power density

⁸ 47 CFR 1.1307(a)(2)

⁹ 47 CFR 1.1307(a)(2)

Limits for Maximum Permissible Exposure (MPE) continued ¹⁰

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



"MPE Limits are defined in terms of power density (units of milliwatts per centimeter squared: mW / cm²) and electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: *Alm*). In the far-field of a transmitting antenna, where the electric field vector (E), the magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions), these quantities are related by the following equation:

$$S = \frac{E^2}{3770} = 3.1 \times 10^{-4} f^2 H^2$$

- where: S = power density (mW/cm²)
- E = electric field strength (V/m)
- H = magnetic field strength (A/m)

Limitations

OSC Engineering completed this evaluation analysis based on information and data provided by the client. The data provided by the client is assumed to be accurate. Estimates of the unknown, standard, and additional transmitting sites are noted and based on FCC regulation and client requirements. These are estimated to the best of our professional knowledge. This report is completed by OSC Engineering to determine whether the wireless communications facility complies with the Federal Communications Commission (FCC) Radio Frequency (RF) Safety Guidelines. The Office of Engineering and Technology (OET-65) *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Radiation* has been prepared to provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) fields adopted by the Federal Communications Commission (FCC) ¹¹. As each site is getting upgraded and changed, this report will become obsolete as this report is based on current information per the client, per the date of the report. Use of this document will not hold OSC Engineering Inc. nor its employees liable legally or otherwise. This report shall not be used as a determination as to what is safe or unsafe on a given site. All workers or other people accessing any transmitting site should have proper EME awareness training. This includes, but is not limited to, obeying posted signage, keeping a minimum distance from antennas, watching EME awareness videos and formal classroom training.

¹¹ OET-65 "FCC Guidelines for Evaluating Exposure to RF Emissions", pg. 1

AT&T Antenna Shut-Down Protocol

AT&T provides Lockout/Tagout (LOTO) procedures in Section 9.4¹² (9.4.1- 9.4.9) in the ND-00059. These procedures are to be followed in the event of anyone who needs access at or in the vicinity of transmitting AT&T antennas. Contact AT&T when accessing the rooftop near the transmitting antennas. Below is information regarding when to contact an AT&T representative.

9.4.7 Maintenance work being performed near transmitting antennas

Whenever anyone is working within close proximity to the transmitting antenna (s), the antenna sector, multiple sectors, or entire cell site may need to be shut down to ensure compliance with the applicable FCC MPE limit. This work may include but is not limited to structural repairs, painting or non-RF equipment services by AT&T personnel/contractors or the owner of a tower, water tank, rooftop, or other low-centerline sites. The particular method of energy control will depend on the scope of work (e.g., duration, impact to the antenna or transmission cabling, etc.) and potential for RF levels to exceed the FCC MPE limits for General Population/Uncontrolled environments

9.4.8 AT&T Employees and Contractors

AT&T employees and contractors performing work on AT&T cell sites must be trained in RF awareness and must exercise control over their exposure to ensure compliance with the FCC MPE limit for Occupational/Controlled Environments ("Occupational MPE Limit").

The rule of staying at least 3 feet from antennas is no longer always adequate to prevent exposure above the Occupational MPE Limit. That general rule was applied early in the development of cellular when omni-directional antennas were primarily used and later when wide-beamwidth antennas were used. That application was then appropriate for the Occupational exposure category. However, the current prevalence of antennas with 60- and 70- degree horizontal half-power beamwidths at urban and suburban GSM and UMTS/HSDPA sites raises some question about the continued reliability of the 3-foot rule. Antennas with low bottom-tip heights and total input powers around 70-80 W can produce exposure levels exceeding the Occupational MPE Limits at 4 feet, and these levels can be augmented by emissions of co-located operators. Therefore, AT&T employees and contractors should apply the above general work procedures and use an RF personal monitor to assess exposure levels within the work vicinity.

9.4.9 Other Incidental Workers

All other incidental workers who are not trained in RF safety are considered general public and subject to the FCC MPE limits for General Population/Uncontrolled Environments. In such instance, the M-RFSC (primary contact) or R-RFSC (secondary contact) must refer to the Mobility RF site survey plan to assess the potential RF exposure levels associated with the antenna system. If capable of exceeding the FCC General Population/Uncontrolled MPE limit, then local sector/site shutdown is necessary. The FE/FT must also follow the local shutdown procedure and use their RF personal monitor as a screening tool for verification, as necessary.

