



Staff Report to the Zoning Administrator

Application Number: **141253**

Applicant: Jay Gruendle, On Air LLC (for Verizon)

Agenda Date: June 5, 2015

Owner: Green Valley Corp./Barry Swenson Builders (Utility easement granted to County of Santa Cruz)

Agenda Item #: 4

APN: 026-311-33 (in County utility easement) **Time:** After 9:00 a.m.

Project Description: Proposal to construct a new Verizon microcell wireless communication facility on an existing 44-ft. tall utility pole located within a utility easement strip that was granted to the County, on APN 026-311-33, a vacant 41,273 sq. ft. C-1 commercially-zoned parcel on south side of Brommer St. just west of the intersection with 17th Ave. Project will include a cylindrical 2-ft. tall by 18" diameter omni antenna canister, mounted on a bracket at approximately 28'-6" above ground level. Project will also include pole-mounted RRUs (remote radio units), electrical meter and a small GPS antenna, with a ground-mounted equipment cabinet measuring 2'-7" high x 26" wide x 20" deep to be located adjacent to the pole.

Location: Located in a utility easement granted to the County on APN 026-311-33, a vacant 41,273 sq. ft. C-1 (Neighborhood Commercial) zoned parcel on south side of Brommer St. just west of the intersection with 17th Ave.

Supervisory District: 1st District (District Supervisor: John Leopold)

Permits Required: Requires a Level 5 Commercial Development Permit.

Technical Reviews: N/A

Staff Recommendation:

- Determine that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 141253, 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. RF Radiation Emissions Report |
| C. Conditions | G. Photo Simulations |
| D. Project plans | |

Parcel Information

Parcel Size: 41,273 sq. ft.
 Existing Land Use - Parcel: Vacant Commercial Parcel
 Existing Land Use - Surrounding: Mobile Home Park, Shopping Centers, Vehicle Storage Yard
 Project Access: South side of Brommer St. west of 17th Ave.
 Planning Area: Live Oak Planning Area
 Land Use Designation: C-N (Neighborhood Commercial)
 Zone District: C-1 (Neighborhood Commercial)
 Coastal Zone: ☐ Inside ☒ Outside
 Appealable to Calif. Coastal Comm. ☐ Yes ☒ 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: ☒ Inside ☐ Outside
 Water Supply: N/A
 Sewage Disposal: N/A
 Fire District: Central Fire Protection District
 Drainage District: Zone 5

History

Application 98-0671 was filed in 1998 for this 41,273 sq. ft. Neighborhood Commercial (C-1) zoned parcel for a proposed Commercial Development Permit to construct two commercial buildings consisting of a 3,030 square foot Wendy's fast food restaurant and a 1,980 square foot retail building. That application was denied by the Zoning Administrator. Application 07-0356 was a proposed Commercial Development Permit to construct a two story, mixed-use building of approximately 15,000 sq. ft. The project was to consist of seven commercial spaces and one accessible residential unit on the ground level, and seven residential units on the upper level. All units were proposed to be individual condominiums. Application 141133 is a current proposal to amend Permit 07-0356 to allow for 13 residential units instead of the eight approved units, with an overall increase in bedrooms from 14 to 16 bedrooms.

Project Setting

The proposed subject utility pole is located in a County-owned utility easement on APN 026-311-33, a vacant 41,273 sq. ft. C-1 commercially-zoned parcel on the south side of Brommer St. just west of the intersection with 17th Ave. The utility pole is located across Brommer St. from a mobile home park, and across 17th Ave. from two shopping centers (one on each side of Brommer St.). The closest residence is approx. 75 ft. away (a mobile home across Brommer St.). If and when the subject vacant lot is developed, it is possible that a second story residence could be within 10 feet of the subject pole.

Zoning & General Plan Consistency

The subject utility pole is located on a parcel zoned C-1 (Neighborhood Commercial), a designation which allows WCF uses. The proposed microcell WCF is a conditionally permitted use within the zone district and the zoning is consistent with the site's (C-N) Neighborhood Commercial General Plan designation.

Design Review

The proposed microcell WCF complies with the requirements of the County Design Review Ordinance, in that it will be part of an existing utility pole, increasing its bulk slightly, but still being relatively visually inconspicuous, and thus will have minimal visual impact on surrounding land uses and 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 4.1% of the applicable FCC public exposure limit at ground level, and no more than 12.0% of that limit at the second floor (24-ft.) level of the nearest potential 2-story structure (i.e., on the vacant subject parcel at the edge of the utility easment).

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

- Determine that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- **APPROVAL** of Application Number 141253, 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: 141253

Assessor Parcel Number: 026-311-33 (in County utility easement)

Project Location: On south side of Brommer St. just west of intersection with 17th Ave. in Live Oak

Project Description: Proposal to construct a Verizon microcell WCF on an existing 44-ft. tall utility pole, including a small cylindrical antenna enclosure mounted horizontal arm about halfway up the pole and other pole mounted equipment.

Person or Agency Proposing Project: Jay Gruendle, On Air LLC (for Verizon)

Contact Phone Number: (707) 933-9633

- 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).
- E. ☒ **Categorical Exemption**

Specify type: 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: _____

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 (WCF) 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 microcell WCF 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 microcell WCF and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the C-1 (Neighborhood Commercial) zone district, as one of the uses of the utility easement will be one microcell WCF that meets 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 WCF use is consistent with the use and density requirements specified for the Neighborhood Commercial (C-N) land use designation in the County General Plan. The proposed microcell WCF 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 microcell WCF will not adversely shade adjacent properties, and will meet current height limits for WCFs in the zone district.

A specific plan has not been adopted for this portion of the County.

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 microcell WCF is to be constructed on an existing utility pole in County right-of-way. There will be no additional traffic generated by the proposed project, and it will not adversely impact existing roads or intersections in the surrounding area.

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 microcell structure is located in a mixed neighborhood containing a variety of structures of various architectural styles, and the proposed microcell WCF mounted upon an existing utility pole 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 microcell WCF will be of an appropriate scale and type of design that will not detract from 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 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 one of the least visually obtrusive types of WCF. Moreover, its installation and use in utility easement 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 microcell WCF is to consist of antennas mounted upon an existing utility pole on a utility easement granted to the County, an area where other 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 County owned utility easement 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.

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 microcell WCF will be located on an existing approximately 44-foot tall 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 existing wireless communications facilities and the proposed operation are calculated to be 4.1 percent of the most restrictive applicable (FCC) limit, and 12.0 percent of that limit at the nearest potential 2-story habitable structure.

6. For wireless communication facilities in the coastal zone, the proposed wireless communication facility as conditioned is consistent with the all applicable requirements of the Local Coastal Program.

The proposed project site is not located within the coastal zone.

Conditions of Approval

Exhibit D: Project Plans, 13 sheets, prepared by V-One Design Group, Inc., dated 3/3/15

- I. This permit authorizes the construction of a microcell wireless communications facility (WCF) on an existing utility pole. This approval does not confer legal status on any existing structure(s) or existing use(s) on the subject property 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.
 1. 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 any 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 fire department requirements. If the proposed structure(s) are located within the State Responsibility Area (SRA) the requirements of the Wildland-Urban Interface code (WUI), California Building Code Chapter 7A, shall apply.
 - 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 Central 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. The project must comply with all recommendations of the approved soils reports.
 - D. 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.
- 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.
- 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.

Application #: 141253

APN: 026-311-33

Owner: Green Valley Corp./Barry Swenson Builders (utility easement owned by County of Santa Cruz)

