

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

DATE: October 20, 2016

TO: Zoning Hearing Officer

FROM: Planning Staff

SUBJECT: Consideration of a Use Permit, pursuant to Sections 6500 and 6510 of the San Mateo County Zoning Regulations, to replace an existing 38' 7" utility pole with a new 47' 6" joint utility pole and to install a new wireless telecommunications facility on the new pole located in the public right-of-way in front of 231 Cuesta Real in the unincorporated La Honda area of San Mateo County.

County File Number: PLN 2016-00216 (Extenet/PG&E)

PROPOSAL

The applicant proposes to replace an existing 38' 7" utility pole with a new 47' 6" joint utility pole located in the public right-of-way in front of 231 Cuesta Real in the unincorporated La Honda area. The new joint utility pole will replace the existing utility pole in the same location. A new wireless telecommunications facility will be installed on the new joint utility pole. The new facility will consist of two panel antennas mounted on the pole and extending from 33 feet to a maximum of 37 feet in height from existing grade and four equipment clusters will be located at the bottom base of the new joint utility pole between 7 feet and 15 feet from existing grade. No grading or tree removal is proposed.

History

On March 19, 2015, the Zoning Hearing Officer (ZHO) considered requests for Use Permits for similar proposals by Extenet, owner of the proposed equipment for the subject application, both involving the replacement of an existing utility pole with a taller joint utility pole and a new wireless telecommunications facility mounted on each pole. The locations were in public right-of-ways, one in front of 150 Canada Vista and the other in front of 170 Cuesta Real. The ZHO continued both projects to allow time for interested parties to review the project information, correct public hearing notices, and allow time for the applicant to arrange for an engineer to attend the next public hearing.

On April 16, 2015, the projects were considered by the ZHO and continued again to a future date to allow time to submit justification as to why the joint utility poles exceed the maximum height allowed in the zoning district and written documentation showing that

wireless telecommunication facilities within 2.5 miles of the project location were contacted for the opportunity to co-locate. The projects were considered on November 19, 2015, with the ZHO recommending that the applicant research an alternative project location.

After researching alternative locations and consulting with the neighboring community, the applicant is proposing the current project site, the subject of this application, as the primary candidate for locating the proposed wireless telecommunications facility.

RECOMMENDATION

That the Zoning Hearing Office approve the Use Permit, County File Number PLN 2016-00216, by making the required findings and adopting the conditions of approval listed in Attachment A.

BACKGROUND

Report Prepared By: Carmelisa Morales, Project Planner, 650/363-1873

Applicant: Ana Gomez, Black & Veatch

Land Owner: Public Right-of-Way (San Mateo County Department of Public Works)

Pole Owner: Pacific Gas and Electric

Location: Public Right-of-Way in front of 231 Cuesta Real

APN: None (Public Right-of-Way in front of 083-043-420)

Sphere-of-Influence: None

Existing Land Use: Utility Pole in the Public Right-of-Way

General Plan Designation: Low Density Residential Rural

Zone: R-1/S-10 (Single-Family Residential/Minimum Lot Size 20,000 Square Feet)

Flood Zone: Zone X (area of minimal flood risk); FEMA Panel No. 06081C 0384E; effective October 2012

Environmental Evaluation: Categorically exempt under provisions of Class 3, Section 15303, of the California Environmental Quality Act (CEQA) Guidelines for construction of a new small structure and installation of small new equipment and a facility in a small structure.

Setting: The project site is located in the public right-of-way along Cuesta Real, approximately 420 feet east of the intersection of Canada Vista in the unincorporated La Honda area. The existing 38 ft. 7 in. tall utility pole is on the north side of the right-of-way in front of 231 Cuesta Real. The surrounding area is an urbanized single-family residential neighborhood. Mature trees and vegetation fall between the public right-of-way and the private property lines.

Chronology:

<u>Date</u>	<u>Action</u>
March 19, 2015	- Two alternative site proposals (PLN 2014-00395 and PLN 2014-00396) presented at public hearing. Projects continued by Zoning Hearing Officer (ZHO).
April 16, 2015	- Second public hearing. Projects continued by ZHO.
November 19, 2015	- Third public hearing. Projects continued by ZHO.
May 24, 2016	- Use permit application, the subject of this application, submitted.
August 2, 2016	- Application deemed complete.
October 20, 2016	- ZHO public hearing date.

DISCUSSION

A. KEY ISSUES

1. Compliance with the General Plan

Staff has determined that the project complies with all applicable County General Plan policies, specifically:

Visual Quality Policies

Policy 4.21 (*Utility Structures*) requires minimizing adverse visual impacts generated by utility structures. The project site is located within the public right-of-way along a residential road within a single-family residential area. Although the new joint utility pole will be 8' 11" taller than the existing utility pole, existing vegetation and trees between the public right-of-way and adjacent private property lines buffer the proposed project from residential areas. The proposed antennas, located 33 to 37 feet above ground, will also be surrounded by existing trees and be above the natural view of any drivers, pedestrians, or private property owners in the surrounding area.

Four equipment clusters (two remote radio units, one baseband unit cabinet, and one disconnect switch) will be located on the lower half of the new joint utility pole. To ensure visual impacts are minimized, the equipment clusters will be similar in scale and appearance to equipment typically found on utility poles and be painted brown to match the wood material of the new joint utility pole.

2. Compliance with Zoning Regulations

The proposed project area is located within the public right-of-way in the R-1/S-10 Zoning District. The zoning district standards, with the exception of height, are not applicable since the site is located within the Cuesta Real public right-of-way.

The maximum height allowed in the R-1/S-10 Zoning District is 36 feet. The proposed project involves replacing an existing 38' 7" utility pole and installing a new wireless telecommunication facility on the new joint utility pole, resulting in a maximum height of 47' 6".

Section 6512.2.1.2 (*Development And Design Standards For New Wireless Telecommunication Facilities That Are Not Co-Location Facilities*) of the San Mateo County Zoning Regulations states, in any Residential (R) District, that no monopole or antenna shall exceed the maximum height for structures allowed in that district, except that new equipment on an existing facility in the public right-of-way shall be allowed to exceed the maximum height for structures allowed in that district by 10% of the height of the existing facility, or by five feet, whichever is less. Although the utility pole will be replaced, the new joint utility pole will remain in the same location and serve its original use as a PG&E facility. The increase in height of the new joint utility pole will allow PG&E to comply with California Public Utilities Commission regulations and principles of electrical safety that County regulations do not seek to contradict. The new equipment for the wireless telecommunication facility will be in compliance with this section by maintaining a maximum height of 37 feet.

3. Compliance with Wireless Telecommunication Facilities Ordinance

Staff has reviewed the project against the provisions of the Wireless Telecommunication Facilities (WTF) Ordinance and determined that the project complies with the applicable standards discussed below:

a. Development and Design Standards

Section 6512.2.A states that new wireless telecommunication facilities shall be prohibited in a Sensitive Habitat, as defined by

Policy 1.8 of the General Plan (*Definition of Sensitive Habitats*) for facilities proposed outside of the Coastal Zone.

The project is not located in a sensitive habitat, as defined by Policy 1.8 of the General Plan. The new joint utility pole will replace the existing utility pole and be in the same location.

Section 6512.2.B prohibits new wireless telecommunication facilities from being located in areas zoned Residential (R), unless the applicant demonstrates that a review has been conducted of other options and no other sites or combination of sites allow feasible service or adequate capacity and coverage.

The proposed facility will be located on a new joint utility pole within a public right-of-way in the R-1/S-10 Zoning District. The applicant chose the proposed location to adequately provide AT&T wireless voice and data coverage to the surrounding area where there is currently a significant gap in service coverage. The proposed facility is a part of a larger Distribution Antenna System (DAS) providing coverage to the La Honda area that is very difficult to cover using traditional macro wireless telecommunications facilities due to local topography and mature vegetation. The proposed facility will cover transient traffic along the roadways and provide in-building service to the surrounding residences.

Alternative locations were submitted in 2014 under PLN 2014-00395 and PLN 2014-00396, but continued by the Zoning Hearing Officer (ZHO) for the applicant to research alternative sites.

In the Extenet La Honda Node 61G Alternative Site Analysis (see Attachment C), the applicant has identified and researched alternative sites within a 2.5 mile radius. The analysis includes eighteen alternative locations, which include the two locations presented in 2014. The two locations would both need to be constructed to fill the wireless coverage gap, and in addition to the outcome of their projects in 2014, they were ruled out as viable candidates. The other sixteen alternative locations were ruled out due to additional impacts that may be presented if chosen which may require the relocation of existing transformers, tree trimming or removal. Other challenges were presented for these alternative locations such as inadequate space on the existing poles, limited climbing space for maintenance, inability to co-locate, topographical challenges, and increased intrusiveness on the surrounding neighborhoods. A macro antenna farm at 155 Sears Ranch Road was the only one tower site found within a 2.5 mile radius. However, placing the proposed facility at the macro antenna farm would not fill the significant gap in coverage. Two alternative

locations in the eastern portion of the neighborhood were also proposed by the La Honda Community, but the nearby trees and terrain would prevent the facility from working effectively.

Among the researched locations, the proposed location is the least intrusive and will fill the significant wireless coverage gap necessary to provide adequate wireless and data coverage.

Section 6512.2.C prohibits new wireless telecommunication facilities to be located in areas where co-location on existing facilities would provide equivalent coverage with less environmental impacts.

The applicant was unable to identify any existing wireless facilities within a 2.5 mile radius that would either allow co-location or provide coverage to the target area. The only viable alternative location is the existing macro antenna farm at 155 Sears Ranch Road. However, as discussed in the section above, this alternative site is not feasible due to its inability to fill the significant gap in coverage.

Section 6512.2.D requires new wireless telecommunication facilities to be constructed so as to accommodate co-location, and must be made available for co-location.

Future co-location is technically feasible as long as the proposed facility complies with California Public Utilities Commission General Order 95 (GO95) engineering requirements. However, it would be difficult to comply with the GO95 safety and separation requirements if another wireless facility were to be installed at this location. Therefore, the applicant does not expect future co-location.

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

The proposed facility includes two panel antennas located at a maximum height of 37 feet mounted on a new joint utility pole located in a public right-of-way. The new joint utility pole will replace the existing utility pole in the same location. The antennas will be above the natural view of any drivers, pedestrians, or private property owners in the surrounding area. No trees or vegetation are proposed for removal. The new joint utility pole will be constructed of wood material and the four equipment clusters and antennas will be painted brown to

match the utility pole as recommended in Condition of Approval No. 4 (see Attachment A).

Section 6512.2.G requires that the exterior of wireless telecommunication facilities be constructed of non-reflective materials.

The proposed facility will be constructed of non-reflective materials. As discussed in the section above, the facility will be painted brown to match the brown wood material of the new joint utility pole.

Section 6512.2.H requires that wireless telecommunication facilities comply with all the requirements of the underlying zoning district, including, but not limited to, setbacks.

As discussed in Section 2, Compliance with Zoning Regulations, the proposed facility will comply with all requirements of the R-1/S-10 Zoning District. The new joint utility pole will be in the same location as the existing utility pole in the public right-of-way and is not subject to the development standards for setbacks.

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

The maximum height allowed in the R-1/S-10 Zoning District is 36 feet. The proposed project involves replacing an existing 38' 7" utility pole and installing a new wireless telecommunication facility on the new joint utility pole, resulting in a maximum height of 47' 6". As discussed in Section A.2, the new equipment for the wireless telecommunication facility will be in compliance with this section by maintaining a maximum height of 37 feet.

b. Performance Standards

The proposed project meets the required standards of Section 6512.3 (*Performance Standards for New Wireless Telecommunication Facilities That Are Not Co-Location Facilities*) for lighting, licensing, provision of a permanent power source, timely removal of the facility, and visual resource protection. There is no lighting proposed, proper licenses will be obtained from both the Federal Communications Commission (FCC) and the California Public Utilities Commission (CPUC), power for the facility will be provided by PG&E, visual impact will be minimal, and conditions of approval will require maintenance

and/or removal of the facility when no longer in operation. Furthermore, road access to the project site is existing and no noise in excess of San Mateo County's Noise Ordinance will be produced. Conditions of Approval Nos. 8-19 were added to ensure compliance with the performance standards of this section (see Attachment A).

4. Compliance with Use Permit Findings

For the use permit to be approved by the Zoning Hearing Officer, the following findings must be made:

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

Cellular communications facilities, such as this proposed project, require the submittal and review of radio frequency (RF) reports to ensure that the RF emissions from the proposed antennas do not exceed the Federal Communications Commission public exposure limits. The applicant submitted a radio frequency report prepared by Hammett & Edison, Inc., dated May 19, 2016 confirming that the proposed facility will comply with the prevailing standards for limiting public exposure to radio frequency energy and thus will not cause a significant impact on the environment (see Attachment D). The report states that the maximum RF level at ground level is calculated to be 1.6% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of the nearby residences is 4.6% 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. Due to the location of the mounted antennas, they will not be accessible to the general public and therefore no mitigation measures are necessary to comply with the FCC public exposure guidelines. To ensure compliance with occupational exposure limitations, Staff has included Condition of Approval No. 20, recommended by Hammett & Edison, Inc., for the posting of explanatory warning signs at the antennas and/or on the pole below the antennas, readily visible from any angle of approach to persons who may need to work within the area (see Attachment A).

Furthermore, the proposed facility will be unmanned, operate at all times, and be serviced once a year by an AT&T technician. The proposed facility will not generate significant traffic, noise, or intensification of use of the site.

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

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

Staff has determined that installation of a cellular facility at this location will allow for increased clarity, range, and capacity of the existing cellular network and will enhance services for the public. The proposed facility is the least intrusive option available to close the significant AT&T service gap in this area of La Honda. The proposed facility will use existing utility infrastructure and add small equipment without disturbing the character of the neighborhood.

B. ENVIRONMENTAL REVIEW

This project is categorically exempt pursuant to Section 15303, Class 3, of the California Environmental Quality Act (CEQA) related to the construction of a new, small structure and installation of small new equipment and a facility in a small structure.

C. REVIEWING AGENCIES

	Approve	Conditions	Deny
Building Inspection Section	X		
Cal-Fire	X		
Department of Public Works	X	X	

ATTACHMENTS

- A. Recommended Findings and Conditions of Approval
- B. Project Plans
- C. Extenet La Honda Node 61G Alternative Site Analysis
- D. Radio Frequency Radiation Report prepared by Hammett & Edison, Inc., dated May 19, 2016
- E. Photo Simulations

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County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2016-00216 Hearing Date: October 20, 2016

Prepared By: Carmelisa Morales
Project Planner

For Adoption By: Zoning Hearing Officer

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That this project is categorically exempt from environmental review, per Class 3, Section 15303, of the California Environmental Quality Act (CEQA) Guidelines for construction of a new, small structure and installation of small new equipment and a facility in a small structure.