¹² ND-00059_Rev_5.1 "Lockout/Tagout (LOTO) Procedures" Page 45.

RECOMMENDATIONS

•Access Point

Information 1 Sign @ access gate or base of monopole (to be posted)

Tower Caution Sign @ base of monopole (to be posted)

•AT&T Sector A

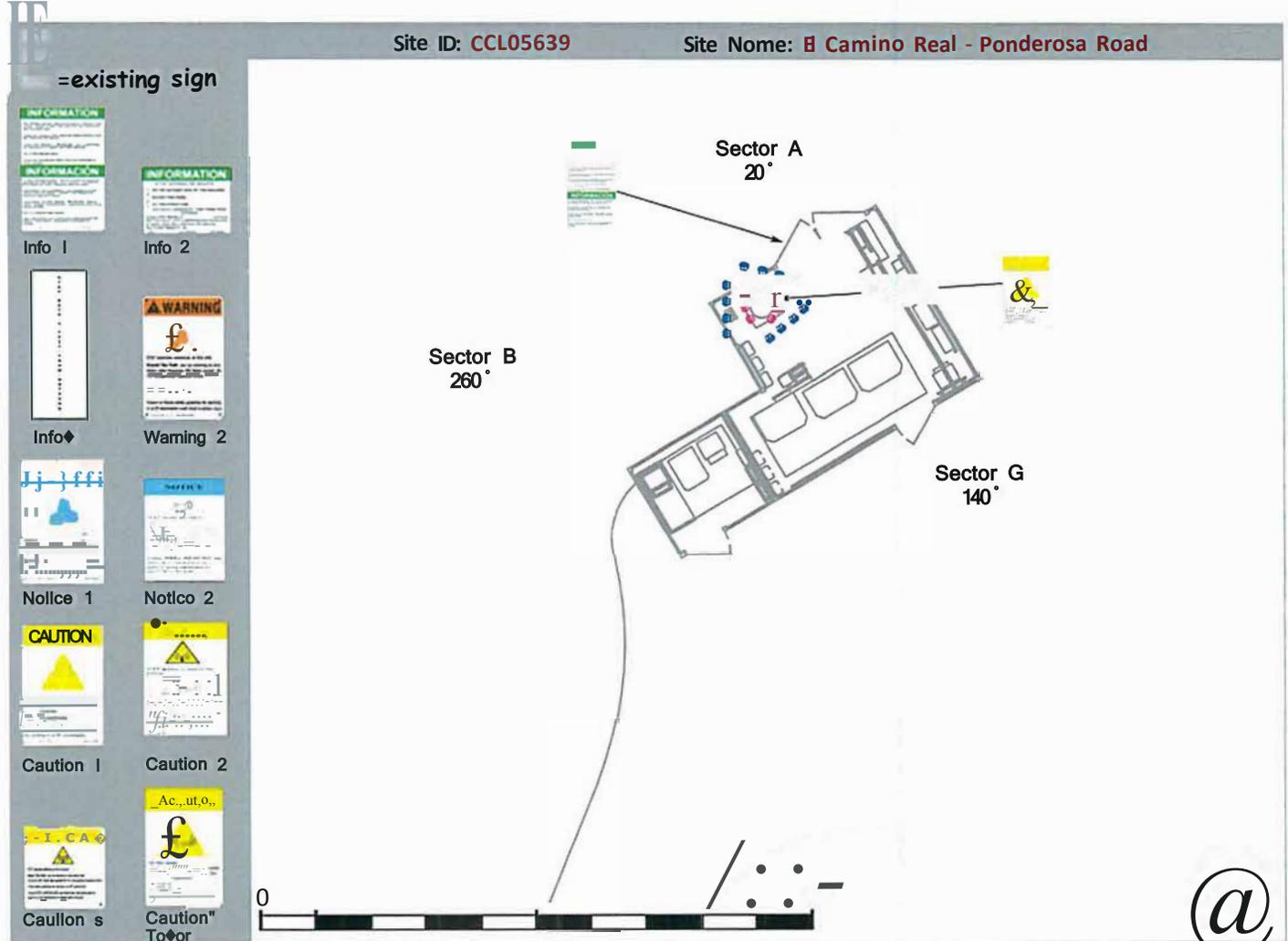
No signage or barrier action required

•AT&T Sector B

No signage or barrier action required

•AT&T Sector G

No signage or barrier action required



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ATTACHMENT: E

ELECTROMAGNETIC ENERGY (EME) EXPOSURE REPORT



Site Name: El Camino Real - Ponderosa Road
Site ID: CCL05639
USID: 24168
FA Location: 10094008