Approval Date: _____

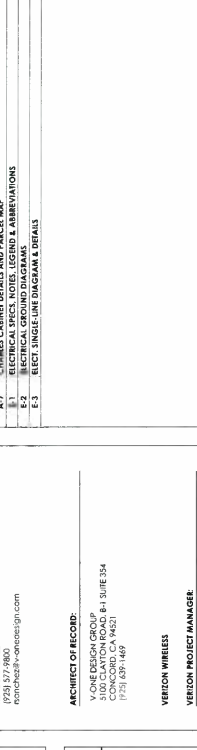
Effective Date: _____

Expiration Date: _____

Wanda Williams
Deputy Zoning Administrator

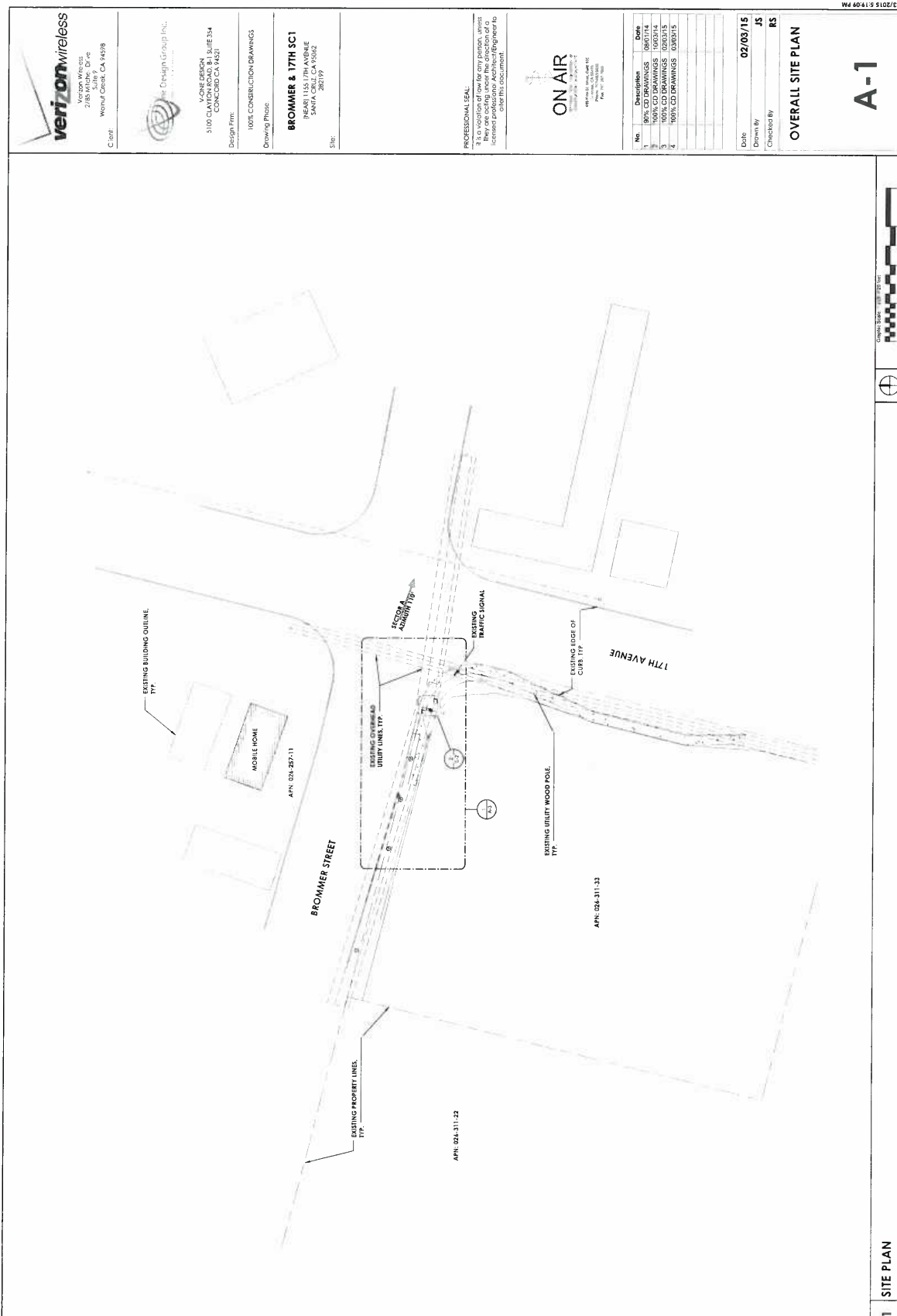
Frank Barron, AICP
Project Planner

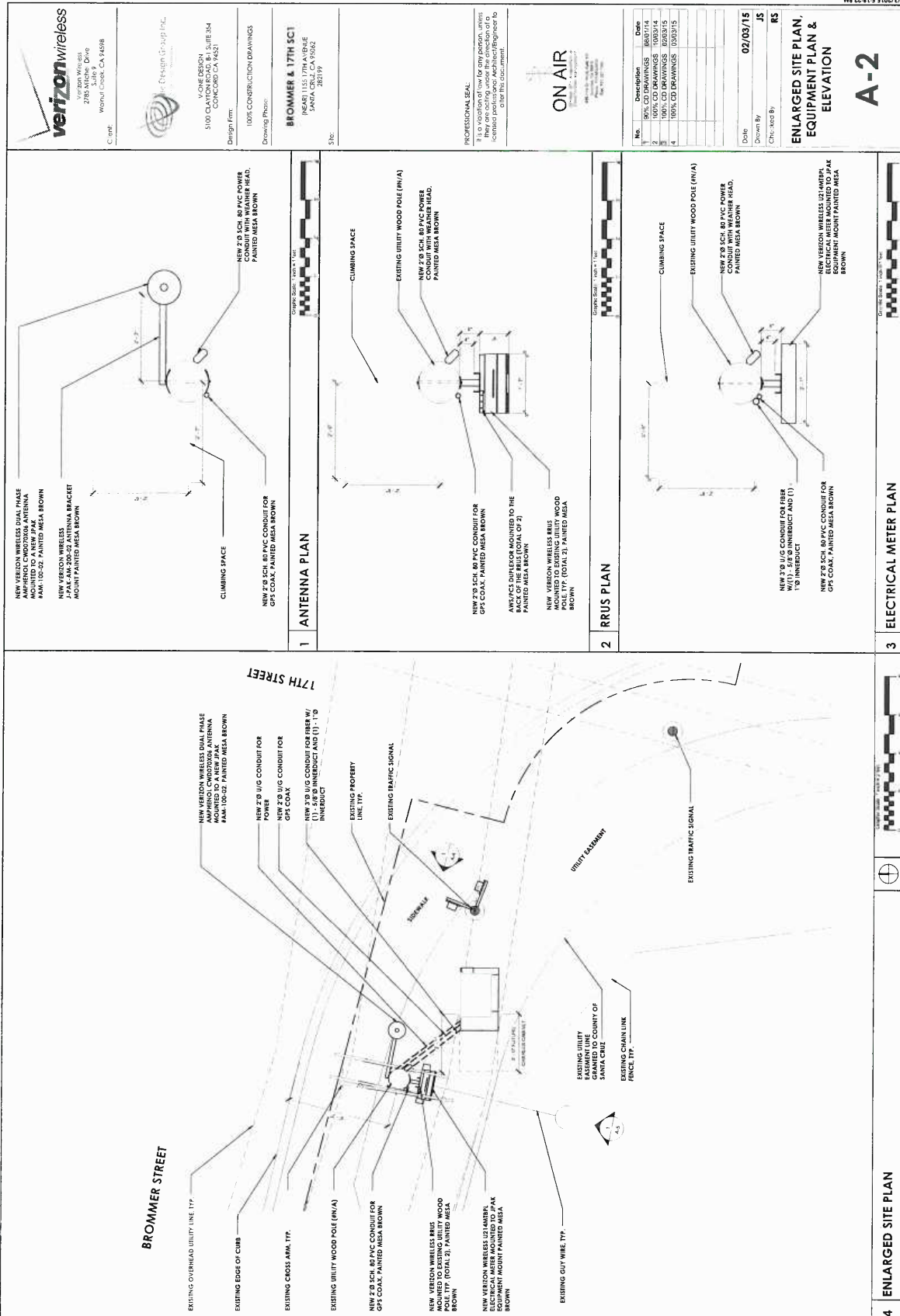
Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Zoning Administrator, may appeal the act or determination to the Planning Commission in accordance with chapter 18.10 of the Santa Cruz County Code.

