



Staff Report to the Zoning Administrator

Application Number: **131081**

Applicant: Sharon James, Crown Castle Inc.
(for Verizon)

Agenda Date: October 25, 2013

Owner: County of Santa Cruz (Dept. of
Public Works)

Agenda Item #: 4

APN: N/A (in County Right-of-Way)

Time: After 9:00 a.m.

Project Description: Proposal to install a microcell wireless communication facility on an existing 28-foot 6-inch tall utility pole, including a cylindrical approximately 24-inch tall and 12-inch diameter "omni" or multi-directional antenna, mounted on top of an 1-foot 1-inch tall pole height extender (for a total proposed height of 31-feet 7-inches), and related pole-mounted equipment, as part of a 13 microcell site distributed antenna system (DAS) in the Freedom Boulevard/Day Valley Road portion of the Aptos Hills. A 3-foot tall by 2.5-foot wide by 1-foot deep power supply/battery backup equipment box, and a 2-foot tall by 1-foot wide by 6-inch wide power metering box, that are part of this microcell site, are proposed to be mounted on a separate nearby utility pole.

Location: The utility pole with the microcell node with antennas (location ID #FB07) is to be located in County right-of-way on the north side of Day Valley Rd. immediately east of intersection with McDonald Rd., adjacent to 775 Day Valley Rd. (APN 105-531-11). The pole upon which the meter and related equipment are to be installed is located in County right-of-way adjacent to APN 105-531-10, approximately 170-ft. east on Day Valley Rd.

Supervisory District: 2nd District (District Supervisor: Zach Friend)

Permits Required: Requires a Commercial Development Permit

Technical Reviews: N/A

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application **131081**, based on the attached findings and conditions.

Exhibits

- | | |
|---|---|
| A. Categorical Exemption (CEQA determination) | E. Assessor's, Location, Zoning and General Plan Maps |
| B. Findings | F. Photo-Simulations |
| C. Conditions | G. RF Report |
| D. Project plans | H. Correspondence |

Parcel Information

Parcel Size:	N/A – project located in County right-of-way
Existing Land Use - Parcel:	County right-of-way, utility pole line
Existing Land Use - Surrounding:	Day Valley Rd. and McDonald Rd. roadways, and single family residential uses on adjacent and nearby parcels
Project Access:	Take Hwy. 1 to Freedom Blvd. exit. Take Freedom Blvd. to left on McDonald Rd. to left on Day Valley Rd. Subject utility pole is located adjacent to 775 Day Valley Rd. in County right-of-way on the north side of Day Valley Rd. immediately east of its intersection with McDonald Rd. Meter box pole is located another 170-feet east on same side of Day Valley Rd.
Planning Area:	Aptos Hills
Land Use Designation:	R-S (Suburban Residential)
Zone District:	RA (Residential Agriculture)
Coastal Zone:	<input type="checkbox"/> Inside <input checked="" type="checkbox"/> Outside
Appealable to Calif. Coastal Comm.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Environmental Information

Geologic Hazards:	Not mapped/no physical evidence on site
Soils:	N/A
Fire Hazard:	Not a mapped constraint
Slopes:	N/A
Env. Sen. Habitat:	Not mapped/no physical evidence on site
Grading:	No grading proposed
Tree Removal:	No trees proposed to be removed
Scenic:	Not a mapped resource
Drainage:	Existing drainage adequate
Archeology:	Not mapped/no physical evidence on site

Services Information

Urban/Rural Services Line:	<input type="checkbox"/> Inside <input checked="" type="checkbox"/> Outside
Water Supply:	N/A
Sewage Disposal:	N/A
Fire District:	Aptos/La Selva FPD
Drainage District:	N/A

History

There have not been other development applications proposed for this particular utility pole in the past.

Project Setting

The subject utility pole is located next to the shoulder portion of Day Valley Rd., in a County right-of-way area that is zoned RA (Residential Agricultural). All adjacent/nearby parcels are also zoned RA. All the adjacent parcels contain single family residences and/or outbuildings.

Zoning & General Plan Consistency

The subject County right-of-way area is located in the RA (Residential Agricultural) zone district, a designation in which Wireless Communications Facilities (WCFs) are “discouraged” but still allowed in the County’s WCF Ordinance if they are “collocated” (i.e., antennas of multiple service providers on a single pole or roof) on an existing WCF tower or structure. Utility pole mounted microcells are also considered to be a type of collocation in the WCF Ordinance. Since the proposed WCF is a utility pole mounted microcell as part of a Distributed Antenna System (DAS), it is therefore allowed in the RA zone district. The proposed DAS node/microcell WCF is an allowed use within the zone district, and the zoning is consistent with the site's (R-S) Suburban Residential General Plan designation.

Design Review

The proposed DAS node/microcell complies with the requirements of the County Design Review Ordinance, in that the proposed project will be part of an existing utility pole, increasing its height, but still being relatively visually inconspicuous, and thus will have minimal visual impact on surrounding land uses and the natural landscape.

Radio Frequency Emissions

The County is prohibited by federal law from denying WCF applications, such as this one, on the basis of the health and/or environmental effects of radio frequency (RF) radiation so long as the WCF complies with the FCC’s RF radiation emission limits. A RF radiation emissions calculation report has been prepared for this project by a qualified consulting engineer. The proposed facility is calculated to result in a maximum ambient RF level of no more than 1.3% of the applicable FCC public exposure limit at ground level, and less than 5% of that limit at the second floor level of the nearest 2-story structure.

Environmental Review

Staff has determined that the proposed project is Categorically Exempt from the requirements of the California Environmental Quality Act (CEQA) because it qualifies as “New Construction or Conversion of a Small Structure” (Class 3, Section 15303). The CEQA Categorical Exemption form is attached as Exhibit A.

Conclusion

As proposed and conditioned, the project is consistent with all applicable codes and policies of the Zoning Ordinance and General Plan/LCP. Please see Exhibit "B" ("Findings") for a complete listing of findings and evidence related to the above discussion.

Staff Recommendation

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- **APPROVAL** of Application Number **131081**, based on the attached findings and conditions.

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

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CALIFORNIA ENVIRONMENTAL QUALITY ACT

NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 131081

Assessor Parcel Number: N/A (in County Right-of-Way)

Project Location: On the north side of Day Valley Rd. across from, and slightly to the east of, the intersection with McDonald Rd., adjacent to 775 Day Valley Rd. (APN 105-531-11).

Project Description: Proposal to install a microcell wireless communication facility (location ID #FB07) on an existing 28-foot 6-inch tall utility pole, including a cylindrical approximately 24-inch tall and 12" in diameter "omni" or multi-directional antenna, mounted on top of a 1-foot 1-inch pole height extender (for a total proposed height of 31-feet 7-inches), and related pole-mounted equipment, as part of a 13 microcell site distributed antenna system (DAS) in the Freedom Boulevard/Day Valley Road portion of the Aptos Hills. A 3-foot tall by 2.5-foot wide by 1-foot deep power supply/battery backup equipment box, and a 2-foot tall by 1-foot wide by 6-inch wide power metering box, that are part of this microcell site, are to be mounted on a separate nearby utility pole.

Person or Agency Proposing Project: Sharon James, Crown Castle LLC

Contact Phone Number: (408) 468-5553

- A. _____ The proposed activity is not a project under CEQA Guidelines Section 15378.
B. _____ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).
C. _____ Ministerial Project involving only the use of fixed standards or objective measurements without personal judgment.
D. _____ Statutory Exemption other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

Specify type:

E. X Categorical Exemption

Specify type: 3 - New Construction or Conversion of Small Structure (Section 15303)

F. Reasons why the project is exempt:

Construction of a microcell wireless communication facility on an existing utility pole is not anticipated to generate any environmental impacts.

In addition, none of the conditions described in Section 15300.2 apply to this project.

Frank Barron, Project Planner

Date: _____

EXHIBIT A

Development Permit Findings

1. That the proposed location of the project and the conditions under which it would be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the project is located in an area designated for Wireless Communication Facility, including DAS node/microcell, uses and is not encumbered by physical constraints to development. Construction will comply with prevailing building technology, the California Building Code, and the County Building ordinance to insure the optimum in safety and the conservation of energy and resources. The proposed DAS node/microcell will not deprive adjacent properties or the neighborhood of light, air, or open space, in that the structure meets all current setbacks that ensure access to these amenities.

2. That the proposed location of the project and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the zone district in which the site is located.

This finding can be made, in that the proposed location of the DAS node/microcell and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the RA (Residential Agricultural) zone district as the proposed DAS node/microcell will meet all current site standards for the zone district.

3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding can be made, in that the proposed DAS node/microcell use is consistent with the use and density requirements specified for the Suburban Residential (R-S) land use designation in the County General Plan.

The proposed DAS node/microcell will not adversely impact the light, solar opportunities, air, and/or open space available to other structures or properties, and meets all current site and development standards for the zone district, in that the DAS node/microcell will not adversely shade adjacent properties, and will meet current setbacks for the zone district.

The proposed DAS node/microcell will be properly proportioned to the utility pole and will fit in with the character of the neighborhood. The proposed DAS node/microcell will comply with the site standards for the RA zone district (including height) and will result in a structure consistent with a design that could be approved on any similar utility pole in the vicinity.

4. That the proposed use will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity.

This finding can be made, in that the proposed DAS node/microcell is to be constructed on existing utility poles, and will not overload the poles structurally, nor will it overload the electric

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capacity of PG&E's network. Nor will it overload the land line telephone network, as the proposed DAS will be connected to a newly installed high capacity fiber optic overhead cable network. There will be no additional traffic generated by the proposed project.

5. That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.

This finding can be made, in that the proposed structure is located in a mixed neighborhood containing a variety of architectural styles, and the proposed DAS node/microcell is not inconsistent with the land use intensity and density of the neighborhood.

6. The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through 13.11.076), and any other applicable requirements of this chapter.

This finding can be made, in that the proposed DAS node/microcell will be of an appropriate scale and type of design that will not diminish the aesthetic qualities of the surrounding properties and will not reduce or visually impact available open space in the surrounding area.

Wireless Communication Facility Use Permit Findings

1. The development of the proposed wireless communications facility (WCF) as conditioned will not significantly affect any designated visual resources, environmentally sensitive habitat resources (as defined in the Santa Cruz County General Plan/LCP Sections 5.1, 5.10, and 8.6.6.), and/or other significant County resources, including agricultural, open space, and community character resources; or there are no other environmentally equivalent and/or superior and technically feasible alternatives to the proposed wireless communications facility as conditioned (including alternative locations and/or designs) with less visual and/or other resource impacts and the proposed facility has been modified by condition and/or project design to minimize and mitigate its visual and other resource impacts.

This finding can be made, in that the proposed WCF is of the microcell type which, due to its small size and co-location onto an existing utility pole, is the least visually obtrusive type of WCF. Moreover, its installation and use in a road right-of-way will not impact any sensitive habitat resources or other significant County resources, including agricultural, open space, and community character resources. Finally, there are no other environmentally equivalent and/or superior and technically feasible alternatives to the proposed microcell designs that have less visual and/or other resource impacts.

2. The site is adequate for the development of the proposed wireless communications facility and, for sites located in one of the prohibited and/or restricted areas set forth in Sections 13.10.661(b) and 13.10.661 (c), that the applicant has demonstrated that there are not environmentally equivalent or superior and technically feasible: (1) alternative sites outside the prohibited and restricted areas; and/or (2) alternative designs for the proposed facility as conditioned.

This finding can be made, in that the proposed DAS node/microcell is to consist of an antenna and equipment mounted upon existing utility poles in the County right-of-way, an area where numerous utility poles are already located. Microcell WCF installations co-located on existing utility poles, such as these, are encouraged in the WCF Ordinance as the preferred WCF design, due to their relatively inconspicuous nature.

3. The subject property upon which the wireless communications facility is to be built is in compliance with all rules and regulations pertaining to zoning uses, subdivisions and any other applicable provisions of this title (County Code 13.10.660) and that all zoning violation abatement costs, if any, have been paid.

This finding can be made, in that the existing infrastructure uses of the subject right-of-way are in compliance with the requirements of the zone districts and General Plan designations, in which they are located, and that there are no outstanding or unpaid zoning violation abatement costs.

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4. The proposed wireless communication facility as conditioned will not create a hazard for aircraft in flight.

This finding can be made, in that the proposed 2-foot tall microcell WCF antenna will be located on an approximately 1-foot 1-inch height extension on an existing utility pole, the top of which is at a height too low to interfere with the observed height of aircraft from nearby airports.

5. The proposed wireless communication facility as conditioned is in compliance with all FCC and California PUC standards and requirements.

This finding can be made, in that the maximum ambient RF levels at ground level due to the proposed WCF operations are calculated to be no more than 1.3% of the most restrictive applicable (i.e., FCC) limit, and less than 5% of that limit at the nearest second story level.

Conditions of Approval

Exhibit D: Project Plans, 6 sheets, prepared by HP Communications, Inc., dated 5/14/13

I. This permit authorizes the construction of a microcell wireless communication facility (location ID #FB07) on an existing 28-foot 6-inch tall utility pole, including a cylindrical approximately 24-inch tall and 12" in diameter "omni" or multi-directional antenna, mounted on top of an 1-foot 1 inch tall pole height extender (for a total proposed height of 31-feet 7-inches), and related pole-mounted equipment, as part of a 13 microcell site distributed antenna system (DAS) in the Freedom Boulevard/Day Valley Road portion of the Aptos Hills. A 3-foot tall by 2.5-foot wide by 1-foot deep power supply/battery backup equipment box, and a 2-foot tall by 1-foot wide by 6-inch wide power metering box, that are part of this microcell site, are to be mounted on a separate nearby utility pole. This approval does not confer legal status on any existing structure(s) or existing use(s) on the subject site that are not specifically authorized by this permit. Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:

A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.