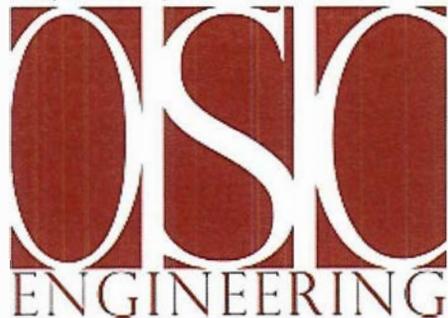
Site Type: Monopole

Location: 208 Country Club Drive
South San Francisco, CA 94080

Latitude (NAD83): 37.6451917
Longitude (NAD83): -122.430275

Report Completed: April 06, 2018
AT&T M-RFSC Casey Chan

Prepared By:



Prepared for: AT&T Mobility
c/o Caldwell Compliance, Inc.
6900 Koll Center Parkway.
Ste. 401
Pleasanton, CA 94566

Site Overview and Description

- The antennas are mounted on a monopole
- The site consists of three (3) sectors with a total of twelve (12) antennas
- The site is within a fenced in area, access to the site is via a gate
- The site is co-located with T-Mobile antenna
- Co-located antennas are modeled with standard estimated values

	Sector A	Sector B	Sector G
Number of antennas	4	4	4
Frequency	F	F	F
Power	100W	100W	100W
Antenna Height	30m	30m	30m
Antenna Type	Monopole	Monopole	Monopole

Antenna Model	Monopole
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Compliance Results of the Proposed Site (theoretical simulation)

Max RF Exposure Level simulated (AT&T antennas@ ground):

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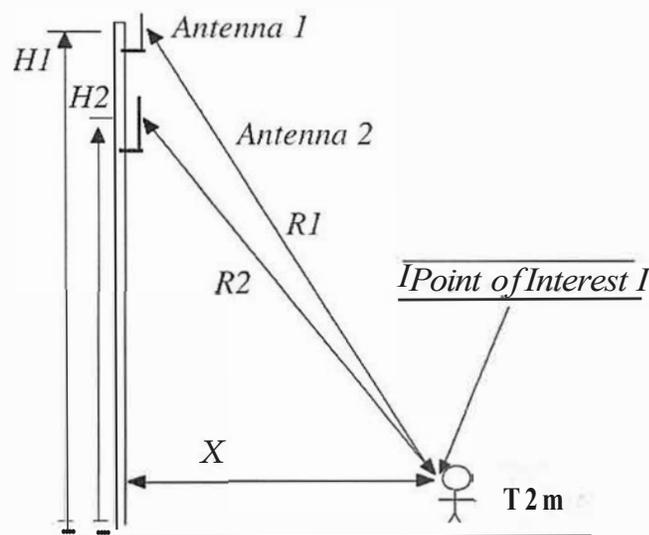
Max RF Exposure Level simulated (cumulative ground):

ÈÉ % ÔÖ Õà à[âãT | { | ã~† \ RTÓ Qb ~

FCC Regulations and Guidelines from OET 65

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In the simple example shown in the below diagram, it is desired to determine the power density at a given location X meters from the base of a tower on which are mounted two antennas. One antenna is a CMRS antenna with several channels, and the other is an FM broadcast antenna. The system parameters that must be known are the total ERP for each antenna and the operating frequencies (to determine which MPE limits apply). The heights above ground level for each antenna, $H1$ and $H2$, must be known in order to calculate the distances, $R1$ and $R2$, from the antennas to the point of interest.¹



¹ OET Bulletin 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, Page 37- 38

Computer Simulation Analysis

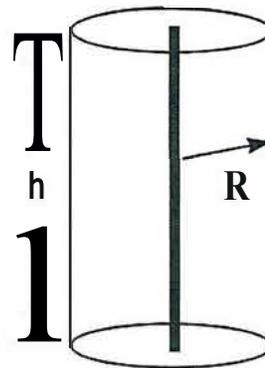
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$$S = \frac{p}{2\pi Rh}$$

