

Staff Report to the Zoning Administrator

Application Number: 171365

Applicant: Tricia Knight, Verizon

Agenda Date: 11/1/2019

Owner:

Central California Conference Agenda Item #: 1

Association Seventh Adventists

APN: 102-081-95

Time: After 9:00 a.m.

Site Address: 1931 Soquel San Jose Road, Soquel

Proposal to construct a 44-foot tall Wireless Communications Project Description: Facility (WCF) disguised as a monopine tree, including 12 antennas and associated pole and ground mounted equipment on RA-zoned land. Requires a Commercial Development Permit.

Location: The property is on the west side of Soquel San Jose Road (1931 Soquel San Jose Road), approximately 1.6 miles north of the intersection of Soquel Drive. The facility location is approximately 1275 feet northwest of the intersection of the site entry roadway, Conference Ground Road, and Soquel San Jose Road.

Permits Required: Commercial Development Permit

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

Staff Recommendation:

- Determine that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 171365 based on the attached findings and conditions.

Project Description & Setting

The subject property is located along the west side of Soquel San Jose Road. The property is approximately 88 acres and is flat or gently sloped along Soquel San Jose Road and slopes The elevation along Soquel San Jose road varies but is approximately 150 upward to the east. to 160 feet along the roadway and approximately 380 feet at the top of slope, though the elevation is approximately 460 feet at the upper northwest corner. The top of slope is generally flat or gentle in slope. The area along Soquel San Jose Road is developed with the 7th Day Adventist Camp. The area at the top of the slope is undeveloped. There is an existing access road to the top of the slope.

The proposed facility includes the following:

County of Santa Cruz Planning Department 701 Ocean Street, 4th Floor, Santa Cruz CA 95060 APN: 102-081-95

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- 30' x 30' lease area
 - o 15' x 8' concrete equipment pad
 - o Approximately 8' tall enclosure (6'8" cinderblock retaining wall below grade, daylighting approximately 1 foot above natural grade with an approximately 5 to 7-foot wood fence atop wall)
 - o Emergency generator
 - o Equipment cabinets within enclosure
 - o 44-foot tall mono-pine tree located at center of enclosure
 - 12 panel antennas to 39' height on tree and tree foliage to 44' height
 - 12 Radio remote units (RRUs)
 - 3 antenna-mounted "raycap" signal amplifiers
- 200-foot utility trench to a series of four power poles connecting to an existing power pole

The facility is proposed to be setback approximately 200 feet or more from the top of the slope and is over 1200 feet west of Soquel San Jose Road. 900 square feet of site disturbance is proposed for the equipment enclosure, equipment pad, and facility monopine construction. No vegetation is proposed to be removed for construction of the facility with exception of site clearing of existing grass. The equipment shelter is proposed to be set into the grade following natural topography. Preliminary grading plans require approximately 104 cubic yards of excavation and 12 cubic yards fill. A cinderblock retaining wall is be located below grade for the most part, with exception of a few feet of the proposed cinder block wall above grade and five to seven-foot wood fence located above the cinderblock wall.

The site is not mapped for the presence of environmental resources or constraints in the area of proposed development. Furthermore, Environmental Planning staff completed a site visit and did not identify the presence of any sensitive habitat or biotic resources. A geotechnical report was submitted and accepted for the facility foundation design by Environmental Planning staff.

Permit Type

Pursuant to County Code Section 13.10.661 (A) (Wireless Communications Ordinance), all new wireless communication facilities are required to obtain a Commercial Development Permit with approval by the Zoning Administrator.

Zoning & General Plan Consistency

The subject property is zoned RA (Residential Agriculture) and designated R-M (Mountain Residential) and RR (Residential Residential) by the General Plan.

The Residential Agricultural Zone district is a restricted zone district and in order for the wireless facility to be permitted the applicant is required to prove that:

- a) The proposed wireless facility would eliminate or substantially reduce one more significant gaps in the applicant carriers network; and
- b) There are no viable, technically feasible, and environmentally equivalent or superior

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potential alternatives (i.e., sites and/or facility types and/or designs) outside the restricted areas that could eliminate or substantially reduce said significant gap.

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Wireless facilities are subject to the wireless regulations enumerated in County Code Section 13.10.661-668. Pursuant to County Code Sections 13.10.661(B) and 13.10.661(C), sites located within a restricted wireless area are required to provide an alternative site analysis.

Alternative Analysis

The alternative analysis (Exhibit H) evaluated all sites within the search ring available to meet the coverage objective to establish the most suitable site that meets both their cellular objectives and minimizes visual and environmental impacts. As enumerated in the analysis, the study substantiates that there are no sites available that would serve to eliminate or substantially reduce the gap in the carrier's network, while also being viable, technically feasible, and environmentally equivalent or superior.

The sites located within a zone district that allow wireless facilities either do not meet the carrier's service objective or are not viable or technically feasible due to a variety of factors. These factors include landlord disinterest, significant grading associated with development of access, significantly greater visual impacts than the proposed site, non-compliance with the minimum 300-foot setback to residential zone district, etc. Furthermore, almost all the properties in the search ring are either restricted or prohibited zone districts, and then, of these sites, all are not technically feasible or viable sites. See the attached analysis for a full evaluation of all sites in the search ring.

Site Standards

Height

The Residential Agriculture zone district height allowance is 28 feet. The residential development standards also allow a height increase of 25 feet above the maximum 28 feet for wireless antennas. The maximum height allowed by code for wireless facilities is 53 feet (28 residential structure height + 25 additional feet). The proposed monopine is 44 feet in height and is consistent with the height allowance. Thus, the proposed facility meets the height standards of the Residential Agricultural zone district applied to wireless facilities without a height exception.

Setbacks

The proposed tower and equipment enclosure meet the setbacks established for the Residential Agriculture zone district and the wireless regulations as noted in the setback table below.

County Code Section 13.10.663 A (9) (General development/performance standards for wireless communication facilities) also requires that proposed wireless facilities provide a minimum of 5 times the tower height or 300 feet, whichever is greater, to the nearest residentially zoned property. Based on a tower height of 44 feet, the proposed tower is required to provide a minimum of 300- foot setback from the nearest residentially zoned property located to the north and west. The proposed tower is approximately 500 feet south of property zoned residential agriculture and approximately 800 to 900 feet east of property zoned residential agriculture and

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therefore complies with the minimum 300- foot standard. The intent of this setback is to minimize visual impacts to residentially zoned property.

	S	etback Table	
	Front	Side	Rear
	RA zone	district Site Standar	ds
Required	40'	20'	20'
Proposed	1200'+	North: 500'+	800-900' +
·		South: 1100'+	
	44' tower height	to Nearest Residenti or 300 feet minimum impacts to residentia	· -
Required 300' minimum		m	
Proposed		500'+ to nor	th, 800'+ to west, 1200'+
to east, 1100' + to south			+ to south

Visual Analysis

The wireless ordinance section 13.10.661(F) requires that wireless facilities be located in the least visually obtrusive location that is technically feasible. This is achieved by completion of an alternative analysis.

An alternative analysis evaluates potential sites meeting wireless service objectives, zoning restrictions, access requirements, leasing requirements, topography, visual impacts, etc., and includes evaluation of potential collocation on existing towers, roof mounts, flush mounts, etc. It is the primary tool in establishing the most viable site for wireless facilities that meets all the requirements of the wireless code, including the least visually obtrusive location.

The alternative site analysis (Exhibit H) provided by the applicant shows that there are no alternative sites that would result in a lesser visual impact. The proposed 44-foot tall faux-monopine tree WCF design will blend in well with the existing agricultural/rural backdrop, and thus the project will not significantly impact views. The proposed site complies with the minimum 300 -foot setback (500 to 1200 feet to adjoining residentially zoned parcels) intended to minimum visual impacts to adjacent properties zoned residential.

Visual simulations (Exhibit I) are provided of the proposed facility. As proposed, the wireless facility complies with the requirement to minimize visual impacts enumerated in the visual protection regulations of the Wireless Ordinance and the County Design Review Ordinance.

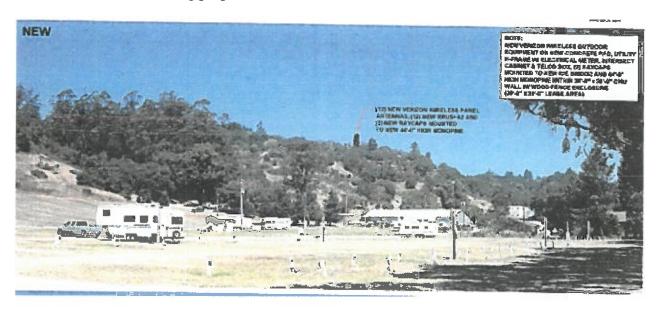
The site is located on a ridge, where visual impacts of a proposed facility would be more prominent. To address visual issues as much as technically feasible, the wireless facility is proposed as a faux mono-pine tree and appears like other pines around it. Furthermore, the proposed faux mono-pine is set approximately 1200 or more feet back from Soquel San Jose Road. The frontage of the road is dotted with trees, almost entirely blocking the views of the tower and is otherwise sufficiently camouflaged as a proposed faux pine tree. In this context, the design would minimize visual impacts as much as feasible. The project is also conditioned to

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provide landscape screening around the equipment enclosure to block any potential views of the enclosure from surrounding properties.



Project Visual Simulation

Notwithstanding, the below 2018 google aerial photos below show examples of gaps in the street trees along Soquel San Jose Road that provide the screening of the facility from public view.

Pursuant to the objective of the wireless regulations to achieve the least visually intrusive facility feasible, it is appropriate to require additional landscape screening to fill in gaps in the street trees along the roadway. The project is conditioned accordingly. It is understood that this will require placement of landscaping beyond the lease area of the proposed facility. views of the 7th Day Adventist facility would also be further minimized by additional landscape screening along the road.

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2018 Site Aerial View





Frontage Landscaping Gap Examples

Design Review

All commercial developments are subject to Design Review pursuant to County Code Section 13.11. This includes the site and project layout, including the physical appearance of the project improvements.

The proposed WCF complies with the building design requirements of the County Design Review Ordinance, in that the proposed project will incorporate architectural design features by being disguised as a faux-monopine tree. In addition, the colors and materials included in the project plans (Exhibit D) provide two different green foliage colors for a natural appearance, as well as pine antenna socks and a pine bark pole. The facility design is the most natural design available. As designed and conditioned, the visual impact of the proposed development on surrounding land uses and the natural landscape will be reduced.

Plans also call out four new power poles that extend power from an existing power pole located approximately 500 feet northeast of the facility, and west from Soquel San Jose Road. Notwithstanding compliance with other design requirements, the project does not meet the requirement to underground all new utilities pursuant to County Code Section 13.11.072 D. (2).

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The power poles are proposed up the steep slope and then underground to the facility location on the top of the slope.

An existing power pole is located on the western most side of the subject property at the top of the slope, providing an opportunity for a single power pole placed on the western edge of the property with utility lines underground along the top of the slope to the facility site. This portion of the site contains only low grasses and is generally flat. Thus, it is recommended that the applicant be required to underground utilities, if feasible.

Public Health and Safety/Radio Frequency (RF) Exposure

Section 47 USC 332(c)(7)(B)(iv) of the Telecommunications Act of 1996 forbids jurisdictions from regulating the placement, construction, or modification of Wireless Communications Facilities based on the environmental effects of radio frequency (RF) emissions if these emissions comply with Federal Communication Commission (FCC) standards.

County Code Section 13.10.661 (D) requires compliance with the FCC rules, regulations and standards by requiring that facilities comply with the radio-frequency (RF) emissions standards set forth by the FCC. A radio frequency report, prepared by Hammett and Edison, dated August 18, 2017 is attached as Exhibit F. Maximum RF emissions at the ground will be 4.7 percent of the applicable public exposure radio frequency exposure limit established by the (FCC). The maximum calculated level at any nearby building is .034 percent of the public exposure limit.

The report notes that due to the antenna mounting locations, the proposed antennas would not be accessible to the general public, so no mitigation measures are necessary to comply with the FCC public exposure guidelines. In addition, the permit is conditioned to require occupational safety measures prior to issuance of a building permit, in compliance with the FCC occupational exposure guidelines for work required near the antennas. The proposed project is consistent with the FCC regulations as proposed and conditioned.

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reduced to 5 dB if the ambient hourly Leq is at least 10 dB lower than the allowable level.

Noise

The Santa Cruz County General Plan (County of Santa Cruz 1994) contains the following table, which specifies the maximum allowable noise exposure for stationary noise sources (Table 2).

• The following applicable noise related policy is found in the Public Safety and Noise Element of the Santa Cruz County General Plan (Santa Cruz County 1994).

	Daytime ⁵ (7:00 am to 10:00 pm)	Nighttime ^{2, 5} (10:00 pm to 7:00 am)
lourly Leq average hourly noise level, dB ³	50	45
Maximum Level, dB ³	70	65
Maximum Level, dB - Impulsive Noise4	65	60

A noise study (Exhibit G) was submitted to evaluate the noise levels associated with the proposed four equipment cabinets (internal cooling fans) and generator relative to the General Plan permissible noise thresholds. The cabinets are proposed to be operated 24 hours a day and the proposed generator operated during the daytime for testing and maintenance and operated only at night during emergency events.

Daytime Noise

Source: County of Santa Cruz 1994

Predicted noise levels from equipment cabinets is 30.3 dBA at the property line to the north and is therefore in compliance the General Plan daytime noise standard of 50 dBA Leq (average noise at the property line) and the 45-dBA nighttime noise limit. Including operation of the generator, the maximum calculated noise levels from the generator is 37.5, also below the 50-dBA daytime and 45 dBA nighttime noise limits. Furthermore, the General Plan requires a 5-decibel reduction in the maximum 45 dBA nighttime noise level if the ambient noise level is 10 decibels lower than the standard 45 decibels. Rural areas typically require the reduced level and thus the reduced level has been applied to this project. Nonetheless, noise levels are proposed below the adjusted 40 dBA nighttime level as well.

Environmental Review

The California Environmental Quality Act (CEQA) provides exemptions for classes of projects which do not have a significant effect on the environment.

The attached CEQA Notice of Exemption (Exhibit A) states that the project is exempt under the Guidelines section 15303 (Class 3) exemption, which applies to "construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structure from one use to another where only minor modifications are made in the exterior of the structure".

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Consistent with this section, commercial structures such as the proposed project not exceeding 2500 square feet and not involving significant amounts of hazardous substances.

If a project falls within a catergorical exemption, no formal environmental evaluation is made.

