



## Staff Report to the Zoning Administrator

Application Number: **131058**

**Applicant:** Sharon James, Crown Castle LLC (for Verizon) **Agenda Date:** November 18, 2016

**Owner:** County of Santa Cruz (Dept. of Public Works) **Agenda Item #:**

**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 43-foot tall utility pole, including three 48" tall by 12" wide antennas mounted on top of a 6-foot tall pole height extension (for a total height of 53-feet), and related pole-mounted equipment, as part of a 4 microcell site distributed antenna system (DAS) in the Seacliff neighborhood of Aptos. (Crown Castle location ID #AP36).

**Location:** Project is located in County right-of-way adjacent to APN 042-081-04, just south of the intersection of Seacliff Dr./Broadway and Santa Cruz Ave. (on west side of Seacliff Dr.).

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

**Permits Required:** Requires a Commercial Development Permit and a Coastal 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 **131058**, 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. Alternatives Analysis                              |
| C. Conditions                                 | G. Photo-Simulations                                  |
| D. Project plans                              | H. RF Report  |

### Parcel Information

Parcel Size:	N/A – project located in County right-of-way
Existing Land Use – Parcel/Site:	Grassy strip, on-street parking, utility pole line
Existing Land Use - Surrounding:	State Parks corporation yard, single family residential across street (Seacliff Dr.)
Project Access:	Take State Park Dr. exit off Hwy. 1 south, turn right at end of ramp, then left on Center and right on Broadway to intersection with Santa Cruz Ave. Subject pole is approx. 120-feet south of intersection on right (west) side of Seacliff Dr. in County right-of way.
Planning Area:	Aptos
Land Use Designation:	PR (Parks, Recreation and Open Space)
Zone District:	O-R (Parks, Recreation and Open Space)
Coastal Zone:	<input checked="" type="checkbox"/> Inside <input type="checkbox"/> Outside
Appealable to Calif. Coastal Comm.	<input checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Inside <input type="checkbox"/> Outside
Water Supply:	N/A
Sewage Disposal:	N/A
Fire District:	Aptos/La Selva FPD
Drainage District:	Zone 6

### History

There have not been other development applications proposed for this particular utility pole in the past, which has only recently been installed by PG&E as part of the ongoing undergrounding of overhead utility wires (i.e., "Rule 20") in Seacliff Village.



## **Project Setting**

The subject utility pole is located next to the shoulder portion of Seacliff Drive, on the seaward (west) side of a County right-of-way area that is zoned P-R (Parks, Recreation and Open Space). The two parcels directly across the street (Seacliff Dr.) to the east are zoned R-1-4 (Single-Family Residential - 4,000 sq. ft. per unit/parcel) and contain a two-story single family residence, and a one-story single-family residence, respectively. The parcel to the west is owned by California State Parks and contains the upper parking lot, corporation yard and offices for Seacliff State Beach.

## **Zoning & General Plan Consistency**

The subject County right-of-way area is located in the P-R (Parks, Recreation and Open Space) zone district, a designation which allows Wireless Communications Facilities (WCFs) such as the proposed Distributed Antenna System (DAS) node microcell installation. The proposed DAS node/microcell WCF is a principal permitted use within the zone district and the zoning is consistent with the site's (O-R) Parks, Recreation and Open Space General Plan designation. However, because this location is in an area of right-of-way that is part of the first public through road from the coastline, it is considered to be within the Restricted Coastal Right-of-Way Area (as per County Code Sec. 13.10.661(C)(2)), in which microcells such as the proposed project are an allowed use if they are sited on the inland side of the right-of-way. Microcells are only allowed on the seaward side of the Restricted Coastal Right-of-Way (as proposed in this case) if the applicant can show, in an Alternatives Analysis, that there are no existing poles on the inland side of the right-of-way, or elsewhere outside a "prohibited" area for WCFs (i.e., the surrounding neighborhood is R-1 zoned and thus is a "prohibited" area), and that installing a new pole on the inland side would result in a greater visual impact than the proposed seaward-side location. The applicant has submitted an Alternatives Analysis that demonstrates that this is the case, and therefore that the proposed location meets this Code requirement.

## **Local Coastal Program Consistency**

As noted above, the proposed DAS node/microcell is in conformance with the County Zoning Code, which is part of the County's certified Local Coastal Program (LCP). Moreover, the project is consistent with the LCP in that it is sited and designed to be visually compatible, in scale with, and integrated with the character of the surrounding neighborhood. Developed parcels in the area contain State Parks office and corporation yard buildings, and single-family dwellings. Size and architectural styles vary widely in the area, and the design submitted is compatible with the existing range of styles. While the project site is located between the shoreline and the first public road, it conforms to the requirements of the Restricted Coastal Right-of-Way Area requirements in that the applicant has submitted an Alternatives Analysis that demonstrates that that there are no existing poles on the inland side of the right-of-way (or elsewhere outside a prohibited area) and that installing a new pole on the inland side would result in a greater visual impact than the proposed seaward-side location. Moreover, the site is not identified as a priority acquisition site in the County's LCP, nor will the proposed project interfere with public access to the beach, ocean, or other nearby body of water.

## **Design Review**

The proposed DAS node/microcell complies with the requirements of the County Design Review Ordinance, in that the proposed project will be visually inconspicuous and will have minimal visual impact on surrounding land uses and the natural landscape.

## **Radio Frequency Emissions**

A radio frequency (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 0.66% of the applicable FCC public exposure limit at ground level, and 2.4% 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 D.

## **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 **131058**, 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](http://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:** 131058

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

**Project Location:** Adjacent to APN 042-081-04 on Seacliff Dr. in Seacliff area of Aptos, CA

**Project Description:** Proposal to install a microcell wireless communication facility ("AP36") on an existing utility pole, including antennas and related equipment, as part of a 4 microcell site distributed antenna system (DAS) in the Seacliff neighborhood of Aptos.

**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: \_\_\_\_\_

## **Coastal Development Permit Findings**

1. That the project is a use allowed in one of the basic zone districts, other than the Special Use (SU) district, listed in section 13.10.170(d) as consistent with the General Plan and Local Coastal Program LUP designation.

This finding can be made, in that the County right-of-way (ROW) site is zoned P-R (Parks, Recreation and Open Space), a designation which allows DAS node/microcell uses. The proposed DAS node/microcell is a principal permitted use within the zone district, and the zoning is consistent with the site's O-R (Parks, Recreation and Open Space) General Plan designation.

2. That the project does not conflict with any existing easement or development restrictions such as public access, utility, or open space easements.

This finding can be made, in that no such easements or restrictions are known to encumber the project site.

3. That the project is consistent with the design criteria and special use standards and conditions of this chapter pursuant to section 13.20.130 et seq.

This finding can be made, in that the development is consistent with the surrounding neighborhood in terms of visual impact; the site is surrounded by lots developed to an urban density; the colors will be natural in appearance and complementary to the site; and the development site is not on a prominent ridge, beach, or bluff top.

4. That the project conforms with the public access, recreation, and visitor-serving policies, standards and maps of the General Plan and Local Coastal Program land use plan, specifically Chapter 2: figure 2.5 and Chapter 7, and, as to any development between and nearest public road and the sea or the shoreline of any body of water located within the coastal zone, such development is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act commencing with section 30200.

This finding can be made in that the project, while being located between the shoreline and the first public road, will in no way hinder public access to the beach, ocean, or any nearby body of water. Further, the project site is not identified as a priority acquisition site in the County Local Coastal Program.

5. That the proposed development is in conformity with the certified local coastal program.

This finding can be made, in that the structure is sited and designed to be visually compatible, in scale, and integrated with the character of the surrounding neighborhood. Additionally, DAS node/microcell uses are allowed uses in the P-R (Parks, Recreation and Open Space) zone district, as well as the General Plan and Local Coastal Program land use designation. Developed parcels in the area contain single-family dwellings, and State Parks office/corporation yard uses. Size and architectural styles vary widely in the area, and the design submitted is not inconsistent with the existing range of styles.



## **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 a zone district 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.

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 P-R (Parks, Recreation and Open Space) zone district as the proposed DAS node/microcell will meet the applicable 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 Parks, Recreation and Open Space (O-R) 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 the applicable site and development standards for the zone district, and the DAS node/microcell will not adversely shade adjacent properties.

The proposed DAS node/microcell will be properly proportioned to the utility pole and will fit in with the character of the neighborhood, which contains numerous similar utility poles. The proposed DAS node/microcell will comply with the applicable site standards for the P-R 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 an existing utility pole, and will not overload the pole 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 antennas mounted upon an existing utility pole 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. Because this location is in an area of right-of-way that is part of the first public through road from the coastline, and it is considered to be within the Restricted Coastal Right-of-Way Area (as per County Code Sec. 13.10.661(C)(2)), in which microcell such as the proposed project are an allowed use if they are sited on the inland side of the right-of-way. Microcell are only allowed on the seaward side of the Restricted Coastal Right-of-Way if the applicant can show, in an Alternatives Analysis, that there are no existing poles on the inland side of the right-of-way (or elsewhere outside a prohibited area), and that installing a new pole on the inland side would result in a greater visual impact than the proposed seaward-side location. The applicant has submitted an Alternatives Analysis that demonstrates that this is the case, and therefore that the proposed location meets this Code requirement.

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.

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 approximately 43-foot tall existing utility pole (53-ft. with antennas), 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 0.66% of the most restrictive applicable (i.e., FCC) limit, and only 2.4% of that limit at the nearest second story level.

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.

This finding can be made, in that the proposed microcell wireless communication facility is designed and located in a manner that will minimize potential impacts to scenic and biotic resources, and that the construction of the proposed facility will not impede access to the beach or other recreational resources.



## Conditions of Approval

Exhibit D: Project Plans, 8 sheets, prepared by HP Communications, Inc., dated 7/26/16

- I. This permit authorizes the construction of a microcell wireless communication facility (location ID #AP36) on an existing 43-foot tall utility pole, including three 48" tall by 12" wide antennas mounted on top of a 6-foot tall pole height extension, and related pole-mounted equipment, as part of a 4 microcell site distributed antenna system (DAS) in the Seacliff neighborhood of Aptos. 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.
- D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor(s) in interest, transferee(s), and assign(s) of the applicant.