¹ U | & -ac Ü]à| Ö: -aa FËGDTâââ |DU-â^â[æN ÜââN]|| ä-â`à]

³ U | & -ac Ü]à| Ö: -aa FËGDTâââ |DU-â^â[æN ÜââN]|| ä-â`à]

² U | & -ac Ü]à| Ö: -aa FËGDTâââ |DU-â^â[æN ÜââN]|| ä-â`à]

⁵ U | & -ac Ü]à| Ö: -aa FËGDTâââ |DU-â^â[æN ÜââN]|| ä-â`à]

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Reviewed and approved by:



John B. Bachoua, PE

Date: April 06, 2018

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⁶ OET-65 "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields pg. 9.

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(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Occupational/Controlled Exposure (MPE) (V/m)	Occupational/Controlled Exposure (MPE) (W/m ²)	Occupational/Controlled Exposure (MPE) (V/m)	Occupational/Controlled Exposure (MPE) (W/m ²)
3.0-30	100	0.001	100	0.001
32-300	100	0.001	100	0.001
300-100,000	100	0.001	100	0.001

(B) Limits for General Population /Uncontrolled Exposure

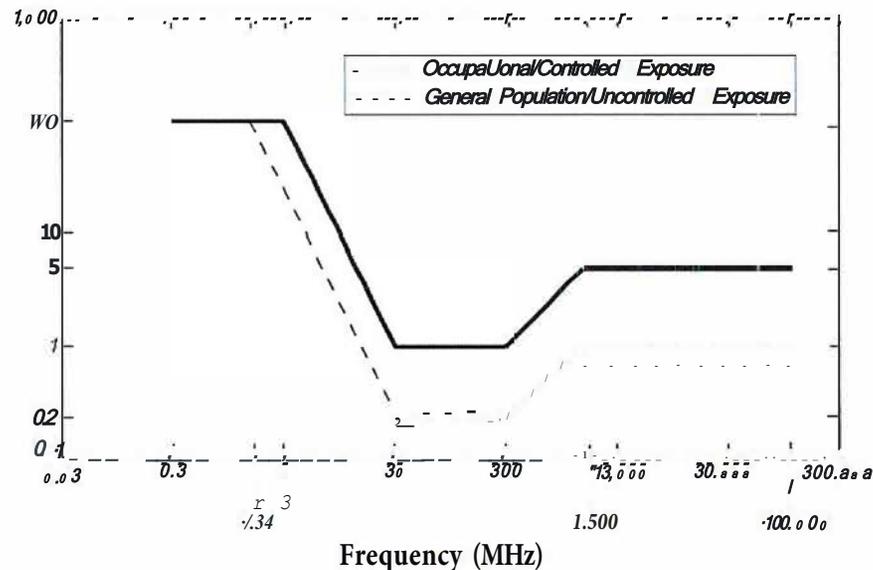
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⁸OET-65 "FCC Guidelines Table 1 pg. 72.

⁹OET-65 "FCC Guidelines for Evaluating Exposure to RF Emissions", pg. 8

Limits for Maximum Permissible Exposure (MPE) continued ¹⁰

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



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where: S = power density (mW/cm²)
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¹⁰ OET-65 "FCC Guidelines Table 1 pg. 72.

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¹²ND-00059_Rev_5.1 "Lockout/Tagout (LOTO) Procedures" Page 45.

RECOMMENDATIONS

• Access Point

Information 1 Sign @ access gate or base of monopole (to be posted)

Tower Caution Sign @ base of monopole (to be posted)