Furthermore, pursuant to CEQA Section 15300.2 (c), the project is categorically exempt from the requirements of CEQA unless there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances. The CEQA guidelines state that "Unusual circumstances" require showing that the project has some specific feature that distinguishes it from others in the exempt class, such as its size or location, and is not satisfied by a mere reasonable possibility that an activity will have a significant effect on the environment.

No unusual circumstances apply to the subject property. The proposed facility and lease area is approximately 900 square feet in size (30 by 30 feet in dimension) and not located within a mapped biotic resource area, mapped archaeological resource area, mapped sensitive habitat area, mapped scenic highway or otherwise mapped visual resource area, or other resources such as changes to a historical resource or on a hazardous waste site. Furthermore, the project is located in the rural area and designed to be camouflaged as a pine tree and surrounded by other pine trees on the site and in the area.

This supports the determination that the project is categorically exempt from CEQA under section 15303 (Class 3) exemption (Exhibit A).

Final Action Required

The final action on the proposed project is subject to a Federal Shot Clock Extension deadline of November 15, 2019. See attached FCC Shot Clock Extension Agreement (Exhibit J) between the County of Santa Cruz and Verizon Wireless. The Federal Telecommunications Act requires local jurisdictions to act on this deadline unless otherwise authorized an additional extension.

Recommended Conditions of Approval

As noted, recommended conditions of approval (Exhibit C) include undergrounding of power to the facility site, eliminating four power poles on the hillside between Soquel San Jose Road and the project site. In addition, the project is conditioned to require landscaping around the equipment enclosure to screen the site fencing from view.

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.

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APPROVAL of Application Number 171365, 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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Exhibits

- A. Categorical Exemption (CEQA determination)
- B. Findings
- C. Conditions
- D. Project plans
- E. Assessor's, Location, Zoning and General Plan Maps
- F. Radio Frequency Report, prepared by Hammett and Edison, dated August 18, 2017
- G. Noise Study, prepared by Hammett and Edison, dated March 7, 2018
- H. Project Support Statement/Necessity Case/Alternative Analysis
- I. Visual Simulations
- J. FCC Shot Clock Extension Agreement
- K. Parcel information

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.

Appli	cation	Number:	171365	
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Assessor Parcel Number: 102-081-95

Project Location: 1931 Soquel San Jose Road, Soquel

Project Description: Proposal to construct a 44-foot tall Wireless Communications Facility (WCF), disguised as a monopine tree, including 12 antennas and associated pole and ground mounted equipment on RA-zoned land. Requires a Commercial Development Permit.

Person or Agency Proposing Project: Tricia Knight, Verizon

Contact Phone Number: 123 Seacliff Drive, CA 93449

A	The proposed activity is not a project under CEQA Guidelines Section 15378. 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
D	measurements without personal judgment. <u>Statutory Exemption</u> other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).
E. <u>X</u>	Categorical Exemption.

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

F. Reasons why the project is exempt:

Construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structure from one use to another where only minor modifications are made in the exterior of the structure.

The proposed wireless facility, including the lease area, wireless faux monopine, equipment within the lease area, and facility fencing do not exceed 2500 square feet in size and the facility is not located within a mapped biotic resource area, mapped sensitive habitat, mapped scenic highway or visual resource area or include significant hazardous substances.

In addition, none of the conditions described in Sec	etion 15300.2 apply to this project.
	Date:

Sheila McDaniel, Project Planner

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 44-foot wireless facility will be located on the ground outside any mapped visual resources, environmentally sensitive habitat resources, archaeological resources or other significant county resources. The property is zoned Residential Agriculture and is a restricted zone district. For the wireless facility to be permitted within a restricted zone district, it is required that the carrier prove that:

- a) The proposed wireless facility would eliminate or substantially reduce one more significant gaps in the applicant carrier's network; and
- b) There are no viable, technically feasible, and environmentally equivalent or superior potential alternatives (i.e., sites and/or facility types and/or designs) outside the restricted areas that could eliminate or substantially reduce said significant gap.

As enumerated in the project support statement and alternative analysis included in the Zoning Administrator Staff Report (Exhibit H) the proposed facility would substantially reduce a gap in the carrier's network and no site with an allowed zone district could provide the identified coverage gap. Furthermore, no viable, technically feasible site, or environmental superior alternatives exist could eliminate or substantially reduce the gap in coverage. Lastly, this site is the least visually impacting site available that meets the wireless objectives of the carrier.

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 pursuant to County Code Section 13.10.661 (B) and 13.10.661 (C), the applicant provided an alternative analysis to substantiate that the proposed location is the most viable site with the least visual impacts that meets the wireless objectives of the carrier. See Finding 1 above.

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 pursuant to County Code Section 13.10.312 the proposed wireless facility is an allowed use within the Residential Agriculture zone district, consistent

with the Rural Residential General Plan designation. The proposed 44-foot tall monopine WCF does not exceed the maximum 53-foot height permitted for wireless facilities within the Residential Agricultural Zone District. Furthermore, an exception to height is not required for the proposed project.

The visual simulation provided in the Zoning Administrator staff report is an adequate representation of the proposed facility to determine that the visual impacts of the facility would be minimized by pine tree design. The project is conditioned to provide a landscape plan for the frontage along Soquel San Jose Road to fill in gaps in the street trees along the frontage. This will more fully screen public views of the facility. In addition, the equipment enclosure is also conditioned to be screened with native, drought tolerant landscaping.

No zoning violation abatement fees are applicable to the subject property.

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 wireless communications facility will be 44 feet in height and this elevation is too low to interfere with an aircraft in flight.

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 a radio frequency report, prepared by Hammett and Edison, dated August 18, 2018 is attached as Exhibit F to the Zoning Administrator staff report. The maximum level at the ground will be 4.7 percent of the applicable public exposure radio frequency exposure limit established by the Federal Communications Commission (FCC). The maximum calculated level at any nearby building is .034 percent of the public exposure limit. Public access of the facility is precluded. However, the project is conditioned to comply with the occupational safety signage prior to issuance of a building permit to ensure the safety of persons involved in maintenance of the facility in compliance with all safety standards of the FCC.

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 does not apply in that the proposed project site is not located within the coastal zone.

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 facilities 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 improvements will not deprive adjacent properties or the neighborhood of light, air, or open space, in that the structure will meet all current setbacks that ensure access to these amenities. Furthermore, the proposed project meets the radio frequency exposure limit established by the Federal Communications Commission (FCC) and noise thresholds of the general plan, intended to protect health and safety.

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 improvements and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the RA (Residential Agriculture) zone district in that the proposed use is allowed in the district and improvements meet all current site standards for the zone district including setbacks, maximum antenna height, etc. Furthermore, the project complies with Section 13.10.661 et al for wireless telecommunications facilities within Residential Agricultural zone districts, including setbacks to adjoining residentially zoned property. In addition, wireless findings are attached.

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 wireless facility is consistent with the use and density requirements specified for the Rural Residential (R-R) land use designation in the County General Plan by implementation of the implementing Residential Agriculture (RA) Zone District use and site standards, including associated wireless regulations.

The proposed wireless project 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.

The proposed wireless project will be compatible with adjacent property uses and the character of the neighborhood as specified in General Plan Policy 8.5.2 (commercial compatibility with other uses) in that proposed mono-pine tree, antennas, and equipment enclosure will comply with the site standards for the RA zone district (including setbacks, height, etc.), wireless facility standards, and is designed to be camouflaged as a pine tree to minimize visual impacts of the

proposed project on the surrounding rural area.

The proposed project is not located within 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. The project is not located within a special community or town plan.

The proposed project complies with the noise standards of the General Plan.

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 mono-pine tree, antennas, and equipment enclosure is to be constructed on a parcel developed with a 7th Day Adventist facility. The expected level of traffic generated by the proposed project is not anticipated to affect the traffic volumes because the only traffic generated by the proposal will be periodic trips for routine maintenance monthly and thus will not adversely impact the existing roads or intersections in the surrounding area. Utilities are partially proposed underground and the project is also conditioned to underground proposed power poles to the greatest extent feasible. Thus, the project would not overload the capacity of existing power lines necessary to serve 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 project is located in a rural area with limited development, and the proposed improvements are consistent with the land use intensity and density of the rural area and will not result in a significant change in the rural character or result in significant visual impacts. Furthermore, the proposed wireless facility complies with the requirements of the visual protection regulations of the Wireless Ordinance and the County Design Review Ordinance in that the proposed project has been designed to camouflage the facility as a pine tree with a branching height and pattern consistent with surrounding trees in the vicinity. In addition, views of the facility are extremely limited given the significant distance between the facility from Soquel San Jose Road and existing trees along the edge of Soquel San Jose road. Furthermore, the project is conditioned to require additional street trees along the frontage of Soquel San Jose to fully screen public views. The equipment enclosure is also conditioned to be screened with native, drought tolerant landscaping. As designed and conditioned, the proposed project would meet the ordinance objective to reduce visual impacts as much as technically feasible.

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 improvements will be of an appropriate scale and type of design that will minimize visual impacts to surrounding properties and open space in the surrounding area by provision of a mono-pine tree, including a branching height and pattern, which will camouflage the facility from surrounding properties and public roadways. Furthermore, the project is conditioned to require additional street trees along the frontage of

Soquel San Jose to fully screen public views. The proposed equipment shelter would be screened from surrounding property and Soquel San Jose Road by proposed fencing. The equipment enclosure is also conditioned to be screened with native, drought tolerant landscaping.

Conditions of Approval

Exhibit D: Project plans, prepared by SAC AE Design Group, dated July 26, 2019.

- I. This permit authorizes the construction of a 44-foot tall Wireless Communications Facility (WCF) disguised as a monopine tree, including 12 antennas and associated pole and ground mounted equipment as indicated on the approved Exhibit "D" for this permit. 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 a Grading Permit from the Santa Cruz County Building Official.
 - D. The applicant shall obtain approval from the California Public Utilities Commission and the Federal Communications Commission to install and operate this facility.
- 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. A copy of the text of these conditions of approval incorporated into the full-size sheets of the architectural plan set.
 - 2. One elevation shall indicate materials and colors as they were approved by this Discretionary Application. In addition to showing the materials and colors on the elevation plan, the applicant shall supply a color and material board for final Planning Department review and approval.
 - 3. Grading, drainage, and erosion control plans.

- 4. Any new electric and telecommunications lines shall be placed underground. Plans shall be revised accordingly.
- 5. A lighting plan. All lighting must be manually controlled and must not be visible from neighboring properties.
- 6. Details showing compliance with the FCC occupational exposure guidelines and safety measures.
- 7. 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.
- 8. Plans shall be revised to include a landscape plan that provides street trees along the site frontage along Soquel San Jose Road in the existing gaps between existing trees. The plan shall include an irrigation plan to assist in tree establishment and be reviewed and approved by staff.
- 9. Plans shall include earth tone exterior paint color for retaining wall enclosure. The applicant shall provide a color sample for review and approval.
- B. Meet all requirements of and pay Zone 5 drainage fees to the County Department of Public Works, Stormwater Management. Drainage fees will be assessed on the net increase in impervious area.
- C. Meet all requirements of the Environmental Planning section of the Planning Department:
 - 1. A "Geotechnical Report Update" covering the new building site shall be submitted for review during building permit application review.
 - 2. Submit a comprehensive grading and drainage plan for review and approval. The plan shall include the access road and project building site.
 - 3. Submit a comprehensive erosion/sediment control plan for review and approval.
 - 4. Submit a landscaping plan for the area around the lease area. The plan shall include an irrigation plan to assist in plant establishment.
- D. Obtain an Environmental Health Clearance for this project from the County Department of Environmental Health Services. The applicant shall submit a Hazardous Materials Management Plan for review and approval by the County Department of Environmental Health Services, if required.
- E. 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. 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.
 - E. 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 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 always remain in continued compliance with the NEIR standard established by the FCC. 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.
- C. The exterior finish and materials of the wireless communication facility must be maintained on an annual basis to continue to blend with the existing utilities infrastructure. Additional paint and/or replacement materials shall be installed as necessary to blend the wireless communication facility with the existing utilities infrastructure.

- D. 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.
- E. 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.
- 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, it 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. <u>Settlement</u>. 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. <u>Successors Bound</u>. "Development Approval Holder" shall include the applicant

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

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

Approval Date:		
Effective Date:	<u> </u>	
Expiration Date:	a r dia az zo es a s	
	Jocelyn Drake Deputy Zoning Administrator	

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.