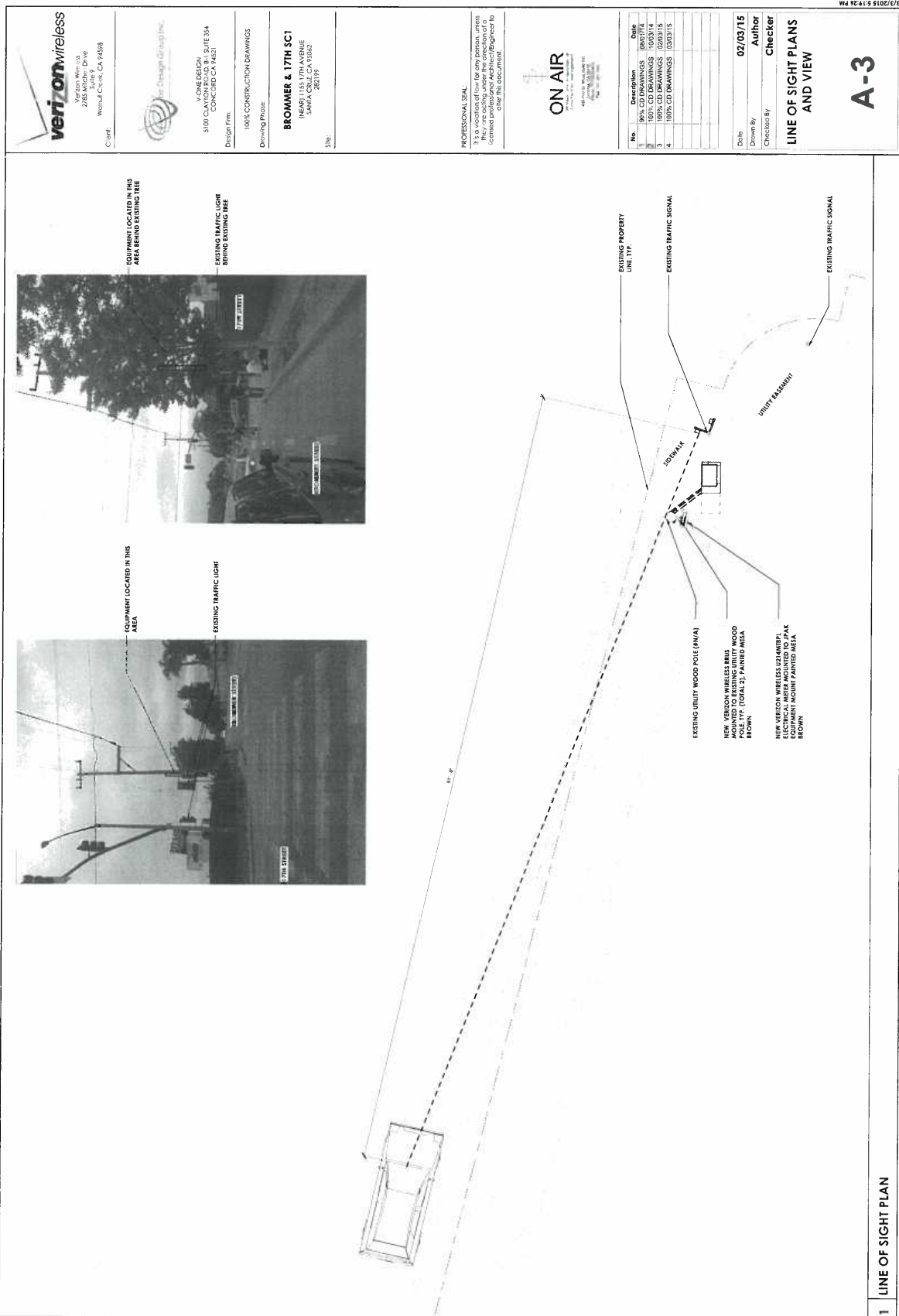
SITE INFORMATION		VICINITY MAP		PROJECT TEAM		PROJECT DESCRIPTION	
PS PROJECT ID: # 2013003204				AGENCY: ON AIR LLC 400 WEST STREET WEST, SUITE 101 SONOMA, CA 94963 (707) 333-9633		THIS IS AN UNMARKED ELECTRICAL SERVICE FACILITY FOR UTILITY WORK ONLY. THE WORKING AREA WILL BE CONFINED BY THE INSTALLATION AND OPERATION OF ANTENNAS AND ASSOCIATED EQUIPMENT ON AN EXISTING TOWER.	
OWNER: JOINT POLI AUTHORITY		27000 Wilshire Avenue, Bldg #9 Walnut Creek, CA 94598		PROJECT MANAGER: JAY DEL SIOLE (707) 497-5556 jdel@onair.com		SCOPE OF WORK: 1. INSTALL NEW TELECOMMUNICATIONS EQUIPMENT POLES ON AN EXISTING HOODING POLE. 2. TO BE INSTALLED ON GOLF COMPLIANT STANDOFF BRACKET, CONSISTING OF (1) ELECTRICAL HOODING POLE, (2) 15' TOWER, (3) 15' TOWER, (4) 15' TOWER, (5) 15' TOWER, (6) 15' TOWER, (7) 15' TOWER, (8) 15' TOWER, (9) 15' TOWER, (10) 15' TOWER, (11) 15' TOWER, (12) 15' TOWER, (13) 15' TOWER, (14) 15' TOWER, (15) 15' TOWER, (16) 15' TOWER, (17) 15' TOWER, (18) 15' TOWER, (19) 15' TOWER, (20) 15' TOWER, (21) 15' TOWER, (22) 15' TOWER, (23) 15' TOWER, (24) 15' TOWER, (25) 15' TOWER, (26) 15' TOWER, (27) 15' TOWER, (28) 15' TOWER, (29) 15' TOWER, (30) 15' TOWER, (31) 15' TOWER, (32) 15' TOWER, (33) 15' TOWER, (34) 15' TOWER, (35) 15' TOWER, (36) 15' TOWER, (37) 15' TOWER, (38) 15' TOWER, (39) 15' TOWER, (40) 15' TOWER, (41) 15' TOWER, (42) 15' TOWER, (43) 15' TOWER, (44) 15' TOWER, (45) 15' TOWER, (46) 15' TOWER, (47) 15' TOWER, (48) 15' TOWER, (49) 15' TOWER, (50) 15' TOWER, (51) 15' TOWER, (52) 15' TOWER, (53) 15' TOWER, (54) 15' TOWER, (55) 15' TOWER, (56) 15' TOWER, (57) 15' TOWER, (58) 15' TOWER, 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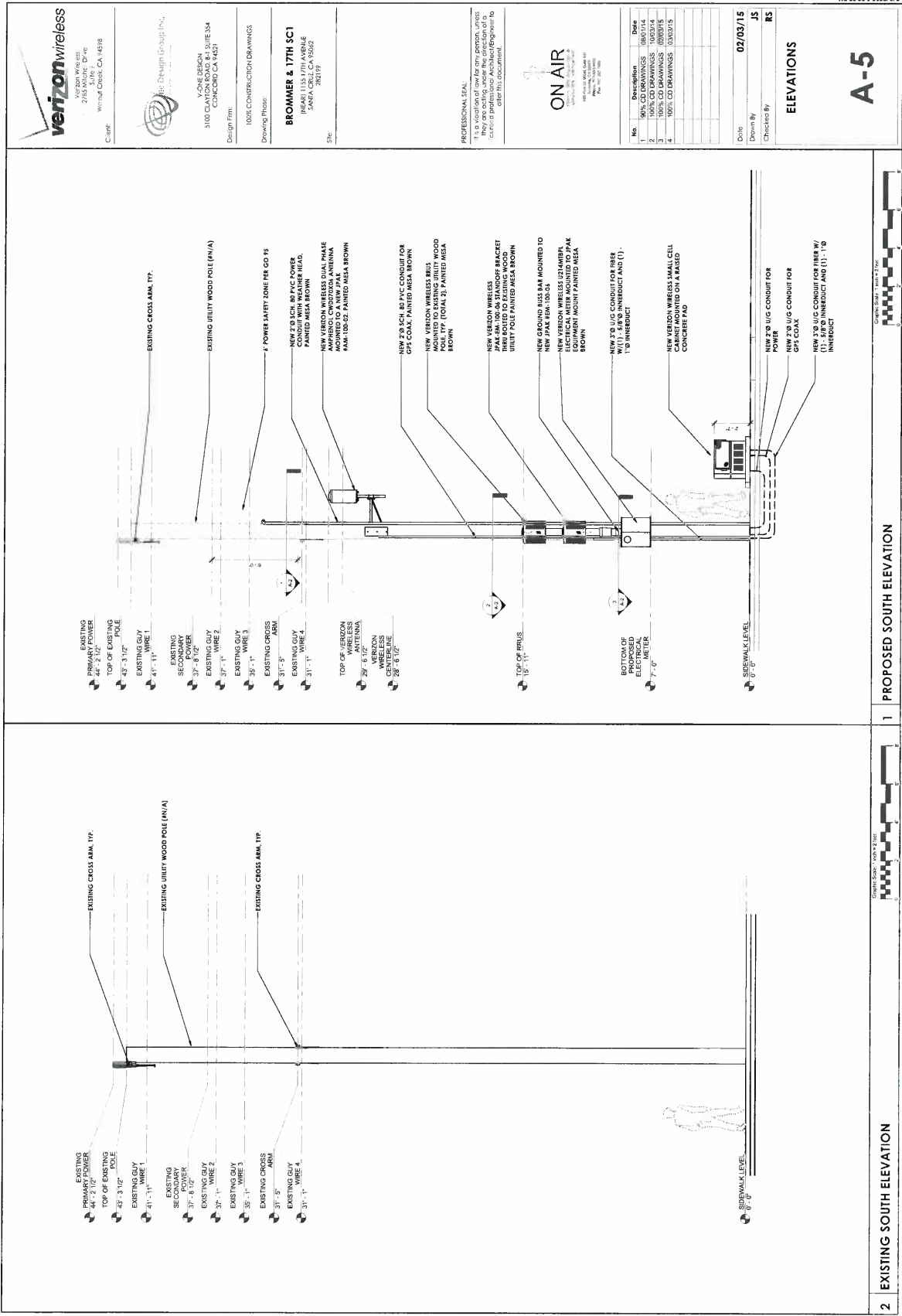
EXHIBIT D







[illegible]