Regarding the Use Permit, Find:

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

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. This approval applies only to the proposal, documents, and plans described in this report and submitted to and approved by the Zoning Hearing Officer on May 20, 2016. Minor revisions or modifications may be approved by the Community Development Director if they are consistent with the intent of and in substantial conformance with this approval.
2. This use permit shall be for the proposed project only. Any change or change in intensity of use shall require an amendment to the use permit. Amendment to this

use permit requires an application for amendment, payment of applicable fees, and consideration at a public hearing.

3. This permit shall be valid for ten (10) years until October 20, 2026. If the applicant seeks to renew this permit, renewal shall be applied for six (6) months prior to expiration with the Planning and Building Department and shall be accompanied by the renewal application and fee applicable at that time. Renewal of this permit shall be considered at a public hearing.
4. The applicant shall paint the proposed antennas brown and the equipment cabinets shall be painted a non-reflective color to match the utility pole. Two copies of color samples shall be submitted to the Current Planning Section at the time of application for a building permit. Color verification will be confirmed by the Current Planning Section prior to a final inspection for the building permit.
5. During project construction, the applicant shall, pursuant to Chapter 4.100 of the San Mateo County Ordinance Code, minimize the transport and discharge of stormwater runoff from the construction site into storm drain systems by:
 - a. Stabilizing all denuded areas and maintaining erosion control measures continuously between October 1 and April 30. Stabilizing shall include both proactive measures, such as the placement of hay bales or coir netting, and passive measures, such as revegetating disturbed areas with plants propagated from seed collected in the immediate area.
 - b. Storing, handling, and disposing of construction materials and wastes properly, so as to prevent their contact with stormwater.
 - c. Controlling and preventing the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, wash water or sediments, and non-stormwater discharges to storm drains and watercourses.
 - d. Avoiding cleaning, fueling, or maintaining vehicles on-site, except in a designated area where wash water is contained and treated.
 - e. Delineating with field markers clearing limits, easements, setbacks, sensitive or critical areas, buffer zones, trees, and drainage courses.
 - f. Protecting adjacent properties and undisturbed areas from construction impacts using vegetative buffer strips, sediment barriers or filters, dikes, mulching, or other measures as appropriate.
 - g. Performing clearing and earth-moving activities only during dry weather.
 - h. Limiting and timing application of pesticides and fertilizers to prevent polluted runoff.

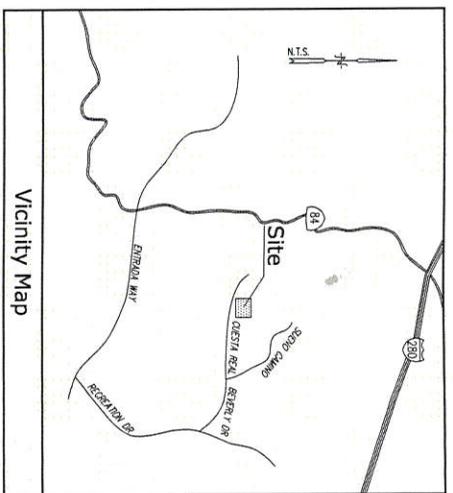
- i. Limiting construction access routes and stabilizing designated access points.
 - j. Avoiding tracking dirt or other materials off-site; cleaning off-site paved areas and sidewalks using dry sweeping methods.
 - k. The contractor shall train and provide instruction to all employees and subcontractors regarding the construction best management practices.
6. This permit does not allow for the removal of any trees. Any tree removal will require a separate permitting process.
7. The applicant shall not enter into a contract with the landowner or lessee which reserves for one company exclusive use of structures on this site for telecommunications facilities.
8. The wireless telecommunications facility shall not be lighted or marked unless required by the Federal Communications Commission (FCC) or the Federal Aviation Administration (FAA).
9. The applicant shall file, receive, and maintain all necessary licenses and registrations from the Federal Communications Commission (FCC), the California Public Utilities Commission (CPUC), and any other applicable regulatory bodies prior to initiating the operation of the co-location facility. The applicant shall supply the Planning and Building Department with evidence of each of these licenses and registrations. If any required license is ever revoked, the applicant shall inform the Planning and Building Department of the revocation within ten (10) days of receiving notice of such revocation.
10. Once a use permit is obtained, the applicant shall obtain a building permit and build in accordance with the approved plans.
11. The project's final inspection approval shall be dependent upon the applicant obtaining a permanent and operable power connection from the applicable energy provider.
12. The wireless telecommunication facility and all equipment associated with it shall be removed in its entirety by the applicant within 90 days if the FCC and/or CPUC license and registration are revoked or the facility is abandoned or no longer needed, and the site shall be restored and revegetated to blend with the surrounding area. The owner and/or operator of the wireless telecommunication facility shall notify the County Planning Department upon abandonment of the facility. Restoration and revegetation shall be completed within two (2) months of the removal of the facility.
13. Wireless telecommunications facilities shall be maintained by the permittee(s) and subsequent owners in a manner that implements visual resource protection requirements of Section 6512.2.E and F above (e.g., landscape maintenance and painting), as well as all other applicable zoning standards and permit conditions.

14. Road access shall be designed, constructed, and maintained over the life of the project to avoid erosion, as well as to minimize sedimentation in nearby streams.
15. Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property shall be limited to the hours from 7:00 a.m. to 6:00 p.m., weekdays and 9:00 a.m. to 5:00 p.m., Saturdays. Said activities are prohibited on Sundays, Thanksgiving, and Christmas (San Mateo Ordinance Code Section 4.88.360).
16. The use of diesel generators or any other emergency backup energy source shall comply with the San Mateo County Noise Ordinance.
17. If technically practical and without creating any interruption in commercial service caused by electronic magnetic interference (EMI), floor space, tower space and/or rack space for equipment in a wireless telecommunication facility shall be made available to the County for public safety communication use.
18. To reduce the impact of construction activities within the public right-of-way and/or on neighboring properties, the applicant shall ensure that no construction-related vehicles impede through traffic along Cuesta Real, Canada Vista, or other public right-of-ways.
19. To reduce the impact of potential traffic hazards from service visits to the facility, the applicant shall ensure that no vehicles related to the service and/or maintenance of the cellular facility impede through traffic along Cuesta Real, Canada Vista, or other public right-of-ways.
20. Explanatory signs are required to be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach to persons who might need to work within the project area.
21. Prior to final inspection for the building permit, the applicant must contact the Project Planner to close the two alternative site proposals under PLN 2014-00395 and PLN 2014-00396.

Department of Public Works

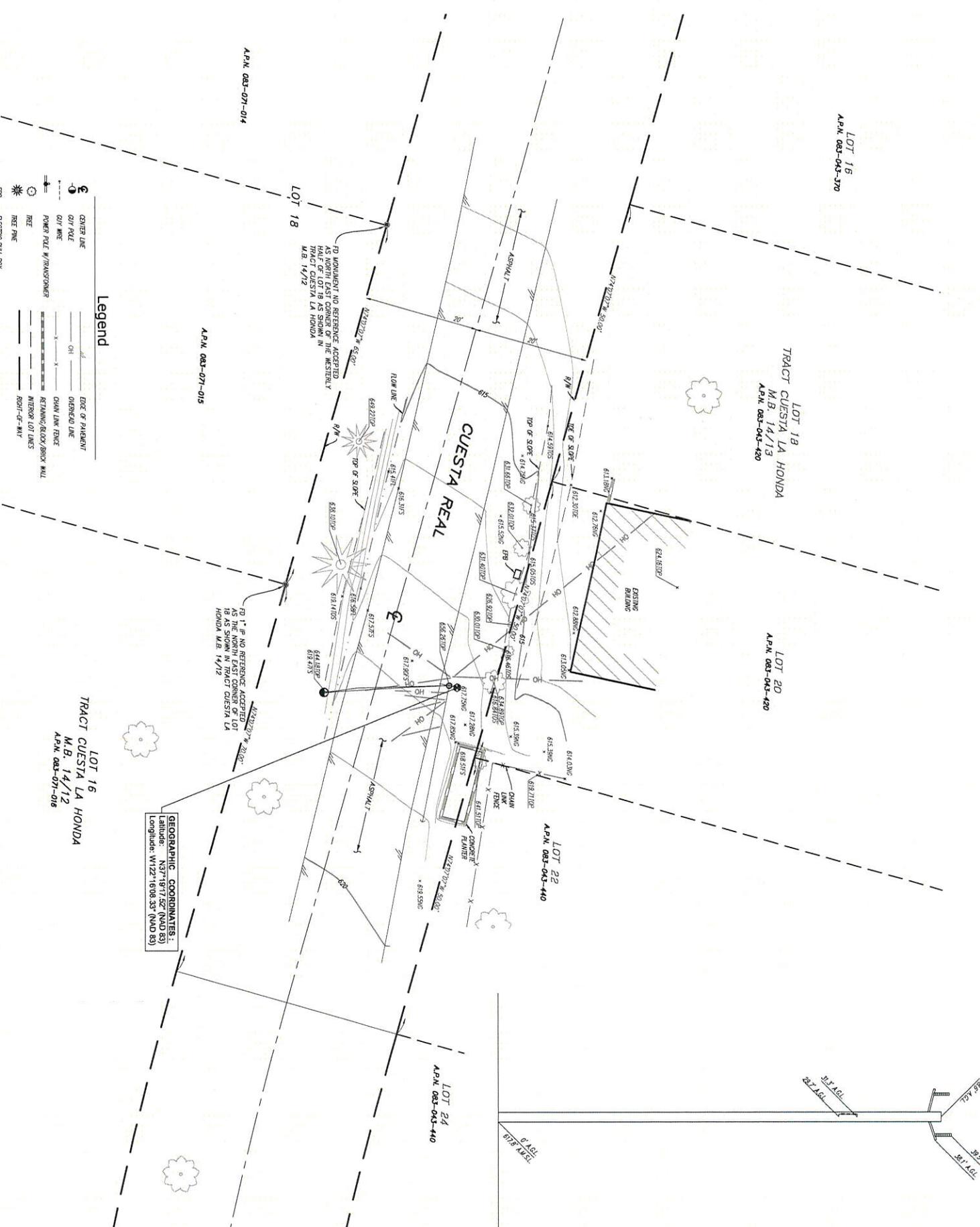
22. No proposed construction work within the County right-of-way shall begin until County requirements for the issuance of an encroachment permit, including review of the plans, have been met and an encroachment permit issued. The applicant shall contact a Department of Public Works Inspector 48 hours prior to commencing work in the right-of-way.

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Overall Site Detail
SCALE: 1"=10'

Existing Utility Pole
WESTERN ELEVATION (N.T.S.)



GEOGRAPHIC COORDINATES:
Latitude: N37°19'17.52" (NAD 83)
Longitude: W122°16'08.33" (NAD 83)

Geographic Coordinates at Existing Utility Pole

1983 DATUM LATITUDE: 37° 19' 17.52" N, LONGITUDE: 122° 16' 08.33" W
ELEVATION = 617.9 FEET ABOVE MEAN SEA LEVEL

DESCRIPTION:
THE LATITUDE AND LONGITUDE SHOWN ABOVE ARE ACCURATE TO WITHIN +/- 15 FEET HORIZONTALLY AND THAT THE ELEVATIONS SHOWN ABOVE ARE ACCURATE TO WITHIN +/- 3 FEET VERTICALLY. THE HORIZONTAL DATA (GEOGRAPHIC COORDINATES) IS IN TERMS OF THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AND IS EXPRESSED IN DEGREES (1) MINUTES (1) AND SECONDS (1) TO THE NEAREST HUNDRETH OF A SECOND (NAD 83) AND IS DETERMINED TO THE NEAREST TENTH OF A FOOT

Assessor's Parcel No.

Easements

Basis of Bearings

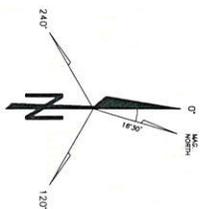
THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATES SYSTEM (CGS 83), ZONE 4, 1983 DATUM, DEFINED BY SECTIONS 8801 TO 8819 OF THE CALIFORNIA PUBLIC RESOURCES CODE.