B. Obtain a Building Permit from the Santa Cruz County Building Official.

Any outstanding balance due to the Planning Department must be paid prior to making a Building Permit application. Applications for Building Permits will not be accepted or processed while there is an outstanding balance due.

C. Obtain an Encroachment Permit from the Department of Public Works for all work performed in the County road right-of-way.

D. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder) within 30 days from the effective date of this permit.

II. Prior to issuance of a Building Permit the applicant/owner shall:

A. Submit final architectural plans for review and approval by the Planning Department. The final plans shall be in substantial compliance with the plans marked Exhibit "D" on file with the Planning Department. Any changes from the approved Exhibit "D" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for the proposed development. The final plans shall include the following additional information:

1. One elevation shall indicate materials and colors as they were approved by this Discretionary Application. If specific materials and colors have not been approved with this Discretionary Application, in addition to showing the materials and colors on the elevation, the applicant shall supply a color and material board in 8 1/2" x 11" format for Planning Department review and approval.
 2. Details showing compliance with any fire department requirements, as applicable.
- B. Submit four copies of the approved Discretionary Permit with the Conditions of Approval attached. The Conditions of Approval shall be recorded prior to submittal, if applicable.
- C. Meet all requirements and pay any applicable plan check fee of the Aptos/La Selva Beach Fire Protection District.
- III. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:
- A. All site improvements shown on the final approved Building Permit plans shall be installed.
 - B. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.
 - C. Pursuant to Sections 16.40.040 and 16.42.080 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource or a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.080, shall be observed.
- IV. Operational Conditions
- A. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.
 - B. The wireless communication facility may not be connected to a power source or operated until a final inspection and clearance from the Santa Cruz County Planning Department has been received.

- C. The use of temporary generators to power the wireless communication facility is not allowed.
- D. The exterior finish and materials of the wireless communication facility must be maintained on an annual basis to continue to blend with the existing trees and utilities infrastructure. Additional paint and/or replacement materials shall be installed as necessary to blend the wireless communication facility with the existing trees and utilities infrastructure to maintain visual appearance as approved.
- E. The operator of the wireless communication facility must submit within 90 days of commencement of normal operations (or within 90 days of any major modification of power output of the facility) a written report to the Santa Cruz County Planning Department documenting the measurements and findings with respect to compliance with the established Federal Communications Commission (FCC) Non-Ionizing Electromagnetic Radiation (NEIR) exposure standard. The wireless communication facility must remain in continued compliance with the NEIR standard established by the FCC at all times. Failure to submit required reports or to remain in continued compliance with the NEIR standard established by the FCC will be a violation of the terms of this permit.
- F. If, in the future, the pole based utilities are relocated underground at this location, the operator of the wireless communication facility must abandon the facility and be responsible for the removal of all permanent structures and the restoration of the site as needed to re-establish the area consistent with the character of the surrounding natural landscape.
- G. If, as a result of future scientific studies and alterations of industry-wide standards resulting from those studies, substantial evidence is presented to Santa Cruz County that radio frequency transmissions may pose a hazard to human health and/or safety, the Santa Cruz County Planning Department shall set a public hearing and in its sole discretion, may revoke or modify the conditions of this permit.
- H. If future technological advances would allow for reduced visual impacts resulting from the proposed telecommunication facility, the operator of the wireless communication facility must make those modifications which would allow for reduced visual impact of the proposed facility as part of the normal replacement schedule. If, in the future, the facility is no longer needed, the operator of the wireless communication facility must abandon the facility and be responsible for the removal of all permanent structures and the restoration of the site as needed to re-establish the area consistent with the character of the surrounding natural landscape.
- I. Any modification in the type of equipment shall be reviewed and acted on by the Planning Department staff. The County may deny the modification or amend the

approved conditions at that time, or the Planning Director may refer it for public hearing before the Zoning Administrator.

- J. Transfer of Ownership: In the event that the original permittee sells its interest in the permitted wireless communications facility, the succeeding carrier shall assume all responsibilities concerning the project and shall be held responsible to the County for maintaining consistency with all project conditions of approval, including proof of liability insurance. Within 30-days of a transfer of ownership, the succeeding carrier shall provide a new contact name to the Planning Department.
- K. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.
- V. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, its officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.
 - A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.
 - B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:
 - 1. COUNTY bears its own attorney's fees and costs; and
 - 2. COUNTY defends the action in good faith.
 - C. Settlement. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.

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- D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor(s) in interest, transferee(s), and assign(s) of the applicant.

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

Please note: This permit expires three years from the effective date listed below unless a building permit (or permits) is obtained for the primary structure described in the development permit (does not include demolition, temporary power pole or other site preparation permits, or accessory structures unless these are the primary subject of the development permit). Failure to exercise the building permit and to complete all of the construction under the building permit, resulting in the expiration of the building permit, will void the development permit, unless there are special circumstances as determined by the Planning Director.

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Wanda Williams
Deputy Zoning Administrator

Frank Barron, AICP
Project Planner

Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Zoning Administrator, may appeal the act or determination to the Planning Commission in accordance with chapter 18.10 of the Santa Cruz County Code.

A COPY OF ALL RECEIVED FORMS MUST BE PRESENT DURING WORK ON THE LOCATION AND REPORTING WORK AT THE LOCATION INDICATES THAT THE COMPTON HAS READ AND COPIED WITH THE FIELD AGENTS GRATED IN THE FORMS

**Know what's below.
Call before you dig.
Call 811 Before you Dig!**

ALL WORKMAN MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANTS IS TO BE CONSIDERED TO PERTAIN WORK NOT CORRESPONDING TO THE ABOVE GOVERNING CODES:

1. I.S.I. 1700 PART-76 CODE	8. STATE BUILDING CODE
2. I.S.I. 1700 PART-76 CODE	9. LOCAL BUILDING CODE
3. I.S.I. 1700 PART-76 CODE	10. ENVIRONMENTAL DISASTERS
4. I.S.I. 1700 PART-76 CODE	

CODE COMPLIANCE

PROPERTY INFORMATION

PROJECT	FREEDOM BLVD
MODE	VOL. FREE
LATITUDE	35.85333
LONGITUDE	111.866344
STREET ADDRESS	79793 DAVENPORT VALLEY RD
CITY STATE	APRIS, CA 90603
POLE TYPE	NA WOOD POLE
NO. OF ANTENNAE	30 / 7 TO RAD CENTER
ANTENNA TYPE	31.7' TO TOP OF ANTENNA
ADDITIONAL ANTENNA	KATHREN POLAR - 1400000
POWER TO POLE	NO. LOW VOLTAGE
POLE ACCESS	STREET SIDE
USE OF LOT/BLK 6	APPROX. 100' WIDE
USE OF LOT/BLK 6	APPROX. 100' WIDE

PROJECT SUMMARY



CROWN
CASTLE

**FREEDOM
NODE VRZ FB07**

757-785 DAY VALLEY RD, APTOS, CA 95003

VICINITY MAP



PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF WIRELESS EQUIPMENT AND ANTENNAS FOR CROWN CASTLE ON EXISTING WOOD UTILITY POLES.

PROJECT SCOPE

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAS AND ALL ASSOCIATED BRACKETS IN ACCORDANCE TO CONSTRUCTION SPECIFICATIONS, REARRANGE ANY EXISTING FACILITIES IN ACCORDANCE TO GOVERNING CONSTRUCTION GUIDELINES

GENERAL CONTRACTOR NOTES

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SHEET INDEX

NO.	DESCRIPTION
1	TRT & SHEET
2	STRT PLAN
3	UTILITY POLE EQUIPMENT FROM 1.65
4	UTILITY POLE EQUIPMENT FROM 1.65
5	UTILITY POLE POWERING
6	STRT BLINDS
0	
0	

W CROWN
880 TAMM DRIVE
MILITAS, CA 95035-7437
PHONE: (408) 864-1860

**FREEDOM
HOUSE VILLAGES**
767-768 DAY VALLEY RD
APT03, CA 96003

5/14/13

[illegible]

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[illegible]

PREPARED BY	
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INC.

ANS APPROVED BY: 

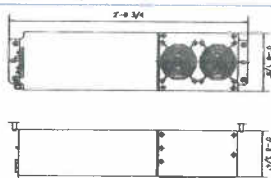
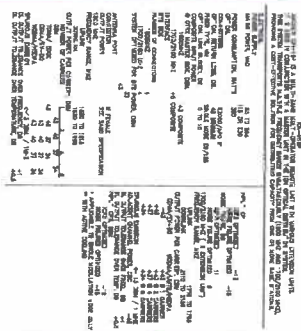
MENTS: [REDACTED]

GET THE

CROWN CASTLE
POLE PROFILE NODE VRL_P80T

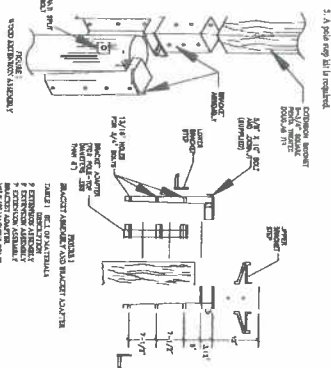
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EXHIBIT D



REPEATER EQUIPMENT DIMENSIONS	REMARKS
REMARKS	

•



Poly-Trip Extensions for Wood Polymers

Wood Pole-Top Damage
Notes:

1. This set uses Oursini Curve (OC) 15 requirement for example. Class 3 strength data is used.
2. The test is made to fit piece with diameter of $P \geq 11"$. Therefore, depending upon the local code, the diameter of P may be 12" and smaller, a bracketed design may be required.
3. Units are supplied with the word beyond is excluded.
4. Units are supplied with the word beyond is included.
5. The test set may be ignored.

5. A police report will be required.

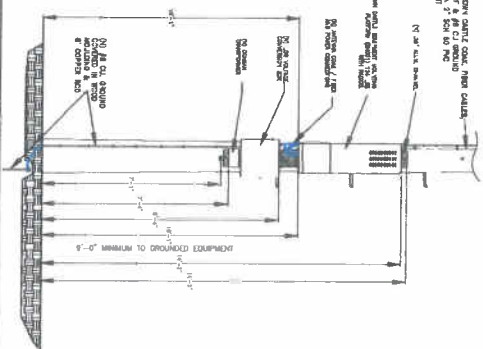
PCALS	PCLE TOP EXT / BRACKET ASSEMBLY
1118	

KATHREIN
SCALA DIVISION

840 10510 840 10511
Drsband 70C MHz X-pp: Omni Antenn

[illegible]

Model	ANTENNA SPECIFICATIONS
HTA	

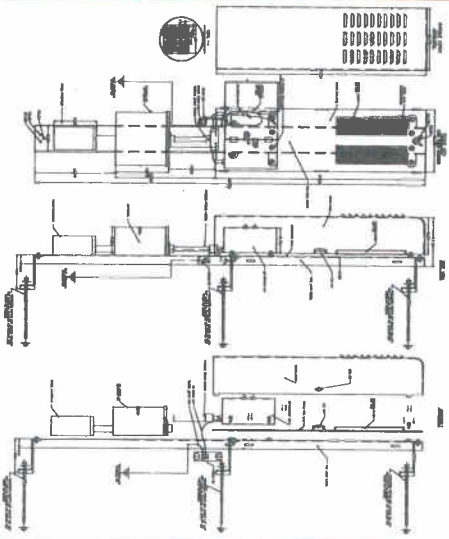


REPEATER EQUIPMENT AND MOUNTING CHASSIS CONFIGURATION

4

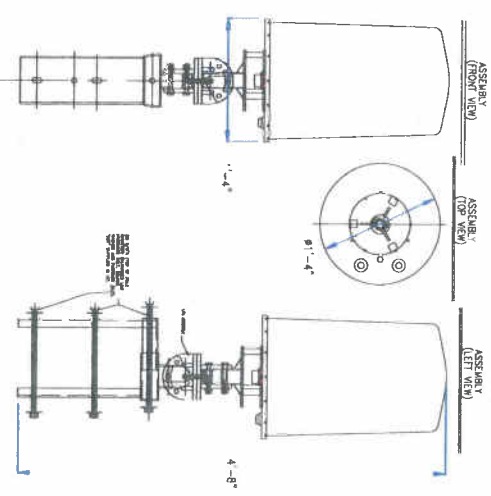
SHOULD SPECIFICATIONS (SH014)


10



ANTENNA MOUNTING BRACKET

7



 <p>McCrown INC.</p>		<p>DEC. 1984/1985 753726 S.W. VALLEY RD AP 7024, CA 95025</p>		<p>PRODUCT INFORMATION</p>	
<p>HP COMMUNICATIONS INC.</p>		<p>REV. DATE: 12/85 DESCRIPTION: 12/85</p>		<p>U.S. PREPARED BY: 12/85</p>	
<p>NAME: Thomas, Dr. M. Crown, CA 95043 PHONE (707) 271-1819</p>		<p>U.S. PREPARED BY: 12/85</p>		<p>U.S. PREPARED BY: 12/85</p>	
<p>CLIENT TITLE:</p>		<p>CLIENT TITLE:</p>		<p>CLIENT TITLE:</p>	
<p>CROWN CASTLE POLIS PROFILE NODE VIZ. PROT.</p>		<p>CROWN CASTLE POLIS PROFILE NODE VIZ. PROT.</p>		<p>CROWN CASTLE POLIS PROFILE NODE VIZ. PROT.</p>	
<p>4 OF 6</p>		<p>4 OF 6</p>		<p>4 OF 6</p>	