Verizon Wireless
2155 Market Street, Suite 500
San Francisco, CA 94103

VONE DESIGN GROUP INC.
5100 CALIFORNIA AVENUE, SUITE 304
CONCORD, CA 94521

DATE: 02/03/15
DRAWN BY: JS
CHECKED BY: RS

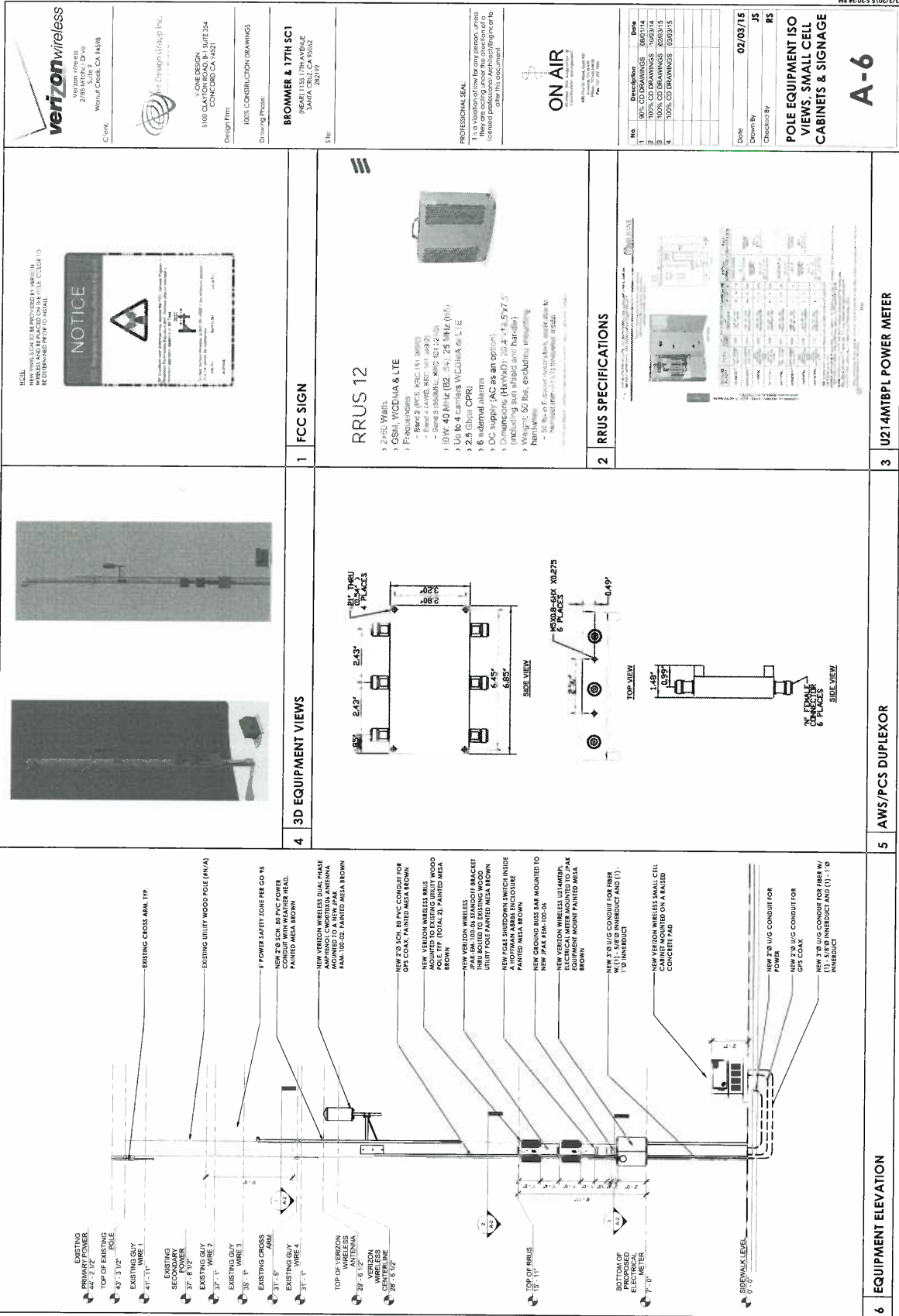
ELEVATIONS

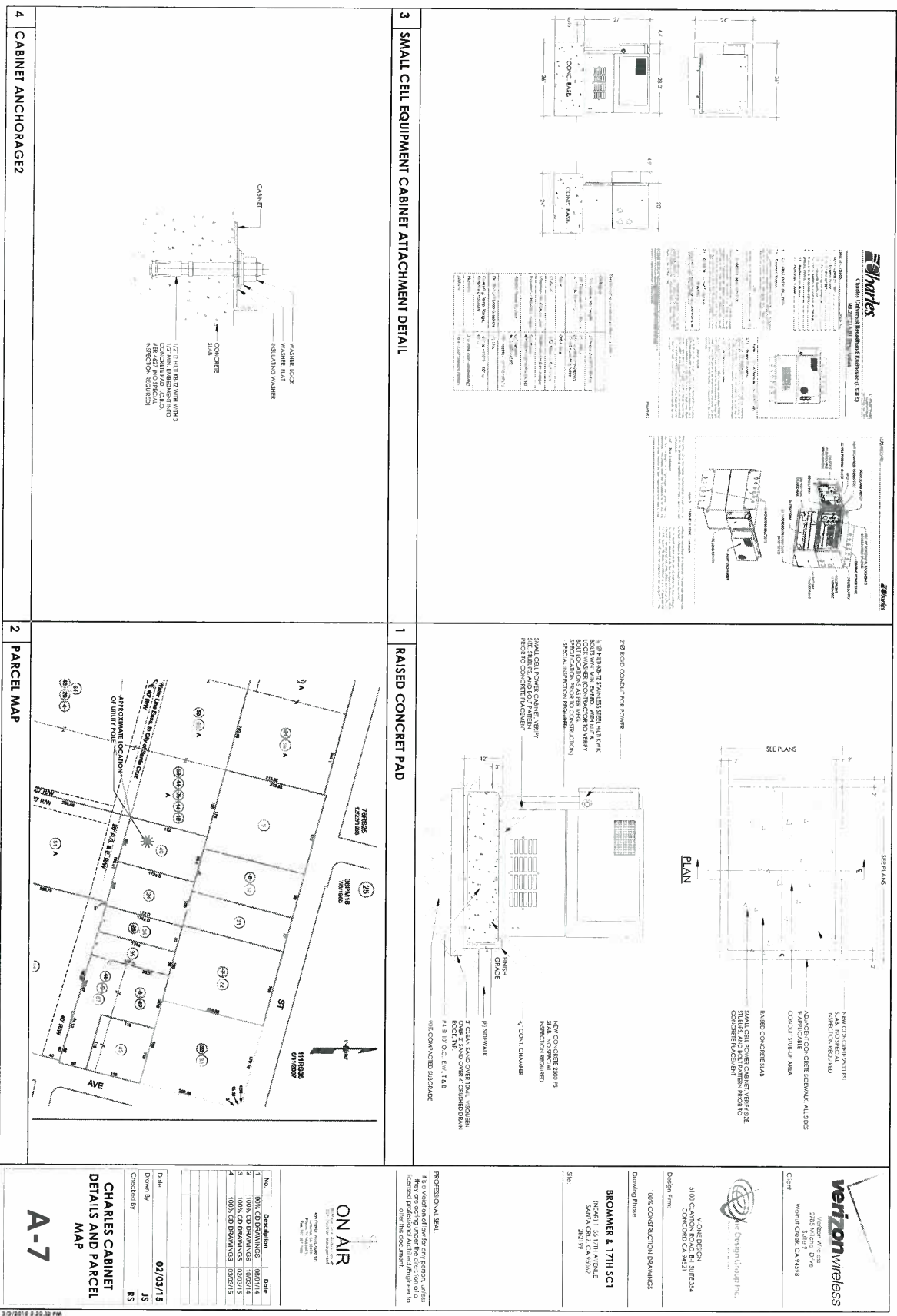
A-5

BROWNER & 17TH SC1
15481 17TH AVENUE
SAN FRANCISCO, CA 94040
202.177

ON AIR
100% CD DRAWINGS: 02/03/15
100% CD DRAWINGS: 02/03/15
100% CD DRAWINGS: 02/03/15

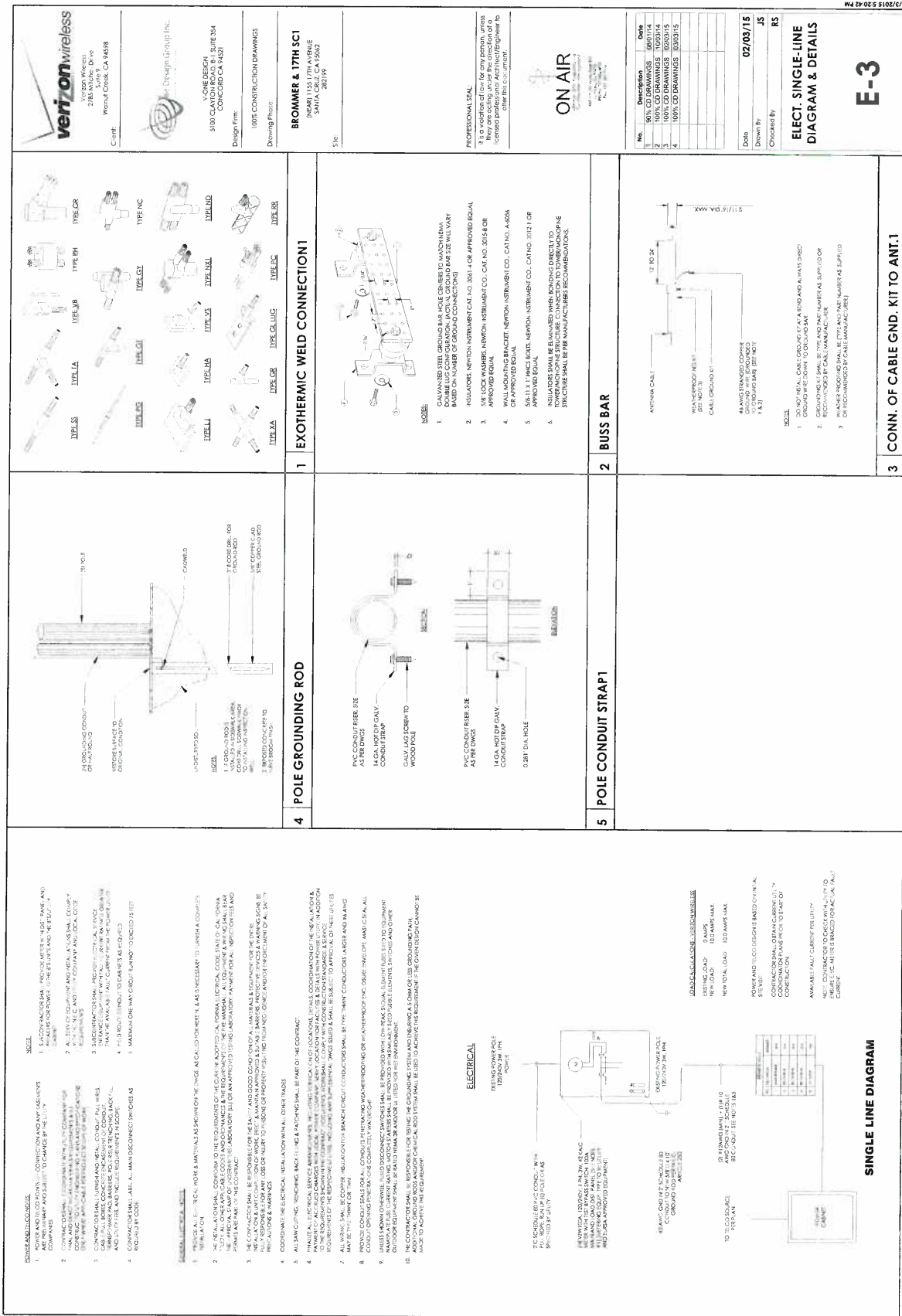
PROFESSIONAL SEAL:
I, a duly licensed professional engineer, certify that I am the author of the design and drawings herein, and that I am a duly licensed professional engineer in the State of California.