• AT&T Sector A

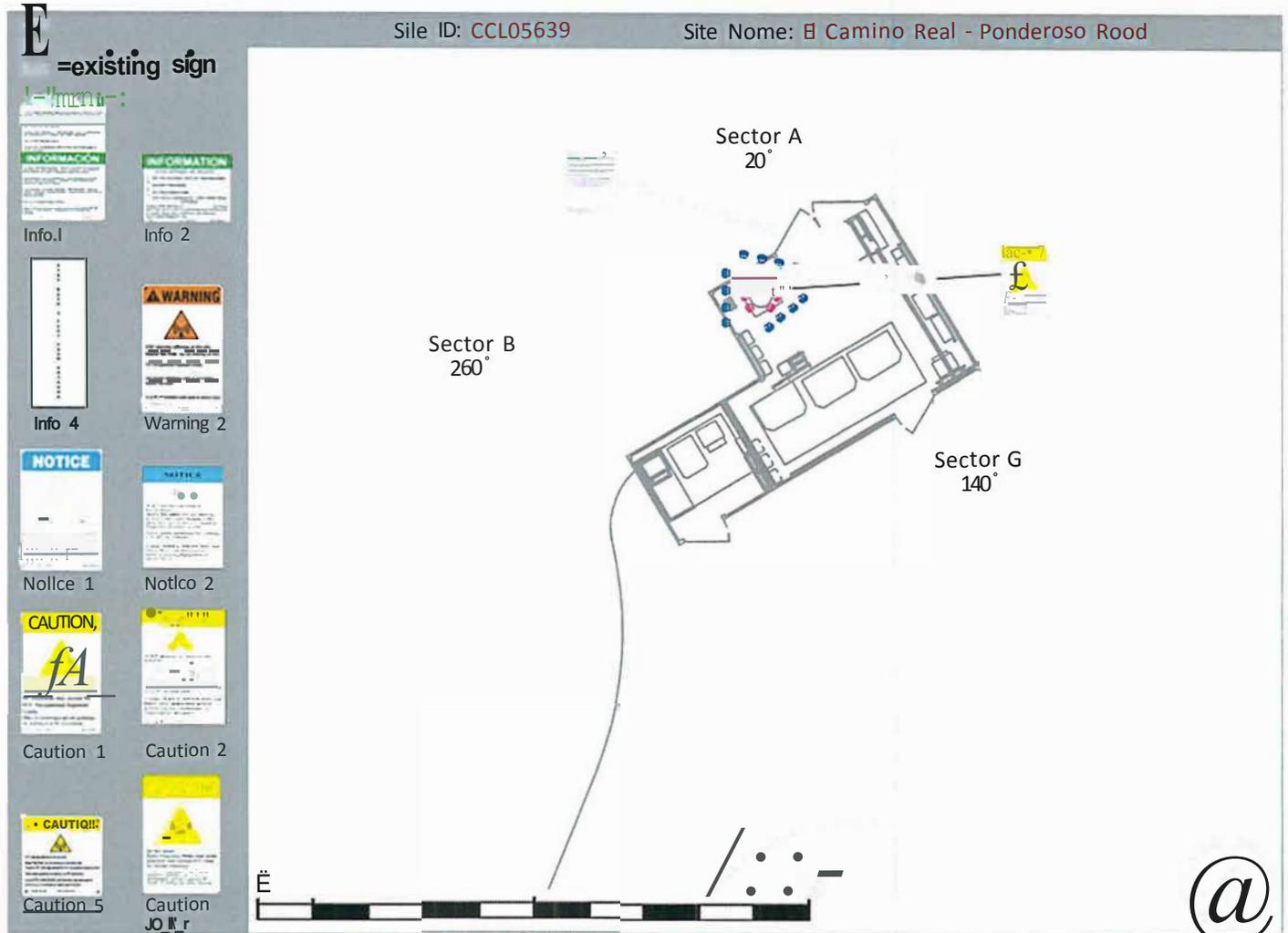
No signage or barrier action required

• AT&T Sector B

No signage or barrier action required

• AT&T Sector G

No signage or barrier action required



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Engineering Statement in Re:
Electromagnetic Energy Analysis
T-Mobile
South San Francisco, CA 94080

My signature on the cover of this document indicates:

That I am registered as a Professional Engineer in the jurisdiction indicated; and

That I have extensive professional experience in the wireless communications engineering industry; and

That I am an employee of Sitesafe, Inc. in Arlington, Virginia; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission ("the FCC" and "the FCC Rules") both in general and specifically as they apply to the FCC's Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by Crown Castle (See attached Site Summary and Carrier documents), and that T-Mobile's installations involve communications equipment, antennas and associated technical equipment at a location referred to as the "SF054 SSF Back Yard" ("the site"); and

That T-Mobile proposes to operate at the site with transmit antennas listed in the carrier summary and with a maximum effective radiated power as specified by T-Mobile and shown on the worksheet, and that worst-case 100% duty cycle have been assumed; and

That this analysis has been performed with the assumption that the ground immediately surrounding the tower is primarily flat or falling; and

That at this time, the FCC requires that certain licensees address specific levels of radio-frequency energy to which workers or members of the public might possibly be exposed (at §1.1307(b) of the FCC Rules); and