FOR TAX PURPOSES ONLY

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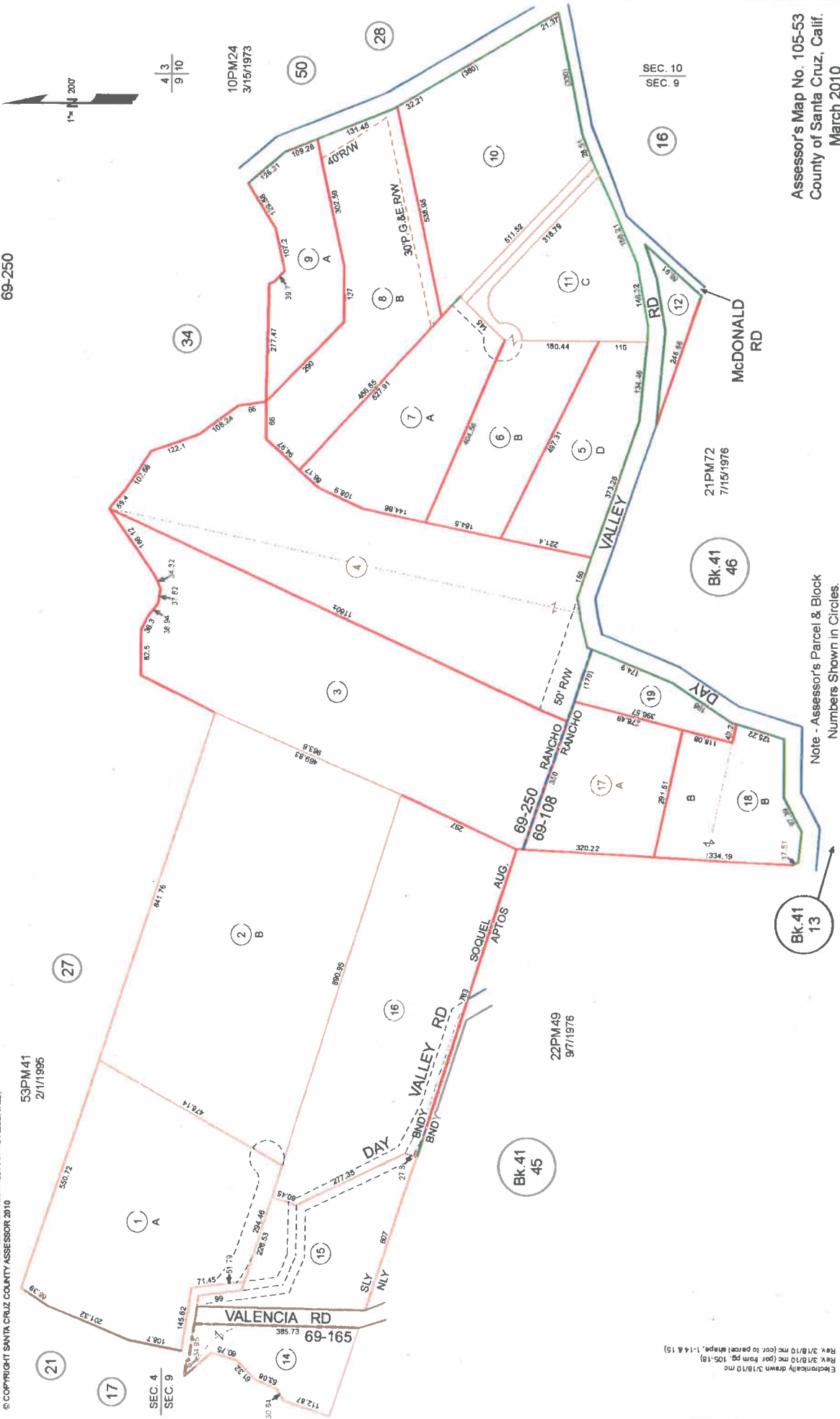
53PM41
2/1/1995

SOQUEL AUGMENTATION & APTOS RANCHOS

POR. SECS. 3, 4 & 9, T.11S., R.1E., M.D.B. & M.

Tax Area Code
69-108 69-165
69-250

105-53



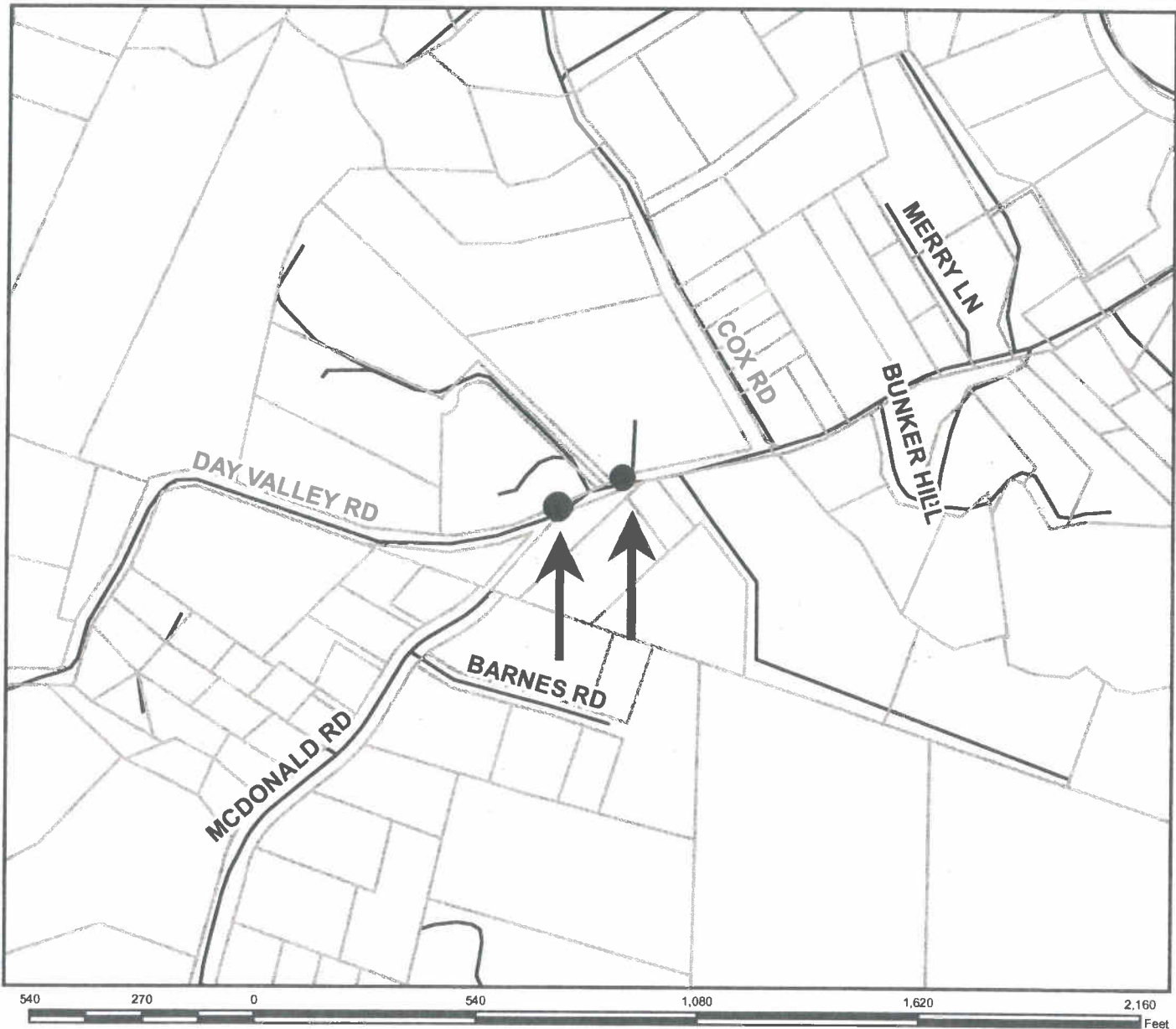
Note - Assessor's Parcel & Block
Numbers Shown in Circles.

Assessor's Map No. 105-53
County of Santa Cruz, Calif.
March 2010

Electrically drawn 2/18/10 mc
Rev 2/18/10 mc (port from pg. 105-18)
Rev 2/18/10 mc (port to parcel shape, 1-14 & 15)