SOQUEL, CA 95073 1931 SOQUEL SAN JOSE RD

PSL# 249135

ZONING DRAWINGS

ERAL CONTRACTOR NOTES

TILE SHEET SHEET TITLE

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Verizon 7TH DAY ADVENTIST

VERIZON PROJECT NAME: CASALEGNOS

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ISSUE STATUS

WALNUT CREEK, CA 94598

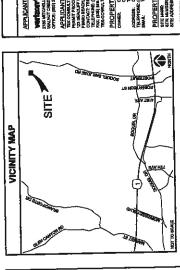
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PROJECT SUMMARY

PSL # 249135

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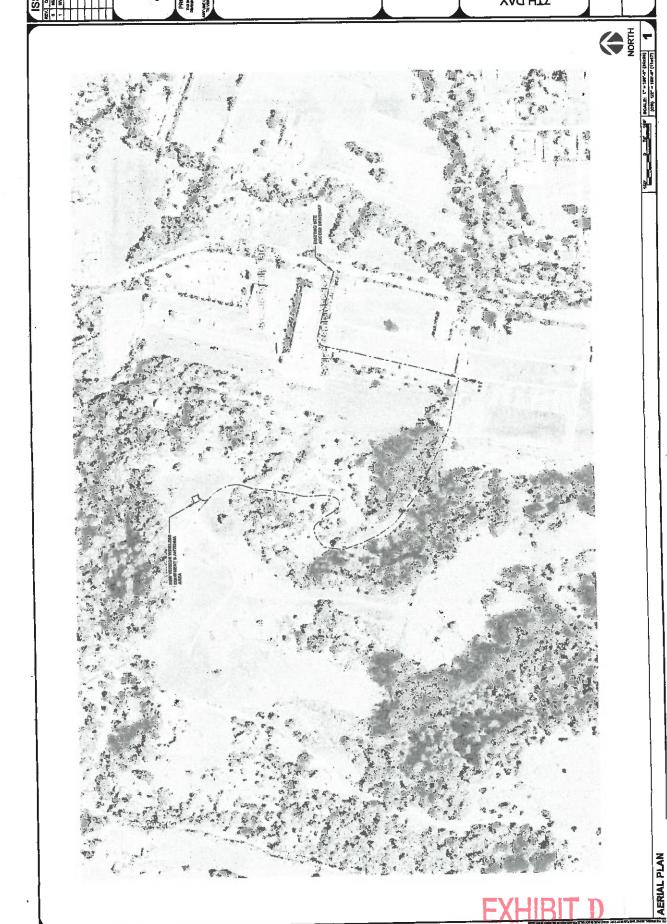
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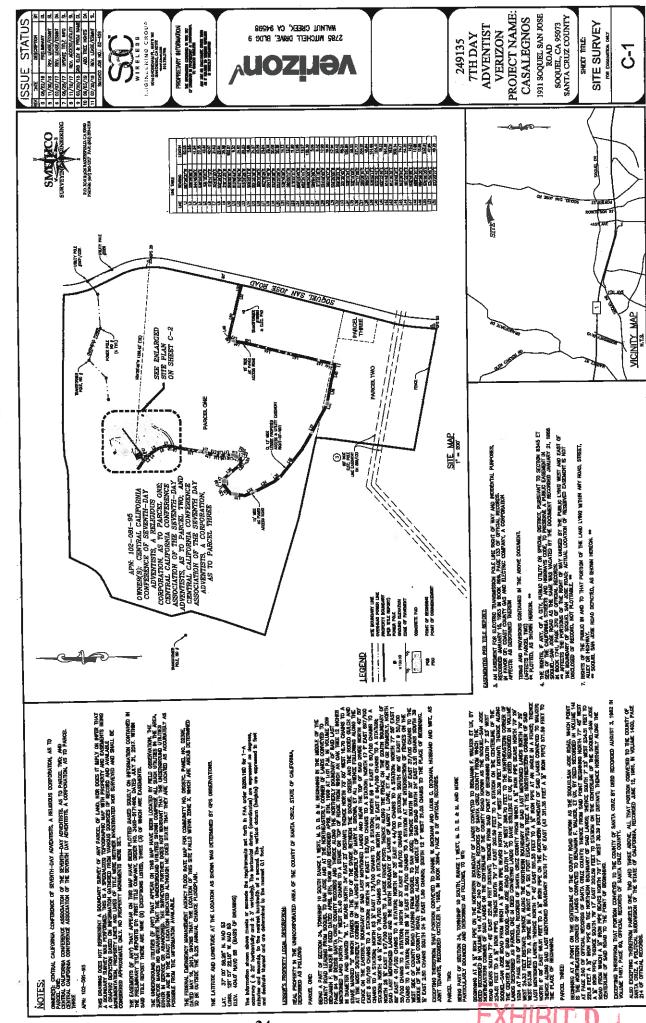
PROJECT TEAM

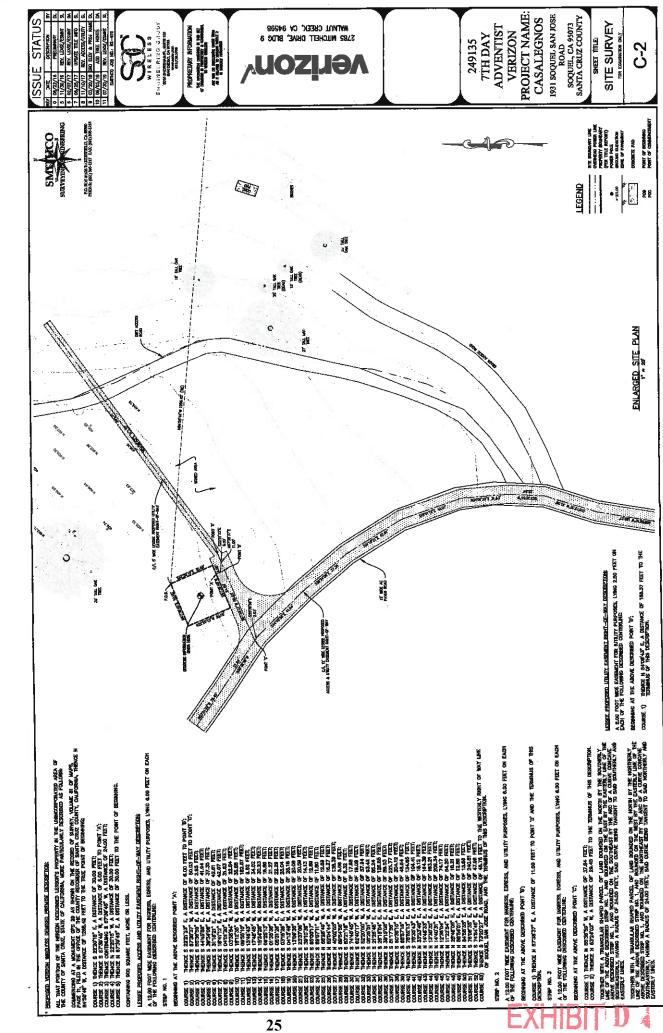
1931 SOQUEL, CA 95073

YTH DAY ADVENTIST PSL# 249135 SHEET TITLE: AERIAL PLAN

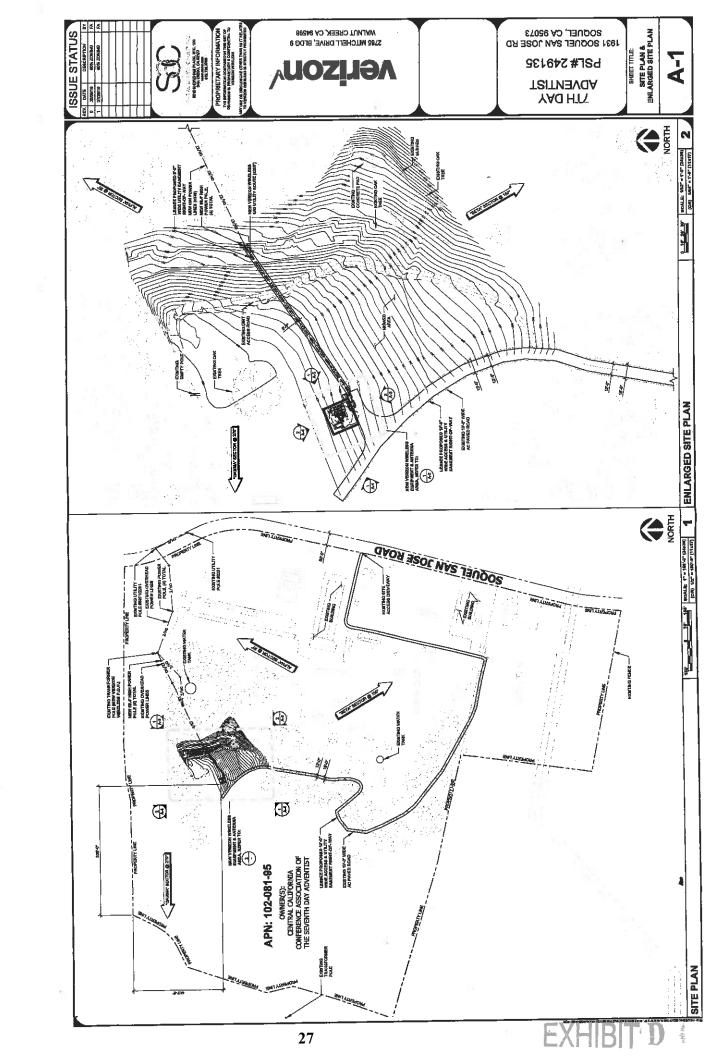
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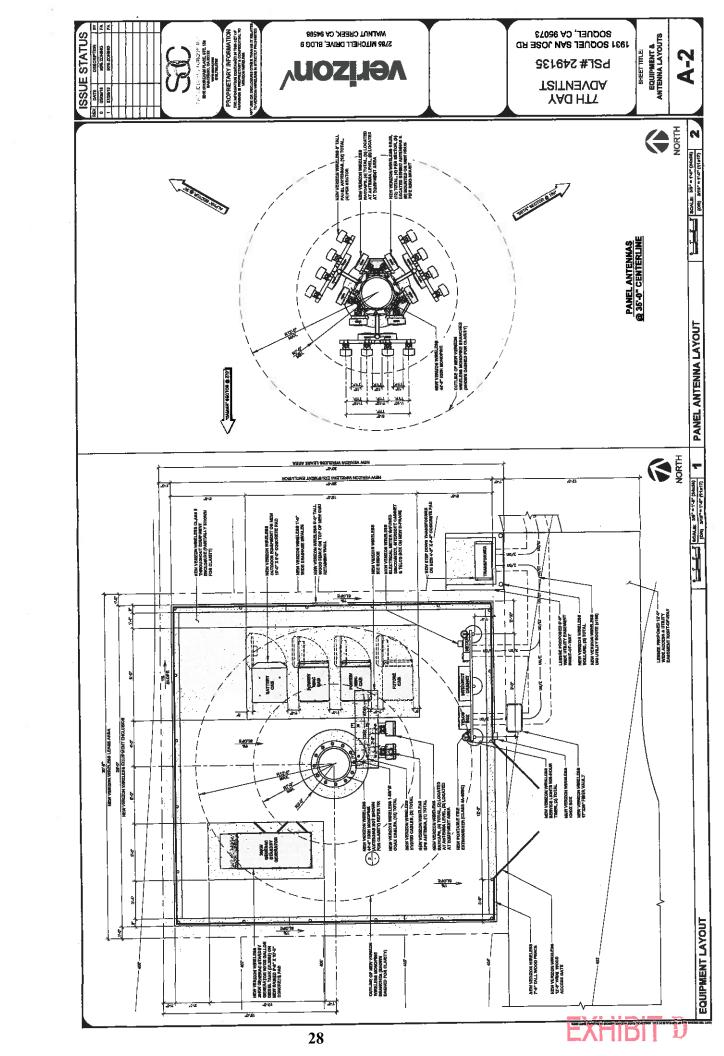


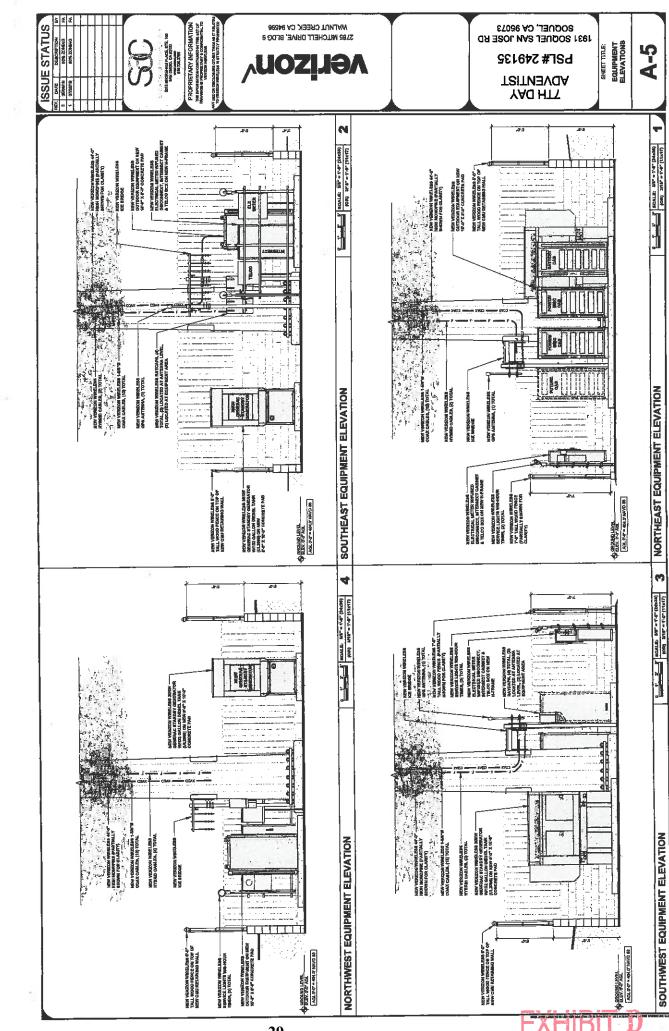




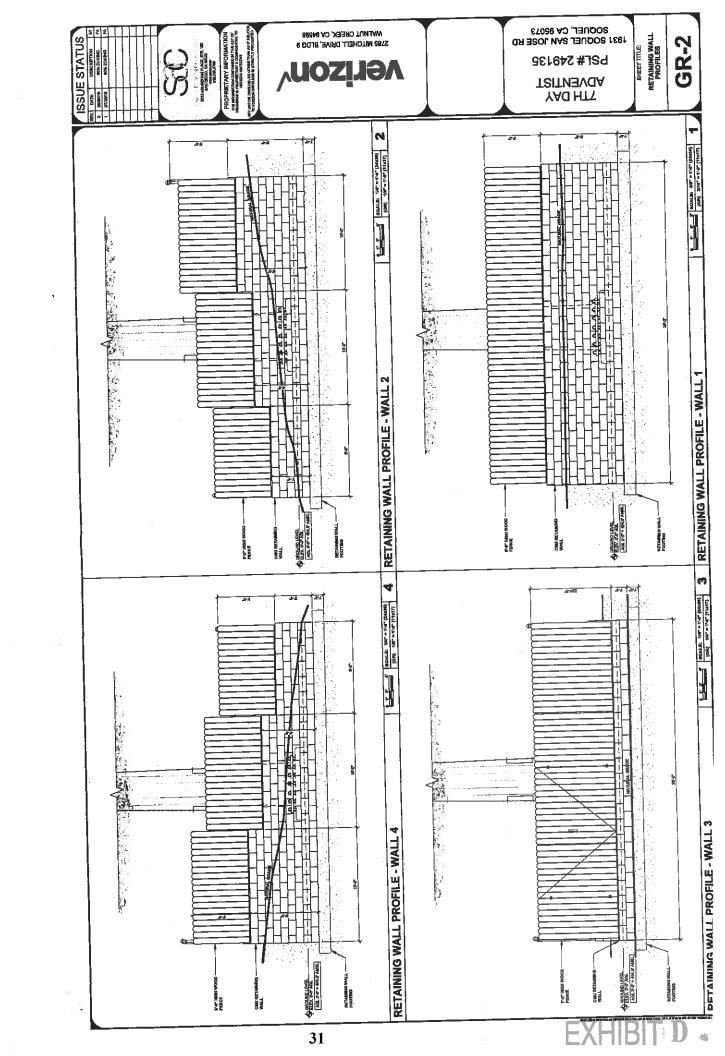
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2785 INTICHELL DRIVE, BLDG 9 SHEET TITLE:
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1931 SOQUEL, CA 95073 WALNUT CREEK, CA 94596 ISSUE STATUS SHEET TITLE:
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& NOTES S182 WILCHELT DRIVE, BLDG 9 **GR-1** PSL# 249135 YAQ HTT TSITNƏVQA TW 436"4" TB 434"4" BW 408"-0" TW 469'-0" 18 406'-0" BW 463'-0" MISSLESS MISSLESS 8-4-X18-0-GEMERATOR PAD HEW VERIEGO WITHELESS 1'-HICH CHAI RETAMBIO WALL 7-F HIGH WOOD FEND NEW VEREIGN WENTERS 800 STO FLENC ANDA F.G. ELEV. 404" TA 450° F 2 GRADING PLAN VIEW CUBIC YARDS TW 400-4" TW 407-4 TS 455-0 By 409-0 ₹ 8 TW 408-47 TS 308-47 SW 413-47 TO ACT AND DESCRIPTION EXCAVATION EXPORT 긭 NOTES



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A mixture of two different foliage colors is used on each tree to provide a natural appearance.