That such consideration of possible exposure of humans to radio-frequency radiation must utilize the standards set by the FCC, which is the Federal Agency having jurisdiction over communications facilities; and

That the FCC rules define two tiers of permissible exposure guidelines: 1) "uncontrolled environments," defined as situations in which persons may not be aware of (the "general public"), or may not be able to control their exposure to a transmission facility; and (2) "controlled environments," which defines situations in which persons are aware of their potential for exposure (industry personnel); and

That this statement specifically addresses the uncontrolled environment (which is more conservative than the controlled environment) and the limit set forth in the FCC rules for licensees of T-Mobile's operating frequency as shown on the attached antenna worksheet; and

That when applying the uncontrolled environment standards, the predicted Maximum Power Density at two meters above ground level from the proposed T-Mobile operation is no more than 6.102% of the maximum in any accessible area on the ground and

That it is understood per FCC Guidelines and OET65 Appendix A, that regardless of the existent radio-frequency environment, only those licenses whose contributions exceed five percent of the exposure limit pertinent to their operation(s) bear any responsibility for bringing any non-compliant area(s) into compliance; and

That when applying the uncontrolled environment standards, the cumulative predicted energy density from the proposed operation is no more than 16.091 % of the maximum in any accessible area up to two meters above the ground per OET-65; and

That the calculations provided in this report are based on data provided by the client and antenna pattern data supplied by the antenna manufacturer, in accordance with FCC guidelines listed in OET-65. Horizontal and vertical antenna patterns are combined for modeling purposes to accurately reflect the energy two meters above ground level where on-axis energy refers to maximum energy two meters above the ground along the azimuth of the antenna and where area energy refers to the maximum energy anywhere two meters above the ground regardless of the antenna azimuth, accounting for cumulative energy from multiple antennas for the carrier and frequency range indicated; and

That the Occupational Safety and Health Administration has policies in place which address worker safety in and around communications sites, thus individual companies will be responsible for their employees' training regarding Radio Frequency Safety.

In summary, it is stated here that the proposed operation at the site would not result in exposure of the Public to excessive levels of radio-frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307 and that T-Mobile's proposed operation is completely compliant.

Finally, it is stated that access to the tower should be restricted to communication industry professionals, and approved contractor personnel trained in radio-frequency safety; and that the instant analysis addresses exposure levels at two meters above ground level and does not address exposure levels on the tower, or in the immediate proximity of the antennas.

SF054 SSF Back Yard Site Summary

Carrier	Area Maximum Percentage MPE
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NÚÀÙ R ' -ãÇ	ÈÈÈ Ä
ÙÈR ' -ã	ÈÈÍ Ä
ÙÈR ' -ã Ä[{ }] àaB	ÈÈÈ€ Ä
ÙÈR ' -ã Ä[{ }] àaB	ÈÈÈ Ä
ÙÈR ' -ã Ä[{ }] àaB	ÈÈÍ F Ä
Composite Site MPE:	16.091 %

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AT&T Mobility SF054 SSF Back Yard Carrier Summary

Frequency: 1950 MHz
 Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 13.62631 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 1.36263 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Powerwave	P65-15-XLH-RR	42	10	1854	12.834403	1.28344	12.887068	1.288707
Powerwave	P65-15-XLH-RR	42	130	1854	12.834403	1.28344	12.887068	1.288707
Powerwave	P65-15-XLH-RR	42	250	1854	12.754402	1.27544	12.887068	1.288707

AT&T Mobility SF054 SSF Back Yard Carrier Summary

Frequency: 800 MHz
Maximum Permissible Exposure (MPE): 1.0 mW/cm²
Maximum power density at 300 feet level: 1.0 mW/cm²
Highest percentage of Maximum Permissible Exposure: 100%

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density (μW/cm ²)	Percent of MPE	Max Power Density (μW/cm ²)	Percent of MPE
Panasonic	1F00F	70	0	0.0001	0.0001	0.0001	0.0001	0.0001
Panasonic	1F00F	70	90	0.0001	0.0001	0.0001	0.0001	0.0001
Panasonic	1F00F	70	180	0.0001	0.0001	0.0001	0.0001	0.0001

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AT&T Mobility SF054 SSF Back Yard Carrier Summary