Location Map



LEGEND

- Cell Site Location
- Assessors Parcels
- Streets

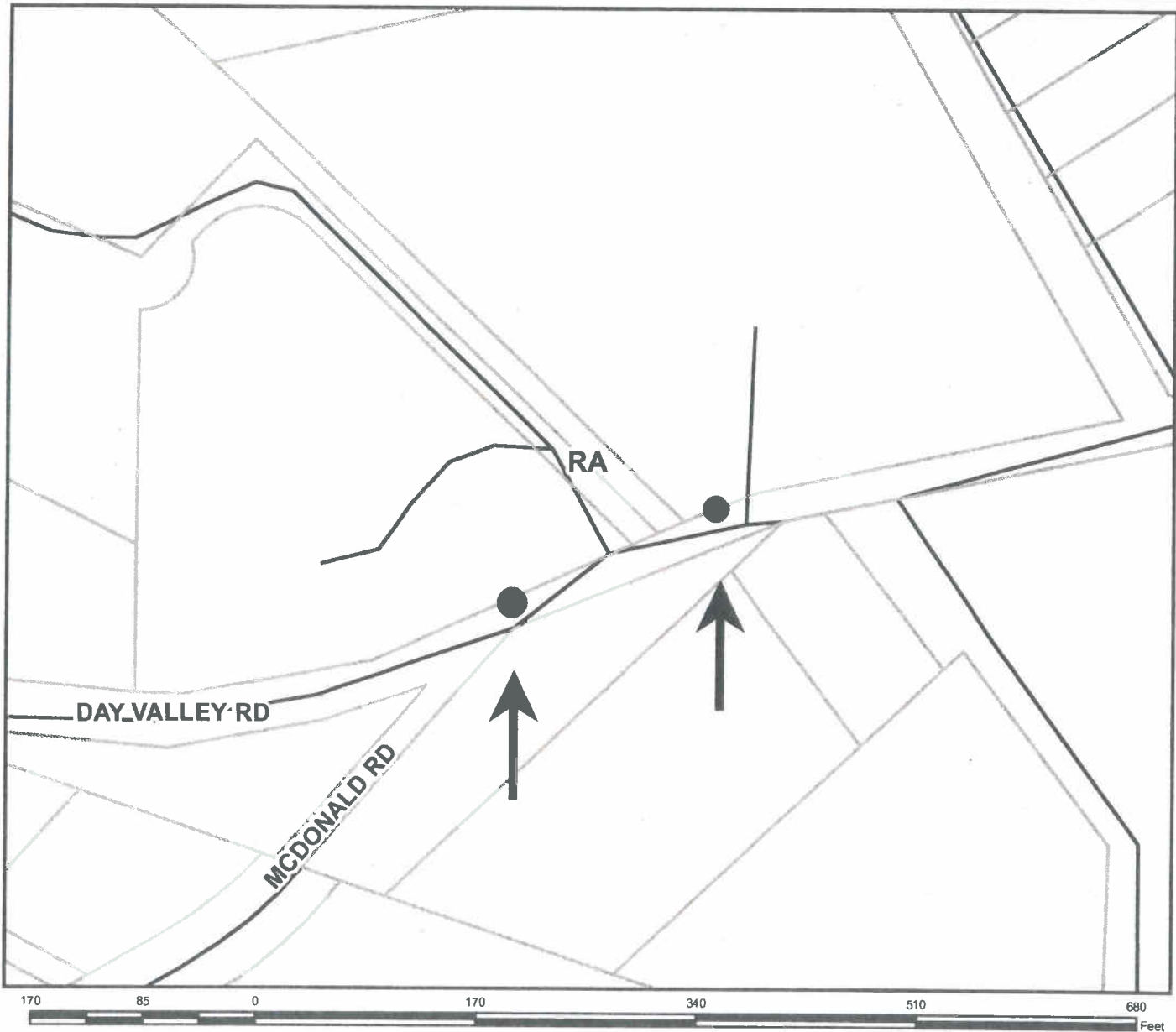


Map Created by
County of Santa Cruz
Planning Department
April 2013

EXHIBIT E



Zoning Map



LEGEND



Cell Site Location

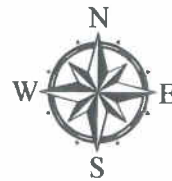


Assessors Parcels



Streets

AGRICULTURE RESIDENTIAL

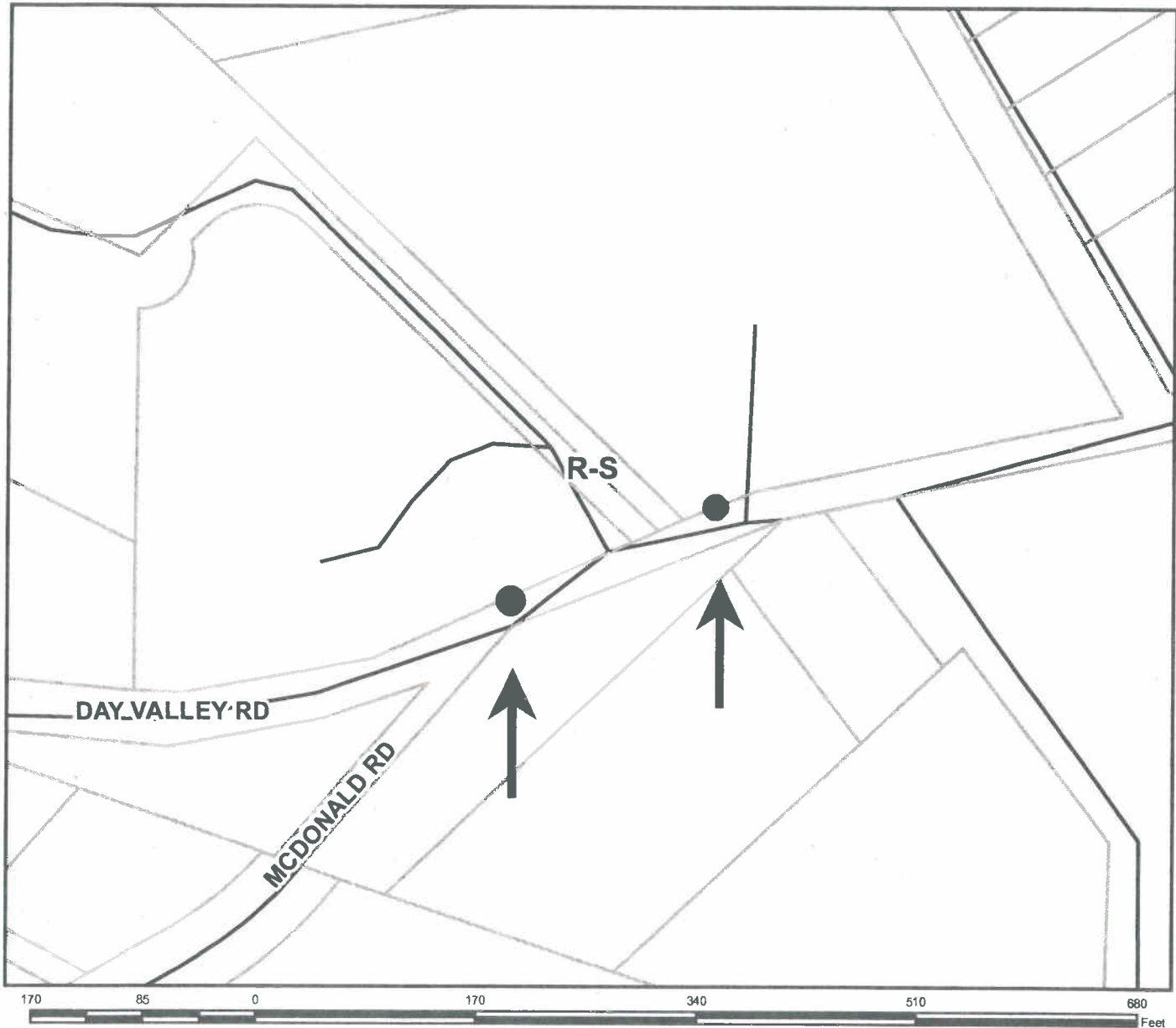


Map Created by
County of Santa Cruz
Planning Department
April 2013

EXHIBIT E

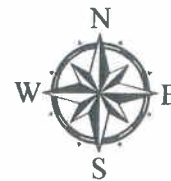


General Plan Designation Map



LEGEND

- Cell Site Location
- ▭ Assessors Parcels
- Streets
- Residential-Suburban



Map Created by
County of Santa Cruz
Planning Department
April 2013

EXHIBIT E

Freedom Blvd Node Locations

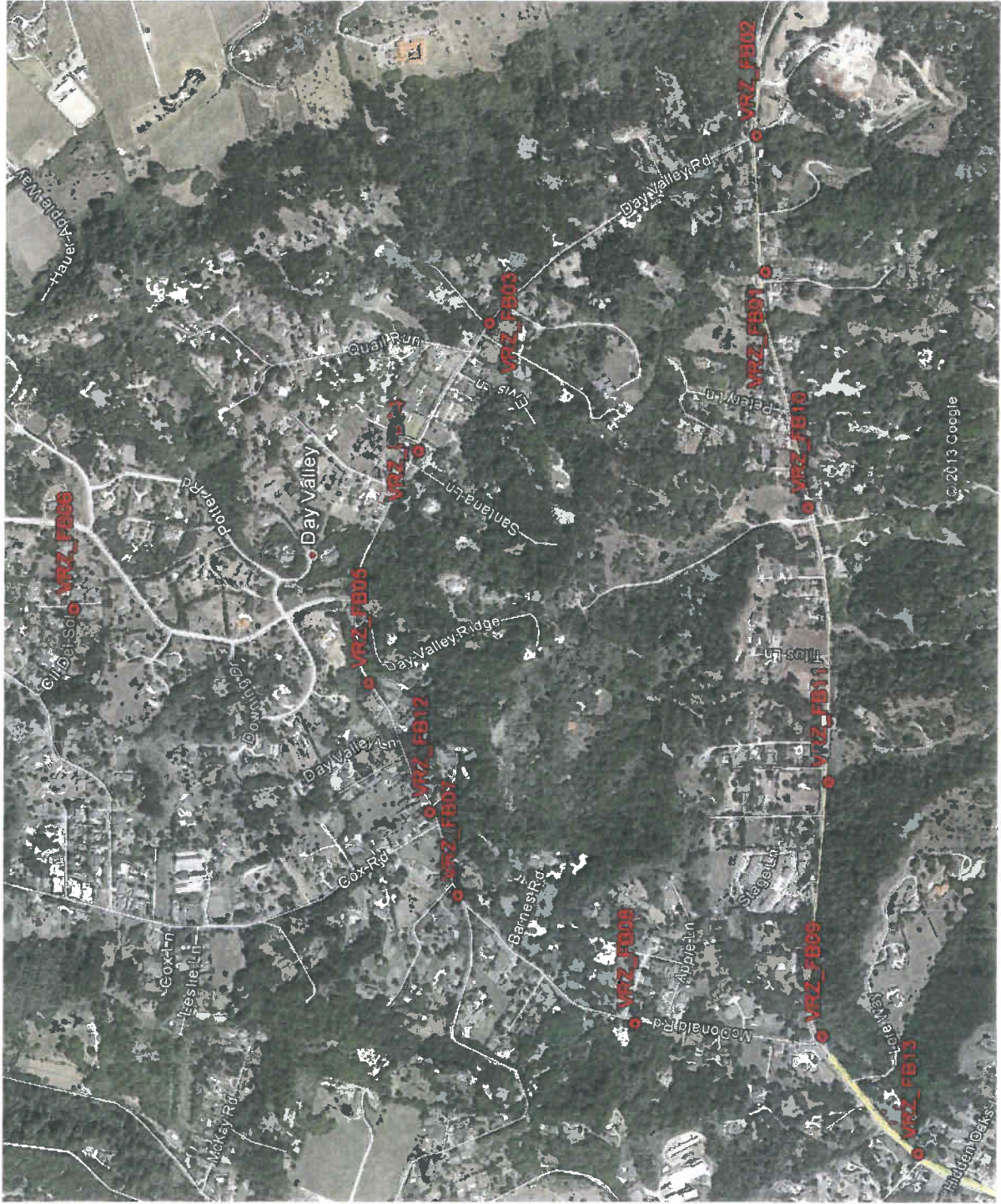
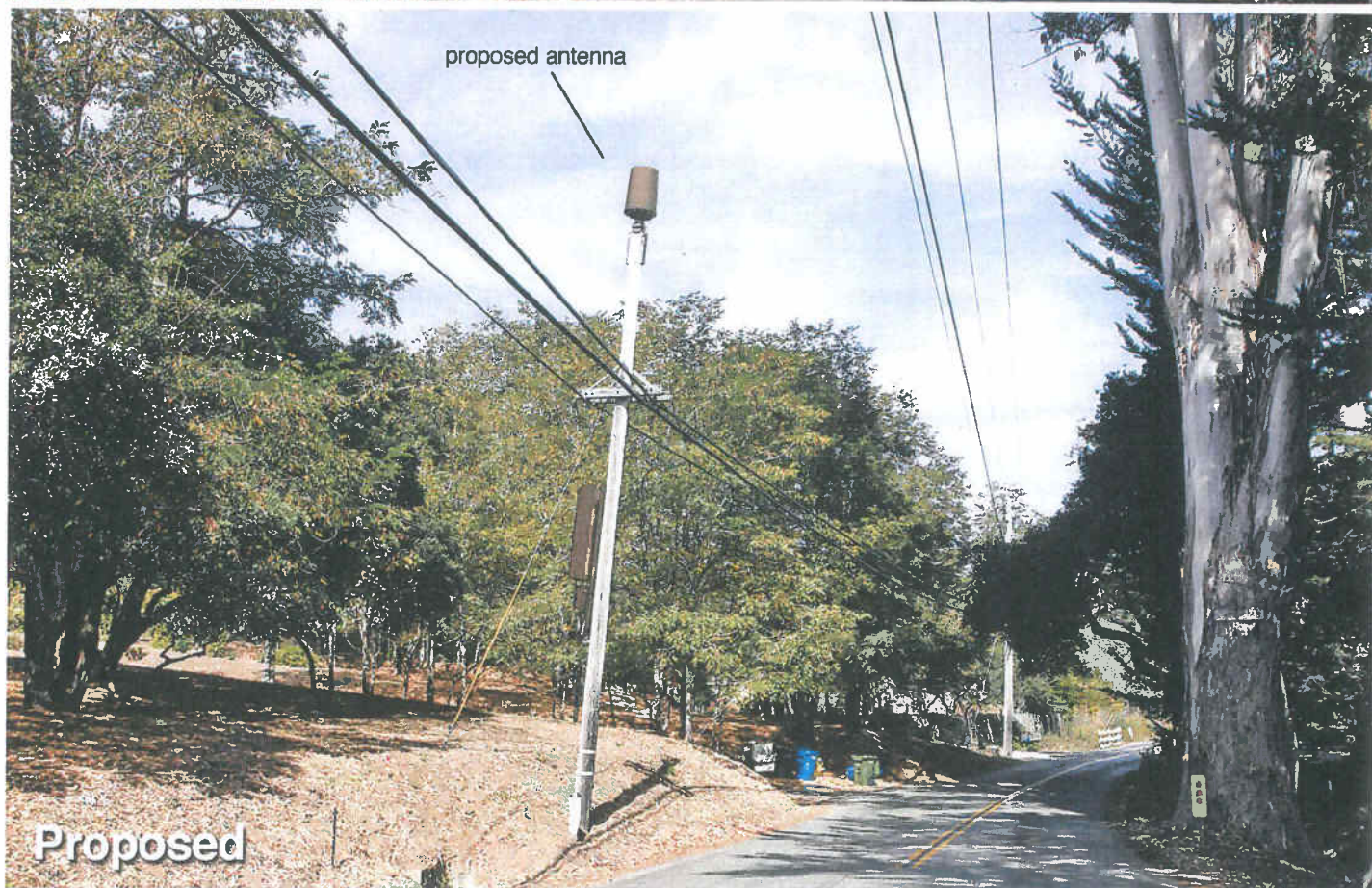


EXHIBIT F





Existing



proposed antenna

Proposed





JERROLD T. BUSHBERG Ph.D., DABMP, DABSNM, FAAPM
◆HEALTH AND MEDICAL PHYSICS CONSULTING◆

7784 Oak Bay Circle Sacramento, CA 95831
(800) 760-8414-jbushberg@hampc.com

Bhavani Yella
Crown Castle
890 Tasman Drive
Milpitas, CA 95035

May 20, 2013

Introduction

At your request, I have reviewed the technical specifications and calculated the maximum potential radiofrequency, (RF), power density from the proposed Crown Castle (CC) omni Distributed Antenna System (DAS) sites proposed for the right-of-way in Aptos, CA. A DAS is a network of spatially separated antenna sites called "nodes" connected to a common source that provides wireless service within a geographic area. DAS antennae are typically installed near the top of light standards or on utility poles. The idea is to split the transmitted signal among several antenna sites, separated in space so as to provide coverage over the same area as a single antenna but with reduced total power and improved reliability. Thus a single antenna radiating at high power is replaced by a group (i.e., network) of low-power antennas to cover the same area. Some of the other advantages of DAS include the ability to provide service for multiple wireless carriers without the need to have separate antenna sites for each carrier at each location and the ability to place the antennae on existing vertical structures such as light or utility poles.

These proposed DAS nodes will utilize one omni antennae mounted on the top of utility poles. The antenna specified is Kathrein antennae model #840-10510. The maximum effective radiated power (ERP) from the omni antennae will be up to 43.65 watts at approximately 775 MHz utilizing LTE transmission technology; 34.67 watts at approximately 850 MHz and 77.62 watts at approximately 1,900 MHz utilizing CDMA/EVDO transmission technology. The distance from the antenna center to the ground will be at least 27 feet. A list of the proposed DAS node locations and an example of the site configuration are shown in attachment one. The antenna specification details are depicted in attachment two. This analysis represents the worst case RF exposure of any of the proposed utility pole mounted omni DAS node locations.

Calculation Methodology

Calculations at the level of the antenna were made in accordance with the cylindrical model recommendations for near-field analysis contained in the Federal Communications Commission, Office of Engineering and Technology Bulletin 65 (OET 65) entitled "Evaluating Compliance with FCC-Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." RF exposure calculations at ground level were made using equation 10 from the same OET document. Several assumptions were made in order to provide the most conservative or "worst case" projections of power densities. Calculations were made assuming all channels were operating simultaneously at their maximum design effective radiated power. Attenuation (weakening) of the signal that would result from surrounding foliage or buildings was ignored. Buildings or other structures can reduce the signal strength by a factor of 10 (i.e., 10 dB) or more depending upon the construction material.