Application #: 131058  
APN: N/A (in County Right-of-Way)  
Owner: County of Santa Cruz

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

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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.



**SEACLIFF  
NODE AP36\_A4  
BROADWAY AND SANTA CRUZ AVE  
APTOS, CA 95003**

NOTE:  
A COPY OF ALL REQUIRED PERMITS MUST BE PRESENT DURING ANY  
WORK ON THIS LOCATION AND PERFORMING WORK AT THIS  
LOCATION INDICATED THAT THE CONTRACTOR HAS READ AND  
COMPLIED WITH THE REQUIREMENTS STATED IN THE PERMITS

SIGNATURE

Call Before you Dig!



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

ALL WORK AND INSTALLATION SHALL BE PERFORMED IN ACCORDANCE  
WITH THE LOCAL GOVERNING AGENCIES' REQUIREMENTS AND ALL  
PERMITS AS ADOPTED BY THE LOCAL GOVERNING AGENCIES. THE  
CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY  
PERMITS AND FOR COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL  
REGULATIONS AND ORDINANCES. THE CONTRACTOR SHALL BE  
RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR  
COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS  
AND ORDINANCES.

1. STATE COMMERCIAL CODE
2. STATE ELECTRICAL CODE
3. STATE FIRE ALARM CODE
4. STATE MECHANICAL CODE

**CODE COMPLIANCE**

**PROPERTY INFORMATION**

CUSTOMER: CROWN CASTLE  
PROJECT: SEACLIFF  
NODE: AP-36  
LATITUDE: 36.871377  
LONGITUDE: -122.811115  
STREET ADDRESS: BROADWAY AND SANTA  
CRUZ AVE  
CITY/STATE: APTOS, CA 95003  
POLE TYPE: WOOD POLE  
POLE CENTER TO RAD CENTER: 47'-4" TO RAD CENTER  
ANTENNA TYPE: DIRECTIONAL  
AZIMUTH FOR ANTENNA: 45° TO 290°  
POWER TO POLE: NONE  
POLE ACCESS: STREET SIDE  
POLE LOCATION & DIRECTION: 10' FROM SOUTHWEST CORNER OF 310 BROADWAY  
IN FRONT OF 310 BROADWAY

**PROJECT SUMMARY**



**VICINITY MAP**

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF  
WIRELESS EQUIPMENT AND ANTENNAS ON EXISTING FACILITIES IN  
APTOS, CA 95003. THE CONTRACTOR SHALL BE RESPONSIBLE FOR  
OBTAINING ALL NECESSARY PERMITS AND FOR COMPLIANCE WITH  
ALL LOCAL, STATE AND FEDERAL REGULATIONS AND ORDINANCES.

**PROJECT DESCRIPTION**

INSTALL NEW WIRELESS EQUIPMENT AND ANTENNAS AND ALL  
NECESSARY WIRING AND CABLES. THE CONTRACTOR SHALL BE  
RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND  
FOR COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL  
REGULATIONS AND ORDINANCES.

**PROJECT SCOPE**

**DO NOT SCALE DRAWINGS**

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND  
SPECIFICATIONS. REARRANGE ANY EXISTING FACILITIES IN  
ACCORDANCE TO GOVERNING CONSTRUCTION GUIDELINES.  
BE RESPONSIBLE FOR SAME.

**GENERAL CONTRACTOR NOTES**

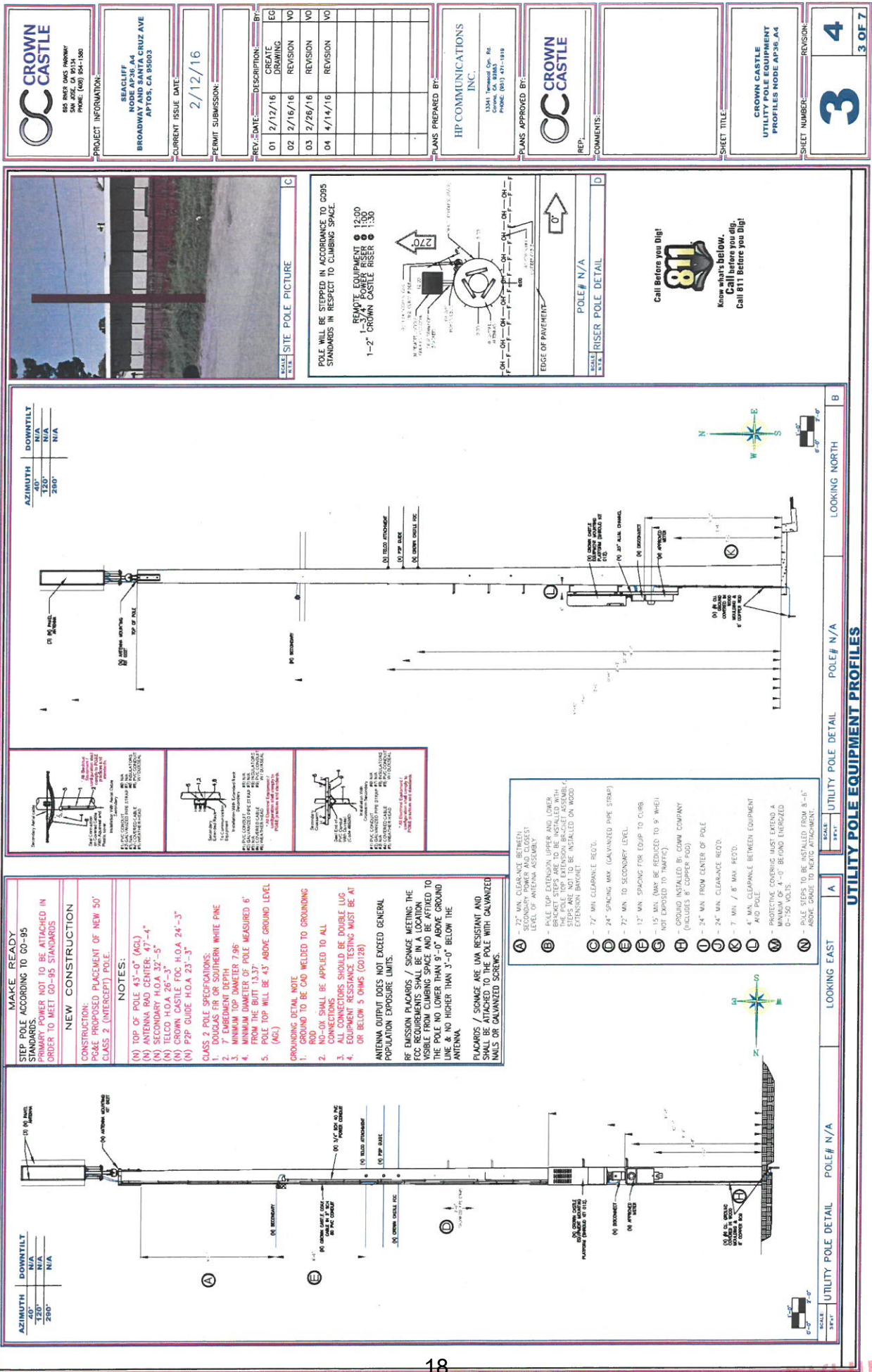
SHEET	DESCRIPTION	REV.
1	TITLE SHEET	6
2	UTILITY POLE PROFILES	1
3	UTILITY POLE EQUIPMENT PROFILES	4
4	UTILITY POLE EQUIPMENT TYPICALS	3
5	UTILITY POLE INSTALLATION REQUIREMENTS / PROCEDURES	3
6	SHUT-DOWN PROCEDURE	3
7	SITE SURVEY	4