24





Tax Area Code
82-040

POR. OF S.E. 1/4 SEC. 17,
T.11S., R.1W., M.D.B. & M.

FOR TAX PURPOSES ONLY

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1"=100'

111RS36
6/11/2007

AVE

30

BROMMER

76RS25
12/22/1986

25

ST

OD

AVE

SEVENTEENTH

Bk.29
18

51MB7
10/29/1970

11PM52
12/29/1973

20PM29

Assessor's Map No. 26-31
County of Santa Cruz, Calif.
July, 1998

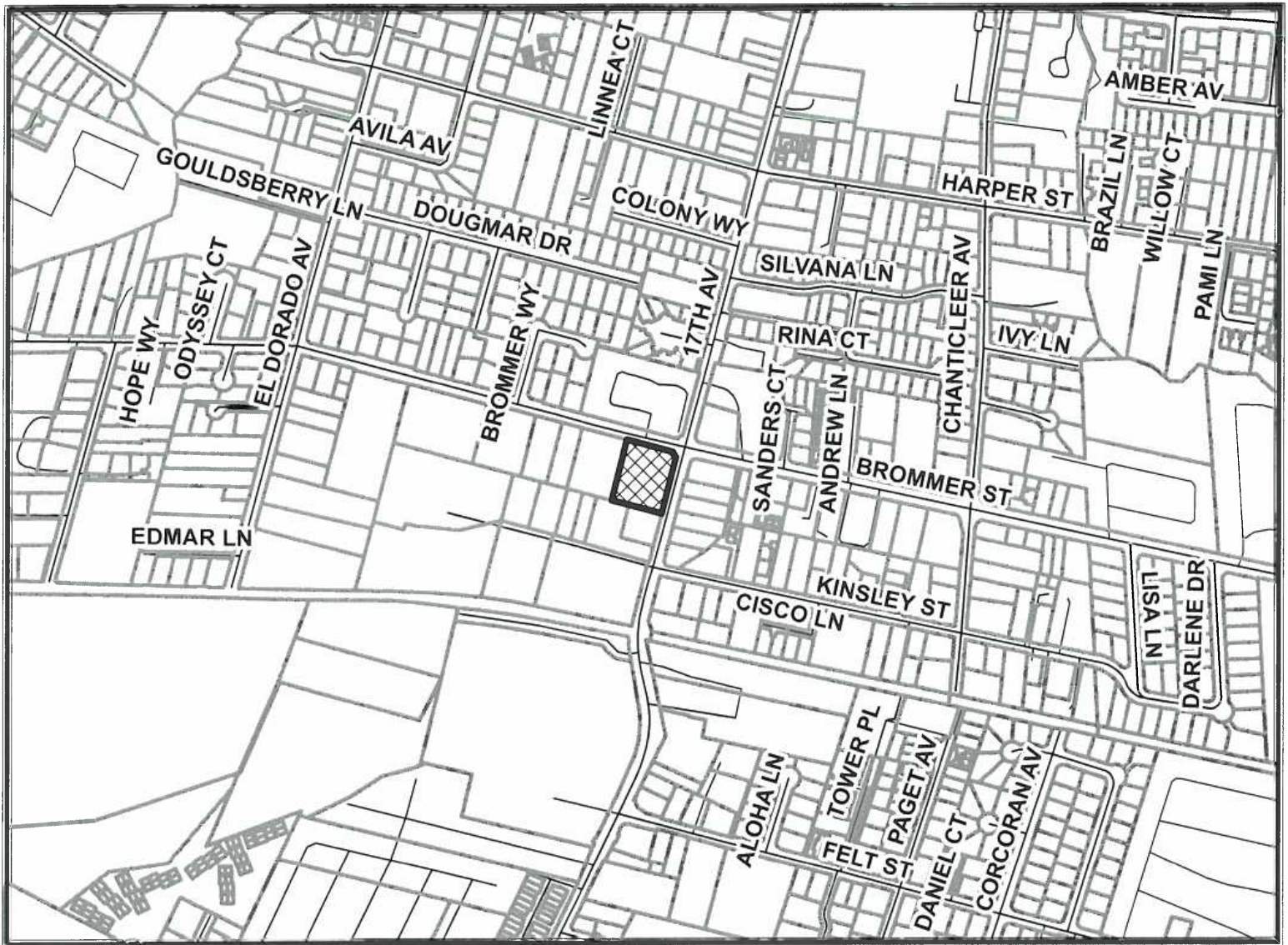
Note - Assessor's Parcel & Block Number Shown in Circles.

Bk.27
24

Rev. 11/15/99 CB (9-0039714 & 15, LBA 1-63 & 64)
Rev. 3/19/03 mym (parcel 61 accepted to st)
Rev. 3/1/05 mym (4-0090122, comb. 1-65)
Rev. 10/28/05 md (st. removed)
Rev. 10/18/07 id (111RR36)