In addition, for ground level calculations, the ground or other surfaces were considered to be perfect reflectors (which they are not) and the RF energy was assumed to overlap and interact constructively at all locations (which they would not) thereby resulting in the calculation of the maximum potential exposure. In fact, the accumulations of all these very conservative assumptions, will significantly overestimate the actual exposures that would typically be expected from such a facility. However, this method is a prudent approach that errs on the side of safety.

RF Safety Standards

The two most widely recognized standards for protection against RF field exposure are those published by the American National Standards Institute (ANSI) C95.1 and the National Council on Radiation Protection and measurement (NCRP) report #86. The NCRP is a private, congressionally chartered institution with the charge to provide expert analysis of a variety of issues (especially health and safety recommendations) on radiations of all forms. The scientific analyses of the NCRP are held in high esteem in the scientific and regulatory community both nationally and internationally. In fact, the vast majority of the radiological health regulations currently in existence can trace their origin, in some way, to the recommendations of the NCRP.

All RF exposure standards are frequency-specific, in recognition of the differential absorption of RF energy as a function of frequency. The most restrictive exposure levels in the standards are associated with those frequencies that are most readily absorbed in humans. Maximum absorption occurs at approximately 80 MHz in adults. The NCRP maximum allowable continuous occupational exposure at this frequency is 1,000 $\mu\text{W}/\text{cm}^2$. This compares to 2,933 $\mu\text{W}/\text{cm}^2$ at cellular frequencies and 5,000 $\mu\text{W}/\text{cm}^2$ at PCS frequencies that are absorbed much less efficiently than exposures in the VHF TV band.

The traditional NCRP philosophy of providing a higher standard of protection for members of the general population compared to occupationally exposed individuals, prompted a two-tiered safety standard by which levels of allowable exposure were substantially reduced for "uncontrolled " (e.g., public) and continuous exposures. This measure was taken to account for the fact that workers in an industrial environment are typically exposed no more than eight hours a day while members of the general population in proximity to a source of RF radiation may be exposed continuously. This additional protection factor also provides a greater margin of safety for children, the infirmed, aged, or others who might be more sensitive to RF exposure. After several years of evaluating the national and international scientific and biomedical literature, the members of the NCRP scientific committee selected 931 publications in the peer-reviewed scientific literature on which to base their recommendations. The current NCRP recommendations limit continuous public exposure at cellular frequencies (e.g., ~820MHz) to 550 $\mu\text{W}/\text{cm}^2$ and to 1,000 $\mu\text{W}/\text{cm}^2$ at PCS frequencies (~1,900 MHz).

The 1992 ANSI standard was developed by Scientific Coordinating Committee 28 (SCC 28) under the auspices of the Institute of Electrical and Electronic Engineers (IEEE). This standard, entitled "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (IEEE C95.1-1991), was issued in April 1992 and subsequently adopted by ANSI. A revision of this standard (C95.1-2005) was completed in October 2005 by SCC 39 the IEEE International Committee on Electromagnetic Safety. Their recommendations are similar to the NCRP recommendations for the maximum permissible exposure (MPE) to the public PCS frequencies (950 $\mu\text{W}/\text{cm}^2$ for continuous exposure at 1,900 MHz) and incorporates the convention of providing for a greater margin of safety for public as compared with occupational exposure. Higher whole body exposures are allowed for brief periods provided that no 30 minute time-weighted average exposure exceeds these aforementioned limits.

On August 9, 1996, the Federal Communications Commission (FCC) established a RF exposure standard that is a hybrid of the current ANSI and NCRP standards. The maximum permissible exposure values used to assess environmental exposures are those of the NCRP (i.e., maximum public continuous exposure at cellular and PCS frequencies of $550 \mu\text{W}/\text{cm}^2$ and $1,000 \mu\text{W}/\text{cm}^2$ respectively). The FCC issued these standards in order to address its responsibilities under the National Environmental Policy Act (NEPA) to consider whether its actions will "significantly affect the quality of the human environment." In as far as there was no other standard issued by a federal agency such as the Environmental Protection Agency (EPA), the FCC utilized their rulemaking procedure to consider which standards should be adopted. The FCC received thousands of pages of comments over a three-year review period from a variety of sources including the public, academia, federal health and safety agencies (e.g., EPA & FDA) and the telecommunications industry. The FCC gave special consideration to the recommendations by the federal health agencies because of their special responsibility for protecting the public health and safety. In fact, the MPE values in the FCC standard are those recommended by EPA and FDA. The FCC standard incorporates various elements of the 1992 ANSI and NCRP standards which were chosen because they are widely accepted and technically supportable. There are a variety of other exposure guidelines and standards set by other national and international organizations and governments, most of which are similar to the current ANSI/IEEE or NCRP standard, figure one.

The FCC standards "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation" (Report and Order FCC 96-326) adopted the ANSI/IEEE definitions for controlled and uncontrolled environments. In order to use the higher exposure levels associated with a controlled environment, RF exposures must be occupationally related (e.g., wireless company RF technicians) and they must be aware of and have sufficient knowledge to control their exposure. All other environmental areas are considered uncontrolled (e.g., public) for which the stricter (i.e., lower) environmental exposure limits apply. All carriers were required to be in compliance with the new FCC RF exposure standards for new telecommunications facilities by October 15, 1997. These standards applied retroactively for existing telecommunications facilities on September 1, 2000.

The task for the physical, biological, and medical scientists that evaluate health implications of the RF data base has been to identify those RF field conditions that can produce harmful biological effects. No panel of experts can guarantee safe levels of exposure because safety is a null concept, and negatives are not susceptible to proof. What a dispassionate scientific assessment can offer is the presumption of safety when RF-field conditions do not give rise to a demonstrable harmful effect.

Summary & Conclusions

All CC utility pole DAS nodes listed in attachment one, operating with the characteristics as specified above and observing an three foot public exclusion zone directly in front of and at the same elevation as the antenna, will be in full compliance with FCC RF public and occupational safety exposure standards. These transmitters, by design and operation, are low-power devices. Even under maximal exposure conditions in which the antenna is transmitting at its greatest design basis ERP, the maximum exposure at the elevation of the antenna will not result in RF exposures in excess of the FCC public RF safety standard at three or more feet from the surface of antenna, (see appendix A-1). The maximum RF exposure at ground level will not be in excess of 1.3% of, (i.e., 76 times lower than), the FCC public safety standard, (see appendix A-2).

A chart of the electromagnetic spectrum and a comparison of RF power densities from various common sources is presented in figures two and three respectively in order to place exposures from DAS wireless systems in perspective. RF exposure in the neighborhood served by this and other DAS sites are very low due

to three main factors. First, as previously stated, DAS is a relatively low-power technology. The maximum power into the antennae will be less than 50.72 watts. In addition, DAS sites utilize antenna that focus the RF energy in the vertical plane toward the horizon, (i.e., parallel with the ground at the level of the antenna), thus only a very small percentage of the RF energy is emitted directly down toward the ground. This is similar to a lighthouse beacon that sends the majority of its light out toward the horizon with very little reaching the base of the lighthouse or people living nearby. Finally, as shown on the graph in appendix A-2, as one gets farther away from the site, the change in RF exposure intensity becomes more uniform with distance. Eventually there is a very rapid and consistent decrease in exposure with distance. Like all forms of electromagnetic energy, including light, the decrease in exposure at this point is proportional to the square of the increased distance. Thus, if the exposure at this point was 1% of the public exposure standard and one simply moved 10 times further away, (all other conditions being the same), the exposure would be 10^2 or 100 times less than before (i.e., 0.01% of the public exposure standard).

It is also important to realize that the FCC maximum allowable exposures are not set at a threshold between safety and known hazard but rather at 50 times below a level that the majority of the scientific community believes may pose a health risk to human populations. Thus, the previously mentioned maximum ground level exposure from these sites represents a "safety margin" from this threshold of potentially adverse health effects of more than 3,840 times.

Given the low levels of radiofrequency fields that would be generated from these CC antenna installations and given the evidence on RF biological effects in a large data base, there is no scientific basis to conclude that harmful effects will attend the utilization of these proposed wireless telecommunications facilities. This conclusion is supported by a large number of scientists that have participated in standard-setting activities in the United States who are overwhelmingly agreed that RF radiation exposure below the FCC exposure limits has no demonstrably harmful effects on humans. An RF notice sign, containing appropriate contact information and indicating the stay back distance beyond which the RF exposures do not exceed the public maximum permissible exposure, should be placed near the antenna (see appendix A-3).

These findings are based on my professional evaluation of the scientific issues related to the health and safety of non-ionizing electromagnetic radiation and my analysis of the technical specification as provided by CC. The opinions expressed herein are based on my professional judgement and are not intended to necessarily represent the views of any other organization or institution. Please contact me if you require any additional information.

Sincerely,



Jerrold T. Bushberg Ph.D., DABMP, DABSNM

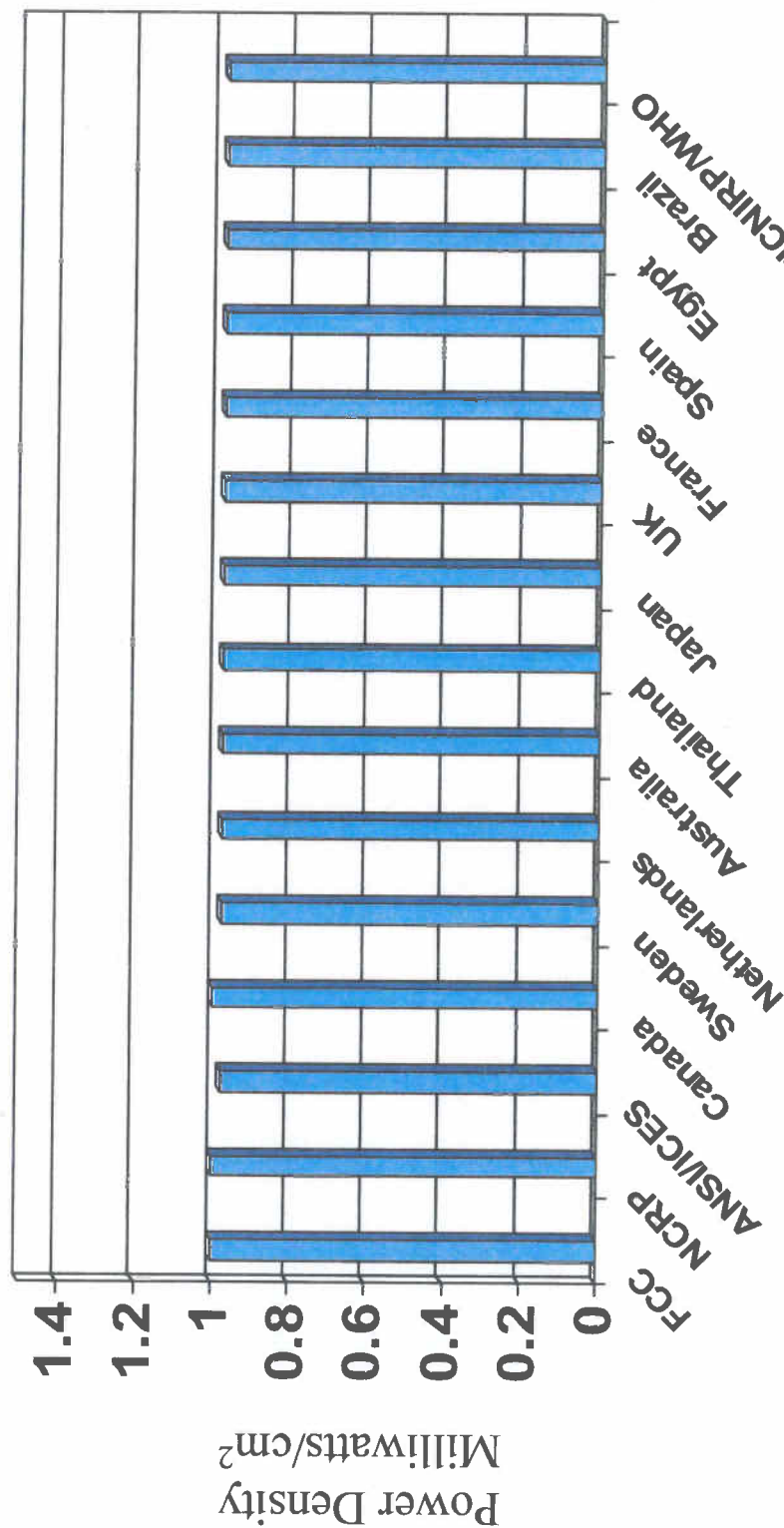
Diplomate, American Board of Medical Physics (DABMP)

Diplomate, American Board of Science in Nuclear Medicine (DABSNM)

Fellow, American Association of Physicists in Medicine (FAAPM)

Enclosures: Figures 1-3; Attachment 1,2; Appendices A1-A3 and Statement of Experience.