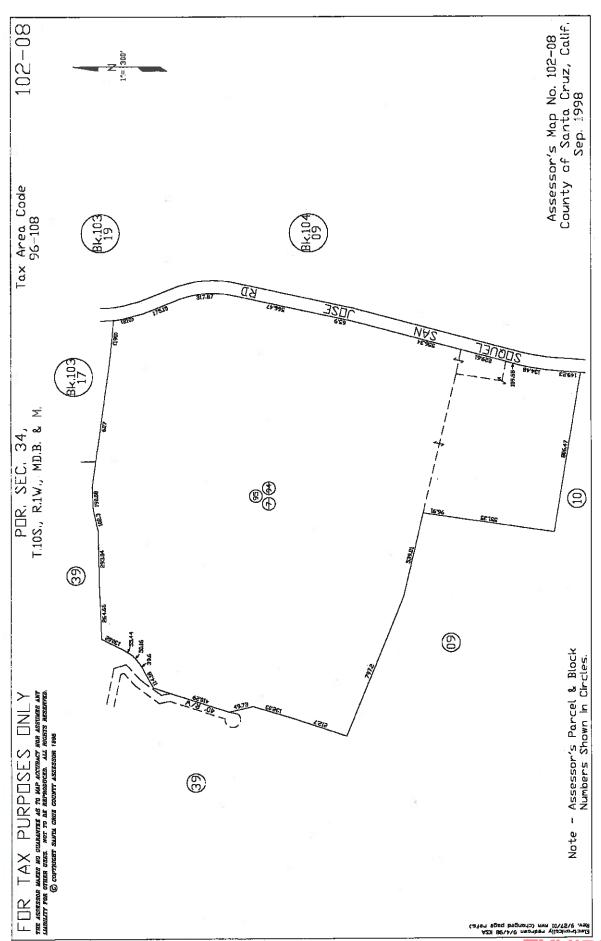




Larson pine-foliated antenna sock



Larson standard pine bark is painted with multiple colors and washes to create a natural bark appearance.

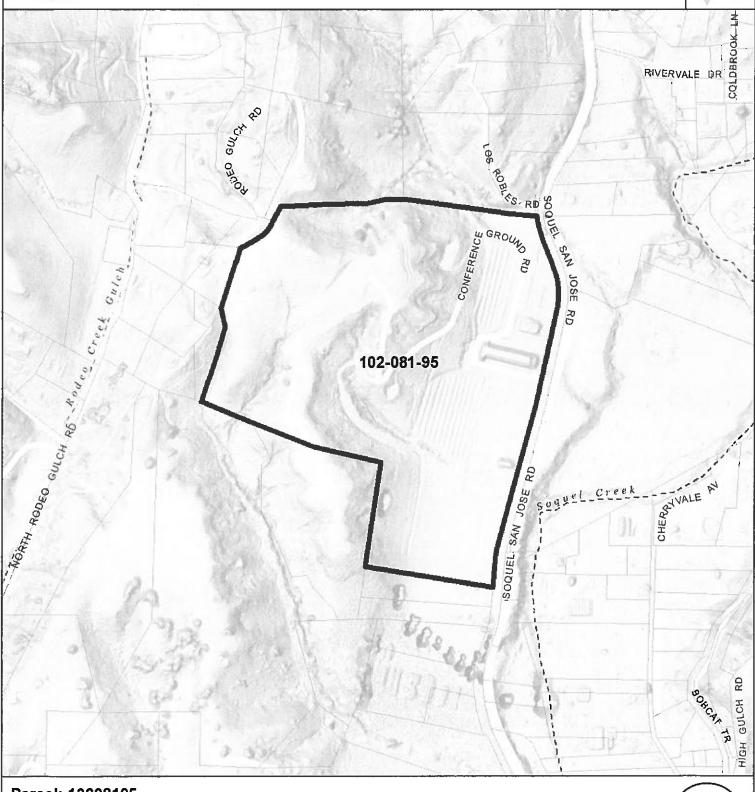




SANTA CRUZ COUNTY PLANNING DEPARTMENT

Parcel Location Map

Mapped Area



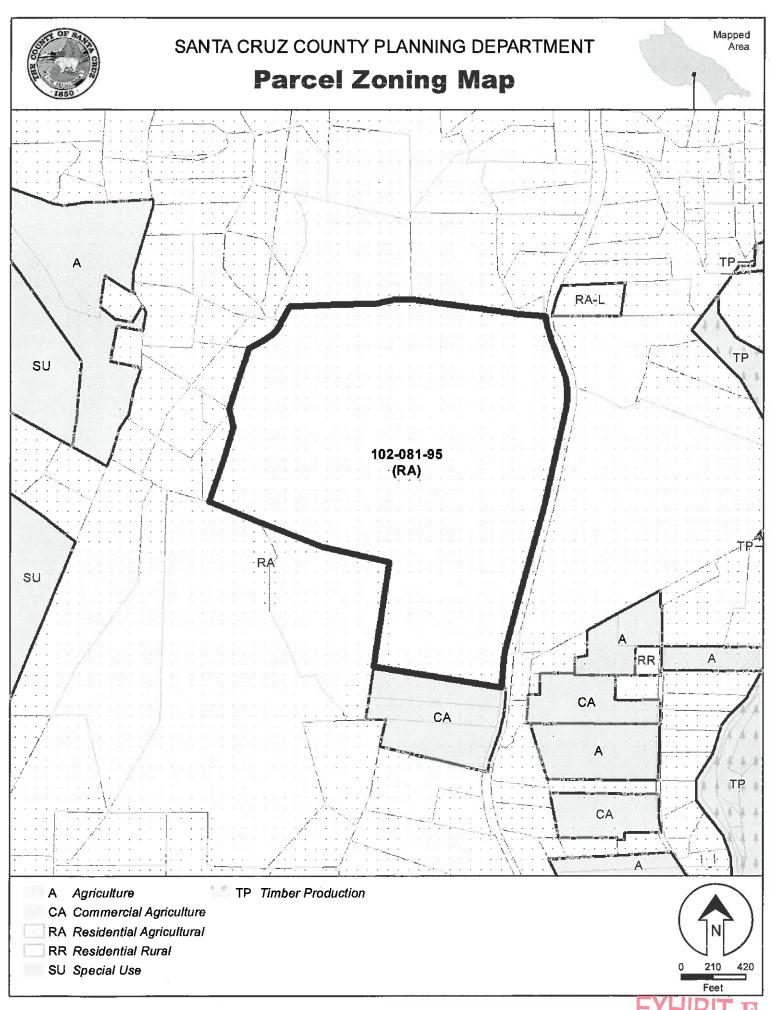


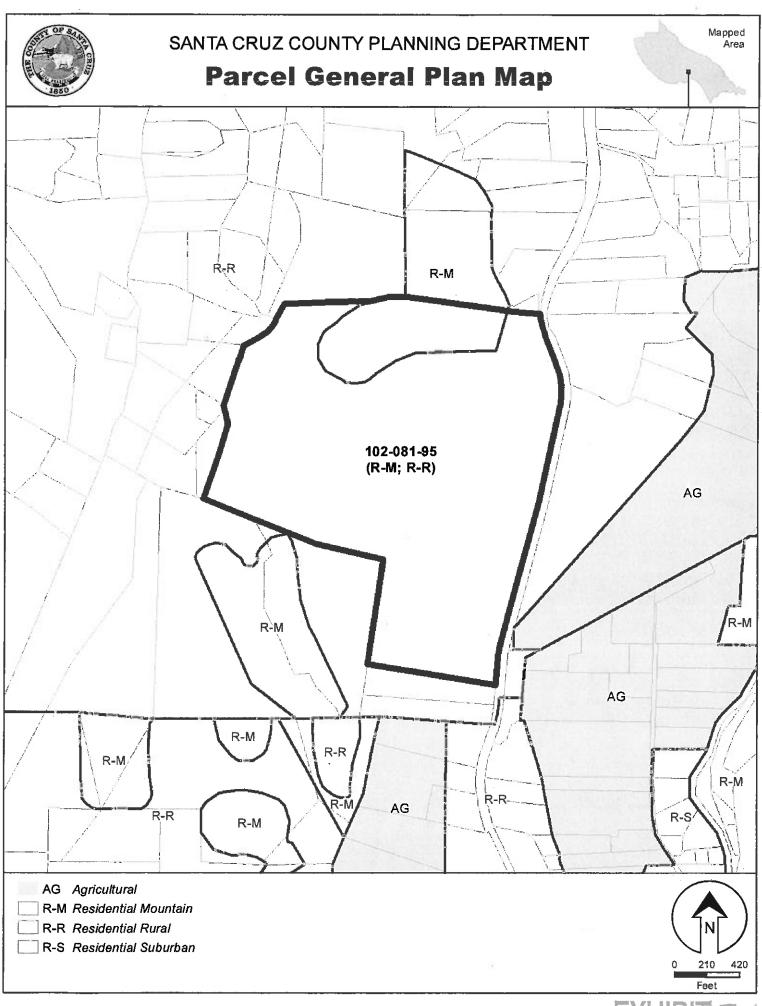
Study Parcel

Assessor Parcel Boundary

Map printed: 7 Oct. 2019







Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 249135 "Casalegnos") proposed to be located at 1931 Soquel San Jose Road in Soquel, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas on a tall pole, configured to resemble a pine tree, to be sited at 1931 Soquel San Jose Road in Soquel. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

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)	5-80 GHz	$5.00 \mathrm{mW/cm^2}$	$1.00 \mathrm{mW/cm^2}$
WiFi (and unlicensed uses)	2-6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	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

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the

HAMMETT & EDISON, INC. CONSULTING ENGINEERS SAN FRANCISCO

Page 1 of 3



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antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

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 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 Verizon, including zoning drawings by SAC AE Design Group, Inc., dated February 21, 2017, it is proposed to install twelve JMA directional panel antennas – nine Model X7CQAP-FRO-860 and three Model X7C-FRO-860 – on a new 73-foot steel pole, configured to resemble a pine tree,* to be sited on the hillside above the conference center located at 1931 Soquel San Jose Road in unincorporated Santa Cruz County, near Soquel. The antennas would employ no downtilt, would be mounted at an effective height of about 69 feet above ground, and would be oriented toward 30°T, 150°T, and 270°T, to provide service in all directions. The maximum effective radiated power in any direction would be 32,100 watts, representing simultaneous operation at 9,400 watts for AWS, 8,040 watts for PCS, 8,180 watts for cellular, and 6,480 watts for 700 MHz service. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.044 mW/cm², which is 4.7% of the applicable public exposure limit. The maximum calculated level at any nearby building[†] is 0.034% of the public exposure limit. 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.

[†] Located at least 650 feet away, based on photographs from Google Maps.





Foliage atop the pole takes the overall height to 78 feet.

No Recommended Mitigation Measures

Due to their mounting location and height, the Verizon antennas would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that Verizon will, as an FCC licensec, take adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by Verizon Wireless at 1931 Soquel San Jose Road in Soquel, 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, 2019. 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.

August 18, 2017



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Page 3 of 3

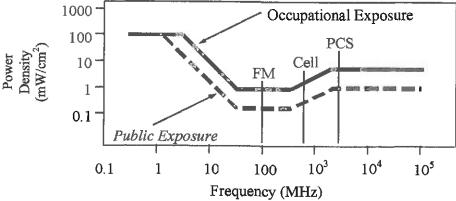
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FCC Radio Frequency Protection Guide

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	Electro	magnetic F	ields (f is fr	equency of	emission in	MHz)	
Applicable Range (MHz)	Field S	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm²)	
0.3 - 1.34	614	614	1.63	1.63	100	100	
1.34 - 3.0	614	823.8/f	1.63	2.19/f	100	$180/f^2$	
3.0 - 30	1842/f	823.8/f	4.89/f	2.19/f	900/ f ²	$180/f^2$	
30 - 300	61.4	27.5	0.163	0.0729	1.0	0.2	
300 - 1,500	3.54 √ f	$1.59\sqrt{f}$	√f/106	$\sqrt{f/238}$	f/300	f/1500	
1,500 - 100,000	137	61.4	0.364	0.163	5.0	1.0	



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/cm²,

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/cm²,

where θ_{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

 η = 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/cm²,

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 ($1.6 \times 1.6 = 2.56$). 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.





Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal telecommunications carrier, to evaluate the base station (Site No. 249135 "Casalegnos") proposed to be located at 1931 Soquel San Jose Road near Soquel, California, for compliance with appropriate guidelines limiting sound levels from the installation.

Executive Summary

Verizon proposes to install a new base station, consisting of equipment cabinets, an emergency generator, and antennas, at 1931 Soquel San Jose Road in the Soquel area of unincorporated Santa Cruz County. Noise levels from the equipment operations are expected to comply with the County's limits.

Prevailing Standard

The County of Santa Cruz sets forth limits on sound levels in its County Code $\S8.30.010$ "Offensive Noise" to be 75 dB[A] during the day (8 am - 10 pm) and 60 dB[A] at night (10 pm - 8 am) as measured at the property line from which the noise is generated.

Figure 1 attached describes the calculation methodology used to determine applicable noise levels for evaluation against the prevailing standard.

General Facility Requirements

Wireless telecommunications facilities ("cell sites") typically consist of two distinct parts: the electronic base transceiver stations ("BTS" or "cabinets") that are connected to traditional wired telephone lines, and the antennas that send wireless signals created by the BTS out to be received by individual subscriber units. The BTS are often located outdoors at ground level and are connected to the antennas by coaxial cables. The BTS typically require environmental units to cool the electronics inside. Such cooling is often integrated into the BTS, although external air conditioning may be installed, especially when the BTS are housed within a larger enclosure.