**SHEET INDEX**

<b>CROWN CASTLE</b> 800 RIVER DRIVE, FAIRWAY SAN JOSE, CA 95134 PHONE: (408) 244-1500	<b>PROJECT INFORMATION</b> <b>SEACLIFF</b> <b>NODE AP36_A4</b> <b>BROADWAY AND SANTA CRUZ AVE</b> <b>APTOS, CA 95003</b>	<b>CURRENT ISSUE DATE</b> 2/12/16	<b>PERMIT SUBMISSION</b>	<b>REV. DATE</b> 01 2/12/16 02 2/16/16 03 2/26/16 04 3/09/16 05 4/14/16 06 7/26/16	<b>DESCRIPTION</b> CREATE DRAWING REVISION REVISION ADD SITE SURVEY REVISION REVISION	<b>PLANS PREPARED BY</b> <b>HP COMMUNICATIONS</b> <b>INC.</b> 1351 Townsend Dr. Rd Corte Madera, CA 94921 PHONE: (916) 411-1919	<b>PLANS APPROVED BY</b> <b>CROWN CASTLE</b>	<b>COMMENTS</b>	<b>SHEET TITLE</b> <b>CROWN CASTLE</b> <b>TITLE SHEET NODE AP36_A4</b>	<b>SHEET NUMBER</b> <b>1</b>	<b>REVISION</b> <b>6</b>	<b>1 OF 7</b>
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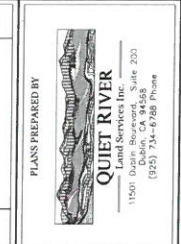
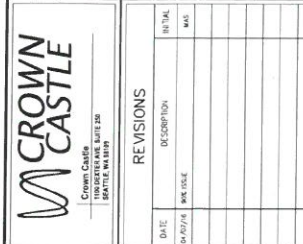
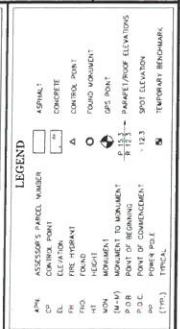
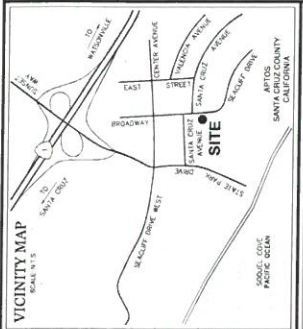
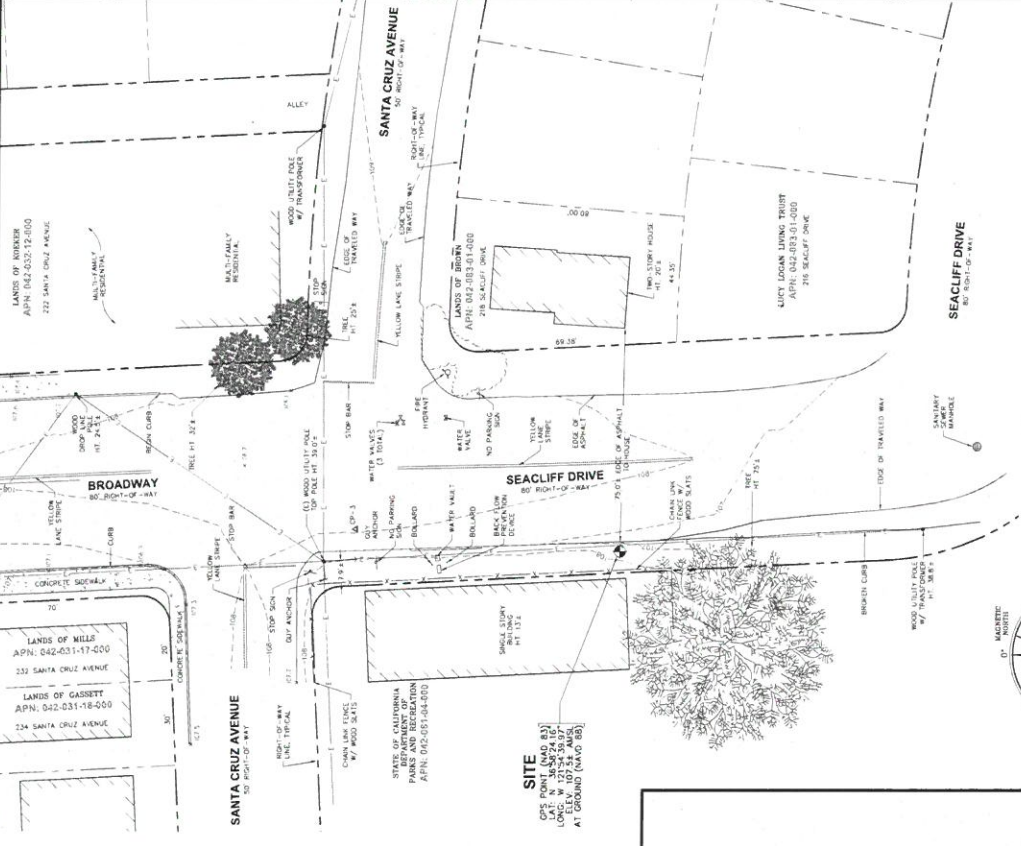
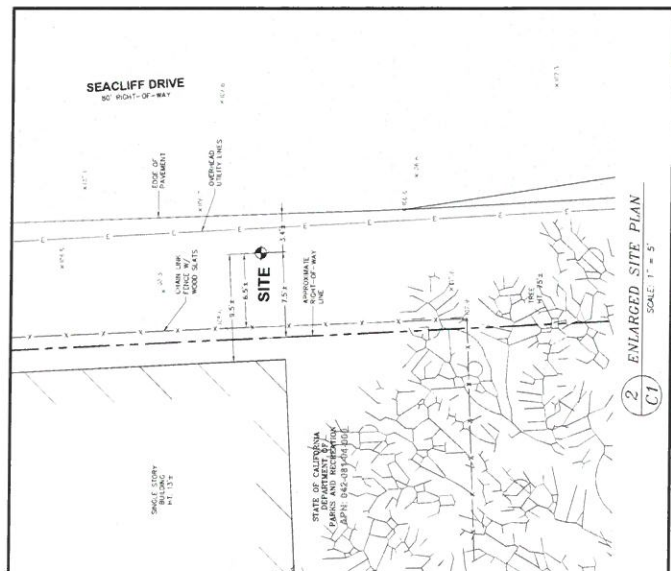




<b>CROWN CASTLE</b> 6701 INVER PAC AVENUE SAN JOSE, CA 95134 PHONE (408) 954-1540		<b>SEALCUP</b> <b>NOBLE A4</b> <b>BROADWAY AND SANTA CRUZ AVE</b> <b>APTOS, CA 95063</b>		CURRENT ISSUE DATE <div style="font-size: 24px; font-weight: bold;">2/12/16</div>	
PROJECT INFORMATION		PERMIT SUBMISSION		REV DATE DESCRIPTION BY	
01 2/12/16 CREATE EG DRAWING		03 2/26/16 REVISION WD		PLANS PREPARED BY <b>HP COMMUNICATIONS INC.</b> 13341 Serrano Ct. Rd San Jose, CA 95134 PHONE (408) 471-1919	
PLANS APPROVED BY <b>CROWN CASTLE</b> REP.		COMMENTS		SHEET TITLE <b>CROWN CASTLE</b> <b>SHUTDOWN PROCEDURE</b> <b>NODE A430 A4</b>	
SHEET NUMBER <div style="font-size: 48px; font-weight: bold;">6</div>		REVISION		<div style="font-size: 24px; font-weight: bold;">3</div> 6 OF 7	

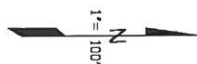
1. Call Crown Castle Network operations center 1888-632-0931
2. Identify RF DISCONNECT BOX
3. Open RF DISCONNECT BOX
4. Open cover for RF Disconnect Breaker
5. Turn RF Disconnect Breaker to the off position to de-energize node
6. To confirm that the site has been de-energized, PG&E crew/technician can remove the single screw on the bottom right cover of the RF Disconnect Breaker and remove the cover to expose the source and load terminals on the switch and then check for no potential between the load terminal and ground to verify that no RF signal can be generated.
7. Notify Crown Castle Network operations center that work is complete





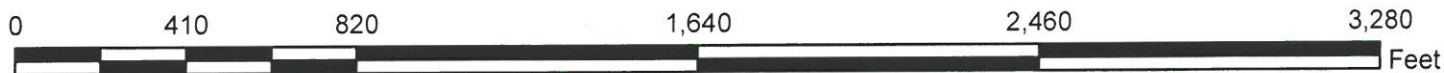
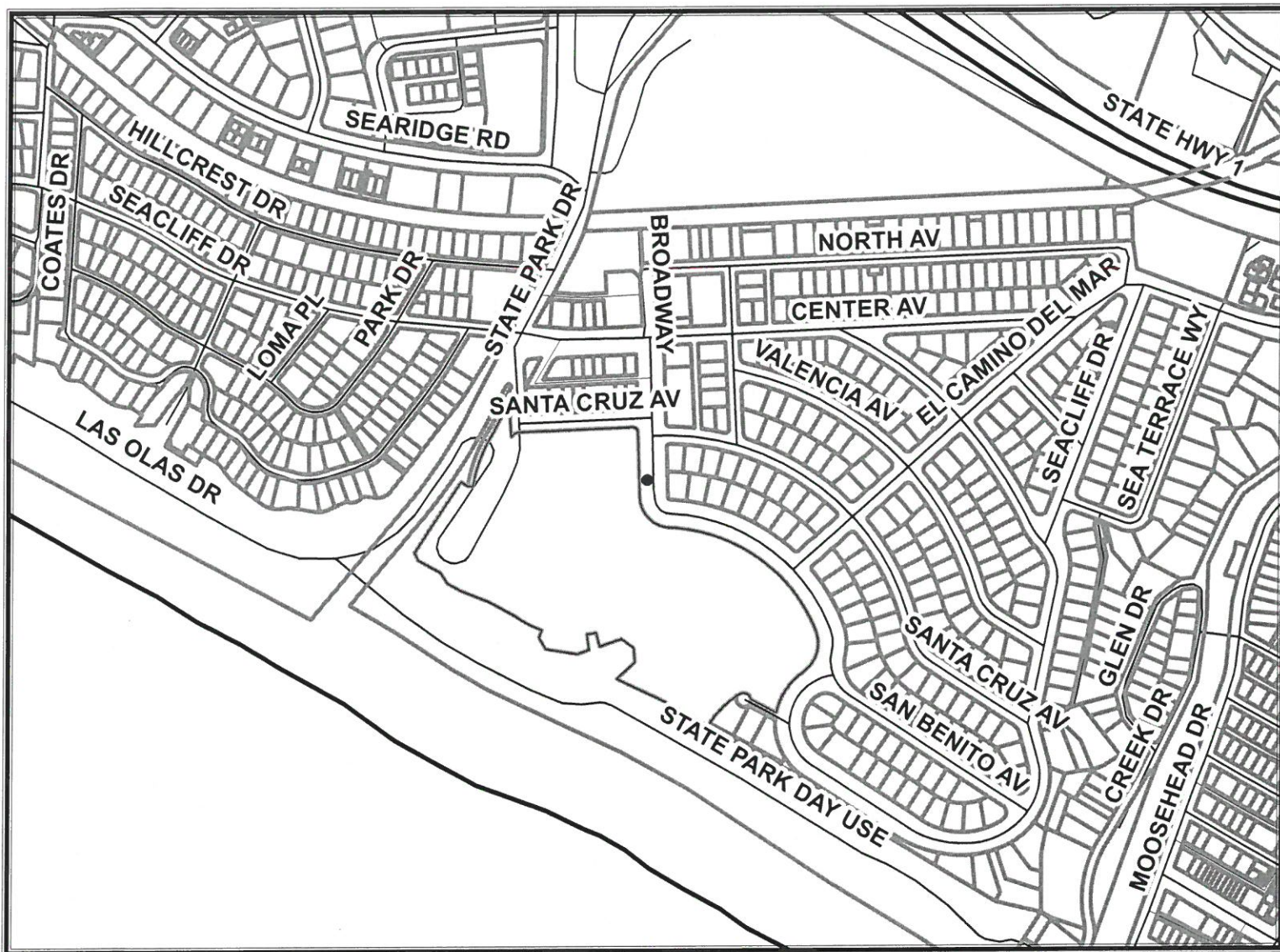