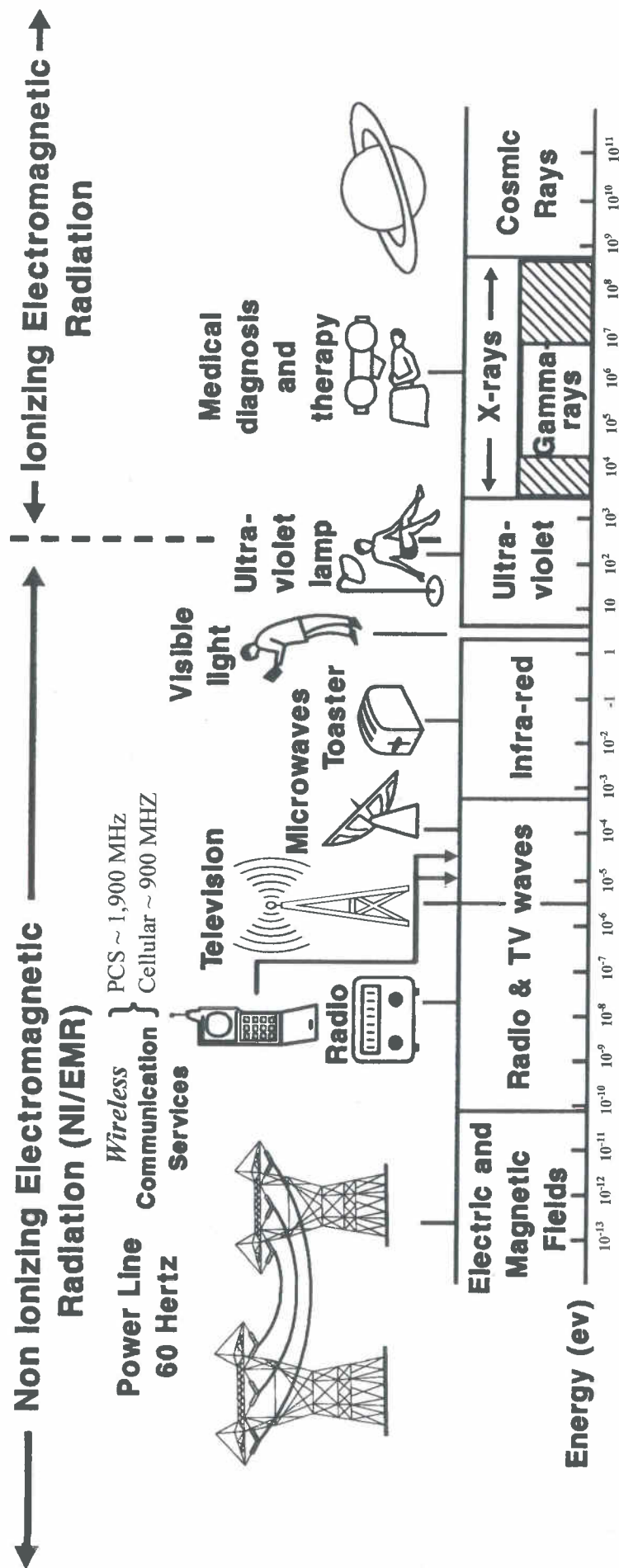
National and International Public RF Exposure Standards (DAS @ 1,950 MHz)



*International Commission on Non-Ionizing Radiation Protection (ICNIRP) Public Safety Exposure Standard. ICNIRP standard recommended by the World Health Organization (WHO). Members of the ICNIRP Scientific Committee were from:

- Australia
- Italy
- Finland
- Sweden
- France
- Japan
- Germany
- United Kingdom
- Hungary
- United States

Figure 1



The Electromagnetic Spectrum

Figure 2

Typical Exposure from Various Radio Frequency / Microwave Sources

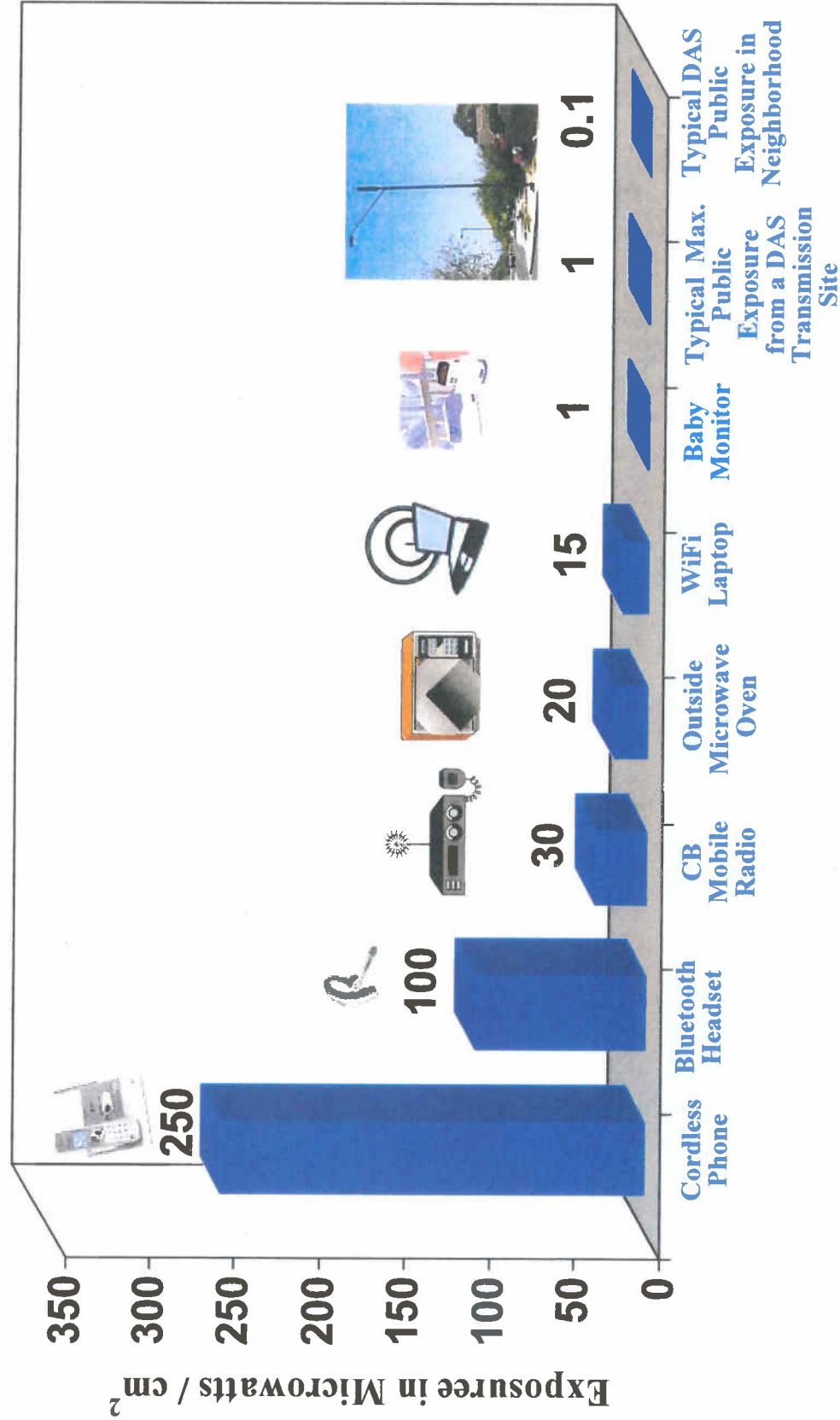


Figure 3

Attachment 1

**List of Proposed Utility Pole Omni Antenna DAS Node Locations and
Example of Proposed Utility Pole Mounted Omni Antenna**

Configuration #1:Omni Antennae				
Node ID	Antenna	Structure Type	Location	Centerline (ft)
VRZ_FB01	Kathrein Scala - 840 10510	Utility pole	5288 Freedom Boulevard, Aptos, CA	41'-6"
VRZ_FB02	Kathrein Scala - 840 10510	Utility pole	5101 Freedom Blvd Aptos, CA 95003	36'-5"
VRZ_FB03	Kathrein Scala - 840 10510	Utility pole	1701-1705 Day Valley Rd Aptos, CA 95003	51'-6"
VRZ_FB04	Kathrein Scala - 840 10510	Utility pole	1400-1428 Day Valley Rd, Aptos, CA 95003	42'
VRZ_FB05	Kathrein Scala - 84010525	Utility pole	1200-1286 Day Valley Rd, Aptos, CA 95003	33'-10 1/2"
VRZ_FB06	Kathrein Scala - 84010525	Utility pole	400-698 Cll Del Sol, Aptos, CA 95003	46'-6 1/2"
VRZ_FB07	Kathrein Scala - 840 10510	Utility pole	757-785 Day Valley Rd,Aptos, CA 95003	30'-7"
VRZ_FB08	Kathrein Scala - 840 10510	Utility pole	293-343 McDonald Rd, Aptos, CA 95003	27'

DATE: 5/3/13
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 PROJECT NO: 13-001



FREEDOM **NODE VRZ_FB09** **FREEDOM BLVD/MCDONALD RD, APTOS, CA 95003**

Call Before you Dig!



Know what's below.
 Call before you dig.
 Call 811 Before you Dig!

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING: 1. STATE AND FEDERAL REGULATIONS 2. LOCAL ORDINANCES 3. AESTHETIC STANDARDS 4. STATE ELECTRICAL CODE 5. STATE MECHANICAL CODE 6. CITY/LOCAL ORDINANCES

CODE COMPLIANCE

PROPERTY INFORMATION

CUSTOMER: CROWN CASTLE
 PROJECT: FREEDOM BLVD
 NODE: VRZ_FB09
 LATITUDE: 36.591084
 LONGITUDE: -121.513558
 STREET ADDRESS: FREEDOM BLVD/MCDONALD RD
 CITY/STATE: APTOS CA 95003
 POLE TYPE: W/1 WOOD POLE
 RADIUS: 30'-7" TO TOP OF ANTENNA
 ANTENNA TYPE: KAT-FREED SCALA-540251G
 AUTHORITY FOR ANTENNA: N/A
 POWER TO POLE: 10W LOW VOLTAGE
 POLE ACCESS: STREET SIDE
 POLE LOCATION: 1
 DESCRIPTION: CROWN CASTLE NO. 1

PROJECT SUMMARY



VICINITY MAP

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF WIRELESS EQUIPMENT AND ANTENNAE FOR CROWN CASTLE ON EXISTING AND NEW UTILITY POLES.

PROJECT DESCRIPTION

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAE AND ALL ASSOCIATED HARDWARE IN ACCORDANCE TO CONSTRUCTION STANDARDS AND SPECIFICATIONS AND IN ACCORDANCE WITH THE PROJECT CONTRACT AND ALL APPLICABLE REGULATIONS.

PROJECT SCOPE

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INADEQUACIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

SHEET	DESCRIPTION	REV
1	TITLE SHEET	0
2	SITE PLAN	0
3	UTILITY POLE EQUIPMENT PROFILES	0
4	UTILITY POLE EQUIPMENT TYPICALS	0
5	UTILITY POLE POWERING	0
6	WIRE SURVEY	0

SHEET INDEX

CROWN 1000 N. HIGHWAY 101 SUITE 100 APTOS, CA 95003 PHONE: (408) 954-1562	PROJECT INFORMATION PROJECT: FREEDOM NODE: VRZ_FB09 FREEDOM BLVD/MCDONALD RD APTOS, CA 95003	CURRENT ISSUE DATE: 5/3/13 PERMIT SUBMISSION: <input type="checkbox"/>	PLAN PREPARED BY: HP COMMUNICATIONS INC. 3341 Tennessee Drive, Ste. 100 Irvine, CA 92614 PHONE: (949) 440-4114	CROWN PLAN APPROVED BY: [Signature]	SHEET TITLE: CROWN CASTLE POLE PROFILE NODE VRZ_FB09	1	0	1 OF 5
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811
Call before you dig!
Know what's below.
Call 811 before you dig.
Call 811 before you dig!

PROJECT INFORMATION

PROJECT NAME: **FREEPORT**
PROJECT ADDRESS: **FREEPORT, CA 95025-7139**
PROJECT PHONE: **(408) 854-1580**

CURRENT ISSUE DATE: 5/3/3

PERMIT SUBMISSION:

REV. DATE:

DESCRIPTION:

PLANS PREPARED BY: HP COMMUNICATIONS INC.