Most cell sites have back-up battery power available, to run the base station for some number of hours in the event of a power outage. Many sites have back-up power generators installed, to run the station during an extended power outage.

Site & Facility Description

Based upon information provided by Verizon, including zoning drawings by SAC AE Design Group, Inc., dated November 14, 2017, that carrier proposes to place several equipment cabinets in a fenced



T6N2 Page 1 of 3

compound to be constructed on the "Residential Agricultural" property at 1931 Soquel San Jose Road in the Soquel area of unincorporated Santa Cruz County. For the purpose of this study, the four equipment cabinets within the compound with active cooling fans are assumed to be Charles Models: one CUBE-SS4C215XC1 and three CUBE-PM63912JF1. One cabinet, assumed for the purpose of this study to be a General Electric QL Dry Type Transformer, is to be placed just outside the northeast corner of the compound. Several directional panel antennas are proposed to be installed on a tall pole, configured to resemble a pine tree; this portion of the base station is passive, generating no noise.

A Generac Model SD030 back-up diesel generator, configured with the manufacturer's Level 2A[†] sound enclosure, is to be installed within the compound, for emergency use in the event of an extended commercial power outage. The generator is typically operated with no load for a single 15-minute period once a week during daytime hours on a weekday, to maintain its readiness for emergency operation.

The nearest property line is located to the north, about 480 feet from the compound.

Study Results

Information provided by the manufacturers gives the following maximum noise levels from the proposed equipment:

	Maximum	Reference
Equipment Cabinets	Noise Level	Distance
(1) CUBE-SSA4C215XC1	67.3 dBA	1.5 meters
(3) CUBE-PM63912JF1	62 dBA	1.5 meters
(1) GE QL Dry Type	52 dBA	1 foot
Generac SD030	63 dBA	23 feet

The maximum calculated noise level at the nearest property line to the north, for the combined operation of all fans in all five cabinets, is 30.3 dBA, well below the County's 75 dB[A] daytime limit and 60 dB[A] nighttime limit. Together with the hypothetical, continuous operation of the generator, the maximum calculated noise level is 37.5 dBA, still well below the County's limits.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the operation of the Verizon Wireless base station proposed to be located at 1931 Soquel San Jose Road in Soquel, California, will comply with the County's requirements for limiting acoustic noise emission levels.

HAMMETT & EDISON, INC. CONSULTING ENGINEERS SAN FRANCISCO



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^{*} Assumed to be a non-ventilated model.

[†] A custom version for Verizon's use.

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, 2019. 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.

March 7, 2018

William F. Hammett, P.E.

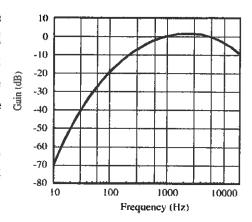
707/996-5200



T6N2

Noise Level Calculation Methodology

Most municipalities and other agencies specify noise limits in units of dBA, which is intended to mimic the reduced receptivity of the human ear to Sound Pressure ("L_P") at particularly low or high frequencies. This frequency-sensitive filter shape, shown in the graph to the right as defined in the International Electrotechnical Commission Standard No. 179, the American National Standards Institute Standard No. 5.1, and various other standards, is also incorporated into most calibrated field test equipment for measuring noise levels.



30 dBA 40 dBA	library rural background
50 dBA	office space
60 dBA 70 dBA	conversation car radio
80 dBA	traffic corner
90 dBA	lawnmower

The dBA units of measure are referenced to a pressure of $20 \mu Pa$ (micropascals), which is the threshold of normal hearing. Although noise levels vary greatly by location and noise source, representative levels are shown in the box to the left.

Manufacturers of many types of equipment, such as air conditioners, generators, and telecommunications devices, often test their products in various configurations to determine the acoustical emissions at certain distances. This data, normally expressed in dBA at a known reference distance, can be used to determine the corresponding sound pressure level at any particular distance, such as at a nearby building or property line. The sound pressure drops as the square of the increase in distance, according to the formula:

$$L_P = L_K + 20 \log(D_{K/D_P}),$$

where L_P is the sound pressure level at distance D_p and L_K is the known sound pressure level at distance D_K .

Individual sound pressure levels at a particular point from several different noise sources cannot be combined directly in units of dBA. Rather, the units need to be converted to scalar sound intensity units in order to be added together, then converted back to decibel units, according to the formula:

where
$$L_T$$
 is the total sound pressure level and L_1 , L_2 , etc are individual sound pressure levels.

$$L_T = 10 \log (10^{L_1/10} + 10^{L_2/10} + ...),$$

Certain equipment installations may include the placement of barriers and/or absorptive materials to reduce transmission of noise beyond the site. Noise Reduction Coefficients ("NRC") are published for many different materials, expressed as unitless power factors, with 0 being perfect reflection and 1 being perfect absorption. Unpainted concrete block, for instance, can have an NRC as high as 0.35. However, a barrier's effectiveness depends on its specific configuration, as well as the materials used and their surface treatment.





Methodology



Verizon Wireless Cell Site Necessity Case Casalegnos

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Introduction:

There are two main drivers that prompt the creation of a cell site project, coverage and/or capacity. Most sites provide a mixture of both, but increasingly some sites are pure capacity.

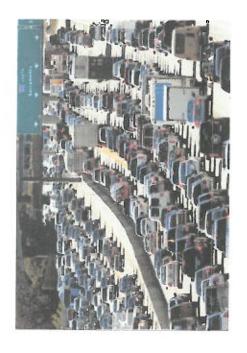
vehicles, as usage patterns have shifted this now means improving coverage inside Coverage is the need for expanded service often requested by our customers or emergency services personnel. While this initially meant providing coverage in of buildings and in residential areas.

experience within the coverage area of that cell quickly starts to degrade during the means a cell site can handle a limited number of voice calls, data mega bites, Capacity is the need for more bandwidth of service. In the simplest form this total number of active users. When any one of these limits are met the user busier hours of use.



clutter the models become inaccurate and cannot tell that specific trees or buildings ground clutter (Buildings and vegetation). Once the antennas fall below the ground terrain, vegetation, building types, and cell site specifics to show predictions of the existing coverage and what we expect to see with a given cell site. The prediction models make some assumptions such as that the antennas are above the nearby are blocking the RF signal. Due to this, modeling of tower height requirements is Coverage is best shown in coverage maps. We use tools that take into account frequently not accurate and misleading.





predict capacity growth output numbers that are not easily explained. Since it takes utilize sophisticated programs to model current usage growth and project it into the 2-3 years on average to complete a cell site project, we have to be looking about 3 Capacity is best shown in graphs of usage growth and projected exhaustion. We future to determine when additional capacity will be required. The algorithms that years into the future to meet future customer demand.

While data capacity may not seem urgent, beginning in 2014 voice traffic will begin exhaustion of the data network can cause degradation of voice calls including 911 will add additional load to the 4G data network. Since voice is delay sensitive, to migrate from the older 3G voice technology to 4G VoLTE (Voice over IP).

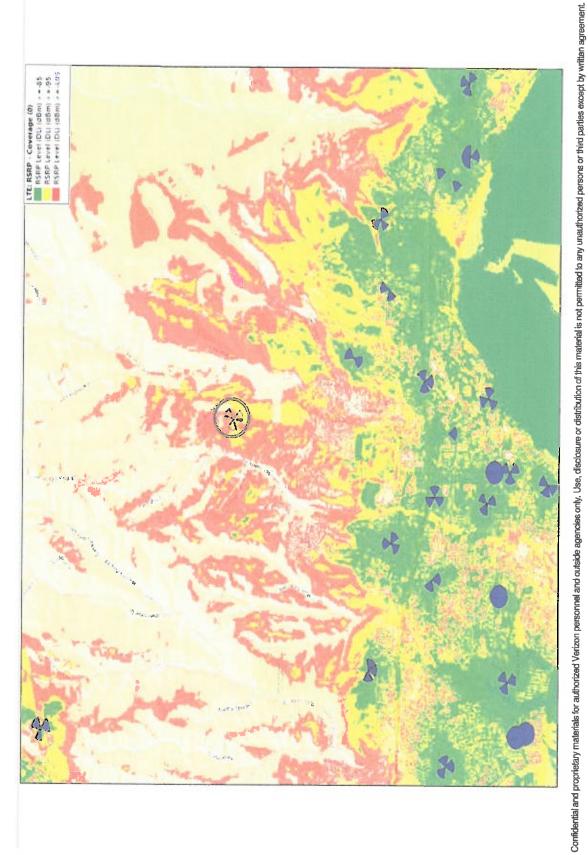


"Why do you need a site here???"

additional cells to meet the demands for service. Capacity sites are generally lower in height than a coverage site with a full cell needing to be above the ground clutter A good capacity cell will be close to the user population and have the traffic evenly spread around the site. When we cannot get a location that accomplishes being close to the customers and central to the usage, we end up having to build and a small cell being one that is at or below the ground clutter.

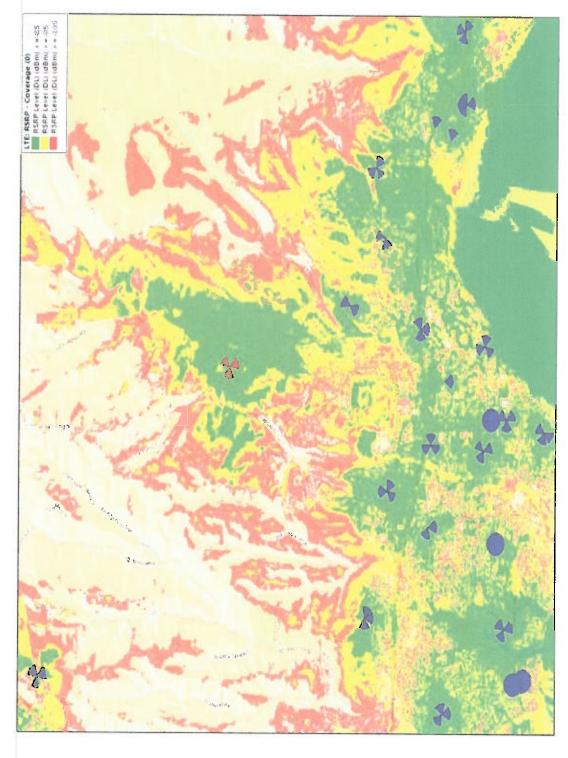
issues with high growth in residential areas. Current statistics show that about 1 of once needed to cover highways and business districts, we are seeing increasing 3 American households no longer have a landline phone. To serve this need we Where our customers use their wireless devices continues to evolve. While we have to increase the cells we have in or very near residential areas.







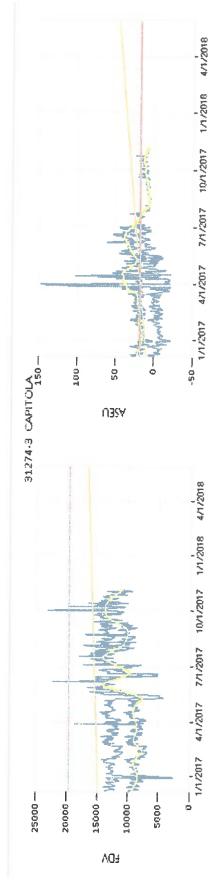
Proposed Coverage





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Summary: The existing Capitola site cannot support the number of users in this area.

Detail below.

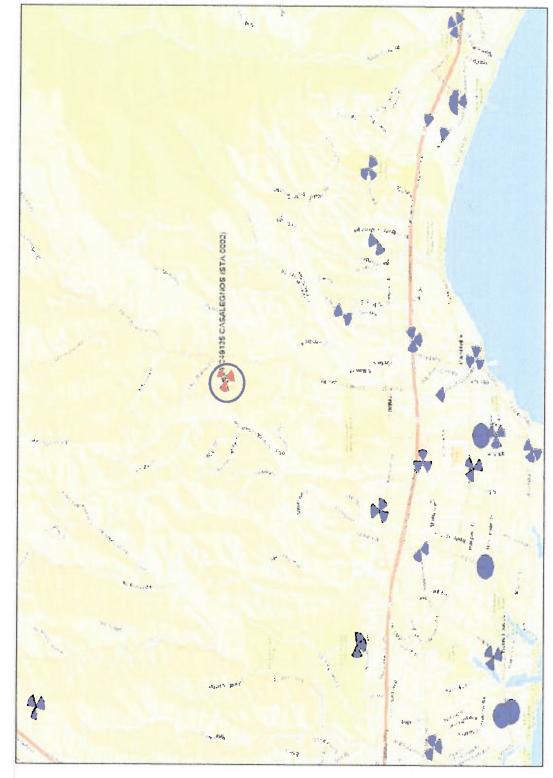
Capitola cell site covers, the number of users exceeds the capacity of the cell. We have already reached the limits and users rise just above the red line then reaches a hard limit and data delivery is delayed. Data volume is increasing and is forecast to exhaust late 2018, but the biggest problem here is the number of users accessing the cell. Due to the large area that the target area. FDV is the total MB of data flowing through the cell and ASEU is the number of users accessing the cell. It can The graphs above show FDV (Forward Data Volume) and the Scheduled Users (ASEU) of the Capitola sector serving the are experiencing difficulty accessing a signal, even though it may be strong enough in certain areas.

The coverage plots however, show there are vast areas north on Soquel San Jose Rd that have very poor signal.