42-08









# Location Map



## LEGEND

- Subject Cell Site
-  Assessors Parcels
-  Street
-  State Highways
-  County Boundary



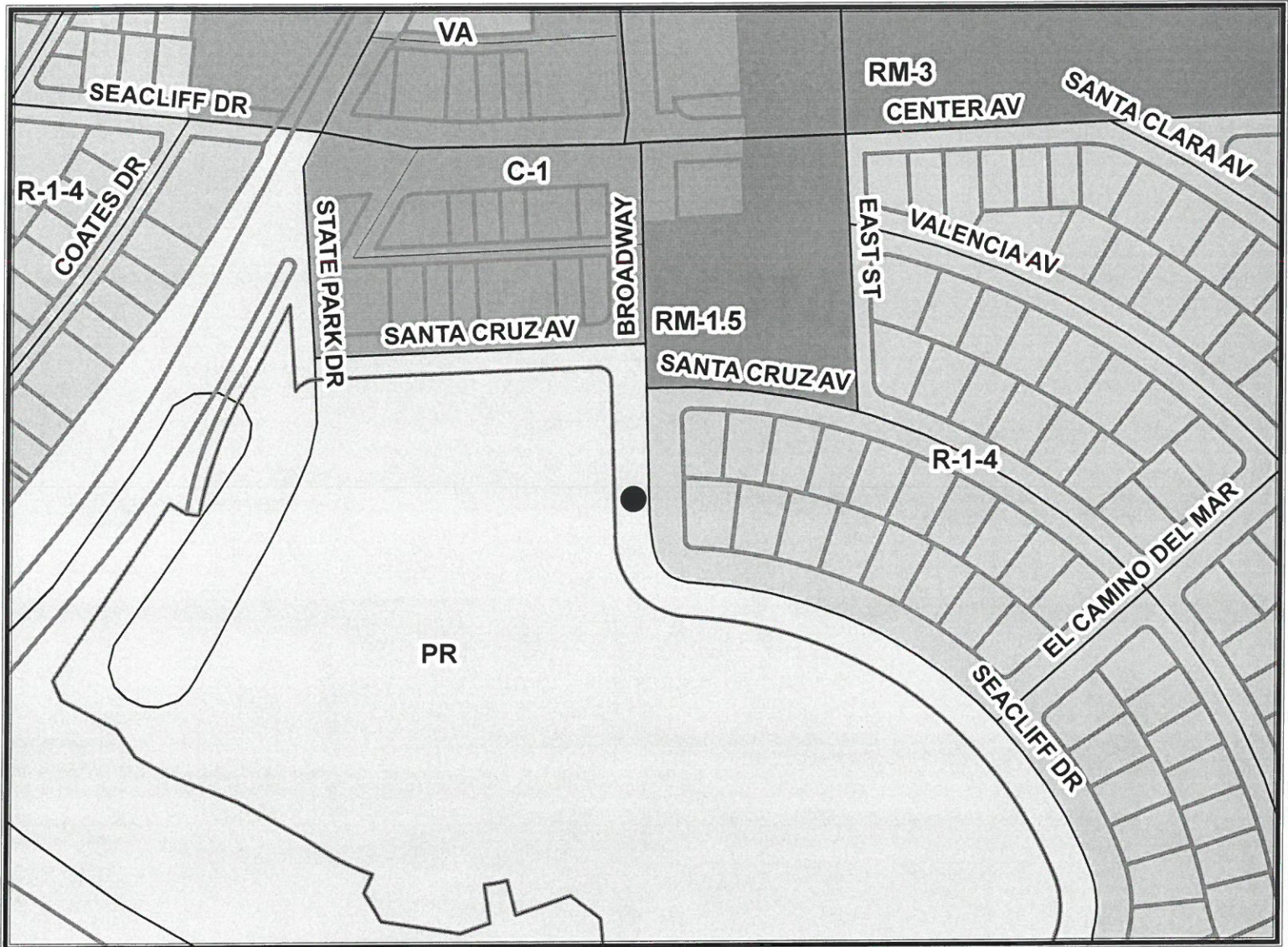
Map Created by  
County of Santa Cruz  
Planning Department  
October 2016

**EXHIBIT E**





# Zoning Map



## LEGEND

- Subject Cell Site
- Assessors Parcels
- Street
- PARK
- RESIDENTIAL-SINGLE FAMILY
- COMMERCIAL-VISITOR ACCOM.
- COMMERCIAL-NEIGHBORHOOD
- RESIDENTIAL-MULTI FAMILY



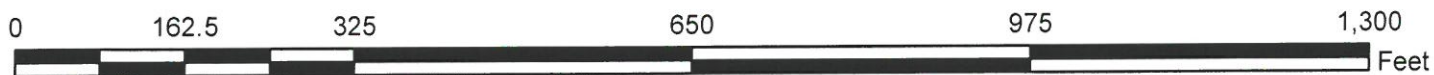
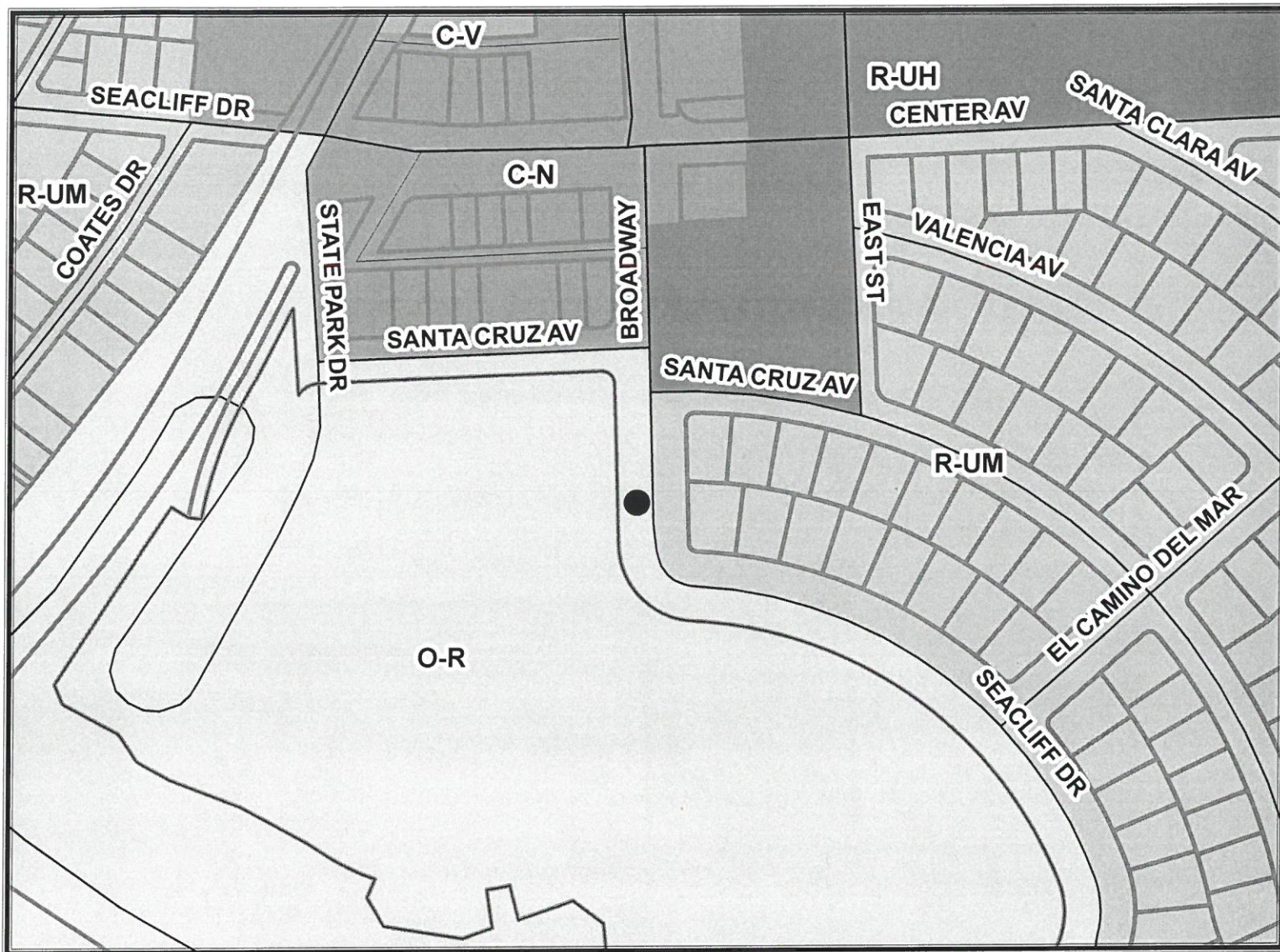
Map Created by  
County of Santa Cruz  
Planning Department  
October 2016

EXHIBIT E





# General Plan Designation Map



## LEGEND

- Subject Cell Site
- ▭ Assessors Parcels
- Street
- ▭ Parks and Recreation
- ▭ Residential - Urban Medium Density
- ▭ Commercial-Visitor Accom.
- ▭ Commercial-Neighborhood
- ▭ Residential - Urban High Density



Map Created by  
County of Santa Cruz  
Planning Department  
October 2016

**EXHIBIT E**





Crown Castle  
695 River Oaks Parkway  
San Jose, CA 95134

October 17, 2016

## Alternative Analysis –

Application #: 131058: In County Right-of-Way.

Crown Castle NG West Inc. for alternate Node AP36 in the Public Right of Way

Please accept this alternative analysis for application #131058 (AP36) for a micro cell site proposed to be located near the Southwest corner of Broadway and Santa Cruz Avenue with added detail for Alternative 9 now that the new intercept pole has been placed by PG&E and is existing.

In the process of designing the initial site location we learned it was to be part of a PG&E overhead wire undergrounding “Rule 20” project in Seacliff Village and have since pursued a number of alternative locations as shown below. A map of those alternative locations is attached.

Crown believes it has exhausted all sites in the allowed zoning districts that could provide needed coverage and is forced to consider sites in the Coastal Prohibited areas. However, we think the preferred alternative is a good option to pursue.