Frequency: 880 MHz
 Maximum Permissible Exposure (MPE): 586.67 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 9.96624 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 1.69879 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Kathrein-Scala	742264	42	10	612	7.187027	1.225061	9.44449	1.609856
Kathrein-Scala	742264	42	130	612	7.242189	1.234464	9.44449	1.609856
Kathrein-Scala	742264	42	250	612	7.187027	1.225061	9.44449	1.609856

AT&T Mobility SF054 SSF Back Yard Carrier Summary

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				Râ~ T c à [ää\] ~ç (µW/cm²)	Tà[äâ\ ~ & MPE	Râ~ T c à [ää\] ~ç (µW/cm²)	Tà[äâ\ ~ & MPE
NSCŁÓV	ÚŃSÒÒĪĪĪĪĪĪ	ĪĪ	ĪĪ	ĪĪ	ĪĪĪĪĪĪ	ĪĪĪĪĪĪ	ĪĪĪĪĪĪ
NSCŁÓV	ÚŃSÒÒĪĪĪĪĪĪ	ĪĪ	ĪĪ	ĪĪ	ĪĪĪĪĪĪ	ĪĪĪĪĪĪ	ĪĪĪĪĪĪ
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AT&T Mobility SF054 SSF Back Yard Carrier Summary

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					Max Power Cè\]~ç (µW/cm"2)	Tà[âà\~ & MPE	Râ~T c à[Cè\]~ç (µW/cm"2)	Percent of MPE
NSCĪÓV	ÚŃSÒÒÈÈĪĪĪ	ĪĪ	ĒĒ	ĒĒĒ	Ī Ī ĪĪ FH	ĒĒ Ī ĪĪ G	Ī Ī ĪĪ FH	ĒĒ Ī ĪĪ G
NSCĪÓV	ÚŃSÒÒÈÈĪĪĪ	ĪĪ	ĒĒ	ĒĒĒ	Ī Ī ĪĪ FH	ĒĒ Ī ĪĪ G	Ī Ī ĪĪ FH	ĒĒ Ī ĪĪ G
NSCĪÓV	ÚŃSÒÒÈÈĪĪĪ	ĪĪ	ĒĒ	ĒĒĒ	Ī Ī ĪĪ FG	ĒĒ Ī ĪĪ F	Ī Ī ĪĪ FH	ĒĒ Ī ĪĪ G

T-Mobile SF054 SSF Back Yard Carrier Summary

Frequency: 800 MHz
Maximum Permissible Exposure (MPE): 1.0 mW/cm²
Maximum power density at ground level: 1.0 mW/cm²
Highest percentage of Maximum Permissible Exposure: 100%

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area		
					Max Power Density (μW/cm ²)	Percent of MPE	Max Power Density (μW/cm ²)	Percent of MPE	
Qorvo	N7000	30	0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Qorvo	N7000	30	90	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Qorvo	N7000	30	180	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

T-Mobile (Proposed) SF054 SSF Back Yard Carrier Summary

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Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	S\ N~]		N[ãã	
					Rã~T c à[Density (µW/cm²)	Percent of MPE	Rã~T c à[Density (µW/cm²)	Percent of MPE
UÓÚ	NTWÚÔËË EDENÉ	Ⓣ	ÈÉ	HÈ	ÈÈ GEFÈ	ÈÈ-ÈÈ Í	ÈÈ-ÈÈ HG	ÈÈÈ ÈÈÈ
UÓÚ	NTWÚÔËË EDENÉ	Ⓣ	ÈÈÈ	HÈ	ÈÈ GEFÈ	ÈÈ-ÈÈ Í	ÈÈ-ÈÈ HG	ÈÈÈ ÈÈÈ
UÓÚ	NTWÚÔËË EDENÉ	Ⓣ	ÈÈÈ	HÈ	ÈÈ GEFÈ	ÈÈ-ÈÈ Í	ÈÈ-ÈÈ HG	ÈÈÈ ÈÈÈ

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T-Mobile (Proposed) SF054 SSF Back Yard Carrier Summary

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					Râˆ T c à[Density (µW/cm²)	Percent of MPE	Râˆ T c à[Density (µW/cm²)	Percent & MPE
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Ó[ä] \	NØ Ē Ē ĒH Nâ ĒĒâ	Ē	ĒĒ	ĒĒĒ	ĒĒĒ ĒĒ	ĒĒĒĒ ĒĒ	ĒĒĒĒ ĒĒ	ĒĒĒĒ ĒĒ
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