PLANS APPROVED BY:

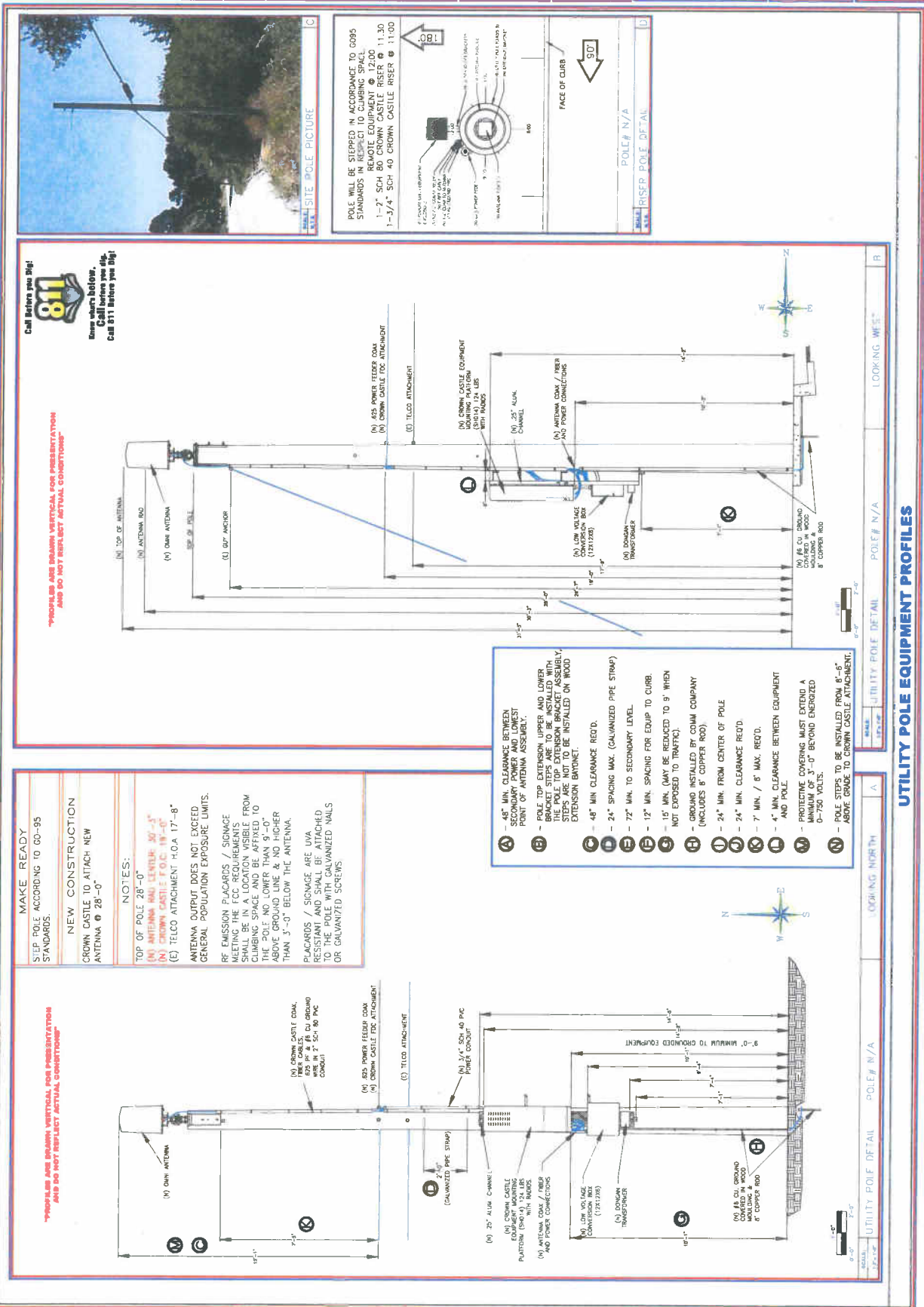
REVISIONS:

SHEET TITLE: CROWN CASTLE POLE PROFILE NODE VRL #809

3

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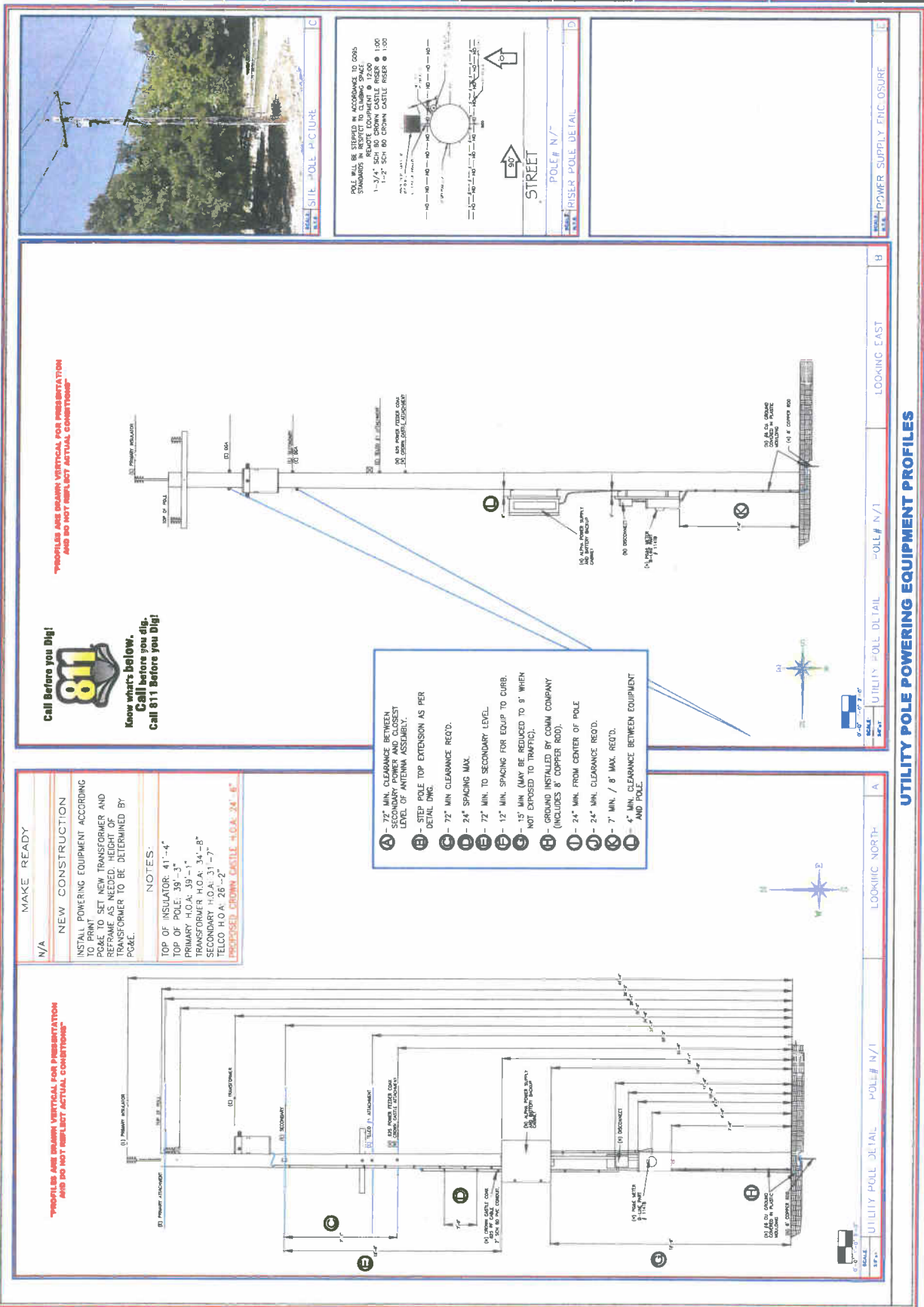
3 OF 5



ELECTRICAL

WIRE GAUGE: 18 AWG, 20 AWG, 22 AWG, 24 AWG, 26 AWG, 28 AWG, 30 AWG, 32 AWG, 34 AWG, 36 AWG, 38 AWG, 40 AWG, 42 AWG, 44 AWG, 46 AWG, 48 AWG, 50 AWG, 52 AWG, 54 AWG, 56 AWG, 58 AWG, 60 AWG, 62 AWG, 64 AWG, 66 AWG, 68 AWG, 70 AWG, 72 AWG, 74 AWG, 76 AWG, 78 AWG, 80 AWG, 82 AWG, 84 AWG, 86 AWG, 88 AWG, 90 AWG, 92 AWG, 94 AWG, 96 AWG, 98 AWG, 100 AWG, 102 AWG, 104 AWG, 106 AWG, 108 AWG, 110 AWG, 112 AWG, 114 AWG, 116 AWG, 118 AWG, 120 AWG, 122 AWG, 124 AWG, 126 AWG, 128 AWG, 130 AWG, 132 AWG, 134 AWG, 136 AWG, 138 AWG, 140 AWG, 142 AWG, 144 AWG, 146 AWG, 148 AWG, 150 AWG, 152 AWG, 154 AWG, 156 AWG, 158 AWG, 160 AWG, 162 AWG, 164 AWG, 166 AWG, 168 AWG, 170 AWG, 172 AWG, 174 AWG, 176 AWG, 178 AWG, 180 AWG, 182 AWG, 184 AWG, 186 AWG, 188 AWG, 190 AWG, 192 AWG, 194 AWG, 196 AWG, 198 AWG, 200 AWG, 202 AWG, 204 AWG, 206 AWG, 208 AWG, 210 AWG, 212 AWG, 214 AWG, 216 AWG, 218 AWG, 220 AWG, 222 AWG, 224 AWG, 226 AWG, 228 AWG, 230 AWG, 232 AWG, 234 AWG, 236 AWG, 238 AWG, 240 AWG, 242 AWG, 244 AWG, 246 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AWG, 692 AWG, 694 AWG, 696 AWG, 698 AWG, 700 AWG, 702 AWG, 704 AWG, 706 AWG, 708 AWG, 710 AWG, 712 AWG, 714 AWG, 716 AWG, 718 AWG, 720 AWG, 722 AWG, 724 AWG, 726 AWG, 728 AWG, 730 AWG, 732 AWG, 734 AWG, 736 AWG, 738 AWG, 740 AWG, 742 AWG, 744 AWG, 746 AWG, 748 AWG, 750 AWG, 752 AWG, 754 AWG, 756 AWG, 758 AWG, 760 AWG, 762 AWG, 764 AWG, 766 AWG, 768 AWG, 770 AWG, 772 AWG, 774 AWG, 776 AWG, 778 AWG, 780 AWG, 782 AWG, 784 AWG, 786 AWG, 788 AWG, 790 AWG, 792 AWG, 794 AWG, 796 AWG, 798 AWG, 800 AWG, 802 AWG, 804 AWG, 806 AWG, 808 AWG, 810 AWG, 812 AWG, 814 AWG, 816 AWG, 818 AWG, 820 AWG, 822 AWG, 824 AWG, 826 AWG, 828 AWG, 830 AWG, 832 AWG, 834 AWG, 836 AWG, 838 AWG, 840 AWG, 842 AWG, 844 AWG, 846 AWG, 848 AWG, 850 AWG, 852 AWG, 854 AWG, 856 AWG, 858 AWG, 860 AWG, 862 AWG, 864 AWG, 866 AWG, 868 AWG, 870 AWG, 872 AWG, 874 AWG, 876 AWG, 878 AWG, 880 AWG, 882 AWG, 884 AWG, 886 AWG, 888 AWG, 890 AWG, 892 AWG, 894 AWG, 896 AWG, 898 AWG, 900 AWG, 902 AWG, 904 AWG, 906 AWG, 908 AWG, 910 AWG, 912 AWG, 914 AWG, 916 AWG, 918 AWG, 920 AWG, 922 AWG, 924 AWG, 926 AWG, 928 AWG, 930 AWG, 932 AWG, 934 AWG, 936 AWG, 938 AWG, 940 AWG, 942 AWG, 944 AWG, 946 AWG, 948 AWG, 950 AWG, 952 AWG, 954 AWG, 956 AWG, 958 AWG, 960 AWG, 962 AWG, 964 AWG, 966 AWG, 968 AWG, 970 AWG, 972 AWG, 974 AWG, 976 AWG, 978 AWG, 980 AWG, 982 AWG, 984 AWG, 986 AWG, 988 AWG, 990 AWG, 992 AWG, 994 AWG, 996 AWG, 998 AWG, 1000 AWG, 1002 AWG, 1004 AWG, 1006 AWG, 1008 AWG, 1010 AWG, 1012 AWG, 1014 AWG, 1016 AWG, 1018 AWG, 1020 AWG, 1022 AWG, 1024 AWG, 1026 AWG, 1028 AWG, 1030 AWG, 1032 AWG, 1034 AWG, 1036 AWG, 1038 AWG, 1040 AWG, 1042 AWG, 1044 AWG, 1046 AWG, 1048 AWG, 1050 AWG, 1052 AWG, 1054 AWG, 1056 AWG, 1058 AWG, 1060 AWG, 1062 AWG, 1064 AWG, 1066 AWG, 1068 AWG, 1070 AWG, 1072 AWG, 1074 AWG, 1076 AWG, 1078 AWG, 1080 AWG, 1082 AWG, 1084 AWG, 1086 AWG, 1088 AWG, 1090 AWG, 1092 AWG, 1094 AWG, 1096 AWG, 1098 AWG, 1100 AWG, 1102 AWG, 1104 AWG, 1106 AWG, 1108 AWG, 1110 AWG, 1112 AWG, 1114 AWG, 1116 AWG, 1118 AWG, 1120 AWG, 1122 AWG, 1124 AWG, 1126 AWG, 1128 AWG, 1130 AWG, 1132 AWG, 1134 AWG, 1136 AWG, 1138 AWG, 1140 AWG, 1142 AWG, 1144 AWG, 1146 AWG, 1148 AWG, 1150 AWG, 1152 AWG, 1154 AWG, 1156 AW

<p>800 JIGMAN DRIVE FREMONT, CA 94539 PHONE (415) 951-1400</p>		<p>PROJECT INFORMATION</p> <p>PREPARED BY: FREEMAN BLUMBERG/SONALS RD</p> <p>DATE: 5/3/13</p> <p>PERMIT SUBMISSION: 5/3/13</p>		<p>REV. DATE DESCRIPTION BY</p> <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>																																			<p>PLANS PREPARED BY: HP COMMUNICATIONS INC.</p> <p>13300 Fremont Ct. #2 Crown, CA 94583 PHONE: (915) 471-1919</p>		<p>PLANS APPROVED BY: </p> <p>REPRESENTATIVE: COMMENTS:</p>		<p>SHEET TITLE: CROWN CASTLE POLE PROFILE NODE VILL. #509</p>		<p>5 0 5 OF 6</p>	



[illegible]

Attachment 2

Antenna Specifications

Dualband 700 MHz X-pol Omni Antenna

Kathrein's dual band antennas are ready for 3G and 4G applications, covering all existing wireless bands as well as all spectrum under consideration for future systems.