Alternative 1 – southwest corner of Broadway and Santa Cruz Avenue. After initiating design we discovered that this pole was in a new Rule 20 undergrounding project and was to be removed.

Alternative 2 – adjacent to 232 Santa Cruz Avenue. This pole appeared to be outside the Rule 20 area but further investigation resulted in discovering that this pole as well would be removed.

Alternative 3 – Further, at the County’s suggestion we searched out an alternative location at the southwest corner of Center and Broadway. This pole also proved to be planned for removal.

## Additional Alternatives –

Alternative 4 - Crown reviewed existing poles located in the Santa Cruz County Regional Transportation Commission (SCCRTC) railroad right of way, an area that is zoned PF (Public Facilities) and is an area which is an allowed zone district for WCF’s. According to our Northern California RF Manager, Morgan Hunt, the railroad area as an alternate for the AP36 location is too far from the coverage target area to be considered.

Finally, we proposed four additional site locations.

Alternative 5 - Broadway & North was at a small “trailer park” and the owner was not interested in dealing with us.

Alternative 6 - 268 North Avenue, was too close to the existing node, AP34, per our RF team.

Alternative 7 - 169 East Street is near the pole we are pursuing as well as 165 East Street which was too far out per our RF manager and the rad center would be too low.

All sites we pursued were primarily in the residential zone RM-3 because we had exhausted all options that would work in the non-residential zones. All C-1 sites are in the Rule 20 red area on the zoning maps attached so were not viable options.

Alternative 8 - Finally, we pursued the pole at Broadway and Santa Cruz Avenue with PG&E. PG&E advised that this pole would be where the new underground would come back as aerial and that all utilities involved in the pole line would terminate at this pole and that there would not be appropriate space for the guy wires they will need to support the utilities. So even though the pole will not be removed it will lack space on the pole for us to attach. Further that as a result of this pole being where aerial comes back they would have to place a new intercept pole mid-way between this pole and the next existing pole down Seaciff Avenue from this corner as part of the Rule 20 work.

Alternative 9 - (Preferred Alternative) PG&E has now placed the new intercept pole a half block south of the end pole referenced as alternative 8. Based on the Rule 20 project map and information received from PG&E the pole at the corner of Santa Cruz and Broadway is where the Rule 20 undergrounding would end. From this pole on aerial fiber will stay in place. Consequently, all existing poles to the North on Broadway are/will be undergrounded as well as all poles to the West on Santa Cruz Avenue when the Rule 20 project is complete. Therefore, no existing poles in close proximity that meet the coverage criteria are feasible for the new small cell/ location.

Crown proposes to attach radios and antennas to this new intercept pole recently placed by PG&E on the seaward side of Seaciff just south of Broadway and Santa Cruz Avenues. While this new pole borders a Coastal Right of Way Restricted Area and an RM-1-4 prohibited residential area it is our preferred site for several reasons.

Realizing this is the first public thru road from the coast placing our small cell site on this new existing intercept pole will result in less visual impact than installing a new pole and equipment on the inland side of the street where no pole exists today.

Visually a new pole on the inland side of the street will impact the view of specifically the two residences on that side of the street/corner (as well as others in the prohibited area). One property would face the new pole and the other residence that faces Santa Cruz Avenue has a backyard deck that would look right at any new pole/equipment placed there. There is not existing vegetation to mask the new pole.

The new intercept pole on the seaward side of the street abuts a corporate yard with a tall fence and would not impact the view of the business occupant. It is also partially shrouded by a tall tree just to the south of the existing



new intercept pole so the pole blends into the outline of the tree foliage and is much less visible on this side of the street. The tree serves to block the view of the new pole/equipment from most all directions. If the new pole was placed on the inland side of the street there are no existing tall trees or structures to partially shroud the structure.

Attached are the photo sims of both the seaward and inland locations at our location shown as , Alternative 9. We have also included a map that shows our coverage objective area as well as identifying the four existing wood poles on Seacliff Drive to the South and West of the proposed location that are within our polygon.

The four existing wood poles on Seacliff are located at the following locations.

- 1) south of our proposed site (alternative 9) there is a wood utility pole at the curve of the road and on the seaward side, of the street;
- 2) west on Seacliff Drive there is a wood utility pole at approximate 272 Seacliff Dr., that is placed on the Inland side of the street between two houses with second story windows;
- 3) west on Seacliff Drive a wood utility pole at approximately 242 Seacliff Drive that is placed on the Inland side of the street between two houses with second story windows;
- 4) further west on Seacliff Drive near the intersection of Marina Del Mar there is a wood utility pole at approximately 208 Seacliff Drive, that is near the intersection and near a large two story home. Also across the street on the seaward side of the street is a stand alone street light pole.

All of the 4 existing utility poles that follow Seacliff to the south and west are in front of large homes where these poles are the only structure or vegetation in the homes' unobstructed view of the Pacific Ocean and Monterey Bay. While these could be considered as alternatives they would have more of a visual impact in this residentially prohibited area than the site we propose on the new PGE pole because they have no trees or structures to help mask the node equipment. In fact the site we are proposing is the only utility pole on Seacliff from Santa Cruz Avenue to Marina Del Mar where any trees exists. We anticipate that this greater visual impact issue would cause us to meet with considerable community opposition so have chose the pole with the least visual impact.

From a coverage perspective place the antennas on poles that face the ocean with on obstruction can result in causing the signal to reflect back off the water and interfere with other sites in the area so are not the best choice from a coverage perspective.

Respectfully submitted.

Sharon James  
*Government Relations Manager*



This is an aerial map from Google Earth showing a residential area. The map features several streets, including North Ave, Valencia Ave, Santa Cruz Ave, and Seacrest Dr. A large residential block is outlined in green, and a smaller commercial/industrial block is outlined in orange. A red pin marks '216 Seacrest Dr'. The map includes a scale bar and a 'Google Earth' watermark.