Location Map



LEGEND

-  APN: 026-311-33
-  Assessors Parcels
-  Street

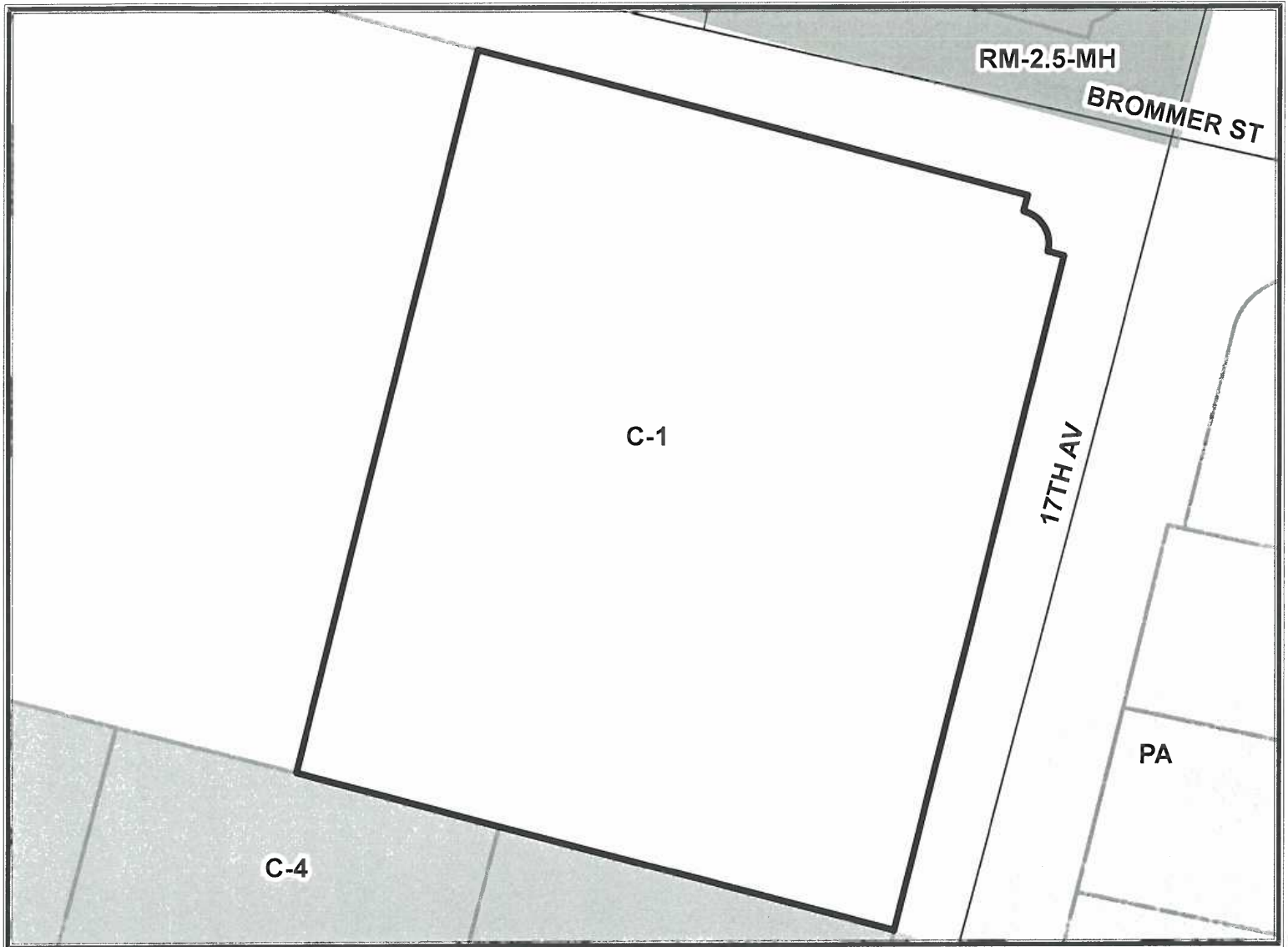


Map Created by
County of Santa Cruz
Planning Department
December 2014

EXHIBIT E

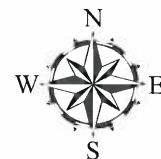


Zoning Map



LEGEND

-  APN: 026-311-33
-  Assessors Parcels
-  Street
-  COMMERCIAL-NEIGHBORHOOD
-  COMMERCIAL-PROF OFFICE
-  COMMERCIAL-SERVICE
-  RESIDENTIAL-MULTI FAMILY

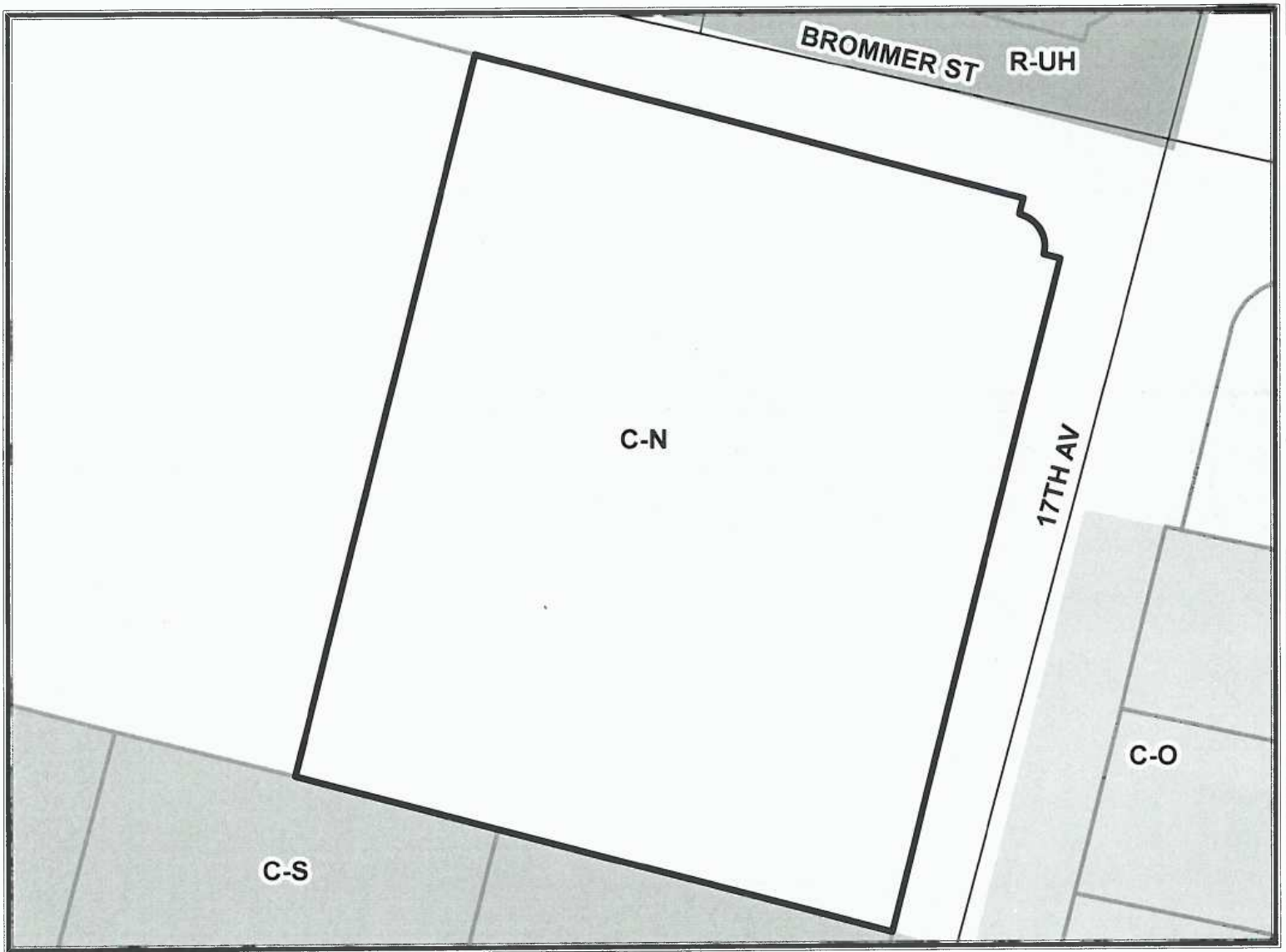


Map Created by
County of Santa Cruz
Planning Department
December 2014

EXHIBIT E



General Plan Designation Map



LEGEND

-  APN: 026-311-33
-  Assessors Parcels
-  Street
-  Commercial-Neighborhood
-  Commercial-Office
-  Commercial-Service
-  Residential - Urban High Density



Map Created by
County of Santa Cruz
Planning Department
December 2014

EXHIBIT E

Human Exposure to RF Energy Compliance Report

Prepared for:
Jay Gruendle
On Air LLC

465 1st St. West, Ste. 101
Sonoma, CA 95476

707-933-9633 office
707-477-2782 cell

For the benefit of Verizon Wireless

**Brommer & 17th SC1
Site Location #282199
Near 1155 17th Avenue
Santa Cruz, CA 95062**

Report Date: January 26, 2015



RF Compliance Services, Inc.
3628 24th Street
San Francisco, CA 94110

Prepared By
Chris Goldsmith
Chris@RadioFrequencyCompliance.com
415-948-6790

Table of Contents

Introduction 1

Site Description 1

Compliance Summary 2

Mitigation, Signage, and Barrier Recommendations..... 3

Regulatory Framework..... 3

Predictive Modeling 5

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Introduction

Radio Frequency Compliance Services, Inc., has been contracted to conduct a human exposure to radio frequency energy study for the benefit of Verizon Wireless. The Federal Communications Commission (FCC) requires licensees to ensure that people are not exposed to radiofrequency electromagnetic energy power densities in excess of the applicable maximum permitted exposure (MPE) limit.

This study uses data supplied by Verizon Wireless or its representatives to determine the human exposure to RF energy from the subject site.

The following documents were supplied by Verizon Wireless or its representatives. This information is considered to be correct and was used in the creation of this report:

1. Drawings – BROMMER & 17TH SC1 100CD 100314
2. Power Statement – BROMMER & 17TH SC1 EME Data Sheet 10/13/2014

Site Description

The subject site is Brommer & 17th SC1, Site Location #282199, located near 1155 17th Avenue, Santa Cruz, CA 95062. The site is located on an existing, wooden power company pole. The site will consist of a single omni-directional antenna mounted 24 feet above ground level.

The site is located in mixed use commercial and residential on one story structures. There are one story residential buildings 70 feet to the North and one story commercial buildings 190 feet to the South East and 90 feet to the East.

This report considers the construction of a 2 or 3 story building in the lot (APN 026-311-33) adjacent to the proposed site by calculating the percentage of the general public MPE predicted at the utility easement line. The predicted power density would be further reduced by any distance back from the utility easement a building was constructed and the attenuation power density due to building materials.