G

Site Map





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Alternative Candidate Analysis



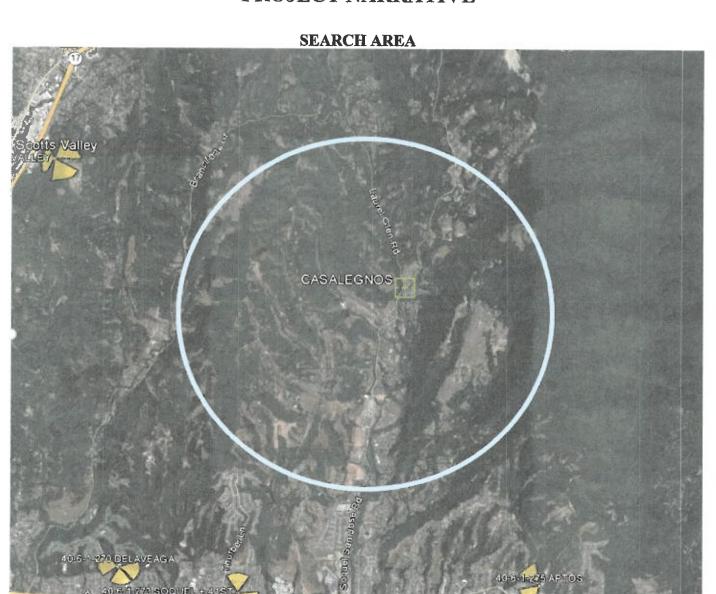
Verizon Wireless Site: Seventh Day Adventist

(Verizon Site Name: Casalegnos)

Santa Cruz County APN 102-081-95 1931 Soquel San Jose Rd. Soquel, CA 95073



PROJECT NARRATIVE



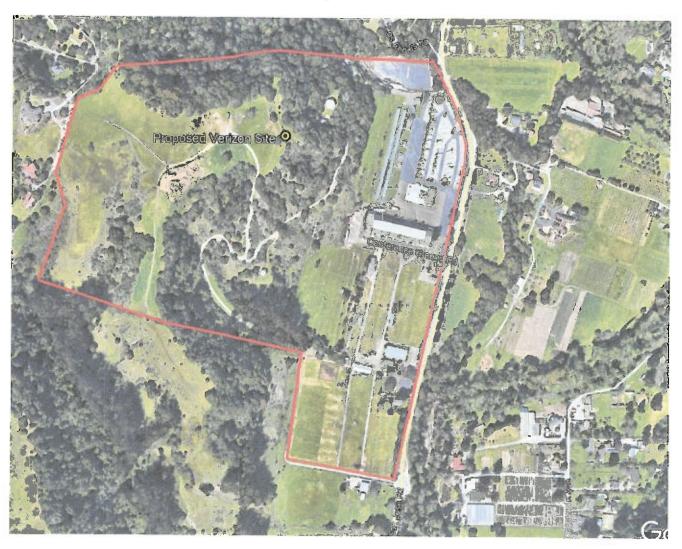
The search ring is located north of California State Route 1 and east of California State Route 17 in Santa Cruz County within the town of Soquel. Old San Jose Road runs through the middle of the Search Ring and is also the major roadway that traverses this town. The Search Ring is characterized by dense tree coverage with mountainous terrain to the east and west of Old San Jose Rd. Existing development within this ring is sparse, with most of the development occurring along Old San Jose Road. Land use within this ring consists of residential, agricultural, and a few commercial/retail uses. As depicted above, there are currently no Verizon wireless facilities in this area.

The Search Ring was designed primarily as a coverage site to provide service to the communities and businesses along Soquel-San Jose Roads as well as providing service for the regular seasonal

events held at the Seventh Day Adventist Church at the address where the proposed site is located. Important coverage objectives in the area include: Anna Jean Cummings Park, the Carriage Acres mobile home park and the residential neighborhood just south of it, the Seventh Day Adventist Church, the Mountain Elementary School, the Casalegnos Store, and all the small businesses, wineries, and rural neighborhoods along Soquel San Jose Road. Therefore, a search ring was issued for the development of a permanent facility with the center of the search ring being the Church.

Verizon has historically provided a temporary facility to help cover events held by the church on the subject property. However, coverage in the area, as is evidenced by the coverage maps below, is extremely poor and poses a risk to residents in the area due to lack of access to emergency services.

Seventh Day Adventist parcel and proposed Verizon site location 1931 Soquel San Jose Road, Soquel, CA 95073



For the last few years Verizon has been providing the Church with a RAT (Repeater Antenna Trailer) to provide service for the events there. The RAT is a temporary and inadequate solution for a problem that needed to be fixed on a permanent basis. Temporary antenna facilities are meant for one-time event usage such as the America's Cup, Super Bowl, or as is often the case in Santa Cruz County, they are used to provide service to the operating base during forest fires. Temporary sites cause the network to fluctuate leading to problems with the surrounding sites as well as an inconsistent user experience. Finally, the environmental and regulatory approvals obtained for temporary sites are short term in nature. For these reasons, a permanent solution was needed in this area.

Just as important to the community is having reliable wireless capabilities on the roadways and in the communities along Soquel San Jose Rd from Soquel Dr. This enhances both public safety and enjoyment of the residents and visitors to the area. The areas from Anna Jean Cummings Park to the south all the way up to the Mountain Elementary School and the intersection of Laurel Glen Rd. are inadequately serviced due to the lack of wireless transmission facilities. Coverage in this area is weak and spotty leading to dropped calls and data speeds far below what Verizon is licensed to deliver.

ZONING REGULATION

Santa Cruz County Code (SCCC), Zoning Regulations, Section 13.10.661 requires that all new wireless communication facilities be subject to a Commercial Development Permit. This project is subject to a level V review at a public hearing before the Zoning Administrator. A public hearing notice will be provided to property owners within 1,000 feet of the subject parcel. There is a 14-day appeal period, in which appeals are made to the Planning Commission. A hearing will be scheduled within 60 days of the appeal and at the end of the hearing a decision to continue, deny, or approve the project will be made (per SCCC 18.10.330).

Due to locating in a restricted zone, the Zoning administrator must grant a Telecommunications Act exception to process the application. No additional items are necessary for the Telecommunications Act exception. If it is proven that the candidate is the only viable alternative, it would render the approval of a Telecommunications Act exception unnecessary (per SCCC 13.10.668).

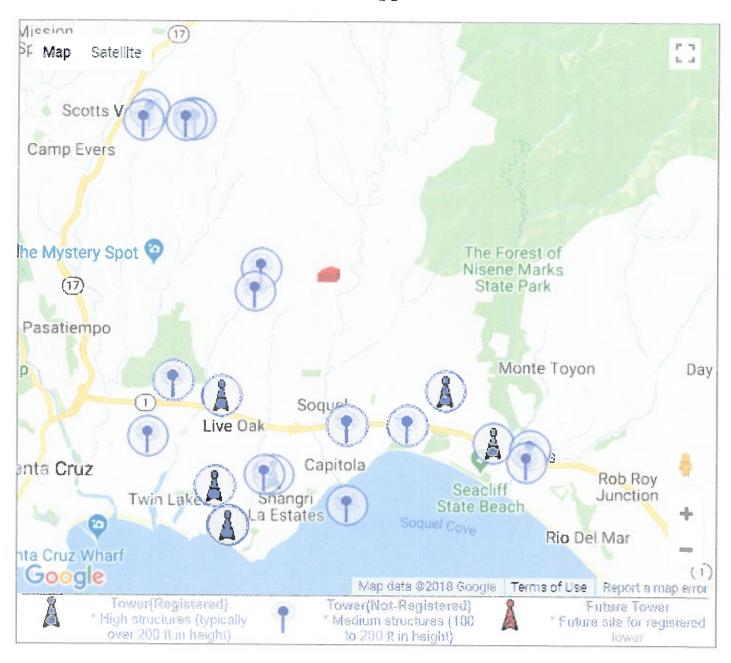
Applicants proposing new non-collocated wireless communication facilities in restricted areas must submit an alternatives analysis with the application. All components of new wireless communication facilities must comply with the setback standards of this zoning district (Per SCCC 13.10.663.A9). All towers shall be designed to be the shortest height possible to minimize visual impact. Any applications for towers with a height greater than the allowed height for structures in the zoning district must include a written justification proving the need for a tower of that height and the absence of viable alternatives that would have less visual impact and shall in addition to any other required findings and/or requirements, require a variance approval (Per SCCC 13.10.663.B6).

A portion of this parcel lies in a Biotic Resource. After a planning application has been submitted, planning will inspect the site and the Environmental Coordinator shall determine if a biotic permit is necessary (Per SCCC 16.32.070).

This candidate is located in a Residential Agricultural zone. The candidate is surrounded by residential zones to the North, East, and West, and is bordered by Commercial Agricultural to the South. The current use is for a non-profit campground. In speaking with County Planner, Frank Barron, the following zoning regulations were confirmed. Front setback for the zone is 40 feet; while side and rear setbacks are 20'; the height limit is 78 feet; and wireless facilities are restricted in this zone.

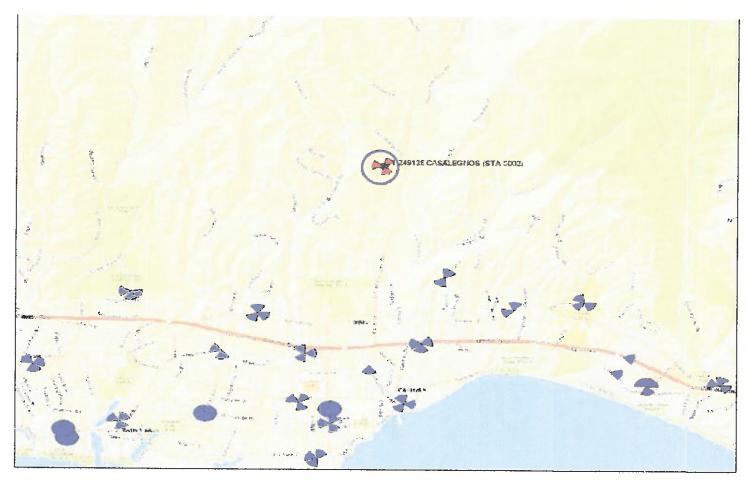
Furthermore, Planner Barron confirmed that wireless facilities are required to meet an additional setback requirement where the base of the wireless facility shall be setback from all property lines of the candidate parcel a distance equal to five times the height of the wireless facility, or a minimum of 300 feet, whichever is greater (Per SCCC 13.10.663.A9). However, with strong justification the requirement may be waived if it can be proved that the wireless facility can be camouflaged, and that the location is necessary to meet RF objective.

Co-location Opportunities



The map above shows the registered and un-registered towers and antenna locations near the proposed site. The two antenna locations to the west are two indications for the same tower filed in 1986. This tower no longer exists and would not be able to reach the coverage objective if it were still there. Other than that, the only co-locatable tower structures are those along Hwy 1 which do not penetrate the hills enough to provide coverage to the area needed.

Location of Existing Verizon Sites



This map shows the concentration of sites along Hwy 1 and the lack of sites covering the roadways and communities to the north of Hwy 1. It also shows the proposed Verizon Wireless site.

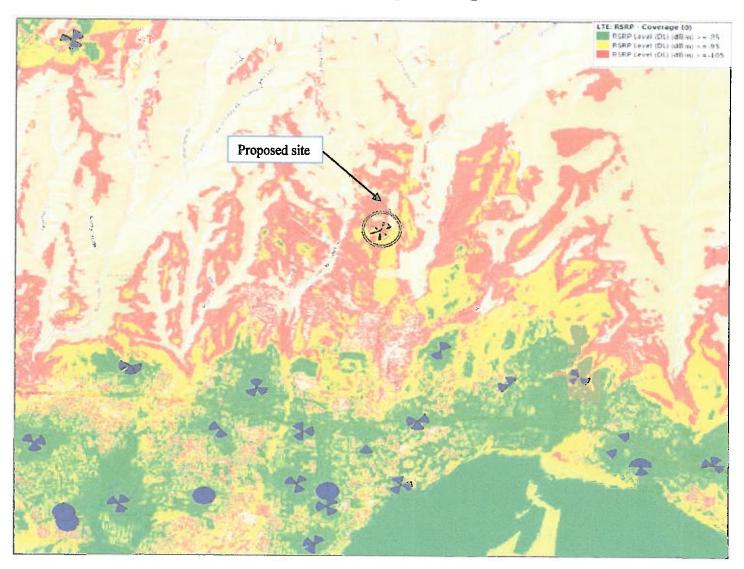
Coverage Analysis

The coverage maps presented below depict the Significant Gap in coverage that exists from Soquel High School extending north along Soquel San Jose Rd. all the way into the hills.

The maps show the location and coverage of the existing sites along Hwy 1 depicted as follows:

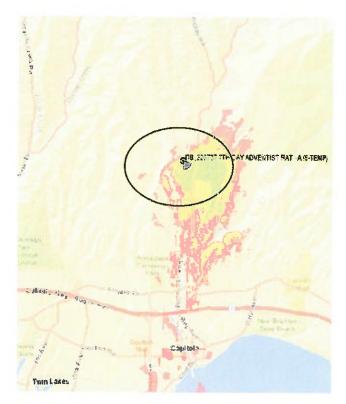
- The green areas around each site depict strong service both indoors and outdoors.
- The yellow areas have good outdoor coverage but weak or non-existent indoor coverage.
- The red areas show weak outdoor coverage. Call drops tend to happen in these areas.
- The light brown areas are showing no coverage at all.

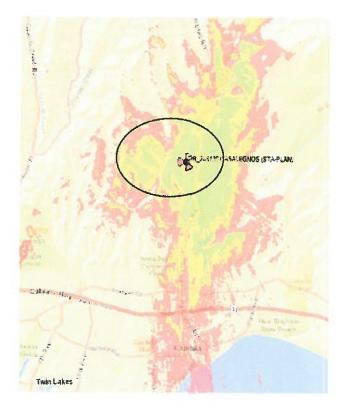
Map of existing coverage



This map shows poor or non-existent indoor and outdoor coverage along all of Soquel San Jose Rd. from Soquel High School extending north into the hills.

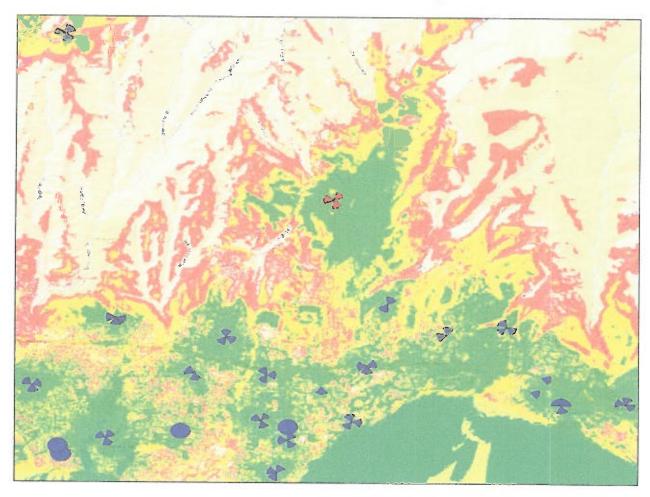
Map of Coverage from Temporary Site @ 25' on Hill (Left) Vs. Coverage from Proposed Macro Site on Hill at 44' (Right) (with search ring overlay)





These maps shows the coverage that was provided by the temporary site that Verizon has been providing to the Seventh Day Adventist Church for their seasonal events. The coverage shown is temporary, therefore the appearance and removal of it causes fluctuations in the customer experience. Temporary sites such as the RAT are temporary structures with power connections that are temporary, and the regulatory agencies that issue permits for them require that they be removed after a relative short period of time. They also cannot deliver all the technologies that Verizon is licensed by the Federal Government to provide its customers. Therfore, temp sites cannot be considered a permanent solution for the coverage gap. Furthermore, the map on the right demonstrates that coverage from a permanent macro site with a height of 44' will grant significantly greater levels of coverage to the surrounding area.