Good

36°58'26.40" N 121°54'36.87" W elev 110 ft

1993

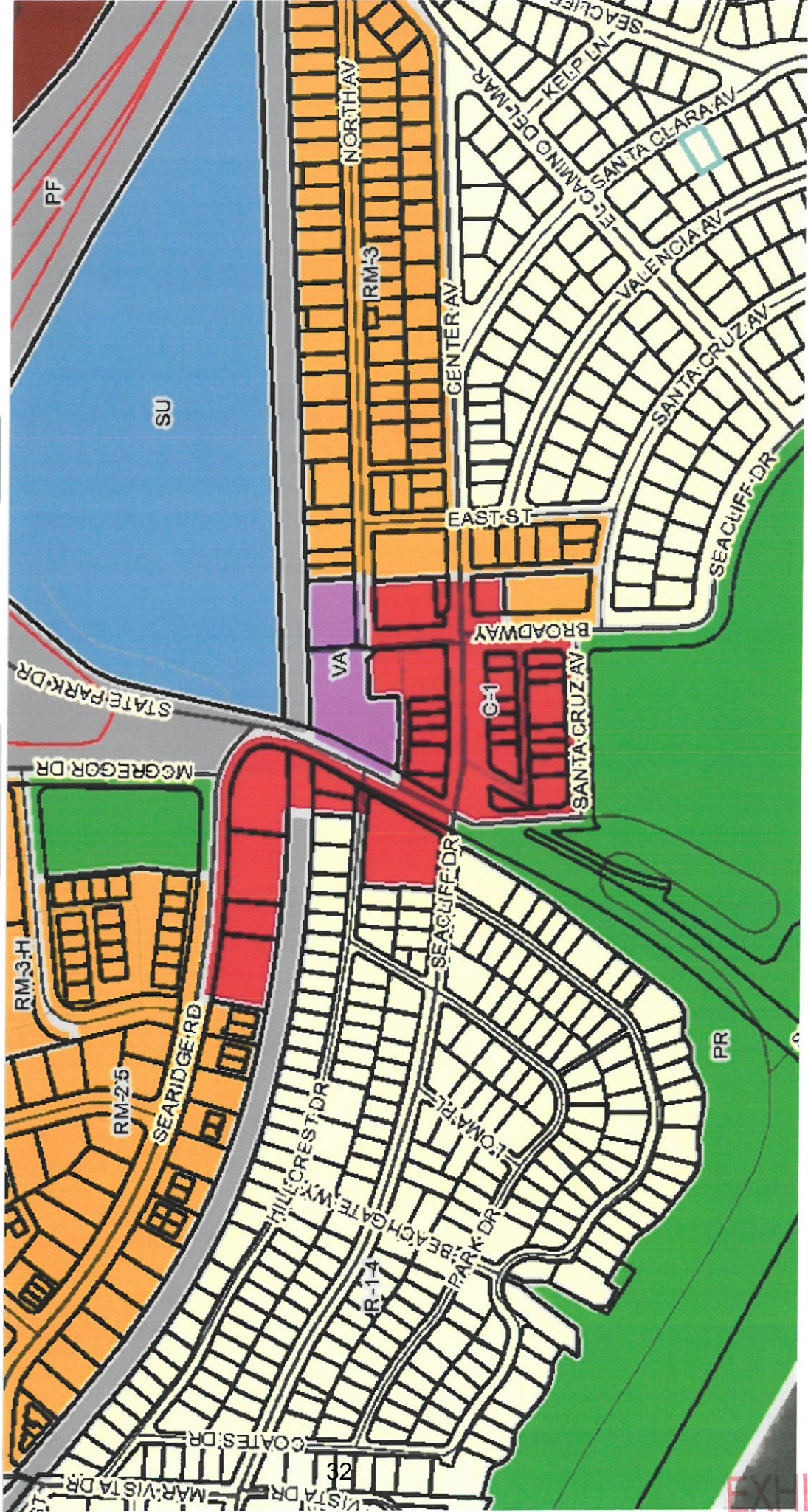
EXHIBIT





Find It

107M34







Proposed Site



Alternate Site



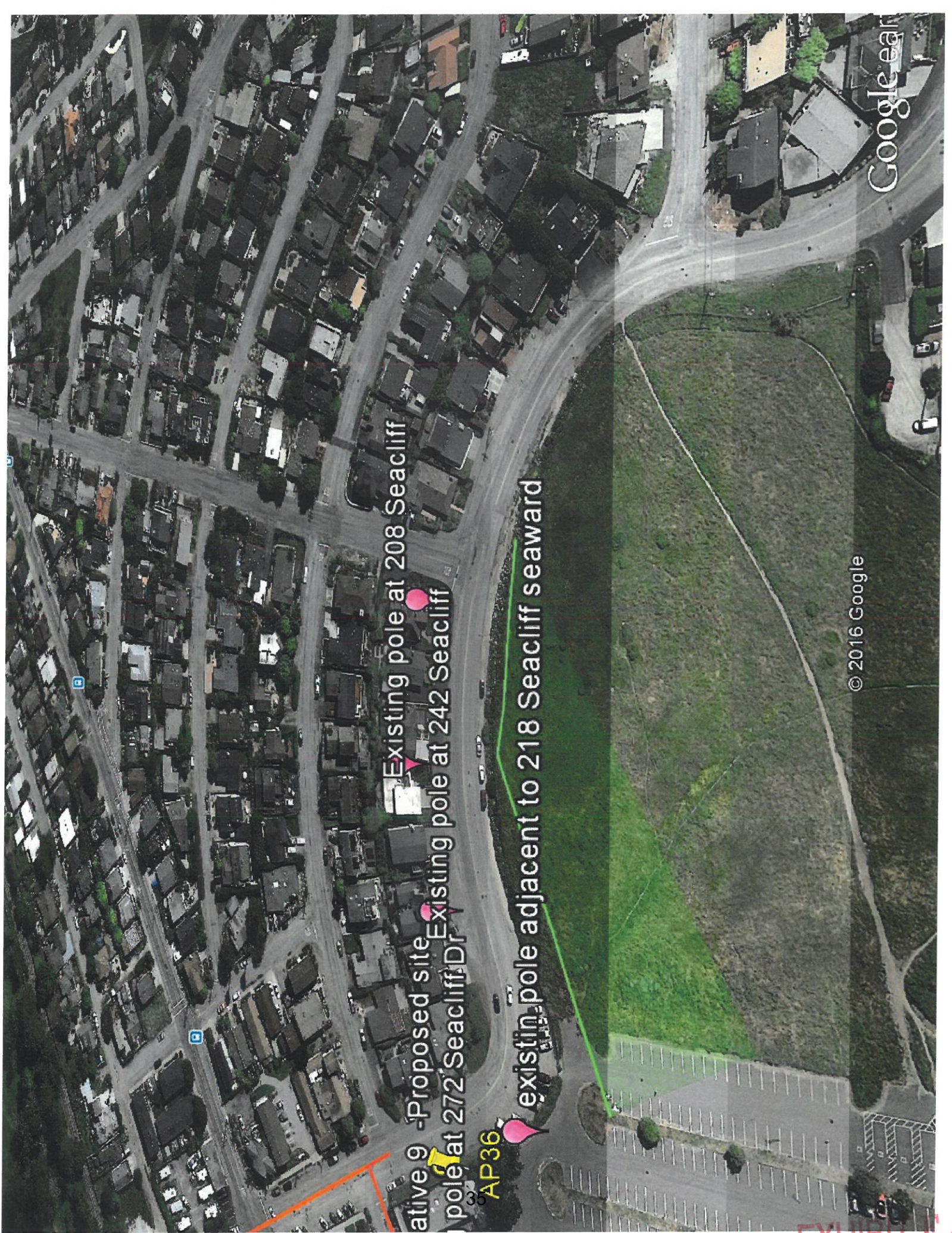


Proposed Site



Alternate Site



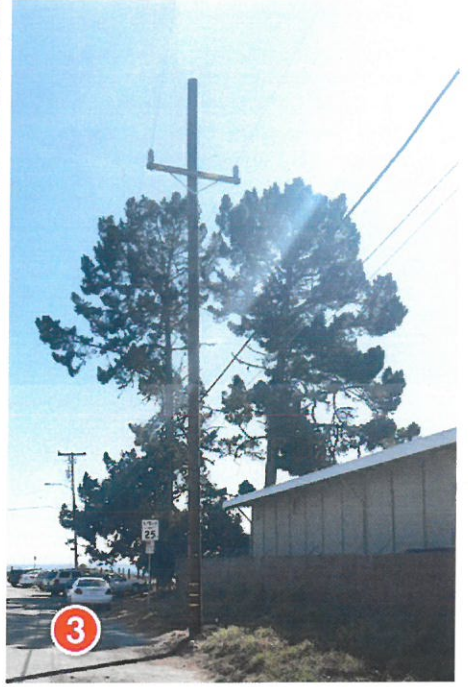


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Google

EXHIBIT 1









Existing



Proposed

 CROWN  
CASTLE  
10/12/14

**Seacliff** **SITE# AP36 A4**  
Broadway and Santa Cruz Avenue  
Aptos, CA

Looking North from Seacliff Drive

Applied Imagination 510 914-0500





Existing



Proposed

 CROWN  
CASTLE  
10/12/14

**Seacliff**      **SITE# AP36 A4**  
Broadway and Santa Cruz Avenue  
Aptos, CA

Looking West from Seacliff Drive

Applied Imagination 510 914-0500





Existing



Proposed

proposed antennas

**CROWN  
CASTLE**  
10/12/14

**Seacliff** **SITE# AP36 A4**  
Broadway and Santa Cruz Avenue  
Aptos, CA

Looking South from Seacliff Drive

Applied Imagination 510 914-0500



**Crown Castle • Proposed DAS Nodes  
Twelve Joint Pole Locations • Seacliff, California**

**Statement of Hammett & Edison, Inc., Consulting Engineers**

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Crown Castle, a personal wireless facilities provider, to evaluate the distributed antenna system proposed to be developed in Seacliff, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

**Executive Summary**

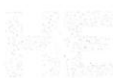
Crown Castle proposes to install a Distributed Antenna System (DAS) in Seacliff, consisting of antennas on twelve utility poles. The proposed operations will comply with the FCC guidelines limiting public exposure to RF energy.

**Prevailing Exposure Standards**

5-31  
The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5,000–80,000 MHz	5.00 mW/cm <sup>2</sup>	1.00 mW/cm <sup>2</sup>
BRS (Broadband Radio)	2,600	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

Power line frequencies (60 Hz) are well below the applicable range of these standards, and there is considered to be no compounding effect from simultaneous exposure to power line and radio frequency fields.





**Crown Castle • Proposed DAS Nodes  
Twelve Joint Pole Locations • Seacliff, California**

**Computer Modeling Method**

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 attached describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

**Site and Facility Description**

Based upon information provided by Crown Castle, it is proposed to install three Andrew Model DBXNH-6565A-VTM directional panel antennas on each of twelve existing utility poles within the City of Seacliff, at the addresses indicated below. The antennas would be placed at effective heights ranging between about 27½ and 34½ feet above ground. The maximum effective radiated power proposed at these sites is 515 watts, representing simultaneous operation by Verizon Wireless at 322 watts for PCS, 53 watts for cellular, and 140 watts for 700 MHz service. There are reported no other wireless telecommunications base stations near any of these sites, nor are there other carriers presently proposing to use these sites.

**Study Results**

For a person anywhere at ground near any of these sites, the maximum ambient RF exposure level due to the proposed operations is calculated to be 0.0060 mW/cm<sup>2</sup>, which is 0.66% of the applicable public exposure limit, as tabulated below. The maximum calculated level at the second-floor elevation of any nearby residence is 2.4% of the public exposure limit. The table below lists all twelve sites and the calculated exposure levels at ground and at the second-floor elevation near each site. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

These calculated levels do not add significantly to existing levels in terms of compliance with the prevailing standards. That is, these levels will not cause cumulative levels – including existing power density levels in the surrounding areas – to exceed the public or occupational exposure limits.





**Crown Castle • Proposed DAS Nodes  
Twelve Joint Pole Locations • Seacliff, California**

Node #	Site Address	Antenna Height	Maximum Calculated Exposure Level		
			at Ground	on Second Floor beyond Distance	
AP-32	Mar Vista Drive near Sailfish Drive	30½ ft	0.0046 mW/cm <sup>2</sup> 0.51% public	0.0047 mW/cm <sup>2</sup> 0.91% public	54 ft
AP-33	Cedar Street near Oakdale	34½	0.0034 mW/cm <sup>2</sup> 0.37% public	0.0081 mW/cm <sup>2</sup> 0.89% public	12
AP-34	Hillcrest Drive near Beachgate Way	28	0.0058 mW/cm <sup>2</sup> 0.63% public	0.020 mW/cm <sup>2</sup> 2.2% public	10
AP-36	El Camino Del Mar near Santa Cruz Avenue	30½	0.0046 mW/cm <sup>2</sup> 0.51% public	0.013 mW/cm <sup>2</sup> 1.5% public	17
AP-37	Lake Court near Earl Court	27½	0.0060 mW/cm <sup>2</sup> 0.66% public	0.021 mW/cm <sup>2</sup> 2.4% public	16
AP-38	Martin Drive near Elva Drive	29½	0.0050 mW/cm <sup>2</sup> 0.55% public	0.0055 mW/cm <sup>2</sup> 1.1% public	45
AP-39	Baldwin Drive near Cliff Drive	30½	0.0046 mW/cm <sup>2</sup> 0.51% public	0.0047 mW/cm <sup>2</sup> 0.91% public	25
AP-40	Belle Monte Avenue near Belle Monte Court	32½	0.0039 mW/cm <sup>2</sup> 0.43% public	0.010 mW/cm <sup>2</sup> 1.1% public	16
AP-41	Loyola Avenue near Doris Avenue	32½	0.0039 mW/cm <sup>2</sup> 0.43% public	0.0036 mW/cm <sup>2</sup> 0.70% public	27
AP-42	St. Andrews Drive near Clubhouse Drive	29½	0.0050 mW/cm <sup>2</sup> 0.55% public	0.0055 mW/cm <sup>2</sup> 1.1% public	41
AP-43	Toledo Drive near Bayview Drive	32½	0.0039 mW/cm <sup>2</sup> 0.43% public	0.0072 mW/cm <sup>2</sup> 0.83% public	25
AP-44	Sumner Avenue near Clubhouse Drive	32½	0.0039 mW/cm <sup>2</sup> 0.43% public	0.0024 mW/cm <sup>2</sup> 0.47% public	145

**Recommended Mitigation Measures**

Due to their mounting locations, the proposed antennas would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, no access within two feet directly in front of the antennas, such as might occur during maintenance work on the poles, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. Posting explanatory warning signs\* at the antennas and/or on the poles below the antennas, such that the signs would be readily visible from any angle of

\* Warning signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required. Signage may also need to comply with the requirements of PUC GO95.