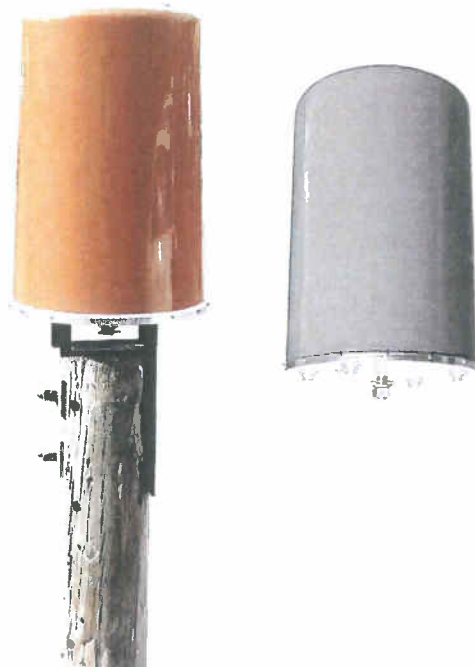
- Wide band operation.
- Exceptional intermodulation characteristics.
- High strength fiberglass radome.

General specifications:

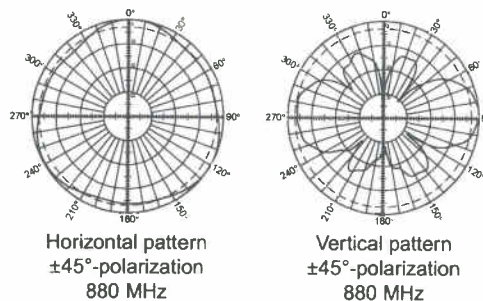
Frequency range	698–894 MHz 1710–2170 MHz
Gain	698–894 MHz 5 dBi (with 3–5 dB nulls, typical) 1710–2170 MHz 8 dBi (with 6–8 dB nulls, typical)
VSWR	<1.5:1
Impedance	50 ohms
Intermodulation (2x20w)	IM3: <-150 dBc
Polarization	+45° upper and lower band -45° upper and lower band
Connector	4 x 7-16 DIN female
Isolation	intrasystem >30 dB intersystem >40 dB (698–894 // 1710–2170 MHz)
Maximum input power	698–894 MHz 250 watts (at 50°C) 1710–2170 MHz 200 watts (at 50°C)
Radome color	Brown or gray
Weight	45 lb (20.4 kg)
Height	24 inches (609 mm)
Radome diameter	16 inches (407 mm)
Wind load	at 93 mph (150kph)
Side	32 lbf (138 N)
Wind survival rating*	100 mph (160 kph)
Shipping dimensions	32 x 20 x 19 inches (813 x 508 x 483 mm)
Shipping weight	52 lb (23.6 kg)
Mounting	Designed to be mounted on top of a utility pole using a custom mounting bracket supplied by the customer.

See reverse for order information.

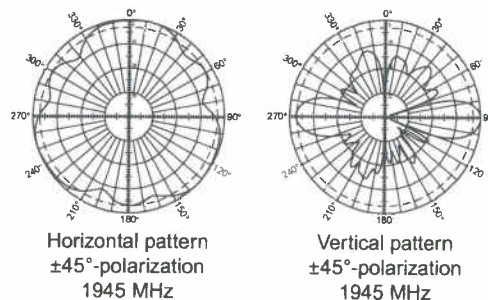
* Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.



698–894 MHz



1710–2170 MHz



11202-FRO/a



Appendix A-1

RF EXPOSURE AT ANTENNA LEVEL

**RF EXPOSURE AT THE LEVEL OF THE ANTENNA
BASED ON PERCENTAGE OF FCC MAXIMUM
PUBLIC & OCCUPATIONAL EXPOSURE LIMIT**

10 feet

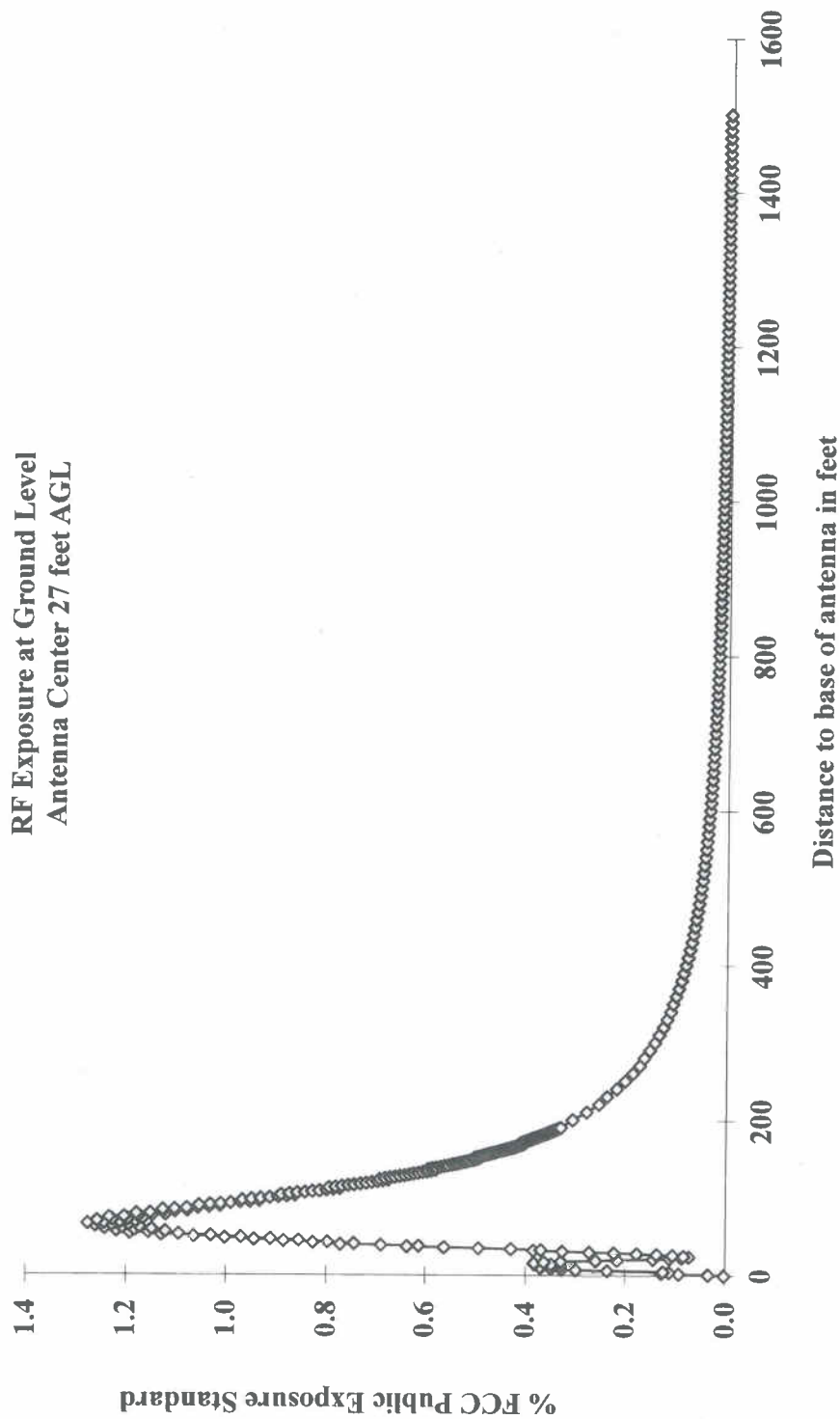
Maximum RF Exposure
208% Public MPE
41% Occupational MPE

Omni Antenna Mounted
on top of Utility Pole

- Red: Greater than 100% Public MPE
- Yellow: Less than 100% Public MPE
- Blue: Less than 20% Public MPE
- Green: Less than 5% Public MPE

Appendix A-2

RF EXPOSURE AT GROUND LEVEL

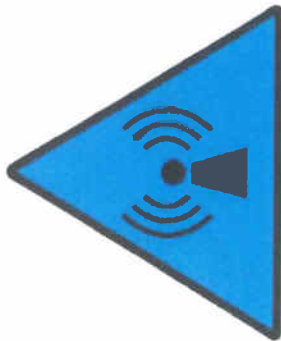


Appendix A-3

EXHIBIT G

Appendix A-3

RF NOTICE SIGN



NOTICE

The radio frequency (RF) emissions at this site have been evaluated for potential RF exposure to personnel who may need to work near these antennae.

RF EXPOSURE AT 3 FEET OR CLOSER TO THE FACE OF THE ANTENNA MAY EXCEED THE FCC PUBLIC EXPOSURE STANDARD AND THUS ONLY QUALIFIED RF WORKERS MAY WORK IN THIS 3 FOOT EXCLUSION ZONE. OTHERS WHO NEED TO WORK IN THE EXCLUSION ZONE SHOULD CALL: 1-866-639-8460 FOR INSTRUCTIONS PRIOR TO COMMENCING WORK. REFER TO: FREEDOM NODE VRZ_FB09.

Reference: Federal Communications Commission (FCC) Public Exposure Standard. OET Bulletin-65, Edition 97-01, August 1997.

STATEMENT OF EXPERIENCE

Jerrold Talmadge Bushberg, Ph.D., DABMP, DABSNM, FAAPM

(800) 760-8414 jrbushberg@hampc.com

Dr. Jerrold Bushberg has performed health and safety analysis for RF & ELF transmissions systems since 1978 and is an expert in both health physics and medical physics. The scientific discipline of Health Physics is devoted to radiation protection, which, among other things, involves providing analysis of radiation exposure conditions, biological effects research, regulations and standards as well as recommendations regarding the use and safety of ionizing and non-ionizing radiation. In addition, Dr. Bushberg has extensive experience and lectures on several related topics including medical physics, radiation protection, (ionizing and non-ionizing), radiation biology, the science of risk assessment and effective risk communication in the public sector.

Dr. Bushberg's doctoral dissertation at Purdue University was on various aspects of the biological effects of microwave radiation. He has maintained a strong professional involvement in this subject and has served as consultant or appeared as an expert witness on this subject to a wide variety of organizations/institutions including, local governments, school districts, city planning departments, telecommunications companies, the California Public Utilities Commission, the California Council on Science and Technology, national news organizations, and the U.S. Congress. In addition, his consultation services have included detailed computer based modeling of RF exposures as well as on-site safety inspections. Dr. Bushberg has performed RF & ELF environmental field measurements and recommend appropriate mitigation measures for numerous transmission facilities in order to assure compliance with FCC and other safety regulations and standards. The consultation services provided by Dr. Bushberg are based on his professional judgement as an independent scientist, however they are not intended to necessarily represent the views of any other organization.

Dr. Bushberg is a member of the main scientific body of International Committee on Electromagnetic Safety (ICES) which reviews and evaluates the scientific literature on the biological effects of nonionizing electromagnetic radiation and establishes exposure standards. He also serves on the ICES Risk Assessment Working Group that is responsible for evaluating and characterizing the risks of nonionizing electromagnetic radiation. Dr. Bushberg was appointed and is serving as a member of the main scientific council of the National Council on Radiation Protection and Measurements (NCRP). He is also the Senior Scientific Vice-President of the NCRP and chairman of the NCRP Board of Directors. Dr. Bushberg has served as chair of the NCRP committee on Radiation Protection in Medicine and he continues to serve as a member of this committee as well as the NCRP scientific advisory committee on Non-ionizing Radiation Safety. The NCRP is the nation's preeminent scientific radiation protection organization, chartered by Congress to evaluate and provide expert consultation on a wide variety of radiological health issues. The current FCC RF exposure safety standards are based, in large part, on the recommendations of the NCRP. Dr. Bushberg was elected to the International Engineering in Medicine and Biology Society Committee on Man and Radiation (COMAR) which has as its primary area of responsibility the examination and interpreting the biological effects of non-ionizing electromagnetic energy and presenting its findings in an authoritative and professional manner. Dr. Bushberg also served for several years as a member of a six person U.S. expert delegation to the international scientific community on Scientific and Technical Issues for Mobile Communication Systems established by the FCC and the FDA Center for Devices and Radiological Health.

Dr. Bushberg is a full member of the Bioelectromagnetics Society, the Health Physics Society and the Radiation Research Society. Dr. Bushberg received both a Masters of Science and Ph.D. from the Department of Bionucleonics at Purdue University. Dr. Bushberg is a fellow of the American Association of Physicists in Medicine and is certified by several national professional boards with specific sub-specialty certification in radiation protection and medical physics. Prior to coming to California, Dr. Bushberg was on the faculty of Yale University School of Medicine.

Nancy Mauro Bensen
2129 Cox Road
Aptos, California 95003
831-684-0439

Frank Barron
Planning Department
701 Ocean Street, 4th Floor
Santa Cruz, California 95060

Dear Mr Barron,

I am against the installation of a micro cell wireless communication facility Application 131081 on a pole at, adjacent, or near 227 Day Valley Road and a meter being placed on a separate pole 170 feet away. In fact, I'm against the project being placed any where in the Day Valley/Cox Road corridor and I'm against Robert Alford receiving a level 5 commercial development permit for a micro cell wireless communication facility on a pole any where in our area. I live on Cox Road and will be able to see the extended pole and device from my house. I am concerned about the visual affects of the micro cell wireless communication facility, possible health risks of the (no one has proved that there aren't any risks), and fire danger. I also am upset that a developer can come in and decide where these facilities will be located without the land owners permission. I feel it is an erosion of our property rights.

The community is faced with PG&Es Santa Cruz 115kV Reinforcement Project, which consists of 115kV transmission wires on 100 foot wood and 4 foot diameter Tubular Steel Poles weaving in and out of the existing 22kV distribution lines from 1972 Cox Road, Day Valley Road, MacDonald Road, Freedom Blvd to the Rob Roy Substation. We don't need to be bombarded with a micro cell wireless communication facility proposal on top of PG&E's project.

Thank you for your time.

Sincerely,

Nancy Mauro Bense

EXHIBIT II