Compliance Summary

This site COMPLIES with Radiofrequency Radiation Exposure Limits of 47 CFR § 1.1307(b)(3) and 1.1310.

Predicted power density of the Verizon proposed installation, with all antennas operating, at ground level surrounding the site, at the point of closest public access, is approximately 4.1% of the general public MPE limit.

Predicted power density of the Verizon proposed installation, with all antennas operating, at the roof level of existing nearby structures, approximately 12 feet above ground level, is approximately 1.0% of the general public MPE limit.

Predicted power density of the Verizon proposed installation, with all antennas operating, at the utility easement line, approximately 12 feet above ground level, is approximately 2.0% of the general public MPE limit.

Predicted power density of the Verizon proposed installation, with all antennas operating, at the utility easement line, approximately 24 feet above ground level, is approximately 12.0% of the general public MPE limit.

Mitigation, Signage, and Barrier Recommendations

Typical RF Warning signs and Safe Working Practices must be posted on the pole.

Regulatory Framework

The FCC requires licensees to ensure that persons are not exposed to radiofrequency electromagnetic energy power densities in excess of the applicable MPE limit. Applicable FCC rules are found at 47 CFR § 1.1307(b) (3) and 1.1310.

The FCC rules define two tiers of permissible exposure differentiated by the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure.

The General Population / Uncontrolled Exposure Limit applies to human exposure to RF fields when the general public is 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 always fall under this category when exposure is not employment-related.¹

The Occupational/Controlled Exposure Limit applies to human exposure to RF fields when persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. These exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above General Population / Uncontrolled limits as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate action.²

The FCC's maximum permissible exposure (MPE) is defined as the rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with an acceptable safety factor levels.³

¹ Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65, Edition 97-01, August 1997, Page 3

² Ibid, Page 4

³ Ibid, Page 3

The FCC's MPE limits for the General Population/Uncontrolled and Occupational/Controlled environments are given in Table 1 and Table 2, respectively. Figure 1 is a graph of both MPEs as functions of frequency.

Table 1: MPE Limits for General Population/Uncontrolled Environment⁴

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

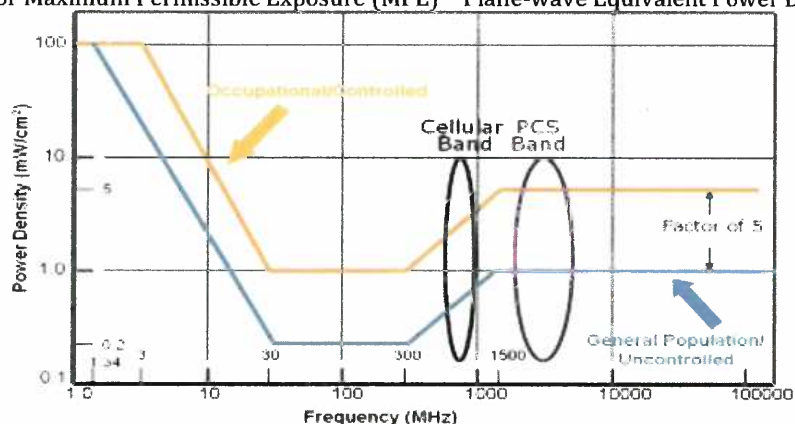
f = frequency in MHz * = Plane wave equivalent power density

Table 2: MPE Limits for Occupational/Controlled Environment⁵

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time for E ² , H ² , or S (Minutes)
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1842/f	4.89/f	(900/f ²)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	--	--	f/300	6
1500– 100,000	--	--	5.0	6

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

FCC Limits for Maximum Permissible Exposure (MPE) – Plane-wave Equivalent Power Density⁶



⁴ Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65, Edition 97-01, August 1997, Page 67

⁵ Ibid, Page 67

⁶ Ibid, Page 68

Maximum Permissible Exposure (MPE) is defined in OET 65 as being 100% of the exposure limit for the situation or tier of permissible exposure. Anyone may be granted safe access to areas less than or equal to 100% of the General Population MPE Limit. For persons who have been properly trained and meet the definition of being Occupational Personnel, access to areas at or below 100% of the Occupational MPE limit may be granted. Access to areas predicted to exceed 100% of the Occupational MPE limit may be granted to persons properly trained and who use real-time power density measurement Personal Protective Equipment, such as a RF Personal Monitor.

FCC rules allow for access to areas that exceed of 100% of the applicable limit, if time-averaged exposure is not exceeded. This clause requires very carefully measured, consistent exposure and is difficult to incorporate into practical compliance policies. This report and any recommendations herein assume continuous exposure at or below the applicable MPE limit. Time average is not employed to determine compliance.

For any area in excess of 100% General Population MPE, access controls must be put in place and maintained to prevent the general population from gaining access. Occupational Personnel trained in RF safety and equipped with personal protective equipment designed for safe work in the vicinity of RF may be granted access, subject to other site security requirements. Access controls may be imposed by locked doors, physical barriers, or alarms to notify the individual and site management. Controls may include administrative policies and procedures requiring personal protective equipment, proof of RF training to obtain site access cards, presentation of appropriate RF awareness training certifications to security personnel or other measures designed to prevent uncontrolled access.

Following these FCC requirements, predictive modeling was performed to evaluate power density resulting from client transmitters as a percentage of the power density MPE limit applicable to their transmitters. If additional carriers and other wireless installations are identified and included, their technical and operating parameters have been assumed and are intended to be conservative and consistent with the higher range of operating parameters.

In field and on site measurements typically show power density values significantly lower than predicted values. The purpose of predictive analysis is to depict the worst case potential for exposure such that compliance with the analysis assures a high safety margin.

Predictive Modeling

The RoofView software program is used to calculate the predicted power density throughout the subject area in both the general public and occupational MPE in

accordance with the FCC's OET bulletin 65 "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation" dated August 1997. Spatially averaged power density is plotted based on the percentage of the applicable standard, as noted in the plots below.

Brommer & 17th SC1
 Site Location #282199
 Near 1155 17th Avenue
 Santa Cruz, CA 95062

Antenna inventory and operating power

ID	Name	Freq	Power	Mfg	Model	X	Y	Z	Aper	Pt Dir
Verizon	A1	700.000000	91.0	AMPHENOL	CWT360X06F0Y	100.0	100.0	24.0	2.0	0;0
Verizon	A1	2100.000000	85.0	AMPHENOL	CWT360X06F0Y	100.0	100.0	24.0	2.0	0;0

This table has been extracted from RoofView for this project. Antenna and operating information for Verizon has been supplied by Verizon or its representatives. Operating information for co-located transmission facilities has been estimated based on generally accepted operating parameters.

Antenna Z position is to the bottom of the aperture, not the center line
 Power is the net power, in Watts, to the antenna
 Pt Dir is th beam width in degrees and the orientation

Percentage General Public MPE Limit ■ ≤ 20% ■ ≤ 100% ■ > 100%



Ground level with all antennas operating plotted with the **general public MPE limit**. All publically accessible areas around the subject site are within the general public limit. The maximum predicted power density at ground level is **4.1% of the general public MPE limit**.

Percentage General Public MPE Limit ■ ≤ 20% ■ ≤ 100% ■ > 100%



Roof level, approximately 12 feet above ground level, with all antennas operating plotted with the **general public MPE limit**. All areas are within the general public limit. The maximum predicted power density at roof level is **1.0% of the general public MPE limit**.

The utility easement line at 12 feet above ground level, with all antennas operating plotted with the **general public MPE limit**. All areas within the utility easement line are within the general public limit. Areas that exceed the general public limit are in free space, away from the utility easement line. The maximum predicted power density at this level is **2.0% of the general public MPE limit**.

This map illustrates the proposed new waterline alignment (pink) and its extension (yellow) relative to the existing utility road pole (green). The alignment follows Highway 60, with a section labeled "NEW SECTION WATERLINE DUAL PIPES IMPROVED CAPACITY EXTENSION ADJUSTED TO A NEW GRADE". The existing utility road pole is shown as a green area. The map also includes a north arrow and a scale bar.

The utility easement line at 24 feet above ground level, with all antennas operating plotted with the **general public MPE limit**. All areas within the utility easement line are within the general public limit. Areas that exceed the general public limit are in free space, away from the utility easement line. The maximum predicted power density at this level is **12.0% of the general public MPE limit**.

Limitations

This report was prepared in accordance with generally accepted practices based solely on the information provided by the client or its representatives. Observations made by Radio Frequency Compliance Services, or its contractors, are valid on the date of the observation. Changes to the site, the technical, or operating parameters may invalidate the findings of this report and should be brought to the attention of Radio Frequency Compliance Services, Inc. No warranty, expressed or implied, is made.

Engineering Statement

This work has been carried out under my direction and all statements are true and correct to best of my knowledge.



Appendix A: Radio Frequency Health and Safety Guidelines

The FCC has established guidelines for human exposure to RF electromagnetic fields based on the work of the National Council on Radiation Protection and Measurements (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). The exposure guidelines are based on thresholds for known adverse effects and they incorporate a safety margin.