**Crown Castle • Proposed DAS Nodes  
Twelve Joint Pole Locations • Seacliff, California**

approach to persons who might need to work within that distance, would be sufficient to meet FCC-adopted guidelines.

**Conclusion**

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the Distributed Antenna System as proposed by Crown Castle in Seacliff, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

**Authorship**

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2013. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.



*William F. Hammett*  
William F. Hammett, P.E.

707/996-5200

May 24, 2012



**HAMMETT & EDISON, INC.**  
CONSULTING ENGINEERS  
SAN FRANCISCO

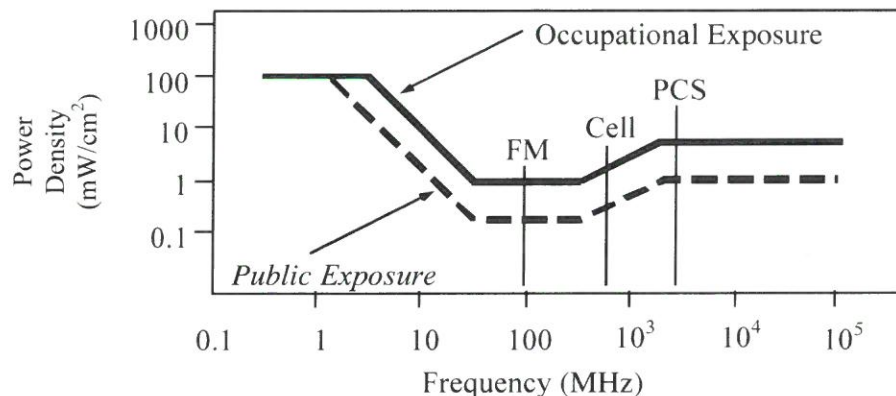


## FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency Applicable Range (MHz)	Electromagnetic Fields ( <i>f</i> is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm <sup>2</sup> )	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f<sup>2</sup></i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f <sup>2</sup>	<i>180/f<sup>2</sup></i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	$3.54\sqrt{f}$	<i><math>1.59\sqrt{f}</math></i>	$\sqrt{f}/106$	<i><math>\sqrt{f}/238</math></i>	$f/300$	<i><math>f/1500</math></i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.



**HAMMETT & EDISON, INC.**  
CONSULTING ENGINEERS  
SAN FRANCISCO

FCC Guidelines  
Figure 1

## RFR.CALC™ Calculation Methodology

### Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

#### Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density  $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$ , in mW/cm<sup>2</sup>,

and for an aperture antenna, maximum power density  $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$ , in mW/cm<sup>2</sup>,

- where  $\theta_{BW}$  = half-power beamwidth of the antenna, in degrees, and
- $P_{net}$  = net power input to the antenna, in watts,
- $D$  = distance from antenna, in meters,
- $h$  = aperture height of the antenna, in meters, and
- $\eta$  = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

#### Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density  $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$ , in mW/cm<sup>2</sup>,

- where ERP = total ERP (all polarizations), in kilowatts,
- RFF = relative field factor at the direction to the actual point of calculation, and
- $D$  = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.





## Lonnie Johnson

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**From:** Frank Barron  
**Sent:** Tuesday, November 8, 2016 10:23 AM  
**To:** Lonnie Johnson  
**Cc:** Wanda Williams; 'James, Sharon'; 'Jay Thomas'; Alford, Robert  
**Subject:** FW: Wireless Communications Antenna + on Seacliff Dr near Santa Cruz Ave  
**Attachments:** Seacliff Dr Underground Utilities Proposal 11-07-2016.pdf

FYI – re: 131058. It looks like there is at least proposed “Rule 20” plan (not accepted by PG&E yet) to underground utilities along Seacliff Drive in addition to the official plan to do so in Seacliff Village. We can add a Condition of Approval (at the ZA hearing on 11/18/16) that if the subject pole is to ever be removed as part of a “Rule 20” undergrounding project that the microcell equipment must be removed at that time.

Lonnie, please add this email and attachment to the correspondence received for this item. Thanks.

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**From:** Dale Pilgeram [<mailto:pilgeram@sbcglobal.net>]  
**Sent:** Monday, November 07, 2016 11:24 AM  
**To:** Frank Barron  
**Subject:** Wireless Communications Antenna + on Seacliff Dr near Santa Cruz Ave

Frank,

**This is in response to our phone call this morning (Monday) referencing what pole this proposed communications equipment is going on and precisely where.**

After talking with you I asked a local resident on Seacliff Dr. to check things out. She said there are no new poles from the intersection of Santa Cruz Ave, Broadway and Seacliff Dr. down to the turn of Seacliff Dr. as you go South. She said there is a sign on a pole (Pole 12 - P(12)?) in the attached proposed underground plan, indicating a future cell service location. I have asked her to verify which Pole the sign is on in reference to the proposed underground plan.

**Attached is an overall proposal for the Seacliff Underground project.**

Thank You,

Dale  
Dale W. Pilgeram  
209 795-2824

**TO: Investing/Involved Parties in proposed Seacliff Dr. Underground Utilities Project**

**SUBJECT: Proposed Trenching Layouts with Assumptions**

#### **INTRODUCTION**

This document is an attempt to open a dialogue among all interested and committed parties regarding the proposed utility underground project on Seacliff Drive from the intersection of Broadway, Santa Cruz and Seacliff Dr to around the bend at the cliff overlook at house numbers 179 and 180 Seacliff Dr. Attached are detail maps of:

- . The current overhead wires, poles and lights and the connections from poles to all houses "in play". (Diagram 1)
- . A proposed underground trench line design with ASSUMPTIONS 1 (Diagram 2)
- . AT&T wiring diagram showing gaps to wire to avoid trenching on El Camino Del Mar (Diagram 3)

#### **A. DESIRED ASSUMPTIONS (Base information – no Plan/Diagram represents these!)**

These assumptions are believed to support the most cost effective plans with participation by all beneficiaries (affected property owners). Also identified are beneficiary properties who are not affected by the property except to enjoy improved views and environment. Purpose is to achieve a high level agreement with utility companies (PG&E, AT&T, Comcast) regarding the most cost effective design and solution. Agreement with State Park and County Departments also needs to be achieved with the proposed plan.

1. All house addresses directly and physically affected by the underground services would pay a portion of the base project (main street trenching & connections/vaults/equipment) as well as the entire payment for the unique trenching to and equipment at/for their house. Lot address numbers affected (19 houses): 179,181,183,180,182,186,188,190,192,194,196, 202,204,206,208, 210,212,214,216

Note: 186 & 202 do not require unique house trenching (already underground)

2. It appears unlikely that The State Park would pay for the unique trenching and connections for their beach level restroom:
  - . Removal of (2) poles on the bluff near house 179, and approximately 160' of low voltage power trenching from the end of low voltage/utility trenching to lot #180 to the underground feed to the restroom below at current pole 1 (P1).
  - . It is assumed that The State Park will support the project and easement to installation of underground trenching and vaults installation (no special studies/cost involved).
  - . The proposed plan has avoided as much involvement in State Park property as possible.
3. Other property owners not receiving service could support the project and voluntarily pay something for the advantage to their view, to the environment, and maybe property value by having the utilities being underground.

Candidates: (All have not been contacted; it is believed that (3) will participate)

  - . Santa Cruz houses: 203,106 (have been contacted, are positive)
  - . San Benito houses: 122,120,119,117 (not contacted yet?)
  - . Seacliff Drive houses: 218 (positive), 184 & 176 (not interested in participating)
4. (3) current street lights would be removed to enhance the view and remove night time horizon and private environment distractions. Any house desiring lighting can install night time motion sensors around their own houses. Location of lights to be removed unless required by the County/Sheriff: Light 1 on Pole 2 (P2,L1), Light 3 on its own pole, and Light 4 on Pole 9 (P9,L4). L1 does not have approval yet from Lot 176.



5. (3) current street lights to remain as requested by property owners: Light 2 at Pole 4 position (P4,L2) by Lots 179, 182; Light 5 at Pole 10 position (P10,L5) by Lots 212, 214; Light 6 at Pole 11 position (P11,L6) by Lot 214, State Park.
6. All (3) utilities will be accommodated (PG&E, AT&T, Comcast). Also, AT&T will abandon the wires from Pole 8 (P8) that go up El Camino Del Mar and get this service from Santa Cruz Ave Pole 12 (P12). Pole 13 (P13) at corner of Santa Cruz and El Camino Del Mar to be removed. If trenching/undergrounding of the current AT&T wires on El Camino Del Mar is more cost effective than the overhead connection on Santa Cruz of this large Bulk cable, that option could be considered.
7. PG&E and the County will not require this project to pay for underground connections to the Center Road Aptos Underground Project already on the books (more poles and trenching costs needed).

B. ASSUMPTIONS 1 (Hopefully these can be worked on to approach the DESIRED ASSUMPTIONS above, but right now this is what we have and Diagram 2 (attached) is a layout reflecting these assumptions).