Bench Mark

THE CALIFORNIA SPATIAL REFERENCE CENTER COA 83 TYPIC, ELEVATION = 151.71 FEET (NAD 83)

Date of Survey

MARCH 21, 2016



LOT 16
APN: 083-043-370

LOT 18
TRACT CUESTA LA HONDA
M.B. 14/13
APN: 083-043-420

LOT 20
APN: 083-043-420

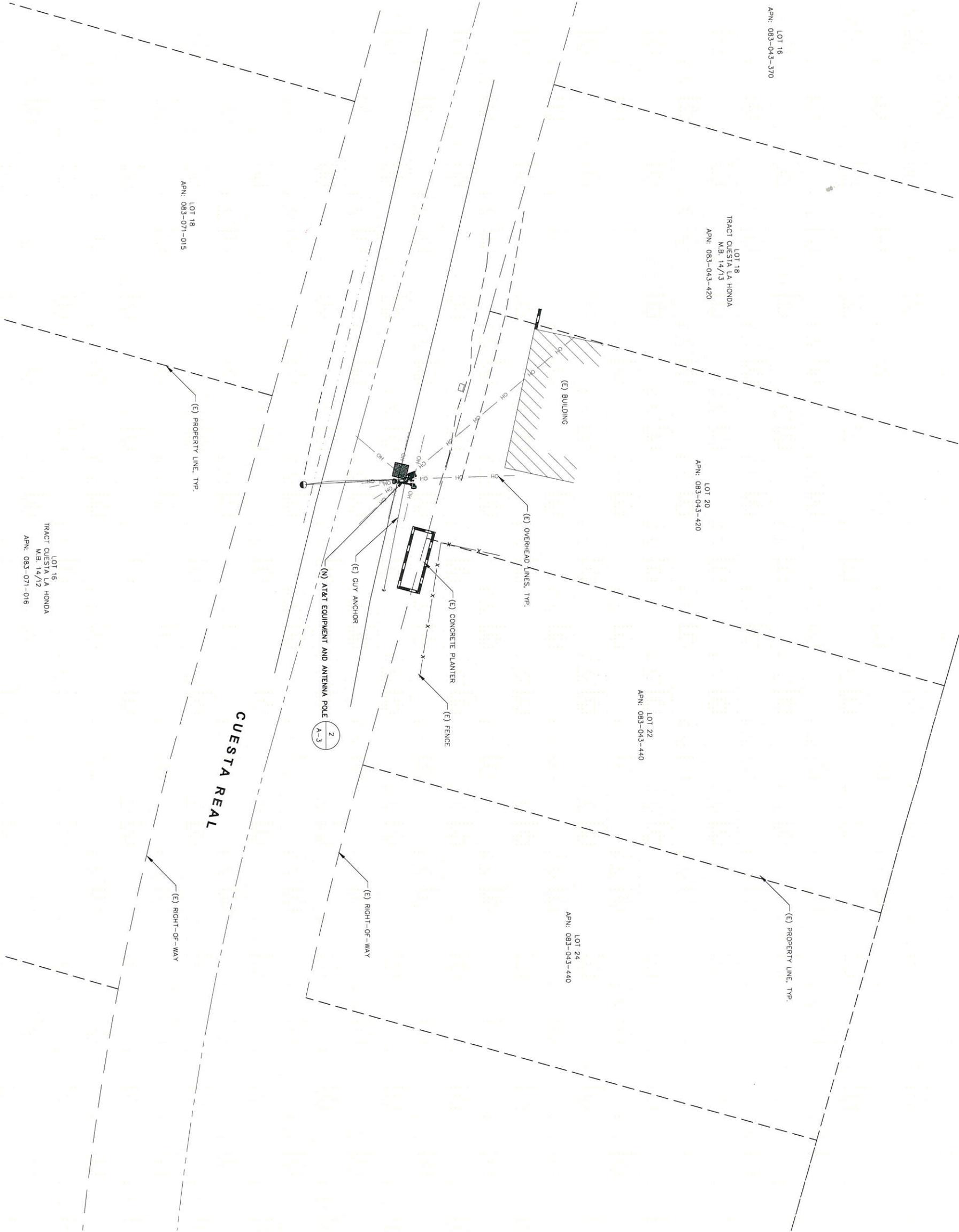
LOT 22
APN: 083-043-440

LOT 24
APN: 083-043-440

LOT 18
APN: 083-071-015

LOT 16
TRACT CUESTA LA HONDA
M.B. 14/12
APN: 083-071-016

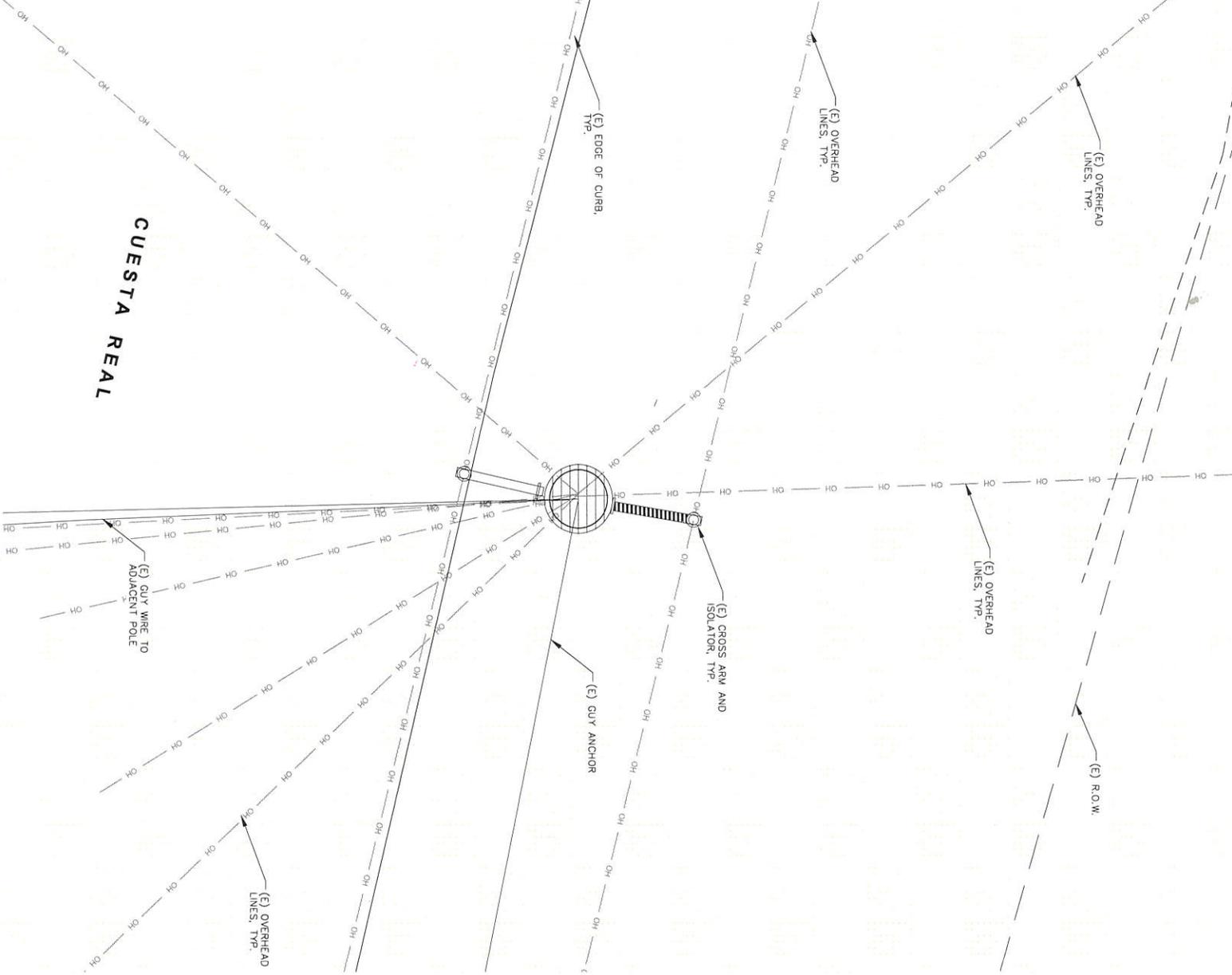
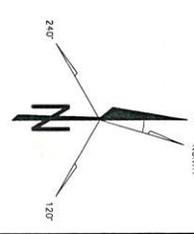
CUESTA REAL



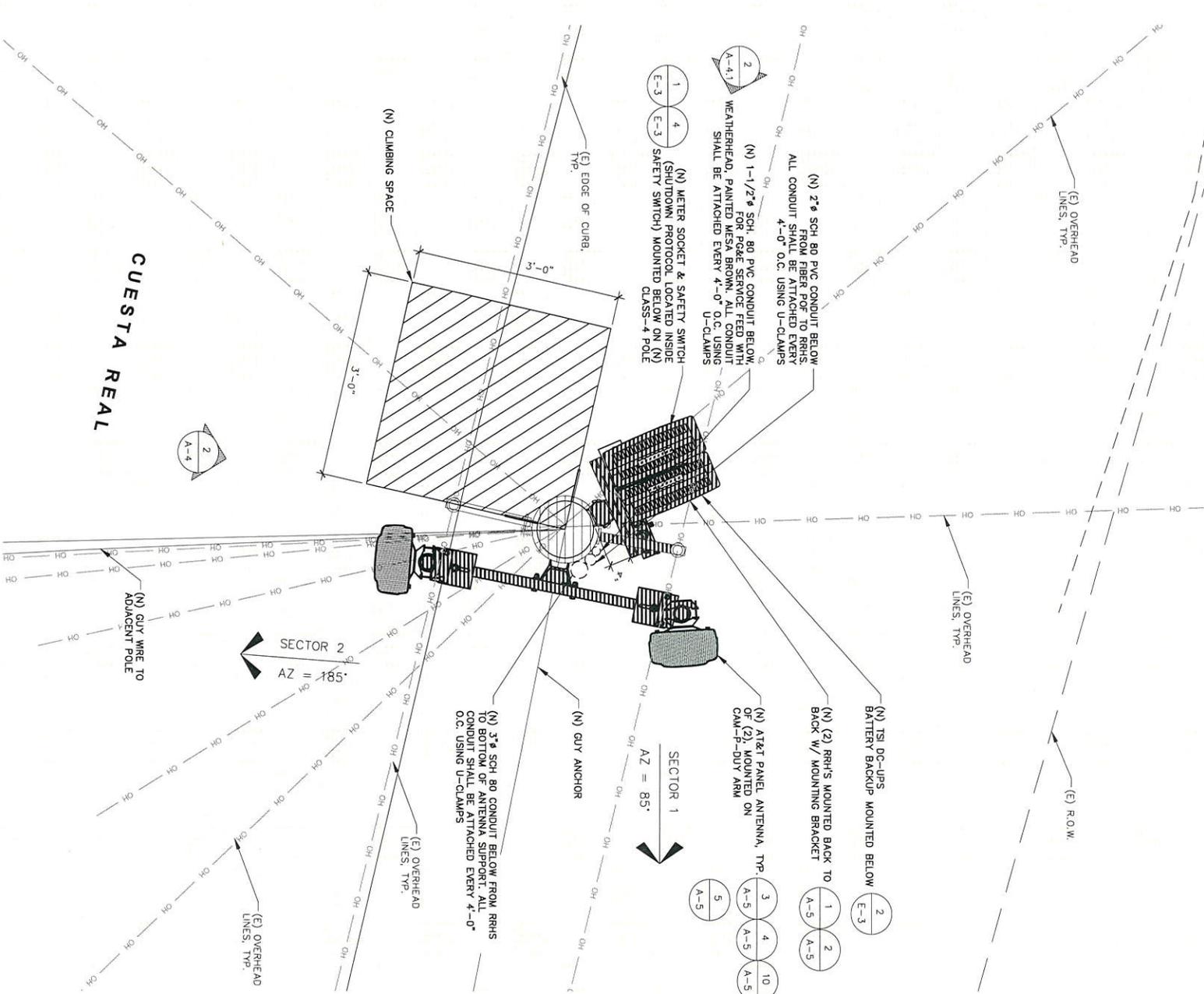
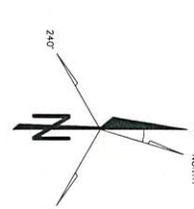




Attachment B

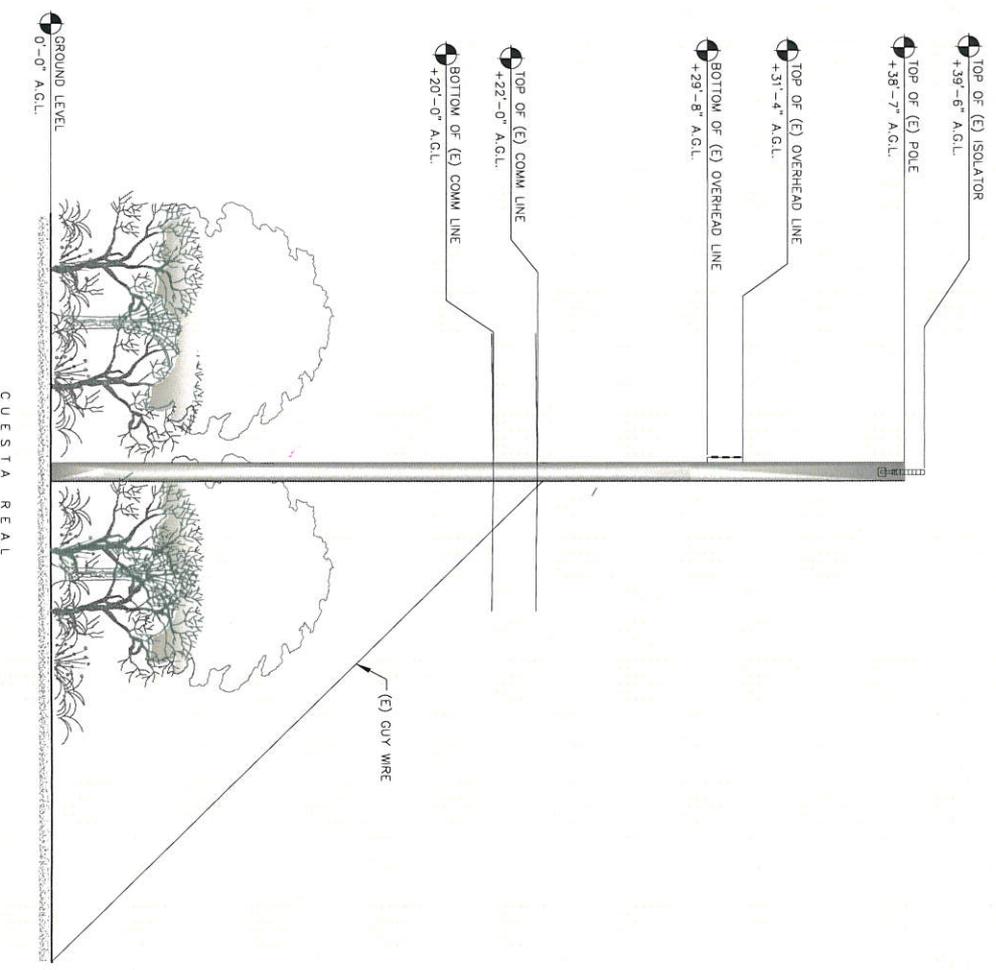


SCALE: 1/8" = 1'-0"