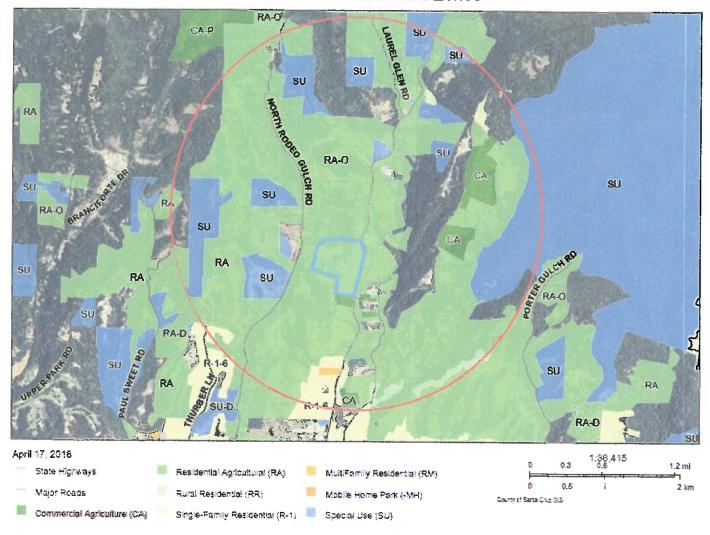
Map of Proposed Coverage



The above map shows the coverage of the proposed 3 sector site. Installation of the proposed site would extend the existing coverage along Hwy 1 up Soquel San Jose road all the way to the Laurel Glen Rd. intersection, Casalegno's Store, and a bit beyond. Important landmarks in the coverage area include: Carriage Acres Mobile Home Park, Mountain Elementary School, Casalegno's Store, Garden Haven Nursery as well as all the roadways and residences in the area.

Justification for site in a Restricted Area (13.10.661(C)(3)

Prohibited and Restricted Zones



Verizon and SAC Wireless are aware of the zones in which wireless facilities are Allowed, Restricted, or Prohibited. Unfortunately, very few parcels fall into the Allowed category, and the overwhelming majority of those that allow wireless facilities were ruled out for reasons including 1) disinterested landlords, 2) inability to meet the coverage objective, 3) inability to meet setback requirements, 4) lack of access, and the like. The map above shows an overlay of the restricted and prohibited zones in the search area with the subject parcel outlined in light blue in the center. Nearly the entire search ring is comprised of Restricted or Prohibited zoning designations.

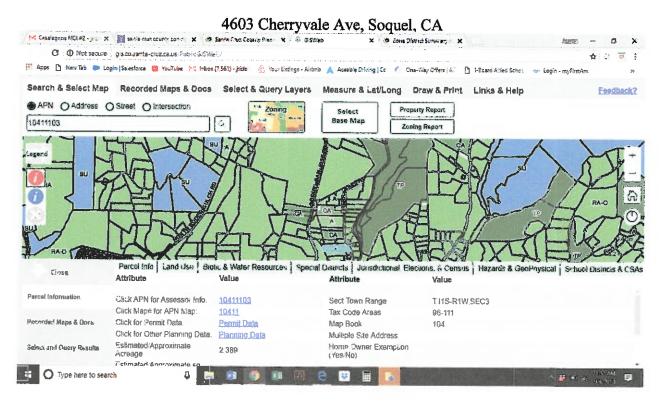
"A - Agriculture" Zoned Parcels Considered



APN 104-111-28. The above sea level (AMSL) elevation of this parcel is 70'. The AMSL of Soquel San Jose Rd. opposite of this parcel is 124' and rises as it continues north. The parcel is in a 54' geographic depression.

Since Soquel San Jose Rd. is a coverage objective any tower on this parcel meeting this objective would need to be well over 100' tall. This parcel while being zoned A is being used as a residence and is only 168' wide. California Civil Code Section 3479 describes a "nuisance" as anything "offensive to the senses, or an obstruction to the use of property, so as to interfere with the comfortable enjoyment of life or property".

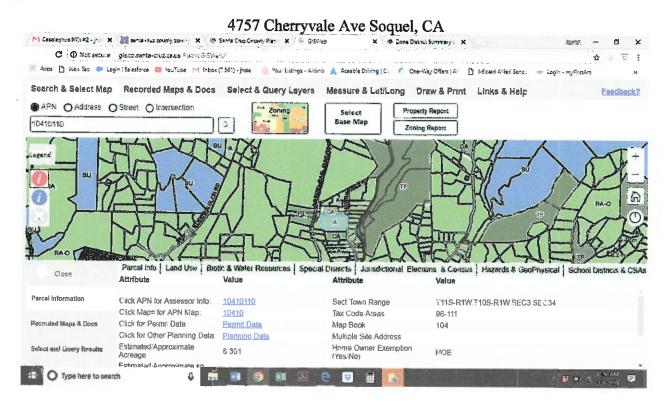
Agricultural uses in A zoned parcels cannot be considered a nuisance but a communications facility does not fall under that protection. A 100'+ communications tower within 300' of 3 residences would be considered a nuisance and offensive to the senses. Therefore, this parcel was not considered to be a viable candidate.



APN 104-111-03. The above sea level (AMSL) elevation of this parcel is 66'. The AMSL of Soquel San Jose Rd. opposite of this parcel is 124' and rises as it continues north. The parcel is in a 58' geographic depression.

Since Soquel San Jose Rd. is a coverage objective any tower on this parcel meeting this objective would need to be well over 100' tall. This parcel while being zoned A is being used as a residence and is only 120' wide. California Civil Code Section 3479 describes a "nuisance" as anything "offensive to the senses, or an obstruction to the use of property, so as to interfere with the comfortable enjoyment of life or property".

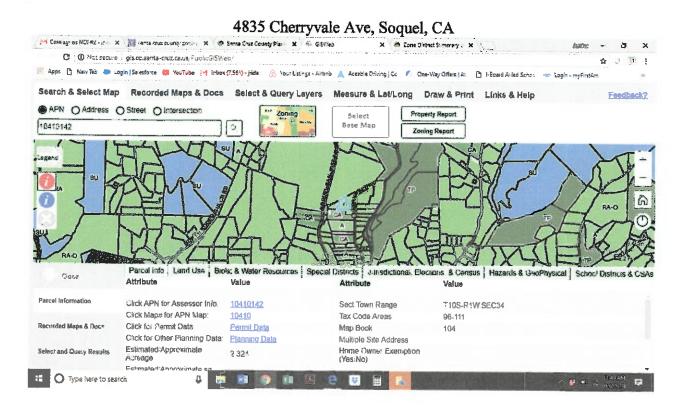
Agricultural uses in A zoned parcels cannot be considered a nuisance but a communications facility does not fall under that protection. A 100'+ communications tower within 300' of 3 residences would be considered a nuisance and offensive to the senses. Therefore, this parcel was not considered to be a viable candidate.



APN 104-101-10. The above sea level (AMSL) elevation of this parcel is 78'. The AMSL of Soquel San Jose Rd. opposite of this parcel is 136' and rises as it continues north. The parcel is in a 58' geographic depression.

Since Soquel San Jose Rd. is a coverage objective any tower on this parcel meeting this objective would need to be well over 100' tall. This parcel while being zoned A is being used as a residence and is only 100' wide. California Civil Code Section 3479 describes a "nuisance" as anything "offensive to the senses, or an obstruction to the use of property, so as to interfere with the comfortable enjoyment of life or property".

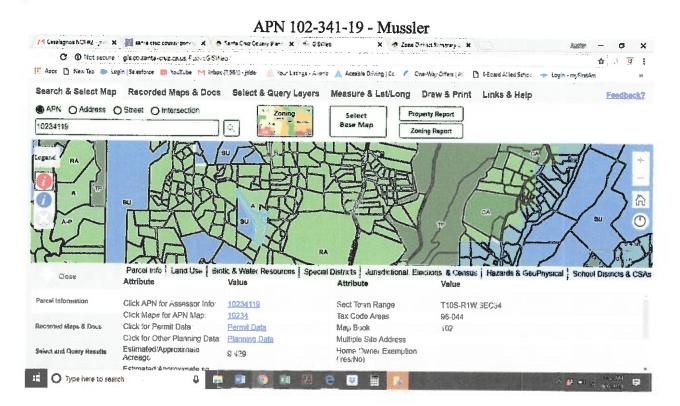
Agricultural uses in A zoned parcels cannot be considered a nuisance but a communications facility does not fall under that protection. A 100'+ communications tower within 300' of 3 residences would be considered a nuisance and offensive to the senses. Therefore, this parcel was not considered to be a viable candidate.



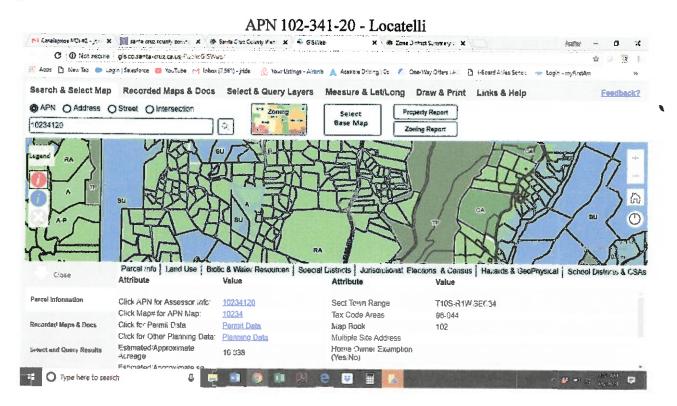
APN 104-104-42. The above sea level (AMSL) elevation of this parcel is 81'. The AMSL of Soquel San Jose Rd. opposite of this parcel is 130' and rises as it continues north. The parcel is in a 49' geographic depression.

Since Soquel San Jose Rd. is a coverage objective any tower on this parcel meeting this objective would need to be well over 100' tall. This parcel is being used for agriculture and while being 400' wide is also immediately adjacent to residential uses. California Civil Code Section 3479 describes a "nuisance" as anything "offensive to the senses, or an obstruction to the use of property, so as to interfere with the comfortable enjoyment of life or property".

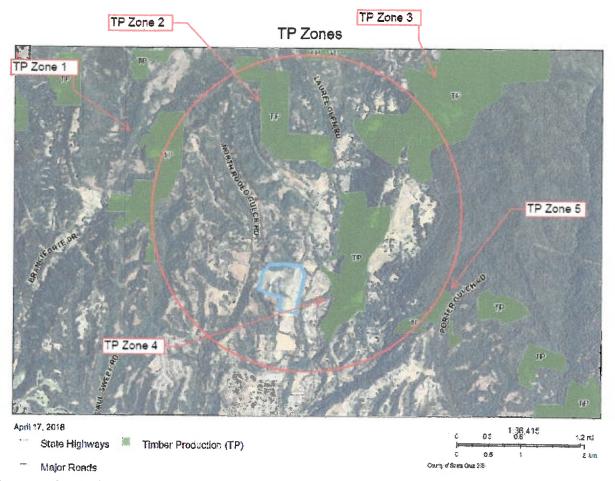
Agricultural uses in A zoned parcel cannot be considered a nuisance but a communications facility does not fall under that protection. A 100'+ communications tower within 300' of 3 residences would be considered a nuisance and offensive to the senses. Therefore, this parcel was not considered to be a viable candidate.



APN 102-341-19. The above sea level (AMSL) elevation of this parcel is 303'. While the elevation of this parcel is higher than that of the other candidates considered in this report, the parcel in consideration is located in an adjacent valley than that of Soquel San Jose Rd, the coverage objective. Any installation on this parcel would be blocked by a ridgeline to the west of Soquel San Jose Rd, rendered unable to provide coverage to the objective.



APN 102-34-20. The above sea level (AMSL) elevation of this parcel is 303'. While the elevation of this parcel is higher than that of the other candidates considered in this report, the parcel in consideration is located in an adjacent valley than that of Soquel San Jose Rd, the coverage objective. Any installation on this parcel would be blocked by a ridgeline to the west of Soquel San Jose Rd, rendered unable to provide coverage to the objective.



The map above shows the parcels zoned Timber Production (TP) that are within the search area. Since the TP zone is not in the list of Prohibited or Restricted zones, we looked in these areas first, finding some candidates which all were ruled out. The nearby TP zoned areas have been broken into five main groups.

TP Zone 1 lies on the western edge of the search ring and contains eight TP-zoned parcels. The entirety of this zone has been disregarded for two reasons: first, most of the parcels are located outside of the search ring and would not meet the coverage objective. Second, and most importantly, those parcels that are within the search ring are obstructed by a number of ridges between the parcels and the desired coverage area.

TP Zone 2 lies in the northern portion of the search ring. It is comprised of one single parcel. SAC Wireless sent a letter of intent to the landlord but received no response.

TP Zone 3 lies in the northeastern portion of the search ring. Out of six TP-zoned properties in this area, only one could feasibly provide coverage. The rest were ruled out due to obstruction by a nearby ridge. SAC sent a letter of intent to the owner of the parcel (indicated in the attached spreadsheet) but received no response from the landlord.

TP Zone 4 lies approximately 1,000' east of the search ring center. This zone contains eleven TP-zoned properties. Four were identified that could meet Verizon's coverage objective, therefore letters of intent were sent. The rest of the parcels were ruled out for a number of reasons, the chief being inability to adequately provide coverage to the search ring. Of the four landlords contacted, only one indicated interest. SAC therefore pursued a deal with that landlord, but the landlord changed her mind and abandoned the project.

TP Zone 5 lies in the far southeastern corner of the search ring and contains three TP-zoned properties. All were disregarded for being blocked from accomplishing the coverage objective by existing topography, or by being outside of the search ring.

A spreadsheet indicating all TP-zoned APNs considered is attached to this report. Additional general factors for nearly every parcel involved included inability to obtain legal access, significant environmental impact through grading, road creation, and tree removal. Most ridge-top sites are undesirable, especially in residential areas, due to the visual impact of a wireless facility against the skyline. The chief disqualifier of most TP-zoned candidates is existing topography and inability to provide sufficient coverage.