1. Pole 12 remains above ground and undergrounding starts at that pole. That pole also services the properties on Santa Cruz.
2. Not all affected property owners (19) have "Bought In Financially", even before a cost estimate is achieved. It is believed that with (17) properties "Bought In Financially" along with some of the other area property owners (3 so far) and State Park paying just their unique connection needs (Unlikely?), the cost might be around \$28K each (22 properties in play) with another \$7K to \$12K for the individual house hookups depending on current service (load) and physical requirements. A consideration is that if only a property owner(s) want a light with no State Park or Sheriff requirement then they could split the costs (est \$7K to \$12K) per light themselves. The proposed layout made an attempt to minimize the cost of any required/desired lights.
3. However with the assumptions below there are 17 folks splitting the base line street trenching costs so with previous cost estimates, the base work now is \$39K per house in play financially.
  - . Those not bought in:
    - . State Park would support but not pay anything toward the project and they indicate they would want a light at around the Pole 11 location to remain.
    - . Attempts to get State Park to abandon the lines on the bluff going down to the bathroom for nighttime lights using solar panels on the roof for powering a battery system was not successful nor their payment for the unique trenching/cable costs for the restroom.
    - . 183 – owner has house at 181 and will only pay base cost for one house, not two
    - . 196 – owner will not support or buy-in
  - . Those that may buy in: need to confirm
    - . 194,210,212 (It is reported that these may have bought in)
    - . Assumptions above include the buy in financially of these 3 lots
  - . The following houses may not require any or all services:
    - . 202 has underground power, AT&T and Comcast
    - . 186 has underground power, might need underground AT&T and/or Comcast?
    - . Assumptions above include the buy in financially of these 2 lots.
4. Other property owners not receiving service willing to participate?
  - . Santa Cruz 203 & 106 and Seacliff 218 are believed to potentially participate.
  - . Seacliff 184 & 176 are not interested in participating.
  - . All others specified in 3. In DESIRED ASSUMPTIONS above, (4) need to be contacted
5. Lights (6) (3) Proposed to be removed, (3) to be kept
  - . State Park and lot 214 wants to keep Light 6 at approx Pole 11 (P11) location
  - . Lot 179 wants Light 2 at Pole 4 (P4)
  - . Lots 212 & 214 want to keep Light 5 at Pole 10 (P10) location however this light might be eliminated if the current Pole 11 light is placed diagonally across the street.

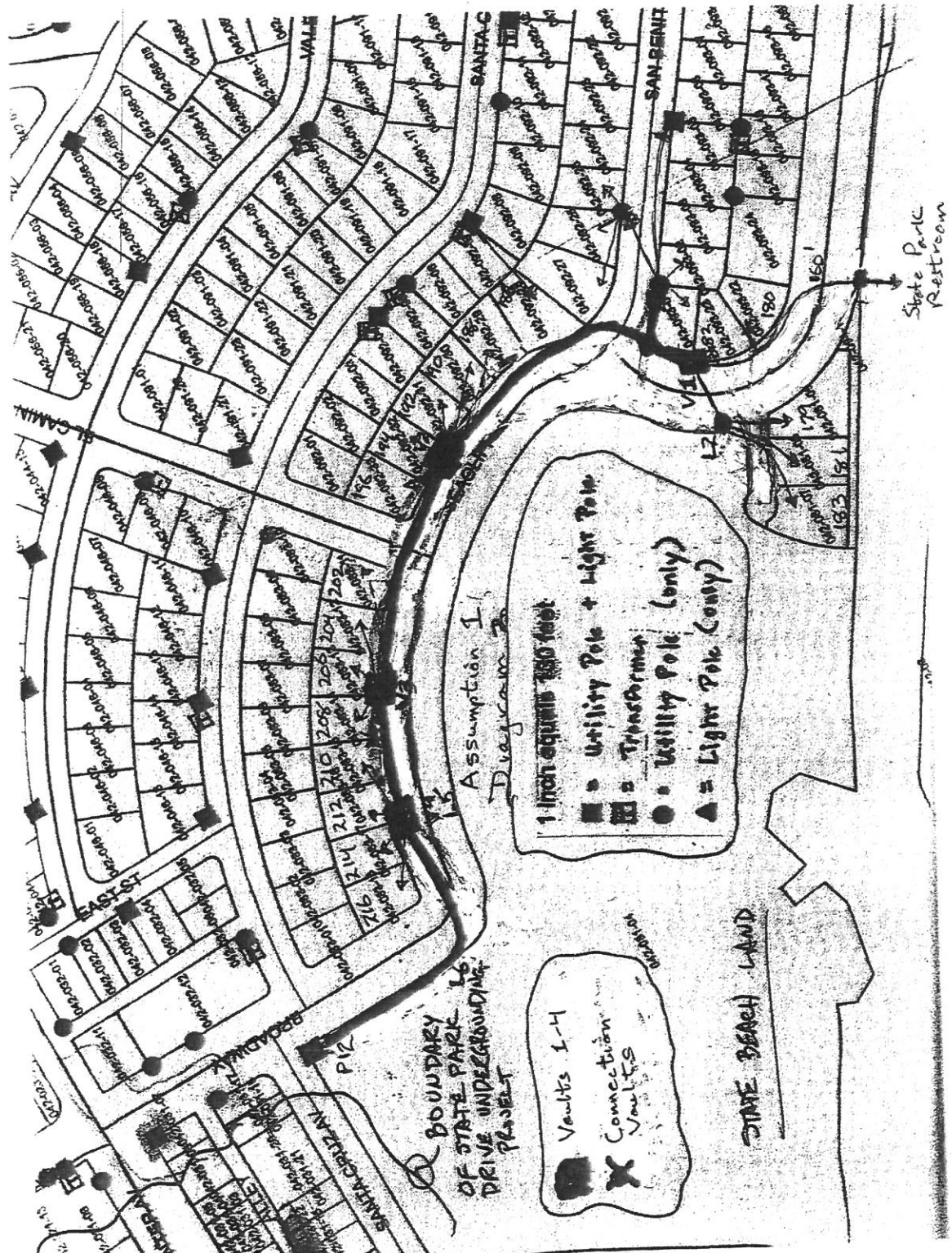
- . Lot 176 has not supported removing Light 1 at Pole 2 (P2)
- . (3) lights (L1, L3, L4) have strong advocates to get rid of them.
- 6. All (3) Utilities support – Assume AT&T abandon line on El Camino Del Mar unless trenching is cheaper than overhead connections on Santa Cruz.
- 7. Underground starts at Pole 12 (P12) and main line high voltage trench ends around the Pole 4 (P4) location.
- 8. Go to ASSUMPTIONS 1 and Diagram 2 to see a proposed trenching plan for High Voltage and utilities along with low voltage house trenching and utilities. Note the following:
  - . Large underground trench starts at base of Pole 12 (P12) then goes across the Seacliff Drive street to current Pole 10 (P10) location which is now Vault 4 (V4) position. Any low voltage light service to the removed Pole 11 (P11) approximate position would cable back in the main trench from Vault 4 (V4).
  - . Vault 4 location has (3) vaults for PG&E, AT&T, Comcast and small house trenches go from this location to 216,214,212,210 along with the support for Lights 5 & 6 (L5, L6).
  - . Large trench continues down to Vault 3 (V3) (current Pole 9 (P9) location) where same (3) utility vaults go in to serve 208,206,204,202. Note: Light (L3) is removed.
  - . Large trench continues down across El Camino Del Mar to Vault 2 (V2) (current Pole 7 (P7) location) where same (3) vaults go in to serve 196,194,192,190,188, and maybe just AT&T and/or Comcast to 186?
  - . Large trench continues from Vault 2 across San Benito where it terminates at Vault 1 at Lot 182. A major trench branches off to go to the first pole on San Benito for service to that street. Vault 1 (same (3) utility vaults uses low voltage trenching to serve Lots 182, & 180 and then across Seacliff Drive for the State Park restroom feed location at removed Pole 1 (P1) location and also across Seacliff Drive to a location near removed Pole 4 (P4) location to serve a light at that location along with Lots 179, 181, 183.
  - . Other Considerations from PG&E Meeting on 10/6/2016:
    - . (3) rather than 4 Transformers might do if they are above ground transformers on a pad base and they must be on private land.
    - . Main trench could cross Seacliff around Lot 190 before San Benito and terminate around current (P4) position. A J-Box connection would feed the underground power and utilities on San Benito through a trench back across Seacliff to a new pole(s) on San Benito.
    - . J-Boxes are also required at the beginning and end of the underground main trench. The (3) J-Boxes can be on public or private land and can be in vaults or above ground with Bollard protection.
    - . Connection Boxes for AT&T and Comcast were not determined.
- . Summary Trenching and Hardware:
  - . (10) power poles removed
  - . (2) utility poles removed
  - . (1) light only pole removed
  - . (3) of (6) lights removed (Possibly (4) of (6) depending on where Pole 10 light goes)
  - . (19) houses and State Park Restroom receive underground service (2 houses 186, 202 do not need PG&E services but 186 may need AT&T and/or Comcast).
  - . (3) PG&E above ground transformers on private land
  - . (3) PG&E J-Boxes above or underground on private or public land; San Benito and at end of lines.
  - . (3) each of PG&E distribution vaults, AT&T, and Comcast distribution vaults.
  - . (1) each of connection vaults for AT&T and Comcast at San Benito corner.
  - . (1) low voltage connection to State Park underground down to restroom at Poles 1 & 2 (P1 & P2) current position.
  - . Approximately 1,050 feet of large trench.
  - . Approximately 1,000 feet of small trench from main trench to houses (including 160 feet for State Park). Much more (2,000 feet) of cabling wire from Vault location?).

For Questions: Contact Dale Pilgeram, 209 795-2824, pilgeram@sbcglobal.net



## A hand-drawn map of Santa Cruz Avenue, oriented vertically. The map shows a grid of streets with numerous utility poles marked by dots and labeled with numbers like 179, 180, 181, 182, etc. A legend box in the center-right defines symbols: a square for 'Utility Pole + Light Pole', a circle for 'Transformer', a dot for 'Utility Pole (only)', and a triangle for 'Light Pole (only)'. Other labels include 'Current Overhead System', '1 inch equals 100 feet', 'BOUNDARY OF STATE PARK DRIVE UNDERGROUND PROJECT', 'PG&amp;E Already Underground NEXT Alone', and 'STATE BEACH LAND' at the bottom. Street names visible are Santa Cruz Ave, Vialle, Santa Clara, and San Benito. Various lot numbers and addresses are also present along the streets.

# ASSUMPTION 1 - DIAGRAM 2





**AT&T Current Lines:** Assume to eliminate trenching from Seacliff up El Camino Del Mar, that AT&T will wire from Pole 12 for Seacliff Dr and on Santa Cruz to fill in gap between poles.