The FCC has established two tiers of limits, one for conditions under which the public may be exposed (general public exposure) and the other for exposure situations involving workers (occupational exposure). The limits, expressed as power density in mW/cm, vary based on the frequencies in use at the site. Typical cellular communications systems operate in two frequency bands referenced in the guidelines: 300 MHz to 1,500 MHz and 1,500 MHz to 100,000 MHz. Within those ranges, the general population limit varies from 0.2 mW/cm² to 1.0 mW/cm² and the occupational limit varies from 1.0 mW/cm² to 5.0 mW/cm². Power density can be predicted or measured in accordance with FCC guidelines.

The FCC has established exposure limits, not emissions limits, therefore areas must be accessible to the public or to workers. Restricting access is usually the simplest means of controlling exposure to areas where high RF levels may be present.

Areas within the general public limit

No restrictions on exposure exist for areas less than the general public limit. Those areas are safe for unlimited access by all persons.

Areas within the occupational limit

The general public must be restricted from accessing areas that exceed the general public limit. In general, these restrictions include fencing and locking out of unauthorized persons. Workers who are "aware of" and "exercise control over" their exposure meet the criteria for occupational exposure. Workers who meet these criteria may access areas that are within the occupational limit without restriction. Persons who are only "transient" visitors to the area, such as air conditioning technicians, etc., could also be considered to fall within the occupational criteria as long as they are "made aware" of their exposure and exercise control over their exposure.

Areas that exceed the occupational limit

The FCC guidelines allow for the calculation of a time averaged MPE limit that would permit workers who meet the criteria for occupational exposure to enter areas that exceed the absolute occupational limit for brief, specific time intervals. In practice, the application of time averaged exposure is difficult to implement and, therefore, access to areas that exceed the occupational limit is not recommended. If the

transmitters cannot be deactivated, the use of radiofrequency protective clothing may facilitate compliance with RF exposure guidelines.

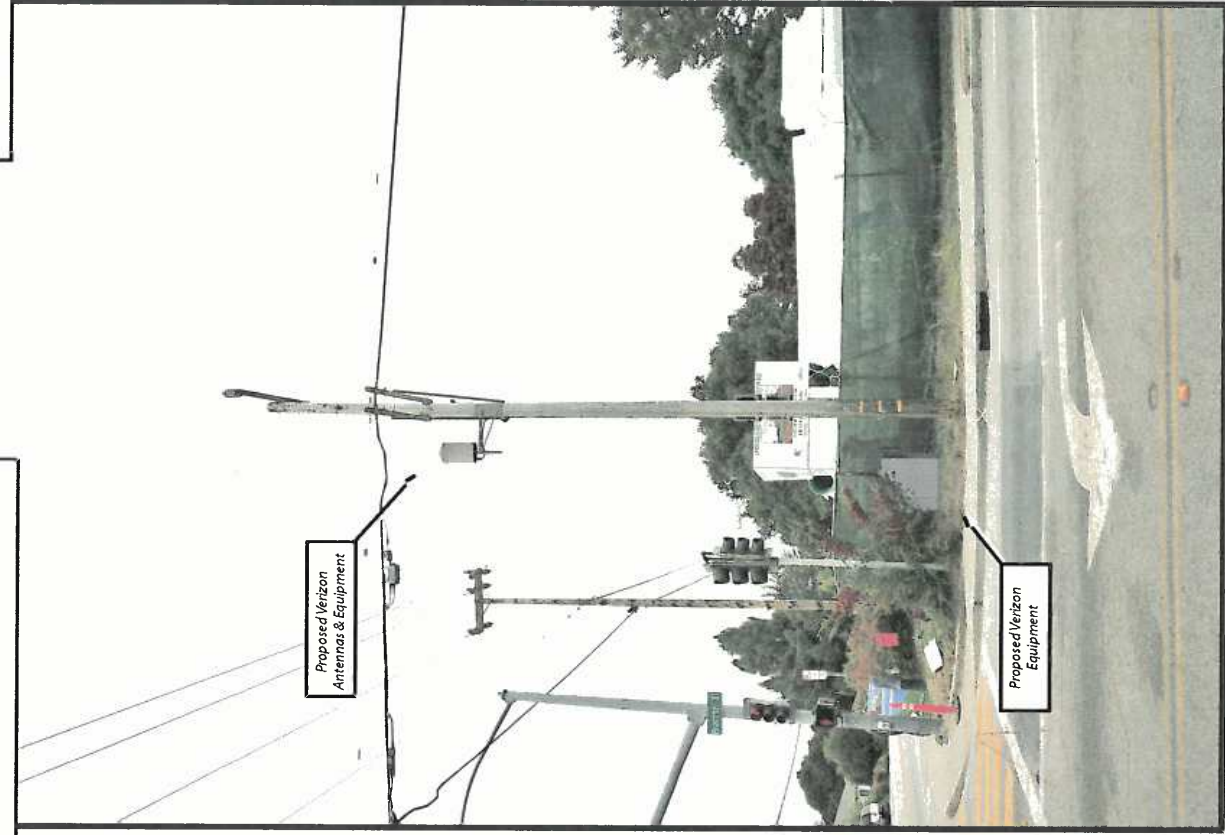
Never touch an antenna that is energized.

Existing



view from Brommer Street looking south at site
282199 Brommer & 17th 10-16-2014
1155 17th Avenue, Santa Cruz, CA

Proposed

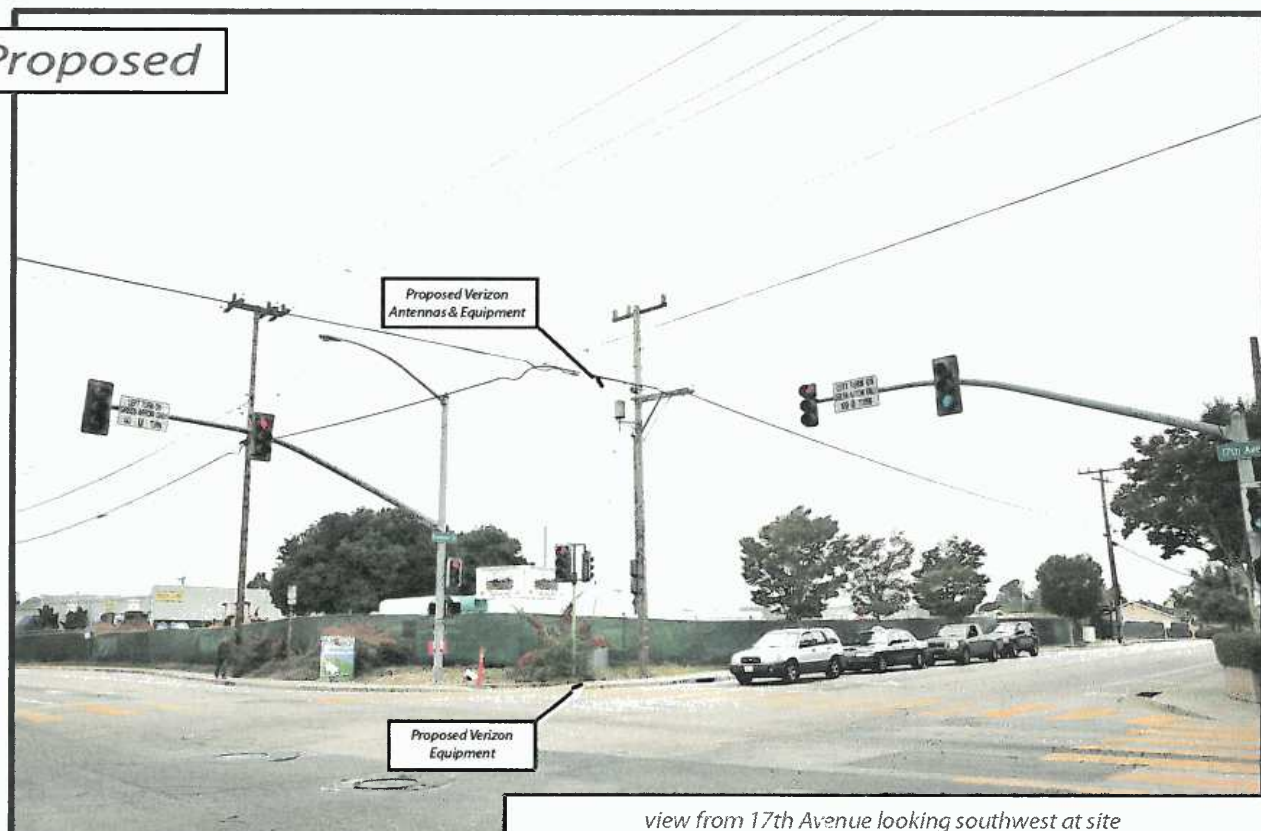


Advance Simics
Photo Simulation Solutions
Contact: (925) 202-8507

Existing



Proposed



view from 17th Avenue looking southwest at site

AdvanceSim
Photo Simulation Solutions
Contact (925) 702-8502

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Existing



Proposed



view from 17th Avenue looking northwest at site

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