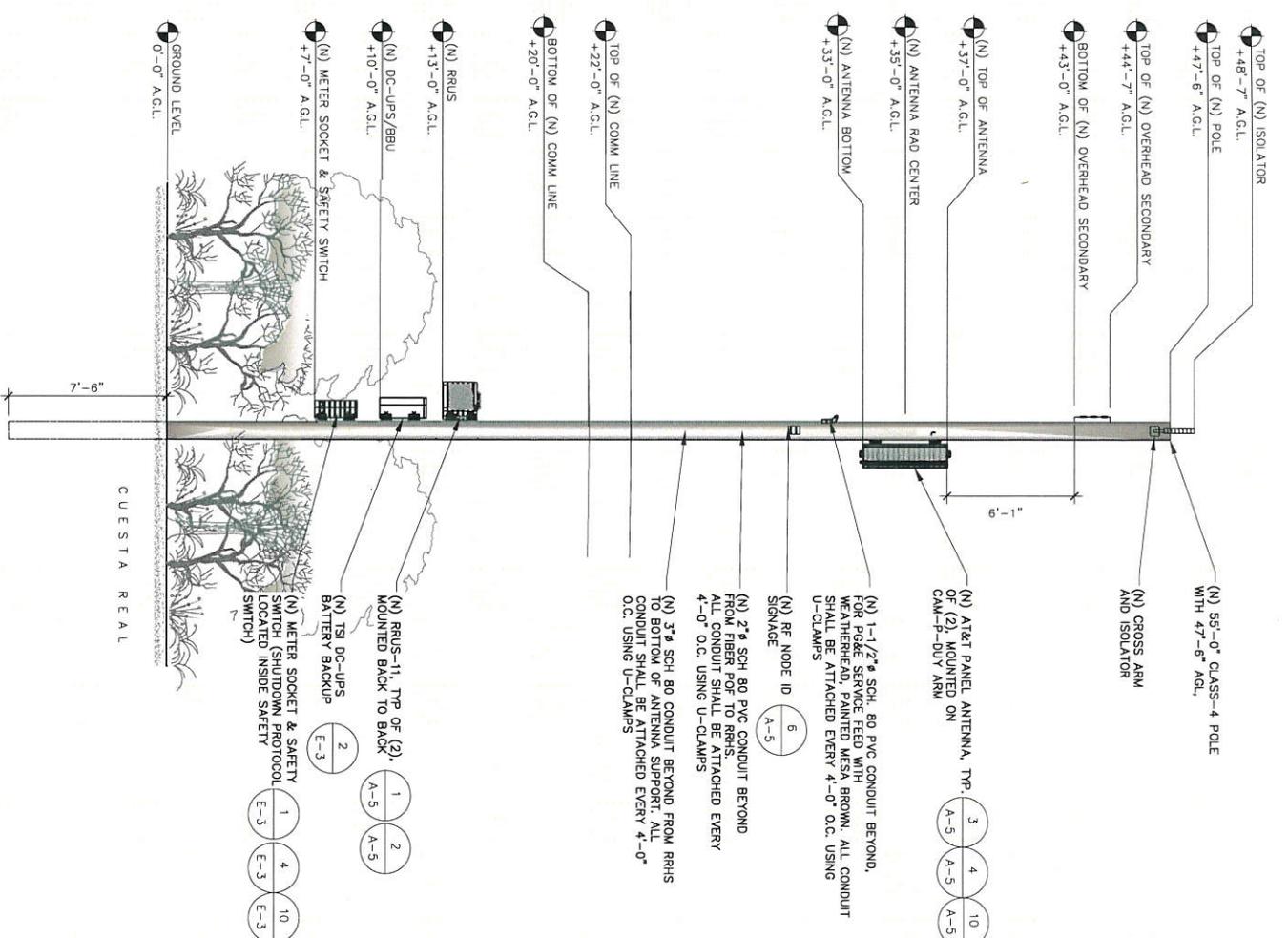
SCALE: 1/8" = 1'-0"

Attachment B



EXISTING SOUTH ELEVATION

SCALE: 1/2" = 1'-0"



2 PROPOSED SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

Attachment B

NOTE:
NEW VINYL SIGN TO BE PROVIDED BY VERIZON WIRELESS AND BE PLACED ON THE POLE 13'-0" ABOVE GROUND LEVEL. COLOR TO BE DETERMINED PRIOR TO INSTALL.

NOTICE

FCC Regulated Antennas affixed to this pole



RF Exposure near antennas may exceed the FCC General Population Maximum Exposure limit. Workers should maintain a minimum approach distance of 3 Feet.

Contact Verizon Wireless at 800-264-6620 if the minimum approach distance cannot be maintained.

Site No. _____ Splitter No. _____ Zone No. _____

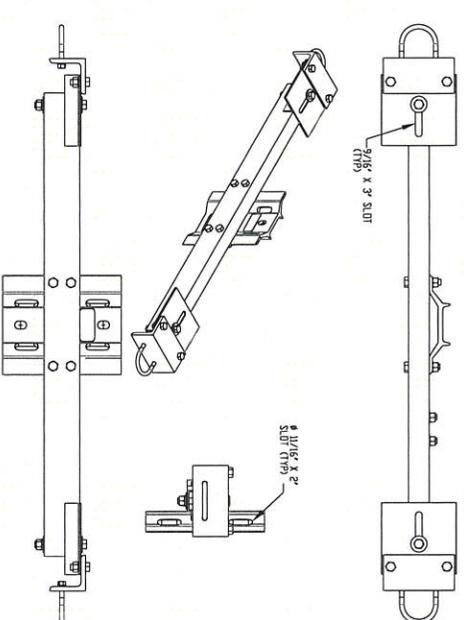
Address: _____

RF WARNING SIGNAGE

SCALE: N.T.S. 6

SCALE: N.T.S. 11

NOT USED



ALUMA-FORM, Inc.
ALUMINUM FORMWORK SYSTEMS
10000 WILSON BLVD.
MURFREESBORO, TN 38557 U.S.A.
TEL: 661.324.4348

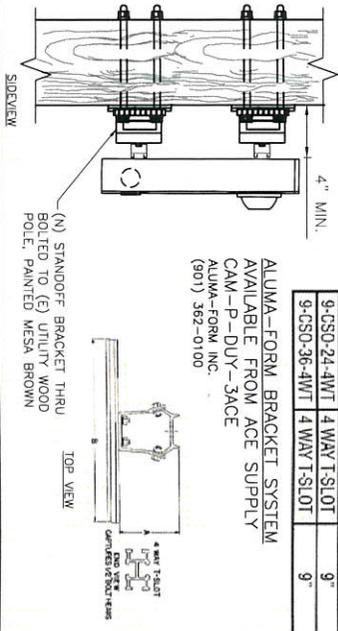
SUPPLIER: ACE SUPPLY COMPANY INC. CONTACT: BRUCE DOLL
ACE SUPPLY COMPANY INC. CONTACT: BRUCE DOLL
3095 KERNER BLVD. SUITE KELL: 415-827-0749
SAN RAFAEL, CA 94901 EMAIL: BruceDoll@aci.net

CAM-P-DUY MOUNTING BRACKET

SCALE: N.T.S. 10

Catalog Number	Product	"A" Dimension
6-CSD-12	2 WAY T-SLOT	6"
6-CSD-24	2 WAY T-SLOT	6"
6-CSD-36	2 WAY T-SLOT	6"
9-CSD-12	2 WAY T-SLOT	9"
9-CSD-24	2 WAY T-SLOT	9"
9-CSD-36	2 WAY T-SLOT	9"
6-CSD-12-4WT	4 WAY T-SLOT	6"
6-CSD-24-4WT	4 WAY T-SLOT	6"
6-CSD-36-4WT	4 WAY T-SLOT	6"
9-CSD-12-4WT	4 WAY T-SLOT	9"
9-CSD-24-4WT	4 WAY T-SLOT	9"
9-CSD-36-4WT	4 WAY T-SLOT	9"

ALUMA-FORM BRACKET SYSTEM
AVAILABLE FROM ACE SUPPLY
ALUMA-FORM INC.
(901) 362-0100



TECHNICAL EQUIPMENT STANDOFF DETAIL

SCALE: N.T.S. 9

NOT USED

GUARDS & STRAPS, CABLE PROTECT TELEPHONE AND POWER LINES WHERE CIRCUITS LEAD FROM UNDERGROUND TO OVERHEAD. GUARDS ARE 1-4-GUAGE HOT DIP GALVANIZED STEEL, FORMED INTO "U" SHAPE. STRAPS ARE MADE FROM HOT DIP GALVANIZED FLAT STEEL, SHAPED TO FIT GUARDS.

Catalog Number	Inside Dia.	Length	Approx. Ship Wt. Per Each	Mounting Strap Catalog Number - Order Separately
C2030452*	3/4"	5'	2.76 lbs.	C2030455
C2030450**	3/4"	8'	4.80 lbs.	
6531*	1-1/8"	5'	4.80 lbs.	6539*
653112*	1-1/8"	8'	5.60 lbs.	
6532*	2-3/16"	5'	8.60 lbs.	6539*
6533*	2-3/16"	8'	12.60 lbs.	
6534T**	3 3/16"	5'	15.25 lbs.	6540*
6535*	3 3/16"	8'	18.00 lbs.	
C2030451**	3-11/16"	8'	22.65 lbs.	C2030456

GUARDS, PLASTIC MOLDING

KOVER-GARDO® molding protects surface ground wires, lead wires and conductors. Flame retardant and easy to install. Makes wood or metal molding obsolete.



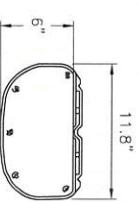
Catalog Number	Inside Dia.	Length	Thickness	Approx. Ship Wt. per Each	Mounting Strap Catalog Number - Order Separately	Mounting Hole Dia.	Approx. Material Size Per Each
59K312	1/2"	96"	1/16"	0.48 lbs.	KS12	1/8"	1/16" x 5/8"
59K334	3/4"	96"	1/16"	0.75 lbs.	N/A		
59K31	1"	5/64"	5/64"	0.95 lbs.	N/A		



RISER GUARD DETAIL

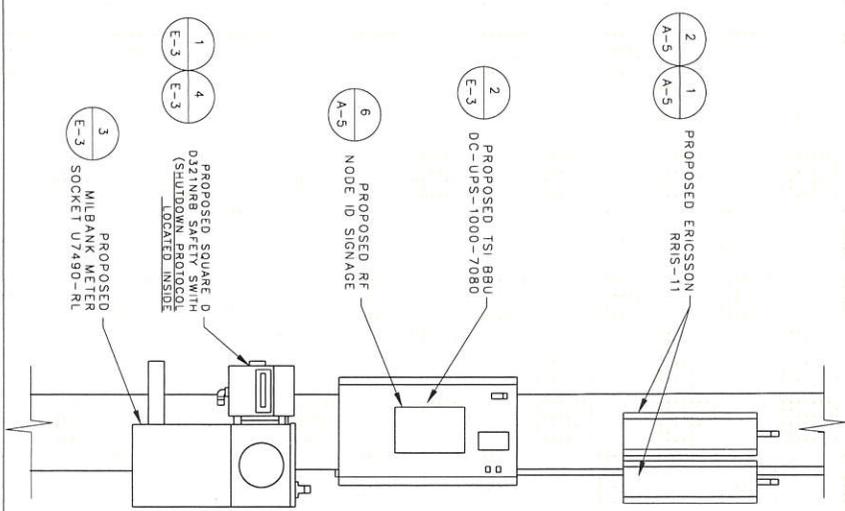
SCALE: N.T.S. 5

SPECIFICATIONS:
DIMENSIONS: 55.2X11.8X6 INCHES
WIND LOAD: 93 MPH
WIND SURVIVAL RATING: 150 MPH
WEIGHT: 50 LBS
MOUNTING: MOUNTING HARDWARE INCLUDED FOR 2 TO 4.6 INCH



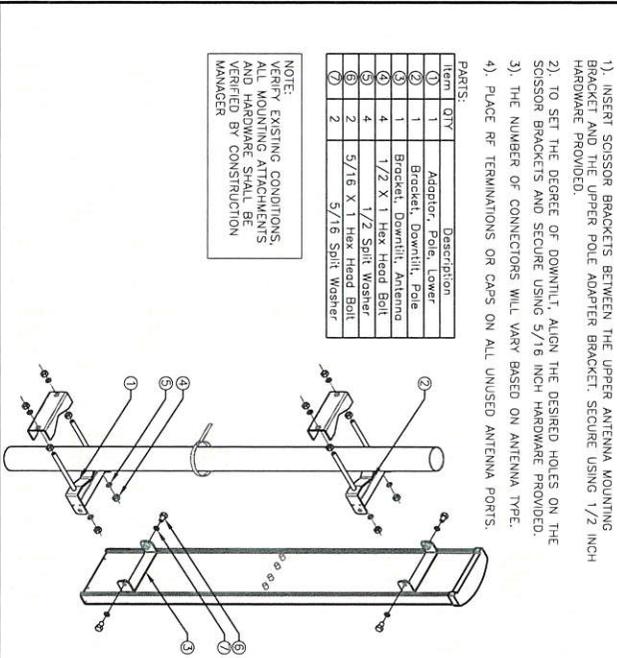
EXTENET EQUIPMENT CONFIG.

SCALE: N.T.S. 8



ANTENNA MOUNT DETAIL

SCALE: N.T.S. 3



NOTE:
VERIFY EXISTING CONDITIONS AND MOUNTING ATTACHMENTS AND HARDWARE SHALL BE VERIFIED BY CONSTRUCTION MANAGER

Item	Qty	Description
1	1	Adapter, Pole Lower
2	1	Bracket, Downhill, Pole
3	1	Bracket, Downhill, Antenna
4	4	1/2 X 1 Hex Head Bolt
5	4	1/2 X 1 Hex Head Bolt
6	2	5/16 X 1 Hex Head Bolt
7	2	5/16 Split Washer

- 1) INSERT SCISSOR BRACKETS BETWEEN THE UPPER ANTENNA MOUNTING BRACKET AND THE UPPER POLE ADAPTER BRACKET. SECURE USING 1/2 INCH HARDWARE PROVIDED.
- 2) TO SET THE DEGREE OF DOWNHILL, ALIGN THE DESIRED HOLES ON THE SCISSOR BRACKETS AND SECURE USING 5/16 INCH HARDWARE PROVIDED.
- 3) THE NUMBER OF CONNECTORS WILL VARY BASED ON ANTENNA TYPE.
- 4) PLACE RF TERMINATIONS OR CAPS ON ALL UNUSED ANTENNA PORTS.

Technical information for RRU support kit

Standard RRU: Ericsson RRU111
Single RRU: Ericsson RRU111
Possibility to attach RRU or 42 units or 12 TRP04 units (RRU not included)
XXX-107-28902

Expansion kit for installation of two RRU units with possibility to attach RRU or 42 units (RRU not included)

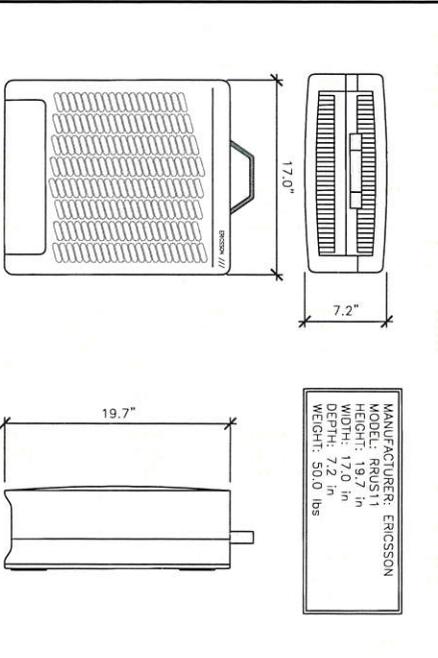
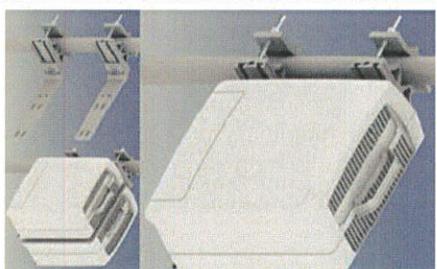
Group mounting range	Holes	Spacer	90° Angle	60° Angle
0-150 mm	0	35.55	35.55	40 mm opening
150mm-300mm	630	65.145	80.190	40 mm opening
300mm-450mm	9120	90.490	90.490	102 mm opening

Manufacturer data: Ericsson, Huawei, Zte, etc.

Dimensions: Length, Width, Height, Weight

RRU SUPPORT KIT DETAIL

SCALE: N.T.S. 2



MANUFACTURER: ERICSSON
MODEL: RRU111
HEIGHT: 19.7 in
WIDTH: 17.0 in
DEPTH: 7.2 in
WEIGHT: 50.0 lbs

Attachment B

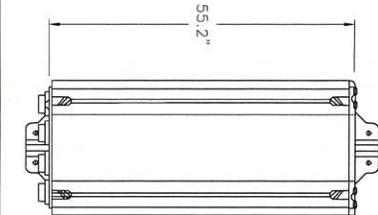
DIMENSIONS: (HxWxD)
-17.8x17.0x7.2 (452x431x285mm)
-WEIGHT: 50 LB (22KG)
-CLIMATE: -40C TO +55C
-POWER CONSUMPTION: TYPICAL 200 WATTS
-POWER/BREAKERS/PRECAUTIONS:
-120-250 VAC (1X20 AMP BREAKER) -MAX AC CABLE SIZE 8 -10 SWG
-48 VDC (1X20 AMP BREAKER)
-ERICSSON 12 AWG SHIELD POWER CABLE (SCREW PLANT CONNECTOR)

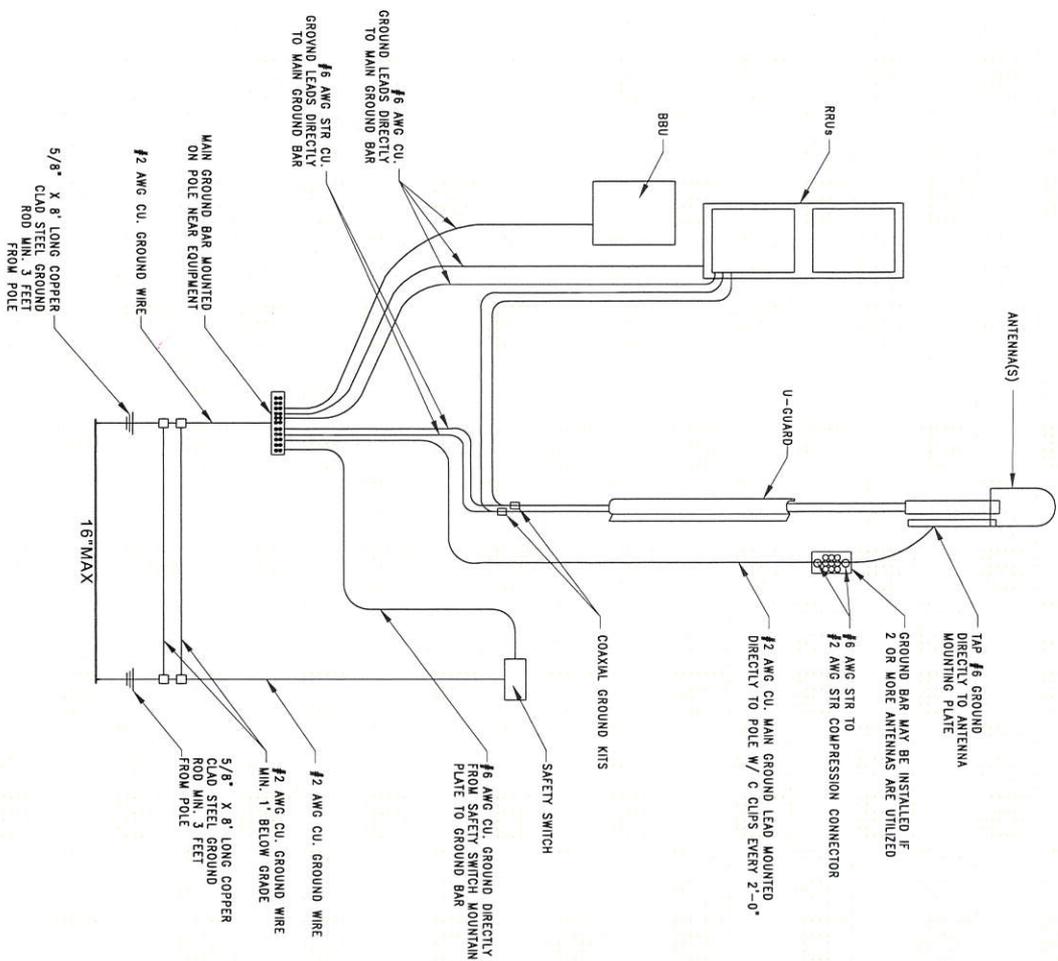
RRUS-11 DETAIL

SCALE: N.T.S. 1

KATHREIN PANEL ANTENNA

SCALE: N.T.S. 4

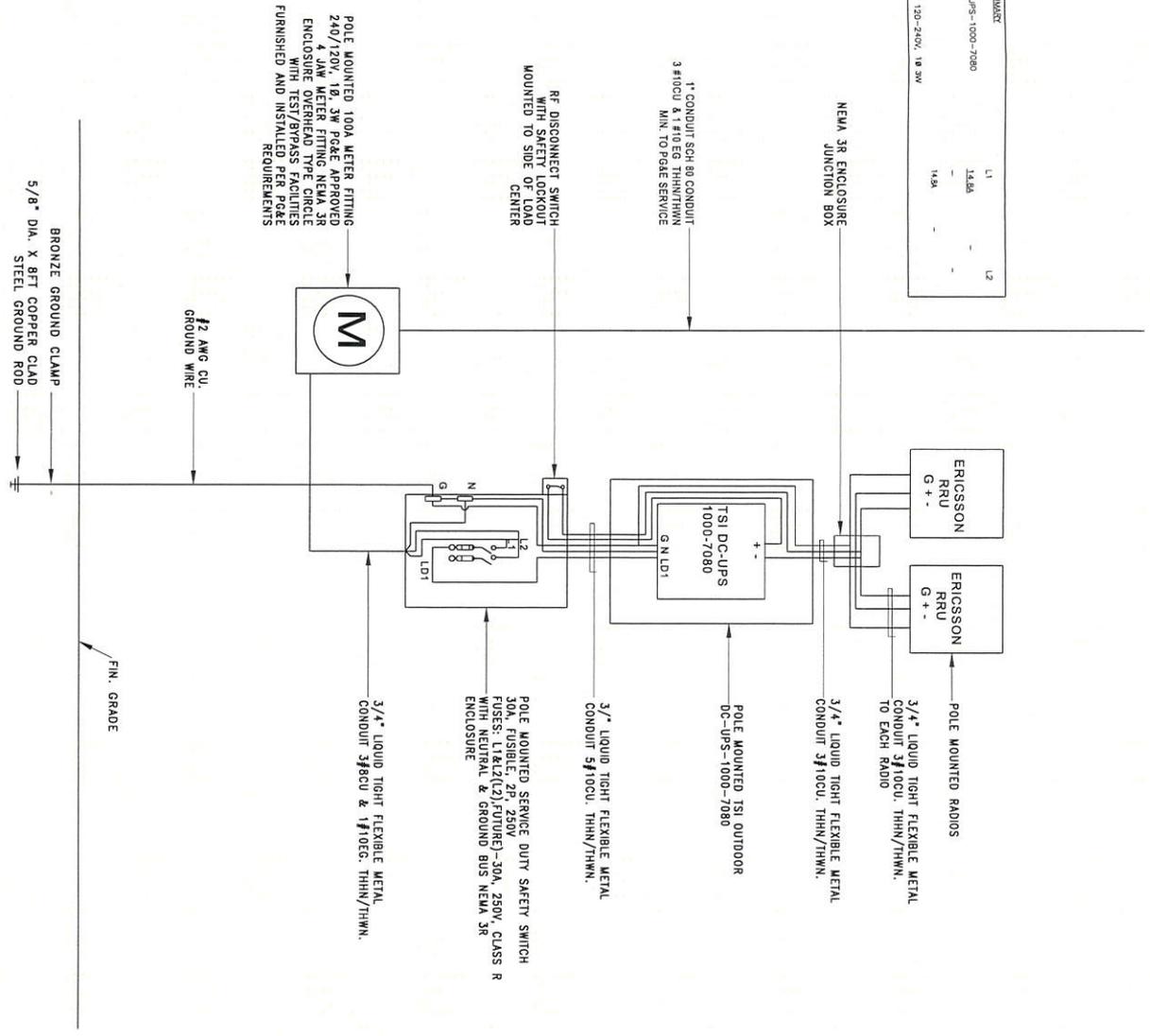




LOAD SUMMARY

TSI DC-UPS-1000-7080	L1	14.5A	-	L2
FUTURE		-	-	
TOTAL		14.5A	-	

SERVICE: 120-240V, 1Ø 3Ø



Test Block Bypass TB Series

100 Amp/600 Volt Socket Only/Self-Contained

APPLICATION

- Single meter position
- Designed to receive watt-hour meters that meet ANSI C12.10
- Overhead/underground feed
- Surface mount
- Top or bottom lead exit

CONSTRUCTION

- Type 3R construction
- Safety socket with factory installed test/bypass facilities¹
- Snap type sealing ring included
- 5th jaw provision at nine o'clock – 114TB only
- Provisions for 2 AW base caps or hub kits on top
- Padlock provision
- Ring style

STANDARDS

- UL 414 listed, complies with ANSI C12.7

FINISH

- ANSI 61 gray acrylic electrocoat finish

114TB



ACCESSORIES

- Fifth jaw kit — catalog #50371
- Center and offset pole mounting brackets
- Bussed gutters, see page 68
- AW hubs
- Screw type sealing ring — catalog #25016D
- Steel or clear lexan covers for socket opening

SCALE: N.T.S. 8 NOT USED

SCALE: N.T.S. 5

Overhead/Underground-Surface Mount

Ordering Number	AIC Rating	Branch Circuit	Approved Max. Cont.	Voltage	Service Type	Number of Jaws	Hub Prov.	Conductor Lug Range Phase Conductor (AW/Lead)	Neutral Conductor	Figure Number	Height (H)	Mount Depth (M)	Depth (D)	
114TB	+	NONE	125	100	600	10 3W	4	AW	14 AWG - 20 AWG	14 AWG - 10 AWG	Fig. 1	24	12	4 3/8
115TB	+	NONE	125	100	600	30 3W	5	AW	14 AWG - 20 AWG	14 AWG - 10 AWG	Fig. 1	24	12	4 3/8
117TB	+	NONE	125	100	600	30 AW	7	AW	14 AWG - 20 AWG	14 AWG - 10 AWG	Fig. 1	24	12	4 3/8

Attachment B

SCALE: N.T.S. 7 NOT USED

SCALE: N.T.S. 4

TB METER MAIN

SCALE: N.T.S.



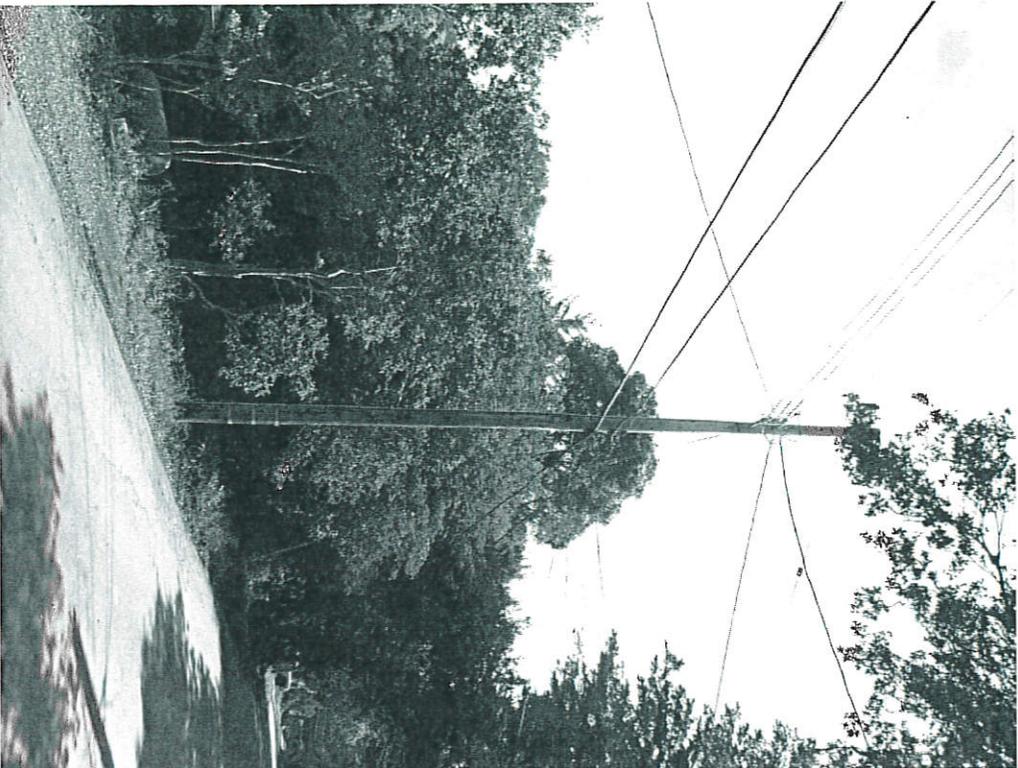
EXTENET LA HONDA NODE 61G ALTERNATIVE SITE ANALYSIS

RECEIVED

JUL 05 2016

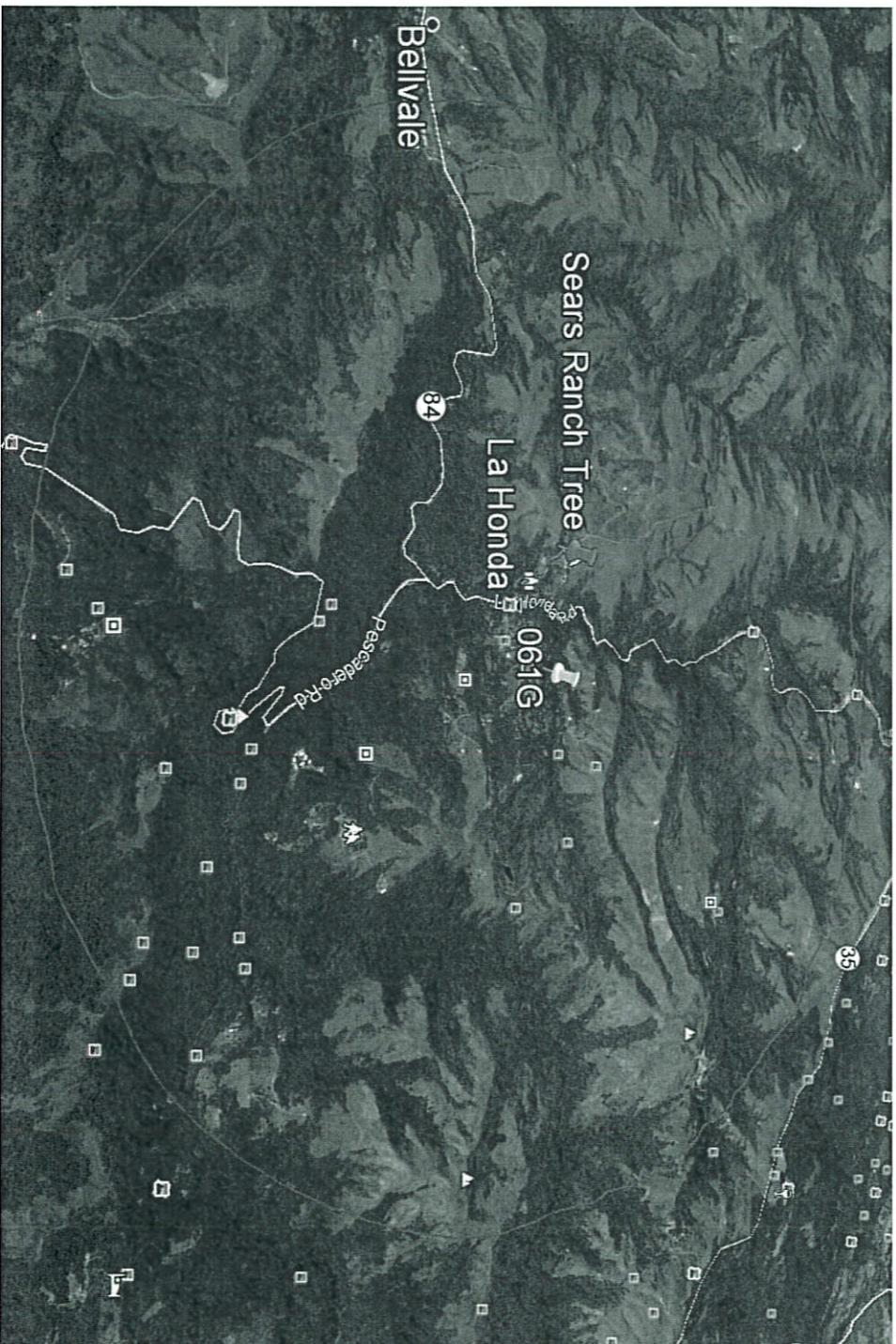
San Mateo County
Planning and Building Department

61G- PROPOSED LOCATION



- The location for ExteNet's proposed Node 61G is a joint utility pole located at 231 Cuesta Real.
- ExteNet's objective is to provide AT&T 3G and 4G wireless coverage and capacity to the La Honda area.
- ExteNet evaluated this site and nearby alternatives to verify that the selected site is the least intrusive means to close AT&T's significant service coverage gap.

MAP OF NODES 48A, 61B, SEARS RANCH MACRO & 2.5 MILE RADIUS



- This map depicts the ExeNet proposed Node 61G in relation to the Sears Ranch Road macro antenna Farm location – which is the only tower site within a 2.5 mile radius (displayed above in the red circle).
- We searched for existing towers that might be viable for co-location of our facilities by personally investigating the area and by searching on the FCC's website listing registered antenna structures (<http://wireless2.fcc.gov>).

MAP OF ALTERNATIVE POLES EVALUATED FOR NODE 61G



- The above maps depict ExteneNet's proposed Node 61G in relation to other poles in the area that were evaluated as possibly being viable alternative candidates.
- The following is an analysis of each of those 18 alternative locations.

ALTERNATIVE SEARS RANCH ROAD ANTENNA FARM



- A monopole designed to look like a pine tree (a “monopine”) is located at about 155 Sears Ranch Road (latitude 37.322616, longitude - 122.279332).
- Placing an ExteNet wireless facility here is not viable to fill the significant gaps in coverage that would otherwise be filled by Node 61G.
- Placing an ExteNet wireless facility here is too far away from the intended coverage area and would result in a signal that is otherwise blocked by trees and terrain, leaving significant coverage gaps.

NODE 64G IN COMBINATION WITH PROPOSED NODE 61G



- ExteNet will deploy proposed Node 61G in combination with Node 64G located at 8865 La Honda Road (latitude 37.319918, longitude - 122.274406).
- Node 64G is located in a commercial area.
- By using both nodes, one in a commercial area and Node 61G, in a residential area, ExteNet will be able to adequately provide coverage to the residential area.
- A combined deployment of the existing wireless facility located at Sears Ranch Road and Node 64G on La Honda Road leaves a significant coverage gap of in-building coverage in the residential area.

4G LTE Coverage – Sears Ranch Does Not Fill Coverage Gap



3G UMTS – Sears Ranch Coverage



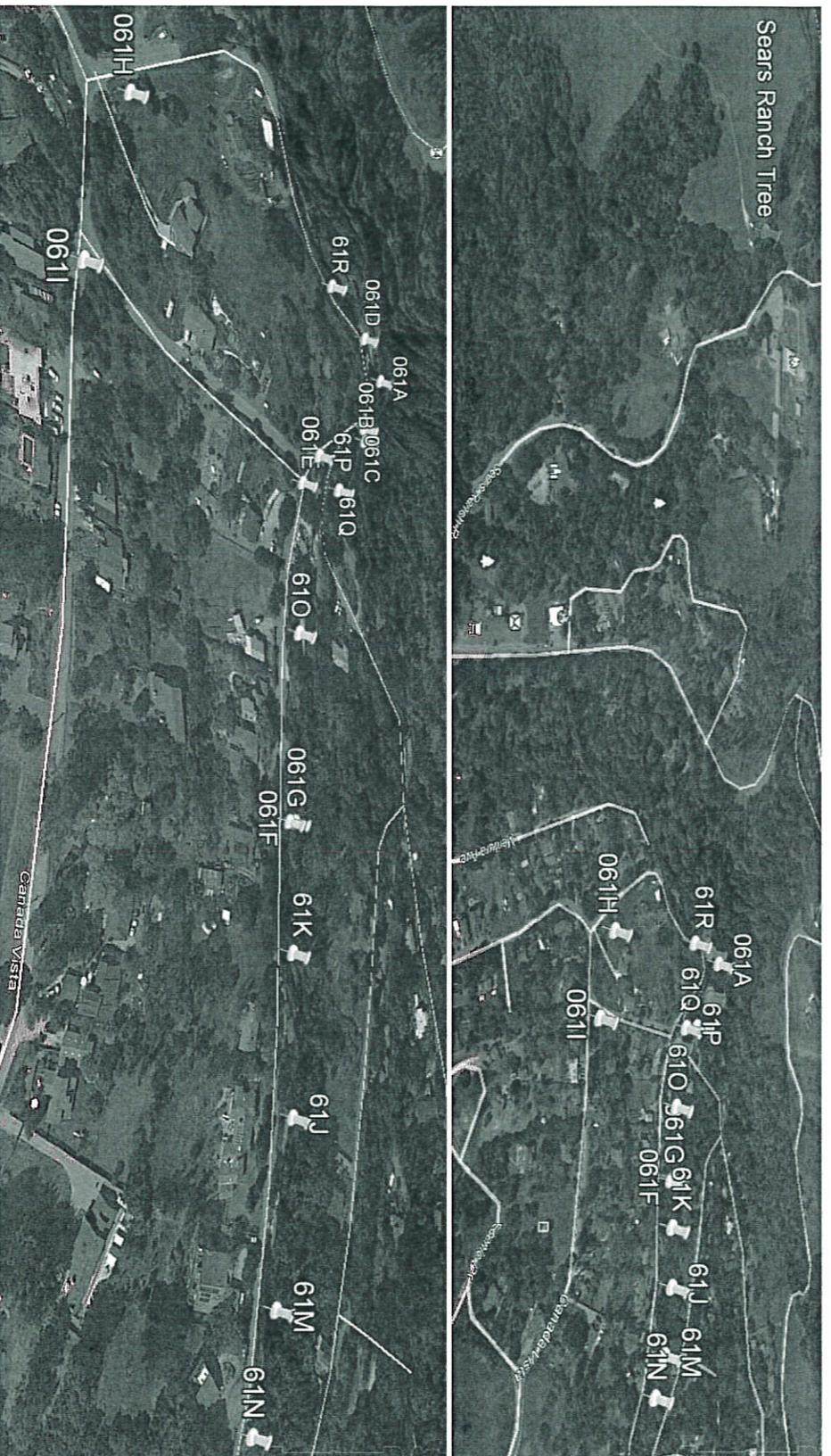
In-Building Service	
In-Transit Service	
Outdoor Service	

300 yds

3G UMTS – Node 61G Coverage

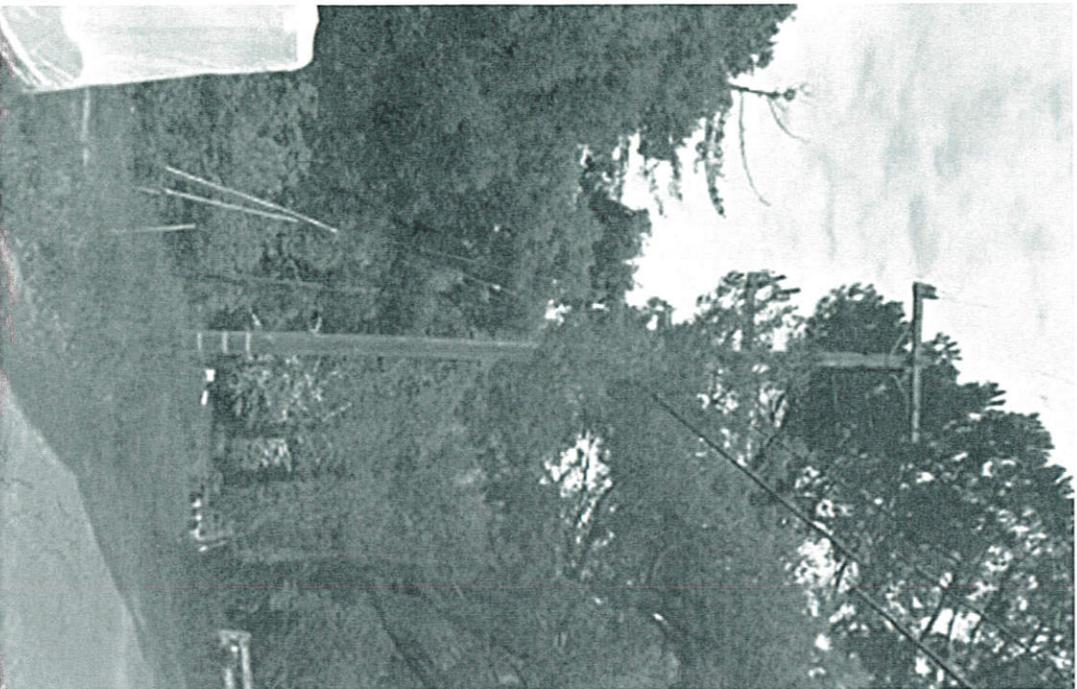


MAP OF ALTERNATIVE POLES EVALUATED FOR NODE 61G



- The above maps depict ExtNet's proposed Node 61G in relation to other poles in the area that were evaluated as possibly being viable alternative candidates.
- The following is an analysis of each of those 18 alternative locations.

ALTERNATIVE NODE 61A



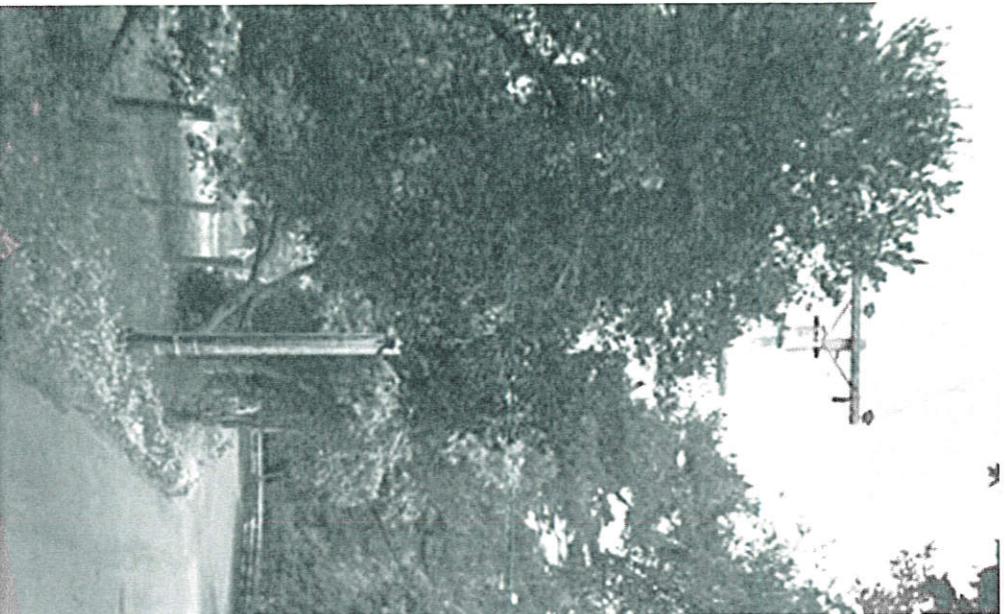
- Node 61A is at a joint utility pole near 155 Cuesta Real (37.322724, -122.271023).
- This pole was originally selected to host ExteNet's wireless facility but was eventually ruled out because cross lines and cross arms prevent adequate climbing space on the pole pursuant to CPUC General Order 95, thus prohibiting a wireless facility from being installed at this location.

ALTERNATIVE NODE 61B



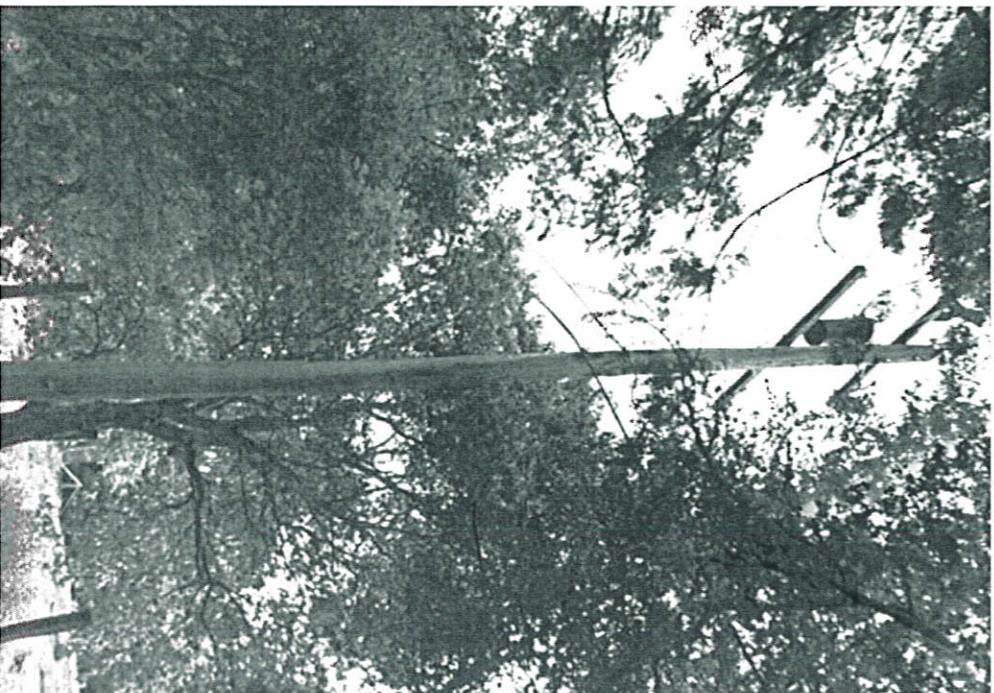
- Node 61C is at a joint utility pole across from 155 Cuesta Real (37.322490, -122.270670).
- This pole is not a viable alternative candidate because the existing transformer on the pole would need to be relocated to an uncertain destination in order to facilitate our proposed wireless installation.

ALTERNATIVE NODE 61C



- Node 61C is at a joint utility pole at 37.322475, -122.270725
- This pole is not a viable alternative candidate because the existing transformer on the pole would need to be relocated to an uncertain destination in order to facilitate our proposed wireless installation.

ALTERNATIVE NODE 61D



- Node 61D is at a joint utility pole near 126 Cuesta Real (37.322562, -122.271176), just southwest of candidate 61A.
- This pole is not a viable alternative candidate because the existing transformer on the pole would need to be relocated to an uncertain destination in order to facilitate our proposed wireless installation
- Nearby tree trimming would be required to facilitate a wireless facility here, possibly requiring tree removal.

ALTERNATIVE NODE 61E



- Node 61E is at a joint utility pole at the intersection of Cuesta Real and Canada Vista (37.321796, -122.270318), just northwest of candidate 61G.
- This pole is not a viable alternative candidate because nearby tree trimming would be required to facilitate a wireless facility here, possibly requiring tree removal.

ALTERNATIVE NODE 61F



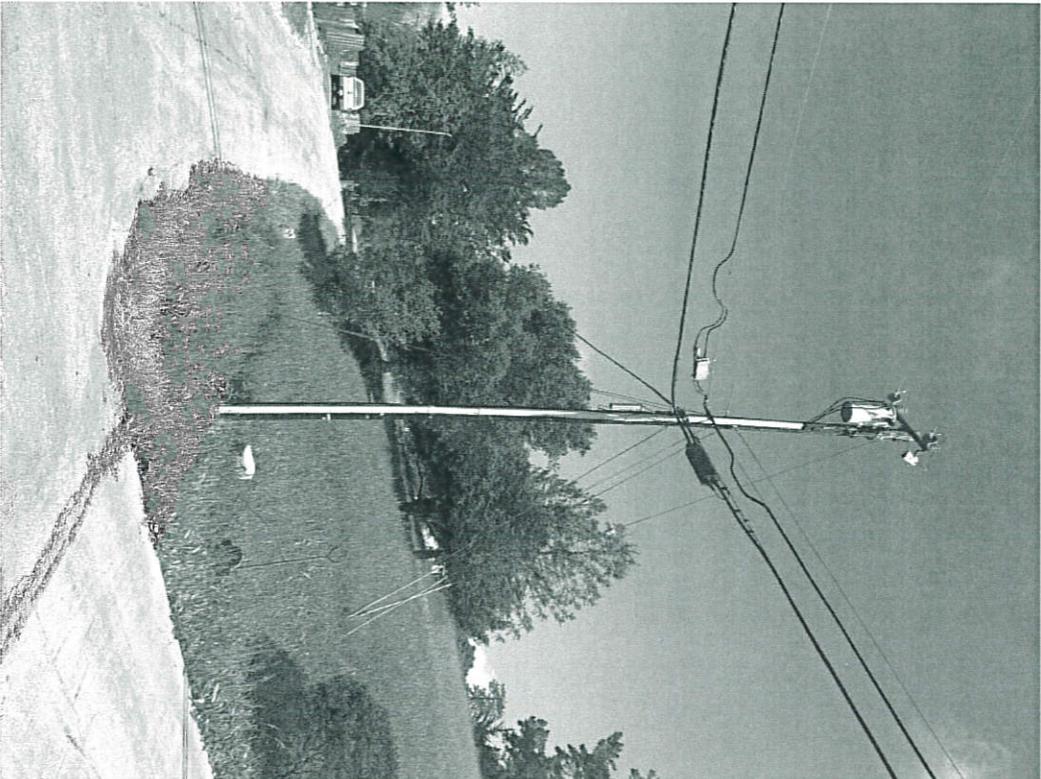
- Node 61F is at a joint utility pole near across from 231 Cuesta Real (37.321485, -122.268971).
- This is a potentially viable alternative depending on final RF testing, but is more intrusive than the proposed Node 61G because it is more exposed and within the viewshed of a residence.

NODE 61G – PROPOSED LOCATION



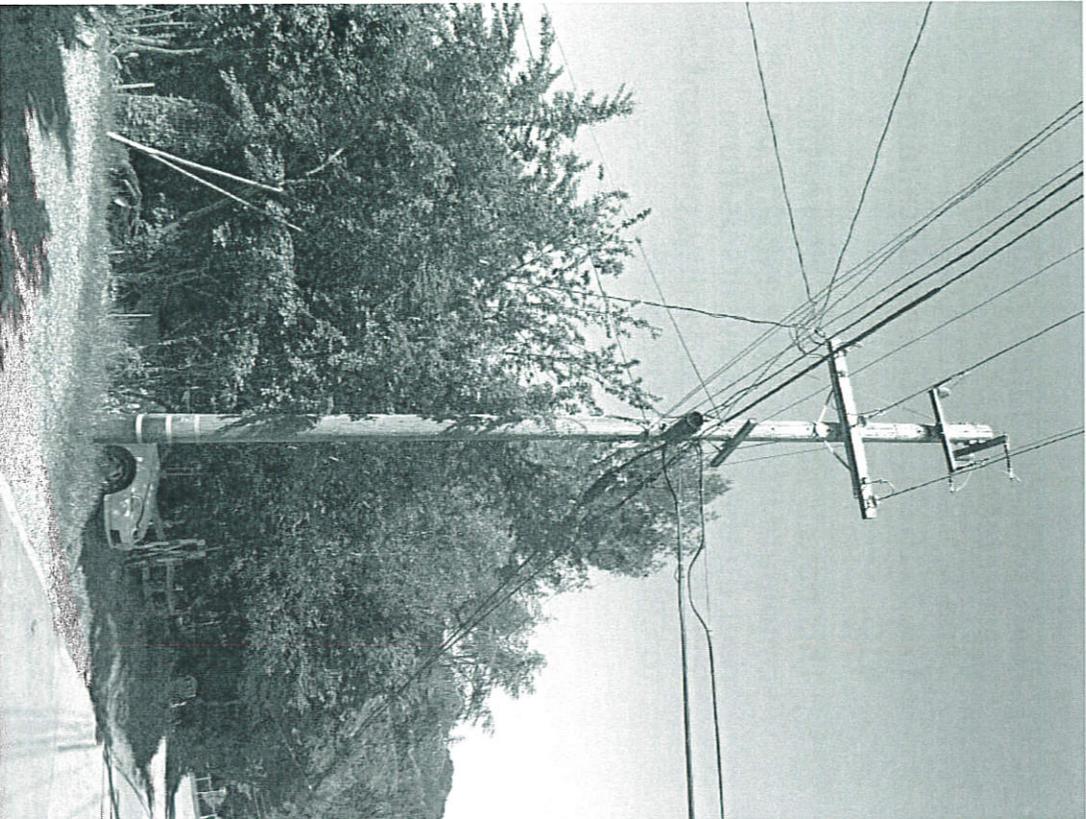
- Node 61G is at a joint utility pole near 126 Cuesta Real (37.321554, -122.268966), just southwest of candidate 61A.
- This is the primary candidate.

ALTERNATIVE NODE 61H



- Node 61H is at a joint utility pole near the intersection of Cuesta Real and Canada Vista (37.321129, -122.271623), southwest of candidate 61G.
- This pole is not a viable alternative candidate because the existing power riser on the pole prevents us from installing a wireless facility, pursuant to CPUC General Order 95.

ALTERNATIVE NODE 611



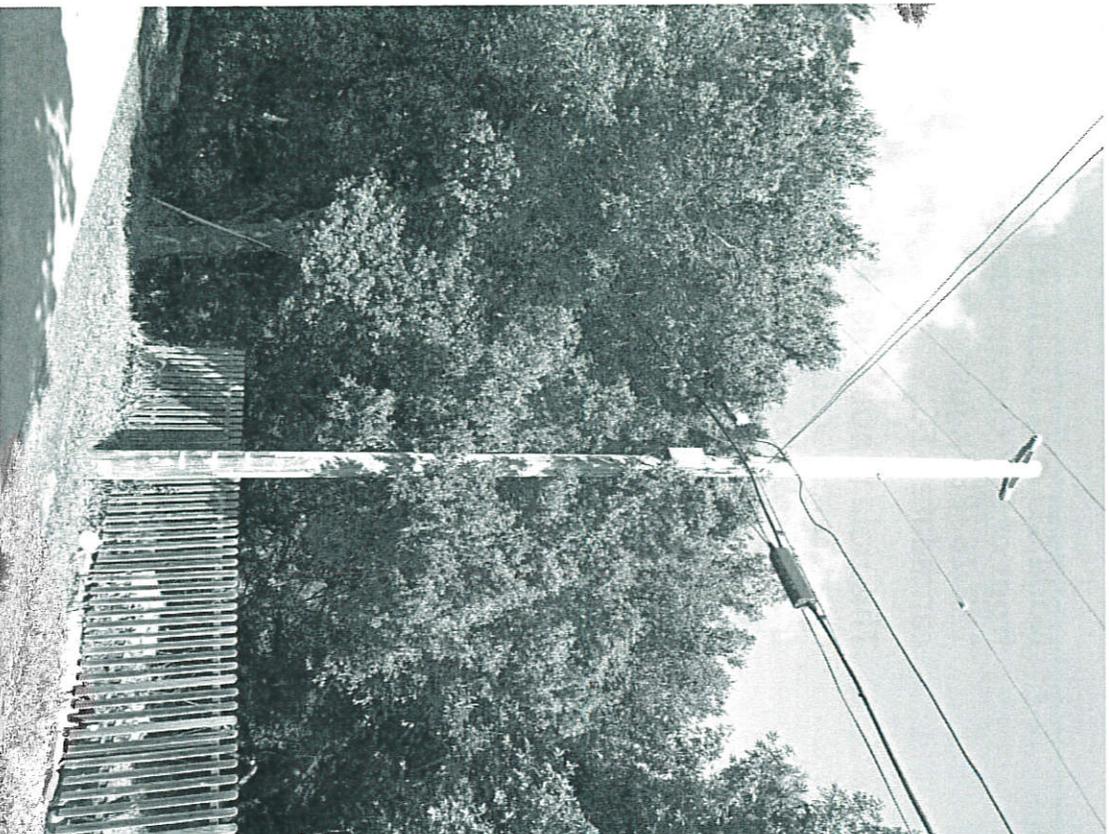
- Node 611 is at a joint utility pole at 37.320707, -122.270820, southwest of primary candidate 61G.
- This pole is not a viable alternative candidate because cross lines and cross arms prevent adequate climbing space on the pole pursuant to CPUC General Order 95, thus prohibiting a wireless facility from being installed at this location.

ALTERNATIVE NODE 61J



- Node 61J is at a joint utility pole in front of 257 Cuesta Real (37.321426, -122.267889), just east of primary candidate 61G.
- This pole is not a viable alternative candidate because the existing transformer on the pole would need to be relocated to an uncertain destination in order to facilitate our proposed wireless installation

ALTERNATIVE NODE 61K



- Node 61K is at a joint utility pole in front of 253 Cuesta Real (37.321484, -122.268482), just east of primary candidate 61G.
- Nearby tree trimming would be required to facilitate a wireless facility here, possibly requiring tree removal.

ALTERNATIVE NODE 61L



- Node 61D is at a joint utility pole in front of 221 Cuesta Real (37.321629, -122.269407), just west of primary candidate 61G.
- This is a potentially viable alternative depending on final RF testing, but is more intrusive than the proposed Node 61G because it is more exposed.

ALTERNATIVE NODE 61M



- Node 61M is at a joint utility pole near 271 Cuesta Real (37.321238, -122.267277), west of candidate 61G.
- This pole is not a viable alternative candidate because placing wireless equipment on this pole would likely violate CPUC General Order-95 Regulation because all four quadrants of the pole appear occupied.
- Nearby tree trimming would be required to facilitate a wireless facility here, possibly requiring tree removal.

ALTERNATIVE NODE 61N



- Node 61N is at a joint utility pole near 278 Cuesta Real (37.321018, -122.266969), east of primary candidate 61G.
- This is a potentially viable alternative depending on final RF testing, but is more intrusive than the proposed Node 61G because it is more exposed.

ALTERNATIVE NODE 610



- Node 610 is at a joint utility pole near 205 Cuesta Real (37.321650, -122.269695), just west of primary candidate 61G.
- This is a potentially viable alternative depending on final RF testing, but is more intrusive than the proposed Node 61G because it is more exposed.

ALTERNATIVE NODE 61P



- Node 61P is at a joint utility pole located at 37.321941, -122.270465, across from alternative candidate 61E.
- This pole is not a viable alternative candidate because placing wireless equipment on this pole would likely violate CPUC General Order-95 Regulation because all four quadrants of the pole appear occupied.
- Nearby tree trimming would be required to facilitate a wireless facility here, possibly requiring tree removal.

ALTERNATIVE NODE 61Q



- Node 61Q is at a joint utility pole near the intersection of Roquena and Cuesta Real (37.322259, -122.270394).
- This pole is not a viable alternative candidate because it is located at a much lower elevation than the primary candidate and would need to be replaced by a substantially taller pole thus being more intrusive than the primary candidate.

ALTERNATIVE NODE 61R



- Node 61R is at a joint utility pole located at 37.322289, -122.271326.
- Extensive nearby tree trimming would be required to facilitate a wireless facility here, possibly requiring tree removal.

Alternatives 1 and 2 in Relation to 61G



- ExtenNet additionally evaluated two alternatives proposed by the La Honda community on utility poles near the water tank to the east of town: Alternatives 1 and 2.
- This map shows those alternatives in relation to the proposed Node 61G.
- As can be seen by the following slides, the nearby trees and terrain prevent Alternatives 1 and 2 from being viable to fill the existing significant gap in coverage.

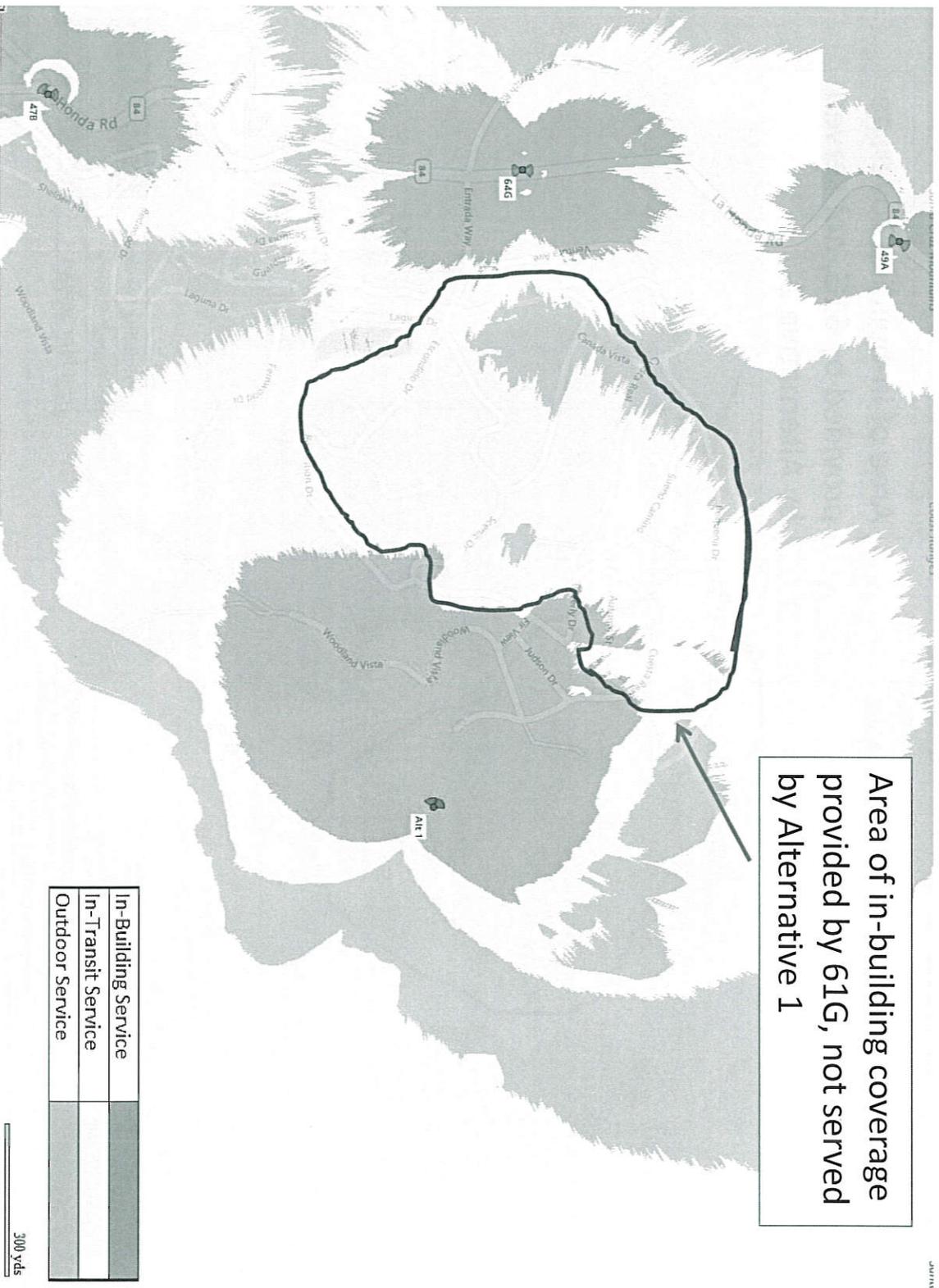
Alternatives 1 and 2 in Relation to Terrain and Clutter



4G LTE Coverage – Node 61G



4G LTE Coverage – Alternative 1

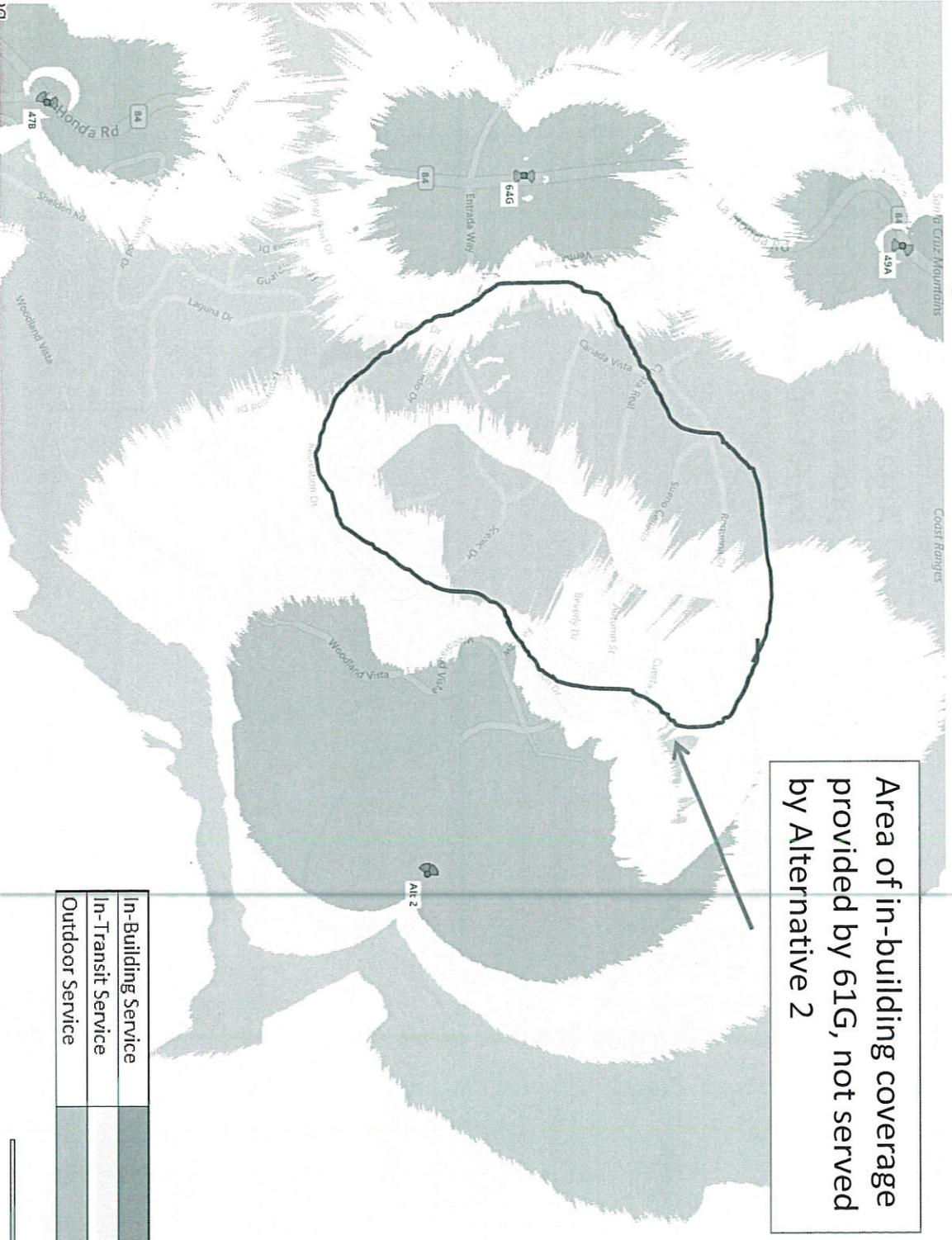


Area of in-building coverage provided by 61G, not served by Alternative 1

In-Building Service	
In-Transit Service	
Outdoor Service	

300 yds

4G LTE Coverage – Alternative 2



Area of in-building coverage provided by 61G, not served by Alternative 2

In-Building Service	
In-Transit Service	
Outdoor Service	

300 yds

3G UMTS Coverage – Node 61G



© 2015 Extinet Systems, Inc. All rights reserved. 2015.12.17.11:27:27 2A.11D 300 yds

3G Umts Coverage – Alternative 1



In-Building Service	
In-Transit Service	
Outdoor Service	

300 yds

3G UMTS Coverage – Alternative 2



In-Building Service	
In-Transit Service	
Outdoor Service	

300 yds
 0 100 200 300 400 500 600 700 800 900 1000

ALTERNATIVE SITE ANALYSIS CONCLUSION

Based on ExteNet's analysis of alternative sites, the currently proposed Node 61G is the least intrusive location from which to fill the significant wireless coverage gap. However, a viable alternative is to install both nodes 48A and 61B to fill this significant coverage gap, instead of Node 61G. The monopine location at Sears Ranch Road and Alternatives 1 and 2 near the water tank are inadequate to fill this significant coverage gap.

**AT&T Mobility • Proposed Base Station (Site No. Node-061G)
231 Cuesta Real • La Honda, California**

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of AT&T Mobility, a personal wireless telecommunications carrier, to evaluate the base station (Site No. Node-061G) proposed to be located at 231 Cuesta Real in La Honda, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

AT&T proposes to install directional panel antennas on a tall utility pole sited in the public right-of-way near 231 Cuesta Real in La Honda. 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 mW/cm ²	1.00 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

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

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

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San Mateo County
Planning Division

**AT&T Mobility • Proposed Base Station (Site No. Node-061G)
231 Cuesta Real • La Honda, California**

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 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 AT&T, including construction drawings by Byers Engineering Company, dated March 29, 2016, it is proposed to install two Kathrein Model 800-10764 directional panel antennas on a 47½-foot utility pole to replace the existing 38½-foot pole sited in the public right-of-way in front of the residence located at 231 Cuesta Real in La Honda. The antennas would employ 3° downtilt, would be mounted at an effective height of about 35 feet above ground, and would be oriented toward 85°T and 185°T. The maximum effective radiated power in any direction would be 680 watts, representing simultaneous operation at 290 watts for cellular and 390 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 AT&T operation is calculated to be 0.0085 mW/cm², which is 1.6% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of the nearby residence is 4.6% 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.



**AT&T Mobility • Proposed Base Station (Site No. Node-061G)
231 Cuesta Real • La Honda, California**

Recommended Mitigation Measures

Due to their mounting location and height, the AT&T antennas would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use and lockout/tagout procedures, be provided to all authorized personnel who have access to the structure including employees and contractors of AT&T and of the utility companies. No access within 7 feet directly in front of the AT&T antennas themselves, such as might occur during certain maintenance activities on the pole, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs* be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach to persons who might need to work within that distance.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by AT&T Mobility at 231 Cuesta Real in La Honda, 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. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

* Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required. Signage may also need to comply with the requirements of California Public Utilities Commission General Order No. 95.



AT&T Mobility • Proposed Base Station (Site No. Node-061G)
231 Cuesta Real • La Honda, California

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, 2017. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.



William F. Hammett, P.E.

707/996-5200

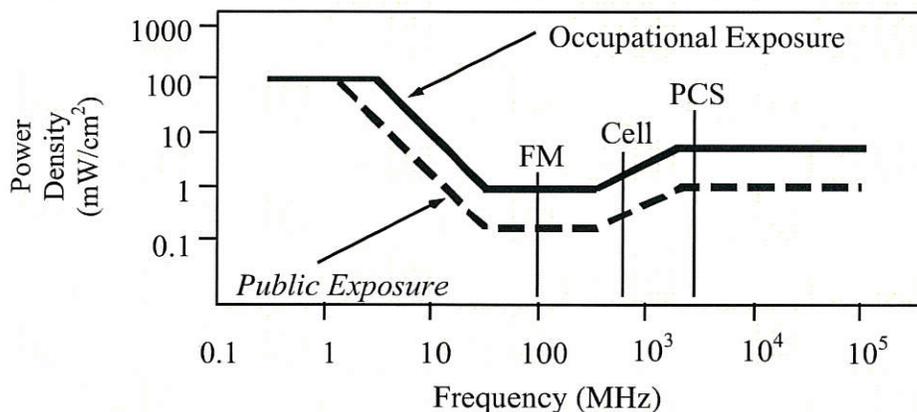
May 19, 2016

FCC Radio Frequency Protection Guide

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

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

Frequency Applicable Range (MHz)	Electromagnetic Fields (f is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



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



HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

FCC Guidelines
Figure 1

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:

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

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

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



PLN 2016-00216

Existing



view from Cuesta Real looking northeast at site
AT&T Wireless
HWY8435 061G
231 Cuesta Real, La Honda, CA
Photosims Produced on 4-12-2016

Proposed



Proposed AT&T
Antennas & Equipment

Existing



Proposed



view from Cuesta Real looking east at site

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