Alternative Analysis

The following are other candidates with which we did not proceed:

- A) Everett Farm Zoned RA An active organic farm owned by Richard E Everett (trustee) located at 2119 Old San Jose Road (APN 104-091-07). SAC has called and left multiple messages to the farm to inquire about interest, visited the farm, and left contact information with the farm's manager. We received no response from the owner regarding interest. Furthermore, this location is directly across Old San Jose Road from the Seventh Day Adventist Church, but most of the property is at the same elevation as the roadway making any installation there ore readily visible from the public rights of way.
- B) Subud (Church) Zoned RA This is a church property owned by Subud California located at 3800 Old San Jose Road (APN 103-071-22). The congregation was split on whether they wanted a cell tower on the property. This property is very small when compared to the other properties and the facility will have to be located towards the front of the property with full visibility from the road. Even if the congregation had agreed to a cell tower, this is not the preferred candidate.
- C) SBA Site Zoned TP This is a landlocked property owned by Roy Webster located at 8955 Glen Haven Road (103-091-39). SBA has entered into a lease agreement with the property owner. This site was previously explored by Verizon but was disqualified due to issues regarding a lack of legal access. SBA presented as evidence of an access easement a grant deed that Verizon's legal department found to be insufficient for Verizon's needs. This candidate was disqualified for lack of legal access.



- D) Equestrian Center This property is located approximately .65 miles south of the identified center of search ring at 2655 Old San Jose Rd (APN 103-181-24). The proposal would include a new 80' monopine with an approximate RAD center of 70'. We proceeded with this candidate, but it ultimately "died" because of several code violations that were present on the owner's property.
- E) Diller this property is located at 800 Lagunita Dr, Soquel, roughly 1.4 miles south of the search ring center; it is zoned TP. Upon review it was determined that the parcel could in theory host a telecommunications facility. Therefore, SAC Wireless sent the landlord a letter of intent (LOI). The landlord responded via email declining interest in the proposal. This parcel is also listed in the attached spreadsheet detailing rejected TP-zoned parcels.
- F) Eckhardt this property is located at 3379 Old San Jose Rd, Soquel, rough .8 miles northwest of the search ring center; it is zoned TP. It was also determined that this property could host a telecommunications facility, so a LOI was sent to the landlord. The landlord has not responded with any interest and therefore was not considered. This parcel is also listed in the attached spreadsheet detailing rejected TP-zoned parcels.
- G) Eiseman this property is located at 900 Lagunita Dr in Soquel, roughly 1.03 miles south of the search ring center; it is zoned TP. Being deemed a suitable location for a telecommunications facility, they were sent a LOI. The landlord responded that they were not interested considering the impact to their property. This parcel is also listed in the attached spreadsheet detailing rejected TP-zoned parcels.
- H) Hilltop Hacienda this property is located at 8400 Glen Haven Rd, located roughly .81 miles east of the search ring center; it is zoned TP. Being at an elevation which would in theory host a telecommunications facility, they also received an LOI. However, they have not responded with any interest and have therefore been disregarded as a candidate. This parcel is also listed in the attached spreadsheet detailing rejected TP-zoned parcels.
- I) Hubback this property is located at 3381 Allred Ln in Soquel, located roughly .30 miles southeast of the search ring center; it is zoned TP. SAC Wireless determined that this property could host a telecommunications facility and therefore sent a LOI to the landlord. The landlord responded with interest, so Verizon pursued this candidate. However, during the design phase the landlord decided that she was no longer interested in the proposal and declined any further involvement. This parcel is also listed in the attached spreadsheet detailing rejected TP-zoned parcels.

CONCLUSION

This proposed site falls within the search ring provided by Verizon and meets the coverage objective by filling the significant gap in Verizon's service network. Once installed the site will provide the wireless services that the community desires as well as enhancing public safety through reliable connection to EMS services.

No co-location opportunities were found but the proposed installation is co-locatable thereby contributing to consolidation of future wireless facilities. No wireless allowed zoning designation parcels were identified that could fulfill the needed coverage. Wireless Restricted zoning designation parcels with great deference to the situations and design requirements as listed in the County's Wireless Ordinance. As demonstrated in this document, the proposed facility substantially reduces a gap in Verizon's network and no viable, technically feasible, or environmentally superior alternatives exist that could eliminate or substantially reduce said significant gap in the network.

The proposed Tower/Facility location is high on a hill side; well separated from the public right of way and residential parcels and best maintains the integrity and nature of the surrounding areas. Negative impacts have been minimized through careful siting of the installation on the parcel and the choosing of a stealth design to make the site as visually inconspicuous as possible.

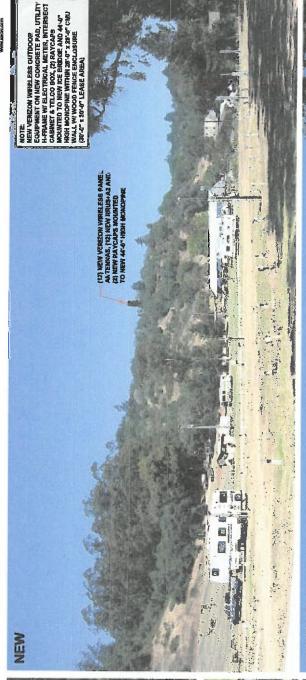
SAC Wireless and Verizon have made a good faith effort to pursue alternate candidates which would also meet the coverage objective. It is the experienced opinion of SAC Wireless and Verizon that when all factors are considered, the proposed site location is the least intrusive and best choice to provide the improved network service for this area of Soquel, we therefore request approval of the projects as applied. Thank you for your consideration.

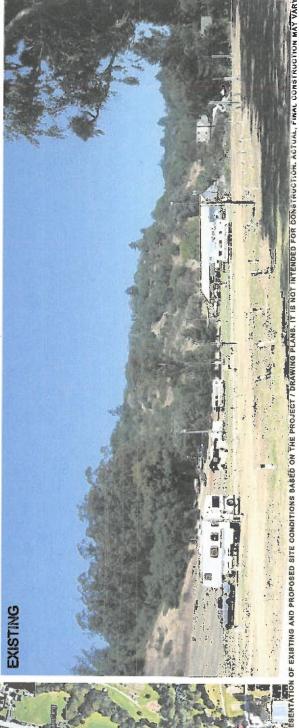
to the second















PHOTOSIMULATION VIEWPOINT 1



7TH DAY ADVENTIST
VERIZON PROJECT NAME: CASALEGNOS
PSL # 249136
1931 SOQUEL: SAN JOSE RD
SOQUEL, CA 95073

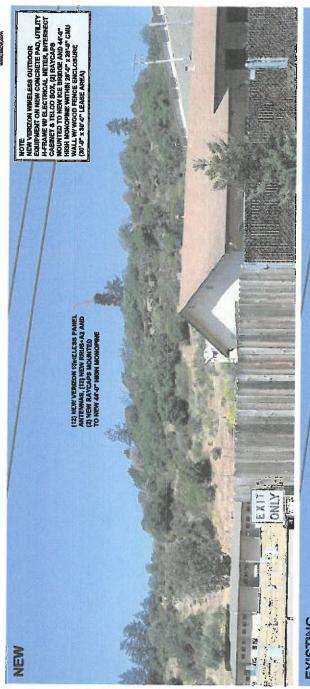






Verizon

VERIZON PROJECT NAME: CASALEGNOS
PSL # 248138
1931 SOQUEL SAN JOSE RD
SOQUEL, CA 95073









MACKENZIE & ALBRITTON LLP

155 SANSOME STREET, SUITE 800 SAN FRANCISCO, CALIFORNIA 94104

> TELEPHONE 415/288-4000 FACSIMILE 415/288-4010

> > July 12, 2019

VIA EMAIL

Dana McRae, Esq. County Counsel County of Santa Cruz 701 Ocean Street, Room 505 Santa Cruz, California 95060

Re: Verizon Wireless Application No. 171365
Telecommunications Facility, APN 102-081-95
FCC Shot Clock Extension Agreement to November 15, 2019

Dear Dana:

In an agreement dated March 21, 2019 (the "Tolling Agreement"), Verizon Wireless and the County of Santa Cruz (the "County") agreed to extend the time period for the County to act on the above-referenced application to August 20, 2019 (the "Extension Date"). This letter, when countersigned, will confirm that Verizon Wireless and the County have agreed to further extend the time period for the County to act on the application, and that the Tolling Agreement is hereby amended by changing the Extension Date to November 15, 2019. Except as expressly modified herein, the Tolling Agreement remains in full force and effect without modification.

This amendment to the Tolling Agreement may be executed in counterparts and facsimile, each of which shall be deemed an original.

Sincerely,

Paul B. Albritton

cc: T. Brooke Miller, Esq. Sheila McDaniel

Dana McRae, Esq. County of Santa Cruz July 12, 2019 Page 2 of 2

ACCEPTED AND AGREED TO:

County of Santa Cruz

Printed name: Dara McRae

Title Country Course

MACKENZIE & ALBRITTON LLP

155 SANSOME STREET, SUITE 800 SAN FRANCISCO, CALIFORNIA 94104

> TELEPHONE 415/288-4000 FACSIMILE 415/288-4010

> > July 12, 2019

VIA EMAIL

Dana McRae, Esq.
County Counsel
County of Santa Cruz
701 Ocean Street, Room 505
Santa Cruz, California 95060

Re: Verizon Wireless Application No. 171365
Telecommunications Facility, APN 102-081-95
FCC Shot Clock Extension Agreement to November 15, 2019

Dear Dana:

In an agreement dated March 21, 2019 (the "Tolling Agreement"), Verizon Wireless and the County of Santa Cruz (the "County") agreed to extend the time period for the County to act on the above-referenced application to August 20, 2019 (the "Extension Date"). This letter, when countersigned, will confirm that Verizon Wireless and the County have agreed to further extend the time period for the County to act on the application, and that the Tolling Agreement is hereby amended by changing the Extension Date to November 15, 2019. Except as expressly modified herein, the Tolling Agreement remains in full force and effect without modification.

This amendment to the Tolling Agreement may be executed in counterparts and facsimile, each of which shall be deemed an original.

Sincerely,

Paul B. Albritton

cc: T. Brooke Miller, Esq. Sheila McDaniel Dana McRae, Esq. County of Santa Cruz July 12, 2019 Page 2 of 2

ACCEPTED AND AGREED TO:

County of Santa Cruz

Printed name: Dara McRoe

TitleCounty Course L

MACKENZIE & ALBRITTON LLP

155 SANSOME STREET, SUITE 800 SAN FRANCISCO, CALIFORNIA 94104

> TELEPHONE 415/288-4000 FACSIMILE 415/288-4010

March 21, 2019

VIA EMAIL

Dana McRae, Esq. County Counsel County of Santa Cruz 701 Ocean Street, Room 505 Santa Cruz, California 95060

Re: Verizon Wireless Application No. 171365
Telecommunications Facility, APN 102-081-95
FCC Shot Clock Extension Agreement to August 20, 2019

Dear Dana:

We write to you on behalf of our client GTE Mobilnet of California Limited Partnership d/b/a Verizon Wireless ("Verizon Wireless") with respect to the above-referenced application for a wireless telecommunications facility (the "Application"). Federal law requirements obligate the County of Santa Cruz (the "County") to take final action on the Application within a specified time period unless the time period for the County to take final action is extended by mutual consent. Verizon Wireless seeks additional time to work with the County to review the Application. When countersigned, this letter will confirm an agreement between Verizon Wireless and the County to extend the applicable time period for review of the Application under the federal Telecommunications Act to August 20, 2019 (the "Extension Date").

The federal Telecommunications Act requires that local governments act on wireless siting applications "within a reasonable period of time." See 47 USC § 332(c)(7)(B)(ii). In a 2009 declaratory ruling, the Federal Communications Commission (the "FCC") established a legal presumption that a local government has violated this requirement if it takes longer than 90 days to act on an application to collocate a wireless facility or 150 days to act on any other type of request to install a wireless facility, plus the number of days it takes an applicant to respond to a timely notice of incomplete application. See In Re: Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review, Etc., FCC 09-99 (FCC November 18, 2009) (the "Ruling"). The FCC recently codified the time periods for action on wireless facility applications. 47 CFR § 1.6003(c). The Ruling further permits the period for review of an application to be extended by mutual consent. Ruling, ¶ 49.



The Ruling was upheld by the United States Supreme Court on May 20, 2013. See City of Arlington v. Federal Communications Commission, 569 U.S. 290 (2013).

Dana McRae, Esq. County of Santa Cruz March 21, 2019. Page 2 of 2

In order to allow the County to act on the Application without either party risking the loss of important rights, the parties agree that the time period within which the County may act on the Application shall be extended through the Extension Date, and that no limitations period for any claim of unreasonable or unlawful delay in processing the Application shall commence to run before said date.

If you agree, this letter agreement may be executed in counterparts, and scanned or facsimile signatures shall be deemed equivalent to original signatures. I will appreciate your returning a countersigned copy to me at your convenience.

> Sincerely, Jane altrit

Paul B. Albritton

cc: T. Brooke Miller, Esq.

Sheila McDaniel

ACCEPTED AND AGREED TO:

County of Santa Cruz

Printed name: T. Brooke Miller

Title: Assistant County Countel

Parcel Information

Services Information

Urban/Rural Services Line:

Inside \underline{x} Outside

Water Supply:

Well Septic

Sewage Disposal: Fire District:

Central Fire Protection District

Drainage District:

Zone 5

Parcel Information

Parcel Size:

88 acres

Existing Land Use - Parcel:

7th Day Adventist Camp Residential, Agriculture

Existing Land Use - Surrounding:

Soquel San Jose Road, 60-foot right-of-way

Project Access: Planning Area:

Summit

Land Use Designation:

R-M (Mountain Residential) RA (Residential Agriculture)

Zone District: Coastal Zone:

__ Inside __x Outside

Appealable to Calif. Coastal

 $\underline{\underline{\hspace{1cm}}}$ Yes $\underline{\underline{\hspace{1cm}}}$ No

Comm.

Technical Reviews: geotechnical report review

Environmental Information

Geologic Hazards:

Not mapped/no physical evidence on site; A soils report was required

for foundation design. The soils report was accepted.

Fire Hazard:

Not a mapped constraint

Slopes:

N/A

Env. Sen. Habitat:

Not mapped biotic resources/no physical evidence on site. However, there is a known GIS data base map overlay error associated with Soquel Creek, which is located across the street from the subject

property. Soquel Creek and the associated riparian corridor does not

extend onto the site.

Grading:

104 cy cut; 12 cy fill for pad construction

Tree Removal:

No trees proposed to be removed

Scenic:

Not a mapped scenic highway or visual resource area Not mapped/no physical evidence in development area

Archeology: