



Staff Report to the Zoning Administrator

Application Number: **05-0722**

Applicant: Clarence Chavis (Ridge Communications for Verizon)

Owner: John Brady, Trustee

APN: 049-131-23, 049-131-50

Agenda Date: October 3, 2008

Agenda Item #: 3.

Time: After 10:00 a.m.

Project Description: Proposal to remove an existing 25 foot tall monopole used by T-Mobile and to construct a 60-foot monopine for the co-location of 18 antennas (9 for Verizon and 9 for T-Mobile), a raised equipment pad with 7 equipment cabinets, a generator, and 2 GPS antennas, with a new electrical connection on adjacent parcel 049-131-50 (1249 Trabing Road). Requires an amendment to Commercial Development Permits 96-0292, 99-0140, 02-0343, 03-0544 and 02-0290, and a preliminary grading review for up to 1000 cubic yards of grading.

Location: Property located at the end of Trabing Road, at 1253 Trabing Road, approximately 1100 feet from the intersection of Trabing Road and Grizzley Oak Lane, in Aptos, California.

Supervisory District: 2nd District (District Supervisor: Ellen Pirie)

Permits Required: Commercial Development Permit Amendment

Technical Reviews: Preliminary Grading Review

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 05-0722, based on the attached findings and conditions.

Exhibits

- | | | | |
|----|--------------------------------|----|-------------------------------|
| A. | Project Plans, dated 1/23/2008 | | Frequency Emissions Study and |
| B. | Findings | | proposed NIER Study |
| C. | Conditions | H. | Photo-simulations |
| D. | Categorical Exemption (CEQA | I. | Design Review |
| | determination) | J. | Project Plans, dated 8/18/08 |
| E. | Location map | K. | Arborist Report |
| F. | Zoning and General Plan Map | L. | Comments & Correspondence |
| G. | Post Construction NIER Radio | | |

County of Santa Cruz Planning Department
701 Ocean Street, 4th Floor, Santa Cruz CA 95060

Parcel Information

Parcel Size: 049-131-50 – 11 acres, 049-131-23 – 12 acres
Existing Land Use - Parcel: Single Family Residential, Wireless Communications Facility
Existing Land Use - Surrounding: Residential
Project Access: Trabing Road, 60' right-of-way
Planning Area: Aptos Hills
Land Use Designation: R-R (Rural Residential)
Zone District: SU (Special Use)
Coastal Zone: ☐ Inside ☒ Outside
Appealable to Calif. Coastal Comm. ☐ Yes ☒ No

Environmental Information

Geologic Hazards: Not mapped/no physical evidence on site
Soils: Cell Site- Watsonville Sandy Loam
Electrical Site- Baywood Sandy Loam or Elkhorn Sandy Loam
Fire Hazard: Mapped Fire Hazard Area, Subject to Clearance Requirements
Slopes: 0-30 percent
Env. Sen. Habitat: Mapped Biotic Habitat, Northern Maritime Chaparral
Grading: Up to a 1000 cubic yards because the grading is unspecified at this time. Most likely, the project will require between 200- 300 cubic yards for the caissons and retaining wall. Grading plans required as a condition of approval.
Tree Removal: No trees proposed to be removed
Scenic: Highway One Scenic Corridor
Drainage: N/A
Archeology: Not mapped/no physical evidence on site

Services Information

Urban/Rural Services Line: ☐ Inside ☒ Outside
Water Supply: Well
Sewage Disposal: Septic
Fire District: County Fire- CDF
Drainage District: N/A

History

The subject property contains two existing cell towers, one 55 foot tall monopine containing three carriers (Originally Sprint, AT&T and Nextel) and a 25 foot tall monopole containing one carrier (T-Mobile). These facilities are permitted under Use Permits 96-0292 (20 foot monopole-

T-Mobile 9 panel antennas), 99-0140 (38 foot Monopine –12 panel antennas- 4 per sector), 02-0343 (Monopine height increase from 38-55 feet, addition of 4 AT&T antennas), 03-0544 (Addition of 12 Nextel panel antennas), and 05-0290 (Addition of 6 panel antennas.

Compliance with Existing Conditions of Approval

The facilities were reviewed for compliance with the operational conditions of approval for the various permits. Noted throughout the use permit conditions of approval and reiterated entirely again in Use Permit 03-0544, the applicant was required to install and permanently maintain redwood trees planted to screen the existing equipment shelter. In addition, the access road is required to be maintained free of erosion of the road surface and slope failure. In past use permits, this has included a requirement for asphalt and gravel throughout most of the length of the roadway. Pampas grass is also required to be removed from the site with continuous maintenance to prevent reintroduction on the property. Lastly, submittal of a 90 day post RF emissions report was required.

Pampas grass seed heads were removed by the project applicant, dead redwood landscape screening trees replaced, and a 90 post construction RF emissions report submitted to staff as part of this application process to bring the existing facility into compliance. The roadway surface appears to be deteriorating, as evidenced by plants growing up through the road surface.

Project Setting

The existing wireless facility is situated at the top of the ridge of Assessor's Parcel Number 049-131-23. The site has a small band of flat to gently sloping terrain where the equipment and antennas poles are located and otherwise slopes steeply to the north, northwest and south. Access to the facility is provided by a 12 foot wide improved access easement. The roadway winds up alongside the hill to the top of the ridge and has limited vehicle turn-around area at the top.

Other than the cell facility, the site is densely vegetated with maritime chaparral habitat throughout the entire site. Landscape screening trees planted by a previous use permit applicant also provide some visual screening from the north.

The subject property is zoned SU (Special Use) with a General Plan designation of Rural Residential (R-R). All surrounding properties in the vicinity of the subject property are zoned Special Use with a Rural Residential General Plan designation.

Zoning & General Plan Consistency

Co-location on a Residentially Zoned Parcel

Pursuant to County Code Section 13.10.661(c), parcels zoned Special Use are subject to the Restricted Area requirements. These code sections, 13.10.661(c) (3) and 13.10.661 (d), discourage non-collocated facilities, but allow and encourage co-located wireless communication facilities which do not result in a significant increase in visual impact of the facility.

Visual Impacts

Residential Setback Standards

Per County Code Section 13.10.663(a)(9), visual impacts to surrounding residential uses are required to be minimized by setting the development back a minimum of 300 feet from any residentially zoned parcel. The subject property and surrounding properties within 300 feet are zoned "Special Use" and thus the setback from the residentially zoned properties does not apply. However, it is noted that the proposed monopine is approximately 750 feet from the closest adjacent residence.

Public Road Scenic Corridors

Pursuant to County Code Section 13.10.663(a) (3), projects are required to be "sited and designed to be least visually obtrusive as possible and the "top of tower required to be below any ridgeline when viewed from public roads. If the tower must extend above the ridgeline the applicant must camouflage the tower by using stealth techniques."

As noted in the Environmental Information Section of the staff report, the subject property is located within the Highway 1 Scenic Corridor. The existing and proposed monopine are not visible from the southbound lane of Highway 1 because of the topography. Photo-simulations are attached as Exhibit H. The area surrounding the existing monopole is densely vegetated with exception of the area directly alongside the Highway 1 right-of-way, which is now bare as a result of the recent Trabling Fire. The existing and proposed monopines are visible to northbound traffic, though the view is very limited because the steep slope alongside the Highway obscures a direct view unless one specifically shifts their line of sight significantly skyward. The existing equipment shelters are not visible from the Highway, and the proposed equipment shelters will not be visible. This is supported by staff's first drive-by where staff was unable to find the existing monopine alongside the Highway. Only after repeated visits could the existing pole be identified from the Highway. It is not anticipated that the visual impacts will be significantly increased by addition of another "stealth" monopine. It should be noted that the project is conditioned to provide "sock" coverings in a color consistent with the monopine branches, which will further screen the antennas from view. Additionally, the project is conditioned to require that the antennas do not extend beyond the canopy of the monopine tree.

Surrounding Residential Development

Pursuant to County Code Section 13.10.663 (a) (1), visual impacts to surrounding land uses shall be minimized to the greatest extent feasible and utilization of camouflaging techniques shall be encouraged where appropriate.

The proposed equipment shelter is not visible to the Highway One Scenic Corridor, but is visible to surrounding properties to the north and northwest. This is because the platform projects out from the access road and presents a tall elevation on the north side. Residents that may see the project live in one house approximately 750 feet to the northeast and possibly one additional residence under construction to the northwest, estimated to be between 1500 and 2500 feet away.

While stealth design of the equipment shelter is not necessary to protect the Highway One view shed, it is important to minimize visual impacts surrounding residences to avoid the potential for impact created by significant grade difference through the building site. The applicant has been encouraged throughout this review process to minimize the height, size, and projection of the platform out from the slope. Significant consideration by the applicant and staff was given to providing landscape screening to soften the effect of the proposed structure. However, this is not feasible at this location because the fire clearance requirements and biotic protection requirements prohibit additional landscaping. These issues are discussed in the biotic protection section of this report.

The applicant partially heeded staff's direction with what appears to be a partially developed, three-sided enclosure of the equipment platform shelter shown in the most current set of plans (Exhibit J). This is intended to screen the equipment cabinets from the two homes. The exact building materials are not specified and will require additional detail. However, the equipment shelter plan has also been revised to set the structure as far into the slope as possible to reduce the overall height of the structure from grade and also to create the appearance of a residential outbuilding, which will minimize views of the equipment cabinets. This approach should be successful once attention is given to the allowed sizing of the facility and review and approval of material and color details are completed.

However, while the stealth aspects of the design are acceptable, the equipment platform is still overly large, which increases the disturbance area. It measures approximately 11 by 42.5 feet overall. And, while the applicant has explained the technical space requirements for this facility, it is staff's opinion that it is feasible to reduce the size of the platform to minimize visual impacts to surrounding residences to the north and northwest. Staff recommends that the proposed generator, utilized during power outages, be eliminated from the proposal so that the equipment platform can be reduced in size. Alternatively, the generator could be relocated across the access road adjacent to the existing equipment cabinets, or a battery powered back-up power source can be used. It is very important to note that the recommendation to decrease the size of the platform will also serve to limit grading disturbance to the road prism, which is already disturbed. This is a sensitive biotic area and there is no compelling reason to disturb any additional amount of protected vegetation.

Alternatives Analysis

Pursuant to County Code Section 13.10.662(c), co-located facilities located within the restricted zone districts are not required to provide an alternatives analysis. As described by the ordinance section 13.10.660 (d) co-location is defined to include the replacement of an existing tower with a replacement tower such as the proposed project.

Radiofrequency (RF) Exposure

Previous conditions of approval for this site required a post construction RF report. This report and the standard pre-construction RF report, as required by the Wireless Communications Ordinance, are attached as Exhibit H. Post construction levels are within FCC prescribed limits as shown on Figure 1 of the post-construction report. The maximum level does not exceed 7 % of the most restrictive public limit at ground level. The expected levels provided by the pre-construction report for the

proposed improvements also show compliance with the maximum exposure levels. This maximum cumulative level at the ground for all five carriers is less than 12% of the public exposure limit established by the Federal Communications Commission.

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

Design Review

Per County Code Section 13.10.663(b)(5)(Design Review Criteria- Visual Impact Mitigation), projects may be required to mitigate potentially significant adverse visual impacts, including by using appropriate camouflaging. Use of less visually obtrusive design alternatives are encouraged such as treelike structures or stealth-type structures that mimic structures in built environment.

The proposed facility will comply with the requirements of the County Design Review Ordinance, in that the project incorporates the outbuilding façade treatment and pine tree appearance. However, the project is conditioned to require submittal of final architectural treatment, and materials and colors to be reviewed by the Urban Designer to ensure that the proposed appearance of the equipment platform fits into the context of the site. Please see attached Design Review, Exhibit I.

Biotic Resource Protection

The subject property is designated as Special Forest Habitat, specifically Maritime Chaparral. A number of County ordinances and General Plan policies address development of sites containing unique habitat areas. The primary objective of these ordinances is to minimize impacts to unique habitat.

The project has been evaluated to determine whether native vegetation is retained and disturbance to unique habitat has been minimized. As conditioned, the project will meet these standards by using a caisson design, limiting construction equipment to the road, and limiting grading disturbance to the existing roadway fill prism that is all previously disturbed area. Further, the generator is conditioned to be removed. In addition to allowing the platform to be reduced in length, this may allow a smaller fire clearance zone, which will serve to preserve native vegetation.

It should be noted that the conditions of approval require modifications to "Exhibit A" (previous plan set, dated 1/23/2008) that incorporate features of Exhibit "A" and Exhibit "J" (current plan set, dated 8/18/08) The final plan will be a combination of both of these plans. Specific plan revisions are provided in more detail in the project conclusion.

Biotic Resource Protection Within the Context of Fire Protection Standards

Fire protection policies were identified that suggest that up to a 100-foot fire clearance may be required on this site. A 30 to 100 foot clearance area may be required by County Fire. Clearance

does not necessarily require vegetation removal, but may instead involve trimming of "ladder fuels" to reduce the spread of fire and establishing minimum horizontal and vertical separation of particularly flammable elements. The project includes a condition that the applicant provide a fire clearance plan submitted for review and approval by both the Environmental Planning staff of the Planning Department and County Fire that will ensure that fire clearance requirements are met in a manner that minimizes impacts to the maritime chaparral habitat. Removal of the generator from the plan may reduce the clearance criteria significantly since the generator contains fuel, which would potentially exacerbate fire hazard.

Environmental Review

Environmental review has not been required for the proposed project per the requirements of the California Environmental Quality Act (CEQA). The project was determined to be exempt from CEQA. In particular, the project qualifies for a class 1, class 2, and class 4 exemption since the proposed project involves replacement of existing cell tower with another cell tower and results in minor alterations of the land where the fire clearance requirements do not result in a taking of an endangered, rare, or threatened plant or animal species.

Conclusion

As conditioned, the project will be 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.

Specific conditions of approval require that the project plans be revised to address the biotic protection recommendations, visual protection recommendations, and fire clearance requirements to ensure compliance with all applicable policies. Careful review of the conditions of approval is recommended in this case particularly because significant modifications to the plans are required prior to issuance of the building permit. This includes adoption of the previous plan set, Exhibit "A" (dated 1/23/2008) and also requires revisions to that plan set to add features of the current plan set to comply with stealth design shown in Exhibit "J" (dated 8/18/2008), which minimizes visual intrusion. Additional modifications to Exhibit "A" are needed to provide a reduced platform size to reduce visual impacts and site disturbance, and to provide retaining wall and caisson details that more fully reduce the height of the structure and impacts to the biotic habitat. These conditions are reiterated here so that the Applicant and Zoning Administrator are clear on the specific plan changes recommended.

1. The project plans, noted as Exhibit "A" shall be further revised as follows:
 - a. Plans shall show elimination of the generator from the equipment platform and a reduction of 12 feet from the overall length of the equipment platform, from 37 feet to 25 feet.
 - b. If the applicant desires to retain the generator on site, the plans shall show relocation of the generator to the area adjacent to the existing T-mobile equipment shelter (across the access road) where the existing monopole is proposed to be

removed. The generator shall be insulated and all noise shall be contained on the property.

- c. The plans shall be revised to eliminate any proposed landscaping due to conflicts with protection of maritime chaparral, but shall retain existing trees and vegetation on site.
- d. The plans shall be revised to show the equipment platform designed as a stealth "residential outbuilding" as shown on the Exhibit "J" plan set. The height of the Equipment Platform shall not exceed 15'2" (from existing grade to the top of the structure) as shown on Exhibit "J".
- e. The plans shall be revised to show the equipment platform at access roadway grade along the top of the slope and designed with a retaining wall along the roadway edge. Further, the structure shall be supported on caissons. The project shall not include a foundation.
- f. Plans shall clearly show that the proposed antennas do not extend beyond the branches of the monopine tree.

Staff Recommendation

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- **APPROVAL** of Application Number **05-0722**, 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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verizon wireless

MAR MONTE

VERIZON WIRELESS SITE# 158656

1253 TRABING ROAD

WATSONVILLE, CA. 95076

T-Mobile

T-MOBILE SITE #: SF05735

<p>PROJECT INFORMATION: MAR MONTE VERIZON SITE #: 158656 T-MOBILE SITE #: SF05735 1253 TRABING ROAD WATSONVILLE, CA 95076 COUNTY OF SANTA CRUZ</p>		<p>CURRENT ISSUE DATE: 01/23/08</p>		<p>ISSUED FOR: 100% ZONING</p>		<p>REV. DATE DESCRIPTION BY:</p> <table border="1"> <tr> <td>4</td> <td>06/1/07</td> <td>REVISE ANTENNAS</td> <td>CP</td> </tr> <tr> <td>7</td> <td>06/1/07</td> <td>BASE T-MOBILE</td> <td>CP</td> </tr> <tr> <td>8</td> <td>10/09/07</td> <td>ADJUST T-MOBILE</td> <td>JM</td> </tr> <tr> <td>9</td> <td>10/09/07</td> <td>CONFORM TO ONE SET</td> <td>JM</td> </tr> <tr> <td>10</td> <td>10/16/07</td> <td>TYPE & T-MOBILE</td> <td>JM</td> </tr> <tr> <td>11</td> <td>10/25/07</td> <td>ROCK & T-MOBILE</td> <td>JM</td> </tr> <tr> <td>12</td> <td>01/23/08</td> <td>REVISED TOWING</td> <td>JM</td> </tr> </table>		4	06/1/07	REVISE ANTENNAS	CP	7	06/1/07	BASE T-MOBILE	CP	8	10/09/07	ADJUST T-MOBILE	JM	9	10/09/07	CONFORM TO ONE SET	JM	10	10/16/07	TYPE & T-MOBILE	JM	11	10/25/07	ROCK & T-MOBILE	JM	12	01/23/08	REVISED TOWING	JM	<p>COORDINATING ARCHITECT:</p>		<p>SEAL</p>		<p>CONSULTANT:</p>		<p>DRIVEN BY: CHC: APV: CIP: MB: TJP</p>		<p>TITLE SHEET</p>		<p>SHEET NUMBER: T-1</p>		<p>755-4414</p>	
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REV.	DESCRIPTION
T-1	TITLE SHEET
A-1	OVERALL SITE AND ANTENNA PLANS
A-2	GROUNDWATER PLAN
A-3	ELEVATIONS
A-4	ELEVATIONS
L-1	LANDSCAPE PLAN
C-1	VERIZON WIRELESS LEASE AREA DETAIL / SITE & BOUNDARY PLAN
C-2	T-MOBILE LEASE AREA DETAIL / SITE & BOUNDARY PLAN
Z-1	PROSPECT MAP AND AERIAL PHOTO
Z-2	TOPOGRAPHIC / AREA MAP

JURISDICTION

COUNTY OF SANTA CRUZ
PLANNING DEPARTMENT PHONE: (831) 420-5118

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL PLANNING DEPARTMENT. ANY MATERIALS TO BE CONSIDERED TO BE PERMITTED MUST COMPLY WITH THE FOLLOWING CODES:

1. CALIFORNIA ADMINISTRATIVE CODE (MCL) TITLES 14 & 25 2001
2. CALIFORNIA BUILDING CODE 2001
3. CALIFORNIA ELECTRICAL CODE 2001
4. CALIFORNIA FIRE CODE 2001
5. CALIFORNIA LAND DEVELOPMENT CODE 2001
6. CALIFORNIA PLANNING AND ZONING ACT 2001
7. CALIFORNIA PUBLIC WORKS ACT 2001
8. CALIFORNIA PUBLIC UTILITIES ACT 2001
9. CALIFORNIA PUBLIC UTILITIES ACT 2001
10. CALIFORNIA PUBLIC UTILITIES ACT 2001
11. CALIFORNIA PUBLIC UTILITIES ACT 2001
12. CALIFORNIA PUBLIC UTILITIES ACT 2001
13. CALIFORNIA PUBLIC UTILITIES ACT 2001
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15. CALIFORNIA PUBLIC UTILITIES ACT 2001
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17. CALIFORNIA PUBLIC UTILITIES ACT 2001
18. CALIFORNIA PUBLIC UTILITIES ACT 2001
19. CALIFORNIA PUBLIC UTILITIES ACT 2001
20. CALIFORNIA PUBLIC UTILITIES ACT 2001

VERIZON WIRELESS PROJECT DESCRIPTION

VERIZON WIRELESS PROJECTS TO INSTALL:
NEW OUTDOOR EQUIPMENT CABLES AND 200V NEW SCHEDULING POLE AND LANDSCAPING.
INSTALLATION OF (5) NEW ANTENNAS ON A NEW 55' TOWER. THE TOWER WILL BE INSTALLED TO BE ABOVE CHANCE LEVEL AND (3) NEW ANTENNAS. INSTALLATION OF COAXIAL CABLE RUNS FROM EQUIPMENT TO ANTENNAE.
ELECTRICAL AND TELEPHONE CONNECTIONS TO EQUIPMENT.

T-MOBILE PROJECT DESCRIPTION

T-MOBILE PROJECTS TO REMOVE:
(1) EXISTING T-MOBILE
(2) EXISTING T-MOBILE
(3) EXISTING T-MOBILE
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(20) EXISTING T-MOBILE

PROJECT SUMMARY

LESSORS:
VERIZON WIRELESS
1253 TRABING ROAD
WATSONVILLE, CA 95076
CONTACT: JIM SHAW
PHONE: (831) 905-1118
FAX: (831) 905-1118

PROPERTY INFORMATION:
OWNER: JIM SHAW
ADDRESS: 1253 TRABING ROAD
WATSONVILLE, CA 95076
CONTACT: JIM SHAW
PHONE: (831) 905-1118
FAX: (831) 905-1118

DRIVING DIRECTIONS:
FROM WATSONVILLE, CA AND CONCORD, CA:
TAKE THE 1480 WEST TO LEFT FOR WARM SPRINGS
WEST/MISSION BLVD. TAKE RAMP LEFT TOWARD
WEST/MISSION BLVD. TAKE RAMP LEFT TOWARD
BECOME HIGHWAY 17. CONTINUE ON HIGHWAY 17
UNTIL SR-1/CABRILLO HIGHWAY SOUTH. TAKE EXIT
AT BUENA VISTA DRIVE AND TAKE LEFT ONTO BUENA
VISTA DRIVE. TURN LEFT ONTO TRABING ROAD.
ARRIVE AT 1253 TRABING ROAD.

VERIZON SIGNATURE BLOCK

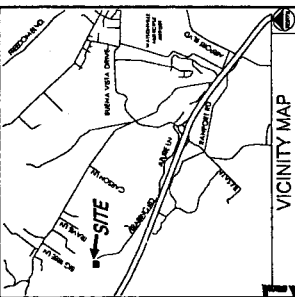
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MAINTENANCE		
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RIDGE SIGNATURE BLOCK

RECEIPT	SIGNATURE	DATE
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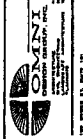
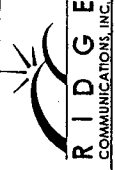
T-MOBILE SIGNATURE BLOCK

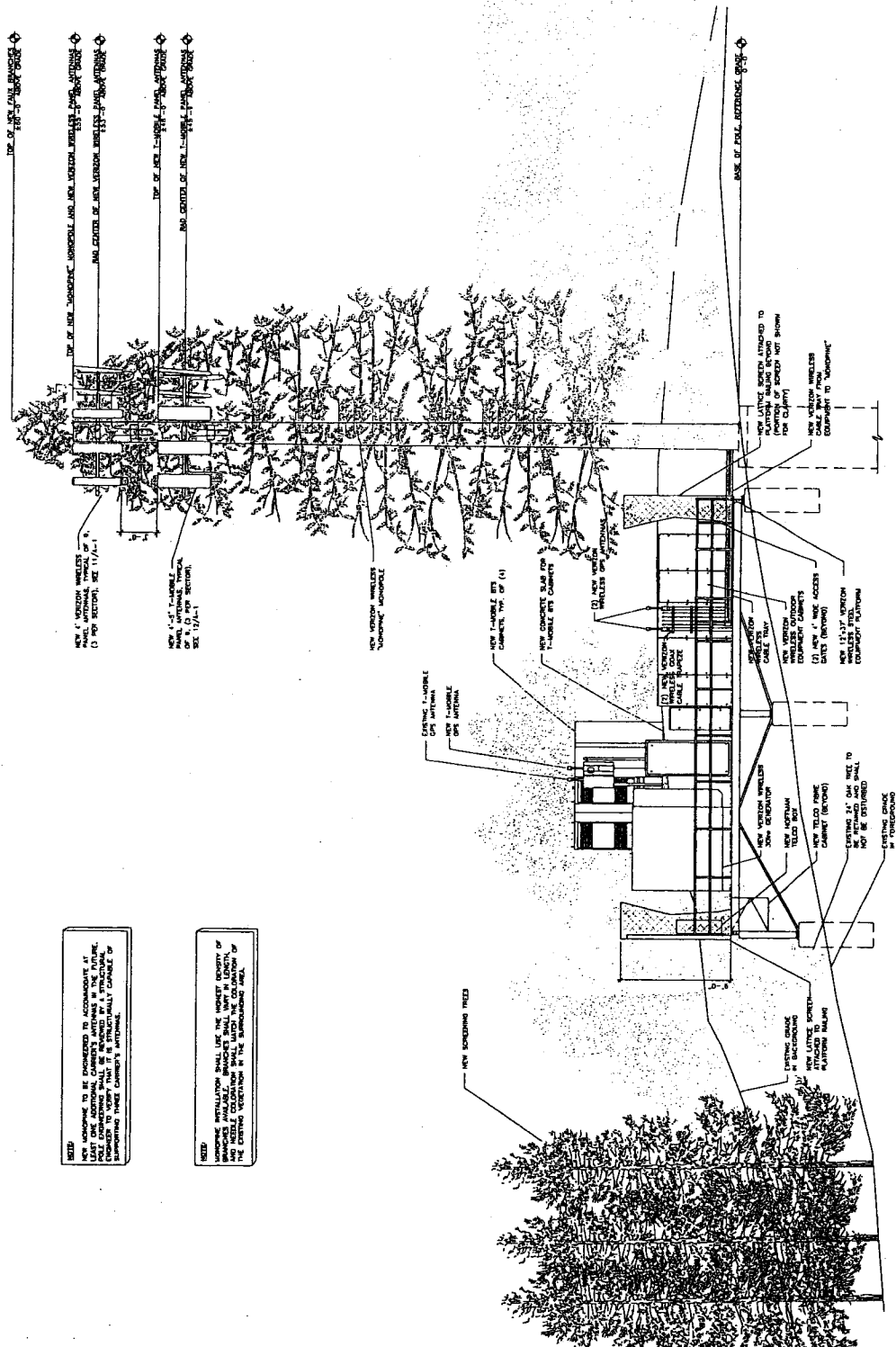
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DRIVING DIRECTIONS




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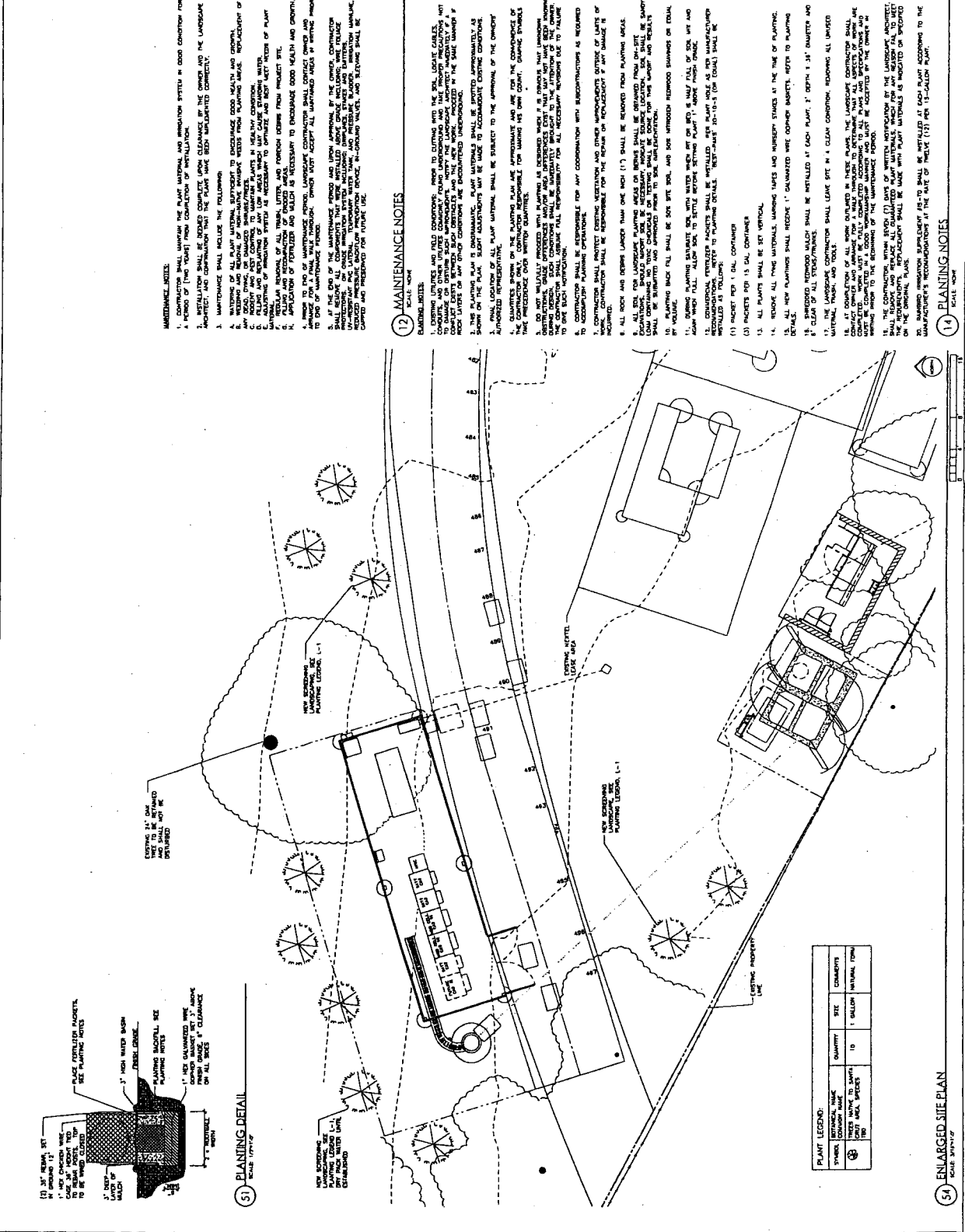
		PROJECT INFORMATION: MAR MONTE VERIZON SITE #: 158656 T-MOBILE SITE #: SF05735 1523 TRAMPOLE ROAD WILSON, CA 95759 COUNTY OF SANTA CRUZ		CURRENT ISSUE DATE: 01/23/08		ISSUED FOR: 100% ZONING		REV. DATE: DESCRIPTION: BY: 4 06/14/07 RYER ANTENNAS CP 7 08/17/07 RAKE T-MOBILE ANTENNAS CP 8 10/02/07 ADD T-MOBILE PLATFORM JA 9 10/09/07 CORRECTION TO ONE SET OF T-MOBILE PLATFORMS JA 10 10/14/07 RAKE T-MOBILE COMMENTS JA 11 10/09/07 RAKE T-MOBILE COMMENTS JA 12 01/23/08 RYER TOWERS JA				CONSULTANT: 		SHEET TITLE: ELEVATIONS		SHEET NUMBER: A-4	
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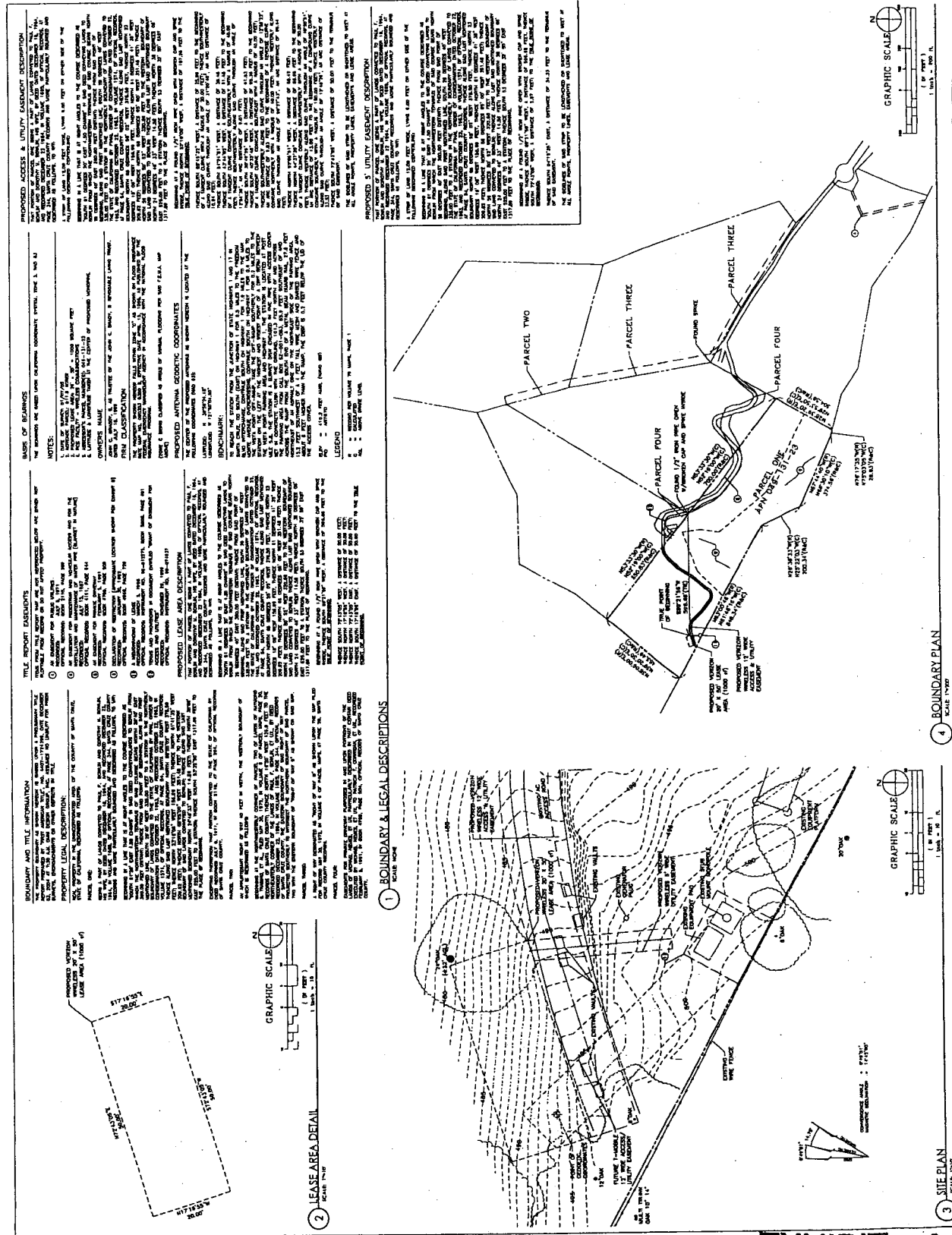


NOTE: NEW WIRELESS TO BE ENGINEERED TO ACCOMMODATE AT LEAST ONE ADDITIONAL CARRIER'S ANTENNAS IN THE FUTURE. BRANCHES AVAILABLE. BRANCHES SHALL NOT BE LOCATED IN THE EXISTING VEGETATION IN THE IMMEDIATE AREA.

NOTE: BRANCHES SHALL NOT BE LOCATED IN THE IMMEDIATE AREA OF THE EXISTING VEGETATION IN THE IMMEDIATE AREA.

 verizon WIRELESS COMMUNICATIONS WILMINGTON, DE 19809		PROJECT INFORMATION: MAR MONTE VERIZON SITE # 158656 1-MOBILE SITE # 1505735 WASHINGTON, DC 20001 COUNTY OF SANTA CRUZ		CURRENT DATE: 01/23/08																																					
ISSUED FOR: 100% ZONING		REV. DATE / DESCRIPTION: <table border="1"> <tr><td>1</td><td>08/14/07</td><td>REVISED ANTENNAS</td></tr> <tr><td>2</td><td>08/17/07</td><td>BASE LAYOUT</td></tr> <tr><td>3</td><td>08/17/07</td><td>ANTENNAS</td></tr> <tr><td>4</td><td>10/02/07</td><td>ADDITIONAL</td></tr> <tr><td>5</td><td>10/02/07</td><td>COMMENTS TO CORRECT</td></tr> <tr><td>6</td><td>10/02/07</td><td>OF DRAWINGS</td></tr> <tr><td>7</td><td>10/14/07</td><td>VIN & LAYOUT</td></tr> <tr><td>8</td><td>10/14/07</td><td>COMMENTS</td></tr> <tr><td>9</td><td>10/23/07</td><td>ROCK & LAYOUT</td></tr> <tr><td>10</td><td>10/23/07</td><td>COMMENTS</td></tr> <tr><td>11</td><td>01/23/08</td><td>REVISED ZONING</td></tr> <tr><td>12</td><td></td><td></td></tr> </table>				1	08/14/07	REVISED ANTENNAS	2	08/17/07	BASE LAYOUT	3	08/17/07	ANTENNAS	4	10/02/07	ADDITIONAL	5	10/02/07	COMMENTS TO CORRECT	6	10/02/07	OF DRAWINGS	7	10/14/07	VIN & LAYOUT	8	10/14/07	COMMENTS	9	10/23/07	ROCK & LAYOUT	10	10/23/07	COMMENTS	11	01/23/08	REVISED ZONING	12		
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11	01/23/08	REVISED ZONING																																							
12																																									
COORDINATING ARCHITECT:  OMNI 1000 W. 10TH AVENUE SUITE 100 DENVER, CO 80202 TEL: 303.733.1000 FAX: 303.733.1001 WWW.OMNIDENVER.COM		CONSULTANT:  RIDGE COMMUNICATIONS, INC. 1000 W. 10TH AVENUE SUITE 100 DENVER, CO 80202 TEL: 303.733.1000 FAX: 303.733.1001 WWW.RIDGECOMM.COM																																							
DESIGNED BY: JM CHECKED BY: NB APPROVED BY: TR		SHEET TITLE: LANDSCAPE PLAN SHEET NUMBER: L-1 REVISION: 755-44A																																							





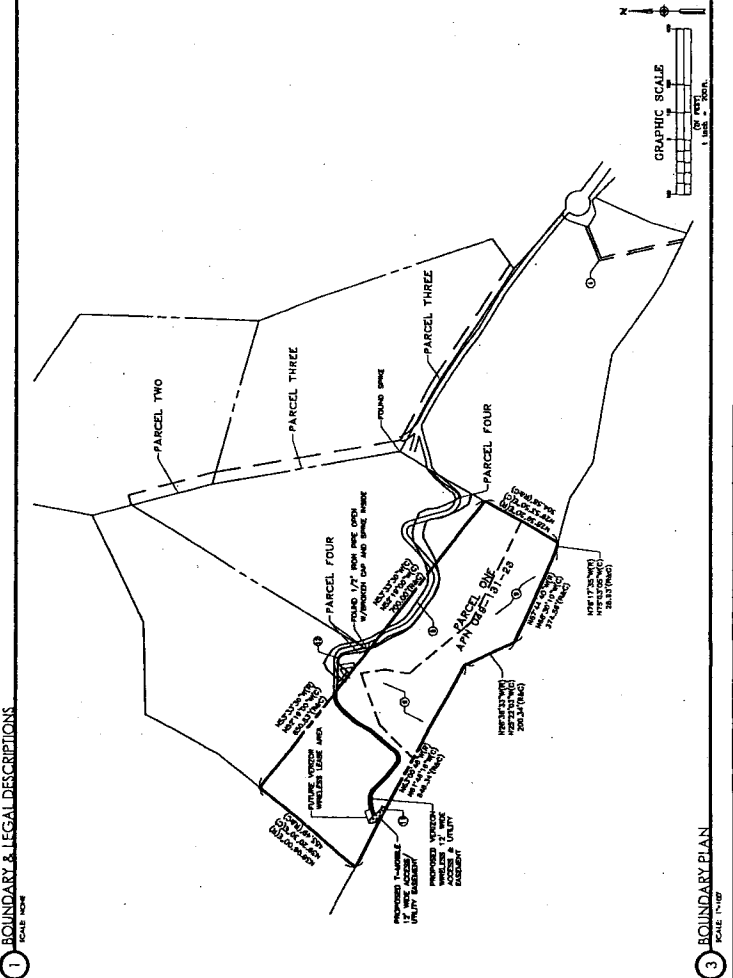


EXHIBIT A






TOPOGRAPHIC/AREA MAP
0 100' 200' SCALE 1" = 100'

 VERIZON 3700 AVENUE 66 WALNUT CREEK, CA 94599	
PROJECT INFORMATION: MAR MONTE VERIZON SITE #: 158656 T-MOBILE SITE #: SP05735 158656-0001 WATSONVILLE, CA 95074 COUNTY OF SANTA CRUZ	
CURRENT ISSUE DATE:	01/23/08
ISSUED FOR:	
100% ZONING	
REV. DATE:	DESCRIPTION:
4 01/14/07	MOBILE ANTENNAS
7 06/17/07	BASE T-MOBILE ANTENNAS
8 10/02/07	ADD T-MOBILE ANTENNAS
9 10/02/07	ADD T-MOBILE ANTENNAS
10 10/14/07	CONFORMED TO ONE SET OF DIMENSIONS
11 10/25/07	VIN & T-MOBILE COMMENTS
12 01/23/08	REVISED ZONING
COORDINATING ARCHITECT:	
 OMNI COMMUNICATIONS, INC. 1000 AVENUE 66 WALNUT CREEK, CA 94599 TEL: 925.938.1000 FAX: 925.938.1001 WWW.OMNICOMM.COM	
CONSULTANT:	
 RIDGE COMMUNICATIONS, INC. DRAWN BY: JMW CHK: SH APV: SHEET TITLE: TOPOGRAPHIC/AREA MAP SHEET NUMBER: 755-44A REVISION:	
Z-1	

EXHIBIT A



PROXIMITY MAP/AERIAL PHOTO

 STEE MITCHELL, INC. WALNUT CREEK, CA 94598		MAR MONTE VERIZON SITE #: 158454 T-MOBILE SITE #: SF05735 1350 TRINIDAD ROAD WATSONVILLE, CA 95074 COUNTY OF SANTA CRUZ		CURRENT ISSUE DATE: 01/23/08		ISSUED FOR: 100% ZONING		REV.: DATE DESCRIPTION BY: 6 08/14/07 WIRE ANTENNAS CP 7 08/17/07 USE T-MOBILE CP 8 10/02/07 ANTENNAS PLACEMENT JM 9 10/07/07 COORDINATE ONE SET OF DRAWINGS JM 10 10/14/07 VIEW & T-MOBILE COMMENTS JM 11 10/23/07 RIDGE & T-MOBILE COMMENTS JM 12 01/23/08 REVISED ZONING JM		 COORDINATING ARCHITECT: SEAL		CONSULTANT:  RIDGE COMMUNICATIONS, INC. DRAWN BY: CHK: APV: JMW SH		SHEET TITLE: PROXIMITY MAP/ AERIAL PHOTO SHEET NUMBER: REVISION:		Z-2 755-44A	
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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 construction will comply with prevailing building technology, the Uniform Building Code, and the County Building ordinance to insure the optimum in safety and the conservation of energy and resources. The proposed cell facility will not deprive adjacent properties or the neighborhood of light, air, or open space.

Furthermore, the proposed project will comply with the maximum ambient RF levels at ground level from the existing and proposed operation, calculated to be 12 % percent of the most restrictive FCC applicable limit.

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 cell facility and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the SU (Special Use) zone district. Cell facilities are an allowed use within the Special Use zone district.

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

This finding can be made, in that the proposed cell facility is consistent with the use and density requirements specified for the RR (Rural Residential) land use designation in the County General Plan.

The proposed cell facility 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 as specified in Policy 8.1.3 (Residential Site and Development Standards Ordinance), in that the cell facility will not adversely shade adjacent properties.

The proposed cell facility will not be improperly proportioned to the parcel size or the character of the neighborhood as specified in General Plan Policy 8.6.1 (Maintaining a Relationship Between Structure and Parcel Sizes), in that the proposed cell facility will comply with the site standards for the Special Use zone district (including, lot coverage, floor area ratio, height, setbacks, and number of stories) and will result in a structure consistent with a design that could be approved on any similarly sized lot in the vicinity. In addition, mitigations have been included, such as stealth monopine and stealth building treatment, to comply with General Plan policies limiting visual impacts.

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

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

This finding can be made, in that the proposed facility will not generate additional traffic except that necessary to service the facility, or adversely impact existing roads and intersections in the surrounding area.

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

This finding can be made, in that the proposed cell facility has been designed to simulate a pine tree and a residential outbuilding (equipment platform) and the project has been conditioned to reduce the mass of the equipment platform by shortening the length of the platform, and eliminating the generator. A reduction in the length of the equipment platform will significantly reduce the overall massing of the building, reduce overall height of the structure, reduce disturbance to the biotic habitat, and reduce fire clearance requirements, so that the installation will be more compatible with the natural character of the surroundings.

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 project was subject to design review and subject to the recommended conditions of approval. The proposed facility will incorporate a stealth pine tree design and antenna color that blends into the monopine. Also, the project includes a stealth outbuilding design to house the equipment platform and cabinets so that the facility will minimize visual intrusion. The proposed project has been found to be consistent with the Design Review Ordinance. The design review is incorporated into the findings and conditions by reference.

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 project, as conditioned, will be minimally visible from Highway 1 and adjacent homes. The project is conditioned to reduce the overall length of the equipment platform and conditioned to eliminate or relocate the generator. These changes will both minimize the visual impacts and minimize site disturbance so that biotic resource impacts are limited. Furthermore, the project is conditioned to provide a fire clearance plan that may allow clearing requirements to be reduced from the standard 100 feet down to 30. If this is the case, it will benefit the sensitive habitat.

The existing and proposed monopine are not visible from the southbound lane of Highway 1 because of the topography. Photo-simulations are attached as Exhibit H. The area surrounding the existing power pole is densely vegetated with exception of the area directly alongside the Highway 1 right-of-way, which is now bare as a result of the recent Trabing Fire. The existing and proposed monopines are visible to northbound traffic, though the view is very limited because the steep slope alongside the Highway obscures a direct view unless one specifically shifts their line of sight significantly skyward. The existing equipment shelters are not visible from the Highway, and the proposed equipment shelter will not be visible. Furthermore, the project includes a stealth pine tree design that will not result in a significant increase in visual impacts from previous visual impacts at this site.

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 13.10.662(c), co-located facilities located within the restricted zone districts are not required to provide an alternatives analysis. As described by the ordinance section 13.10.660 (d) co-location is defined to include the replacement of an existing tower with a replacement tower such as the proposed project.

Furthermore, co-located facilities are not required to provide alternatives analysis.

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

This finding can be made, in that the existing residential and commercial use of the subject property is in compliance with the requirements of the zone district and General Plan designation, in which it is located. Furthermore, the project has been brought into compliance with the conditions of approval of previous permits issued for wireless communication facilities on the parcel.

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 antennas will be located below aircraft travel path.

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

This finding can be made, in that the maximum ambient RF levels at ground level due to the existing wireless communications facilities and the proposed operation are calculated to be 12 % percent of the most restrictive applicable limit.

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

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

Conditions of Approval

Exhibit A: Project Plans, dated 1/23/2008

- I. This permit authorizes removal of an existing 25 foot tall monopole used by T-Mobile and to construct a 60-foot monopine for the co-location of 18 antennas (9 for Verizon and 9 for T-Mobile), a raised equipment pad with 7 equipment cabinets, a generator, and 2 GPS antennas, with a new electrical connection on adjacent parcel 049-131-50 (1249 Trabling Road). 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.
 - 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 proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder).
 - B. 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 "A" (With revisions as noted under Condition II.3.B) on file with the Planning Department. Any changes from the approved Exhibit "A" 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. Identify color and finish of exterior materials for Planning Department approval. All colors and materials must be non-reflective and blend with the existing infrastructure and/ or provide camouflage. In particular, the applicant shall submit final architectural treatment, and materials and color for the proposed stealth "residential outbuilding"(equipment platform) for approval by the Urban Designer. Color samples for the monopine, equipment platform, and "Sock" coverings for proposed antennas shall

also require review and approval by staff.

2. Grading, drainage, and erosion control plans.
 3. The project plans, noted as Exhibit "A" shall be further revised as follows:
 - a. Plans shall show elimination of the generator from the equipment platform and a reduction of 12 feet from the overall length of the equipment platform, from 37 feet to 25 feet.
 - b. If the applicant desires to retain the generator on site, the plans shall show relocation of the generator to the area adjacent to the existing T-mobile equipment shelter (across the access road) where the existing monopole is proposed to be removed. The generator shall be insulated and all noise shall be contained on the property.
 - c. The plans shall be revised to eliminate any proposed landscaping due to conflicts with protection of maritime chaparral, but shall retain existing trees and vegetation on site.
 - d. The plans shall be revised to show the equipment platform designed as a stealth "residential outbuilding" as shown on the Exhibit "J" plan set. The height of the Equipment Platform shall not exceed 15'2" (from existing grade to the top of the structure) as shown on Exhibit "J".
 - e. The plans shall be revised to show the equipment platform at access roadway grade along the top of the slope and designed with a retaining wall along the roadway edge. Further, the structure shall be supported on caissons. The project shall not include a foundation.
 - f. Plans shall clearly show that the proposed antennas do not extend beyond the branches of the monopine tree.
 4. All new electric and telecommunications lines shall be placed underground.
- C. Submit four copies of the approved Discretionary Permit with the Conditions of Approval attached. The Conditions of Approval shall be recorded prior to submittal, if applicable.
- D. The applicant shall submit a construction plan identifying the construction practices proposed for this project to ensure that disturbance to the Maritime Chaparral Habitat is minimized. This construction plan shall specifically identify how the project will be constructed from equipment located on the access

roadway without interfering or disturbing maritime chaparral.

- E. To guarantee that the camouflaged tower remains in good visual condition and ensure the continued provision of mitigation of the visual impact of the wireless communications facility, the applicant shall submit a maintenance program prior to building permit issuance, which includes the following:
 - 1. A signed contract for maintenance with the company that provides the exterior finish and camouflage materials, for annual visual inspection and follow up repair, painting, and resurfacing as necessary.
- F. The project plans shall incorporate all recommendations of the arborist report, dated 10/29/07. This shall include submittal of a contract with an arborist to ensure compliance with the arborist recommendations including a final letter indicating compliance with all arborist recommendations prior to final of the building permit.
- G. Submit a Fire Clearance Plan for the area within 100 feet of the perimeter of the proposed monopine and equipment shelter. These plans shall be reviewed and approved by County Fire and the Santa Cruz County Planning Department (Environmental Planning). Review and approval shall be coordinated between both of these Agencies with the intent of meeting both the fire protection standards and the protection of the Maritime Chaparral habitat requirements. In addition, the applicant shall pay any applicable plan check fee of the Fire County Fire.
 - 1. Plans shall identify all grading work to be completed as part of this project. Plans shall show existing and proposed contours and provide earthwork quantities (cubic yards).
 - 2. Submit 3 copies of a soils report completed by a California licensed engineer for review and approval.
- H. 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:
 - 1. All site improvements shown on the final approved Building Permit plans shall be installed.
 - 2. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.
 - 3. The project must comply with all recommendations of the approved soils reports.

4. Pursuant to Sections 16.40.040 and 16.42.100 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 16.42.100, shall be observed.
5. The applicant shall complete asphalt paving of the roadway all the way to the end of the access road adjacent to the proposed platform, and to the end of the turnaround area adjacent to the existing equipment cabinets. In addition, the applicant shall repave and/or repair portions of the road where deterioration has occurred that has resulted in weed growth through the road surface.
6. Prior to final inspection, the applicant shall submit a letter from the project arborist indicating compliance with the arborist report recommendations, dated October 29, 2008.

III. Operational Conditions

- A. The access road shall be permanently maintained to prevent erosion and slope failure that is created by the existence and use of the access road. Future erosion of the access road, as a result of neglect or lack of maintenance, will be a violation of the conditions of this permit. The road shall be maintained free of weeds and shall remain permanently paved.
- B. The exterior finish and materials of the wireless communication facility must be maintained on an annual basis to continue to blend with the existing visual environment. Additional paint and/or replacement materials shall be installed as necessary to blend the wireless communication facility with the existing utilities infrastructure.
- C. The areas along the side of the existing access road shall be permanently maintained free of pampas grass, with regular removals of pampas grass, as necessary to prevent further spread of the invasive plant species. Removal must include either chemical treatment of the rootball or mechanical removal of the rootball.
- D. The operator of the wireless communication facility must submit within 90 days of commencement of normal operations (or within 90 days of any major modification of power output of the facility) a written report to the Santa Cruz County Planning Department documenting the measurements and findings with respect to compliance with the established Federal Communications Commission

(FCC) Non-Ionizing Electromagnetic Radiation (NEIR) exposure standard. The wireless communication facility must remain in continued compliance with the NEIR standard established by the FCC at all times. Failure to submit required reports or to remain in continued compliance with the NEIR standard established by the FCC will be a violation of the terms of this permit.

- E. All noise generated from the approved use shall be contained on the property.
 - F. If, in the future, the pole based utilities are relocated underground at this location, the operator of the wireless communication facility must abandon the facility and be responsible for the removal of all permanent structures and the restoration of the site as needed to re-establish the area consistent with the character of the surrounding natural landscape.
 - G. If, as a result of future scientific studies and alterations of industry-wide standards resulting from those studies, substantial evidence is presented to Santa Cruz County that radio frequency transmissions may pose a hazard to human health and/or safety, the Santa Cruz County Planning Department shall set a public hearing and in its sole discretion, may revoke or modify the conditions of this permit.
 - H. 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.
 - I. Construction of the proposed equipment platform shall be completed from the access road only. This is required to minimize disturbance to Maritime Chaparral Habitat.
- IV. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, its officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.
- A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or

cooperate was significantly prejudicial to the Development Approval Holder.

- B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:
1. COUNTY bears its own attorney's fees and costs; and
 2. COUNTY defends the action in good faith.
- C. Settlement. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.
- D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor'(s) in interest, transferee(s), and assign(s) of the applicant.

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

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

Approval Date: _____

Effective Date: _____

Expiration Date: _____

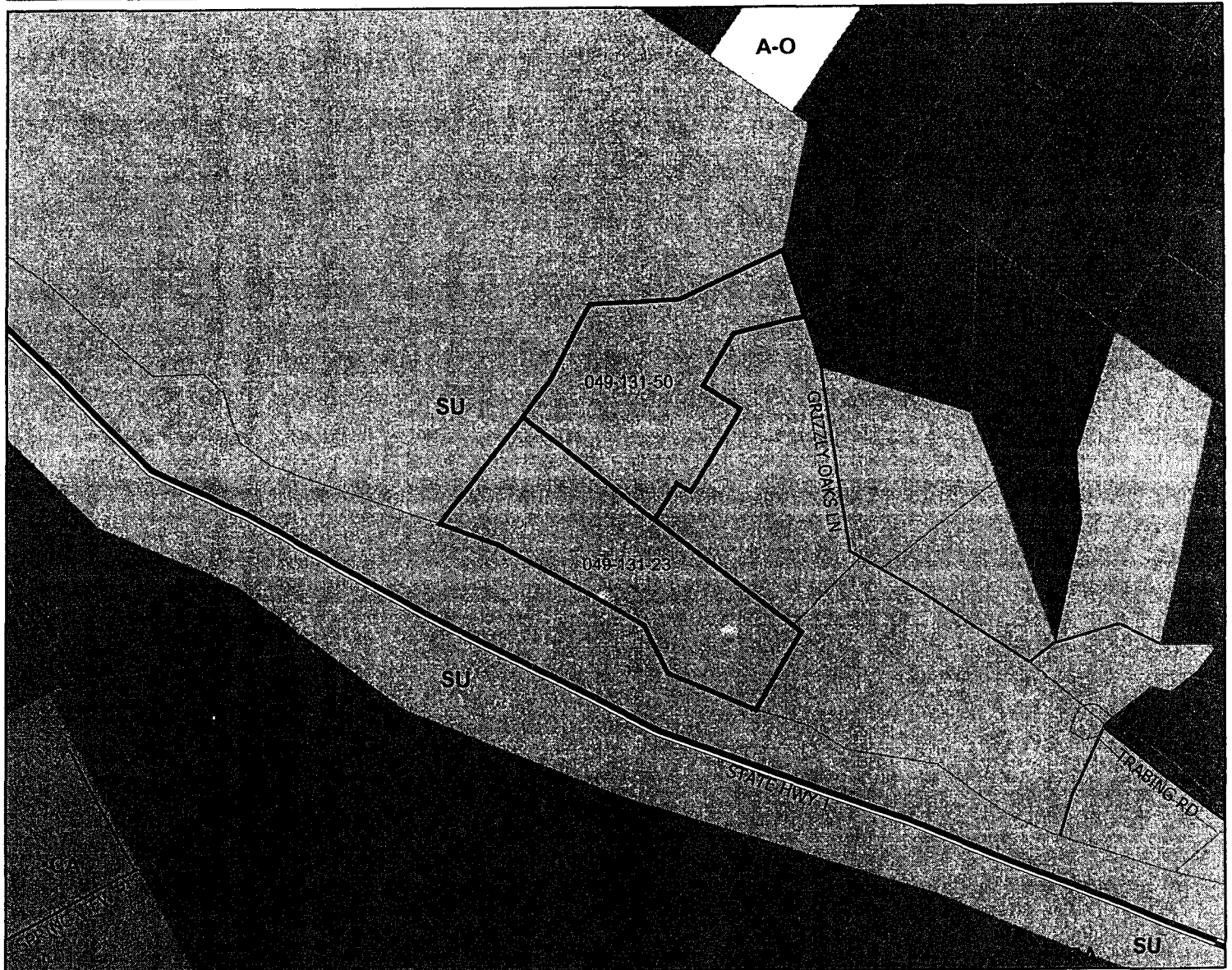
Don Bussey
Deputy Zoning Administrator

Sheila McDaniel
Project Planner









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

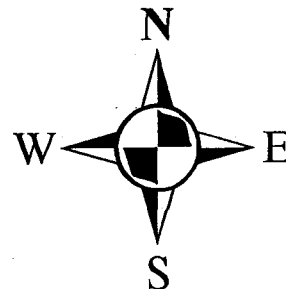


Zoning Map



Legend

-  APN 049-131-23, -50
-  Assessors Parcels
-  State Highways
-  Streets
-  AGRICULTURE (A)
-  SPECIAL USE (SU)
-  AGRICULTURE COMMERCIAL (CA)
-  AGRICULTURE RESIDENTIAL (RA)

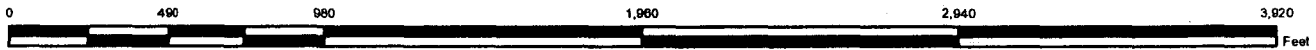
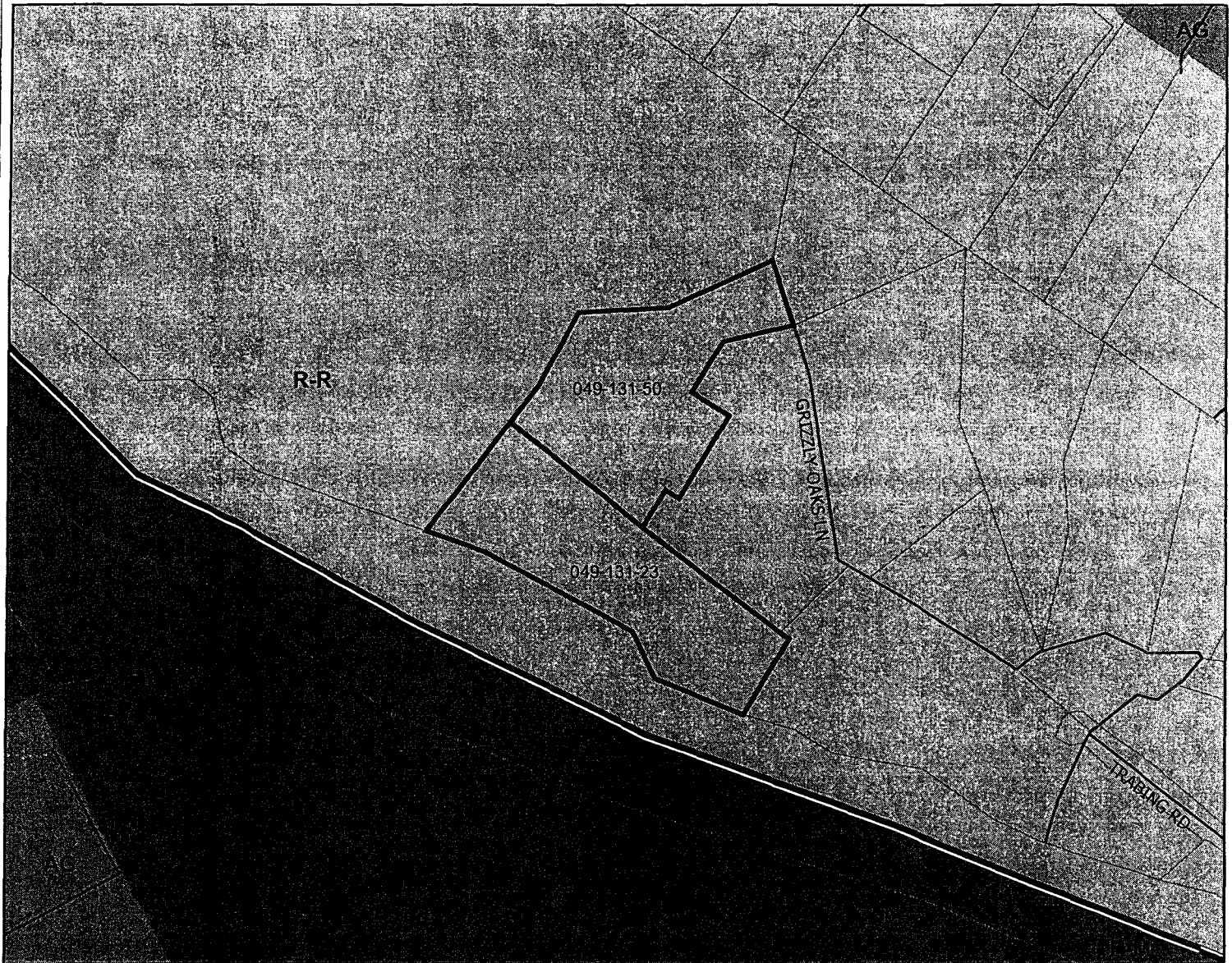


Map Created by
County of Santa Cruz
Planning Department
November 2005








EXHIBIT F1

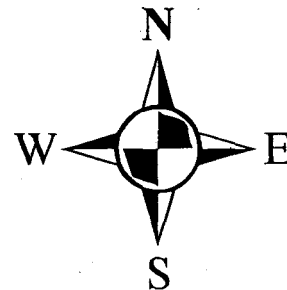


General Plan Designation Map



Legend

-  APN 049-131-23, -50
-  Assessors Parcels
-  State Highways
-  Streets
-  Residential-Rural (R-R)
-  Agriculture (AG)
-  Residential-Mountain (R-M)



Map Created by
County of Santa Cruz
Planning Department
November 2005

Post-Construction Non-Ionizing Electromagnetic Radiation (NIER) Report
Report Date: January 15, 2008

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by T-Mobile, a wireless telecommunications carrier, to evaluate its existing base station (Site No. SF05735) located at 1253 Trabling Road in Watsonville with respect to prevailing standards limiting human exposure to radio frequency energy.

Background

The County of Santa Cruz has adopted a checklist for determining compliance of wireless telecommunications carriers with prevailing safety standards. The thresholds for evaluation are those adopted by the FCC for exposures of unlimited duration:

Personal Wireless Service	Approx. Frequency	Occupational Limit	Public Limit
Personal Communication ("PCS")	1,950 MHz	5.00 mW/cm ²	1.00 mW/cm ²
Cellular Telephone	870	2.90	0.58
Specialized Mobile Radio ("SMR")	850	2.85	0.57
[most restrictive frequency range]	30-300	1.00	0.20

Checklist

1. Date of facility's commencement of operation.

Not reported by carrier.

2. Address and APN.

1253 Trabling Road, Watsonville. APN 049-131-23

3. Applicant and contact name, addresses and phone number.

Not applicable

4. Discretionary application number (assigned by County).

Not reported by carrier.

5. Carrier name and site identification number/name.

T-Mobile Site No. SF05735

6. Results of NIER monitoring, conducted in accordance with OET Bulletin 65 (or any superceding standards), taken from various locations (i.e., at least 3 locations) including those from which public exposure levels are expected to be highest.

The measurement equipment used was a Wandel & Goltermann Type EMR-300 Radiation Meter with a Type 18 Isotropic Electric Field Probe (Serial No. C-0010). Both meter and probe were under



HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

Post-Construction Non-Ionizing Electromagnetic Radiation (NIER) Report
Report Date: January 15, 2008

current calibration by the manufacturer. The maximum observed power density level for a person anywhere at ground was 0.014 mW/cm², which is 7.0% of the most restrictive public limit. See Figure 1 attached for locations of representative measurements in areas near the site.

7. Discussion/Explanation of hours of monitoring, which should be undertaken during "typical peak use periods" (Section 13.10.664 (a)(2)).

The site was visited by Mr. Scott Martin, a qualified field technician contracted by Hammett & Edison, Inc., about 12:30 p.m. on November 7, 2007, a non-holiday weekday.

8. Identify and describe all antennas/transmitters present at the site (including collocated facilities of other carriers).

T-Mobile had installed four PCS directional panel antennas for PCS service on a 10-foot pole. The antennas were oriented in pairs toward the west and south. The site was located on private property at the end of a steep access road. Access to the antennas was controlled by their height above ground. An explanatory warning sign* was posted on the pole. Observed on other poles nearby were three similar antennas for use by AT&T Wireless, by Sprint Nextel, and three antennas for use by MetroPCS.

Located on a shorter pole nearby were four similar antennas for use by T-Mobile.

9. Indicate the effective radiated power of each antenna/transmitter at the site (including collocated antennas of other carriers).

The maximum effective radiated power in any direction proposed by T-Mobile was 1,000 watts. Power levels for AT&T, MetroPCS, and Sprint Nextel are presumed to be similar.

10. List the frequency ranges used by this carrier and any other carrier on the site.

Carrier	Receive Band	Transmit Band
MetroPCS	1,895-1,905 MHz	1,975-1,985 MHz
AT&T PCS	1,890-1,895	1,970-1,978
T-Mobile PCS	1,870-1,890	1,950-1,970
AT&T PCS	1,865-1,870	1,945-1,950
Sprint Nextel PCS	1,850-1,865	1,930-1,945
AT&T Cellular	824-846.5	869-891.5
Sprint Nextel SMR	806-824	851-869

* Warning signs complied with OET-65 color and symbol recommendations. Contact information was provided in English to arrange for access to restricted areas (the choice of language(s) is not an engineering matter).

Post-Construction Non-Ionizing Electromagnetic Radiation (NIER) Report
Report Date: January 15, 2008

11. Comparison of measured cumulative RF levels and effective radiated power with FCC general public exposure limits, described using language that is understandable to the general public.

The maximum observed cumulative power density level for a person anywhere at ground was over 14 times below the most restrictive FCC general public exposure limits. For compliance with the federal safety standards, the FCC limits RF exposure levels where members of the public might have access, rather than limiting effective radiated power from the antennas themselves.

12. For roof-mounted WCFs and other sites where the public or roof top workers (e.g., roofers, HVAC workers, etc.) could come into proximity to antennas (i.e., on the roof), comparison of measured RF levels to both the public and occupational exposure limits, described using language that is understandable to the general public.

Not applicable.

13. Measurements of the cumulative NIER of all antennas within 500 feet of the site.

The measurements reported in checklist items 6 and 11 above are cumulative, reflecting contributions from all antennas within 500 feet.

14. Include a diagram, map, or aerial image (preferred) showing the location of all the subject carrier's antennas and collocated antennas, where the NIER measurements were taken, and nearby habitable structures. An explanation of why the locations of the measurements were chosen based on the levels of public RF exposure.

See attached Figure 1. Measured locations were chosen to encompass publicly accessible areas in which the highest exposure conditions would be expected.

15. Conclusion- Indicate the engineer's professional opinion that all antennas at the station are operating in compliance with FCC NIER exposure limits and will not, either individually or cumulatively (taking into account all collocations and other WCFs within 500 feet) cause a significant impact on the environment.

Based on the information and analysis above, it is the undersigned's professional opinion that the T-Mobile base station located at 1253 Trabing Road in Watsonville, California, as installed and operating at the time of the visit, complies with the FCC guidelines limiting public exposure to radio frequency energy and, therefore, does not for this reason cause a significant impact on the environment.

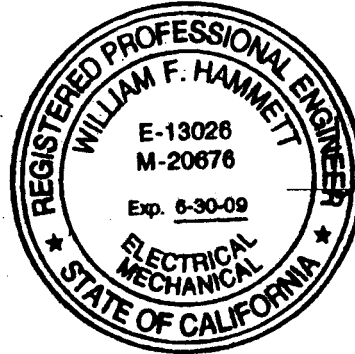


Post-Construction Non-Ionizing Electromagnetic Radiation (NIER) Report
Report Date: January 15, 2008

16. Stamp and signature of licensed electrical engineer.

The undersigned author of this statement is a qualified Professional Engineer, holding California Registrations Nos. E-13026 and M-20676, which expire on June 30, 2009. 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.

January 15, 2008



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

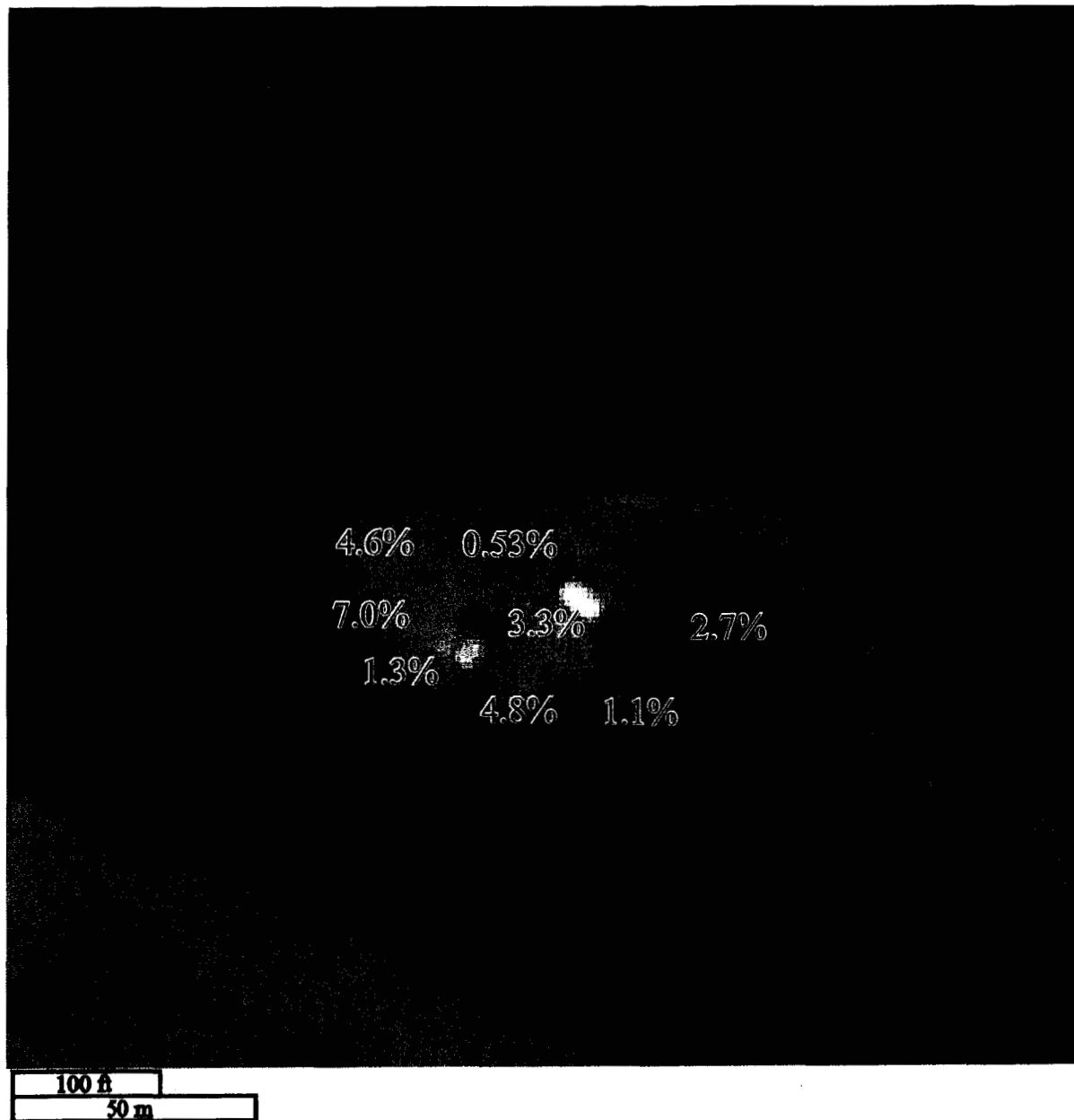


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TM05735595M
Page 4 of 4

T-Mobile • Existing Base Station No. SF05735
1253 Trabing Road • Watsonville, California

Measured Exposure Levels at Specific Locations • November 7, 2007



Measurement results shown as a percent of the public limit relative to the most restrictive public limit (0.2 mW/cm²), unless otherwise noted. The most restrictive limit is typically used to assess exposure levels at ground, as there may be contributions from many different sources.
Aerial photograph source: Google / DigitalGlobe.



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TM05735595M
Figure 1



HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
RADIO AND TELEVISION

WILLIAM F. HAMMETT, P.E.
DANE E. ERICKSEN, P.E.
STANLEY SALEK, P.E.
ROBERT D. WELLER, P.E.
MARK D. NEUMANN, P.E.
ROBERT P. SMITH, JR.
RAJAT MATHUR, P.E.
S. WESTON LANE
ROBERT L. HAMMETT, P.E.
1920-2002
EDWARD EDISON, P.E.

BY E-MAIL CLARENCE.CHAVIS@RIDGECOMMUNICATE.COM

October 29, 2007

Mr. Clarence S. Chavis
Ridge Communications
12667 Alcosta Boulevard
Suite 175
San Ramon, California 94583

Dear Clarence:

As you requested, we have analyzed the RF exposure conditions near the Verizon Wireless and T-Mobile base stations (Site Nos. 158656 "Mar Monte" and SF05735, respectively) proposed to be located at 1253 Trabing Road in Watsonville, California. An electronic copy of our report is enclosed. Fields in publicly accessible areas at the site are calculated to be well below the applicable limits.

We appreciate the opportunity to be of service and would welcome any questions on this material. Please let me know if we may be of additional assistance.

Sincerely yours,

William F. Hammett

ds

Enclosure

cc: Ms. Lisa Nahmanson (w/encl) - BY E-MAIL LNAHMANSON@PERMITME.NET

e-mail: bhammett@h-e.com
US Mail: Box 280068 • San Francisco, California 94128
Delivery: 470 Third Street West • Sonoma, California 95476
Telephone: 707/996-5200 San Francisco • 707/996-5280 Facsimile • 202/396-5200 D.C.

Verizon Wireless • Proposed Base Station (Site No. 158656 "Mar Monte")
T-Mobile • Proposed Base Station (Site No. SF05735)
1253 Trabing Road • Watsonville, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless and T-Mobile, personal wireless telecommunications carriers, to evaluate base stations (Site Nos. 158656 and SF05735, respectively) proposed to be located at 1253 Trabing Road in Watsonville, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. In Docket 93-62, effective October 15, 1997, the FCC adopted the human exposure limits for field strength and power density recommended in 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 exposure limits. 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:

Personal Wireless Service	Approx. Frequency	Occupational Limit	Public Limit
Personal Communication ("PCS")	1,950 MHz	5.00 mW/cm ²	1.00 mW/cm ²
Cellular Telephone	870	2.90	0.58
Specialized Mobile Radio	855	2.85	0.57
[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 about 1 inch thick. Because of the short wavelength of the frequencies assigned by the FCC for



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VW158656595
TM05735595
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**Verizon Wireless • Proposed Base Station (Site No. 158656 "Mar Monte")
T-Mobile • Proposed Base Station (Site No. SF05735)
1253 Trabling Road • Watsonville, California**

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. Along with the low power of such facilities, 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 attached describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Verizon and T-Mobile, including zoning drawings by Omni Design Group, Inc., dated October 16, 2007, those carriers propose to mount directional panel antennas on a new 55-foot steel pole, configured to resemble a pine tree, to be located at 1253 Trabling Road in Watsonville. Verizon proposes to install six Antel antennas, three PCS Model BXA185060-8 and three cellular Model BXA80063-4, at an effective height of about 53 feet above ground and to orient them in pairs (one of each) toward 30°T, 140°T, and 300°T. The maximum effective radiated power in any direction would be 2,900 watts, representing simultaneous operation at 500 watts for PCS and 2,400 watts for cellular service.

T-Mobile proposes to install nine RFS Model APX16DWV-16DWV PCS antennas at an effective height of about 45½ feet above ground and to orient them in three groups of three toward 100°T, 180°T, and 290°T. The maximum effective radiated power in any direction would be 960 watts, representing the simultaneous operation of two channels at 480 watts each.

Presently located on an existing pole about 100 feet to the southeast are similar antennas for use by AT&T Wireless, by MetroPCS, and by Sprint Nextel, other wireless telecommunications carriers. For the limited purposes of this study, transmitting facilities of those carriers are assumed to be as follows:



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Verizon Wireless • Proposed Base Station (Site No. 158656 "Mar Monte")
T-Mobile • Proposed Base Station (Site No. SF05735)
1253 Trabing Road • Watsonville, California

Carrier	Antenna Model	Height	Service	Maximum ERP
AT&T	Kathrein 742-265	50 ft	cellular	1,500 watts
			PCS	1,500
MetroPCS	Andrew RR65-18	43	PCS	1,890
Sprint Nextel	Andrew RR90-17	36	PCS	1,500
	Andrew DB844H65	30 ¹ / ₂	SMR	1,500

Study Results

For a person anywhere at ground, the maximum ambient RF exposure level due to the proposed Verizon operation by itself is calculated to be 0.013 mW/cm², which is 2.1% of the applicable public exposure limit, and the maximum ambient RF exposure level due to the proposed T-Mobile operation by itself is calculated to be 0.0014 mW/cm², which is 0.14% of the applicable public exposure limit. The maximum calculated cumulative level at ground for the simultaneous operation of all five carriers is less than 12% of the public exposure limit; the maximum cumulative level at the second floor elevation of any nearby building* is expected to be less than 5.0% 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. Figure 3 attached provides the specific data required under Santa Cruz County Code Section 13.10.659(g)(2)(ix), for reporting the analysis of RF exposure conditions.

No Recommended Mitigation Measures

Since they are to be mounted on a tall pole, the Verizon and T-Mobile antennas are not accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that the individual carriers will, as FCC licensees, take adequate steps to ensure that their employees or contractors 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 the base stations proposed by Verizon Wireless and T-Mobile at 1253 Trabing Road in Watsonville, 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

* Located at least 250 feet away, based on aerial photographs from Terraserver.



**Verizon Wireless • Proposed Base Station (Site No. 158656 "Mar Monte")
T-Mobile • Proposed Base Station (Site No. SF05735)
1253 Trabing Road • Watsonville, California**

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, 2009. This work has been carried out by him or 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.

October 29, 2007



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



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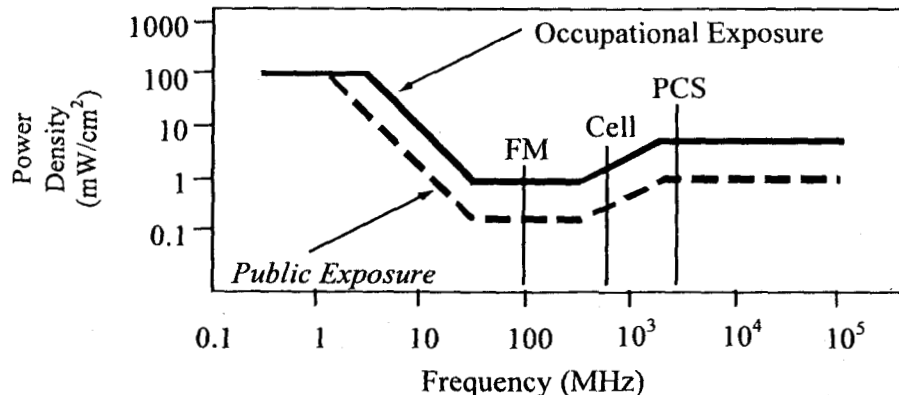
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FCC Radio Frequency Protection Guide

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 Applicable Range (MHz)	Electromagnetic Fields (<i>f</i> is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm 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√ <i>f</i>	<i>1.59√f</i>	√ <i>f</i> /106	<i>√f/238</i>	<i>f/300</i>	<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.



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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 $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D^2 \times h}$, 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.



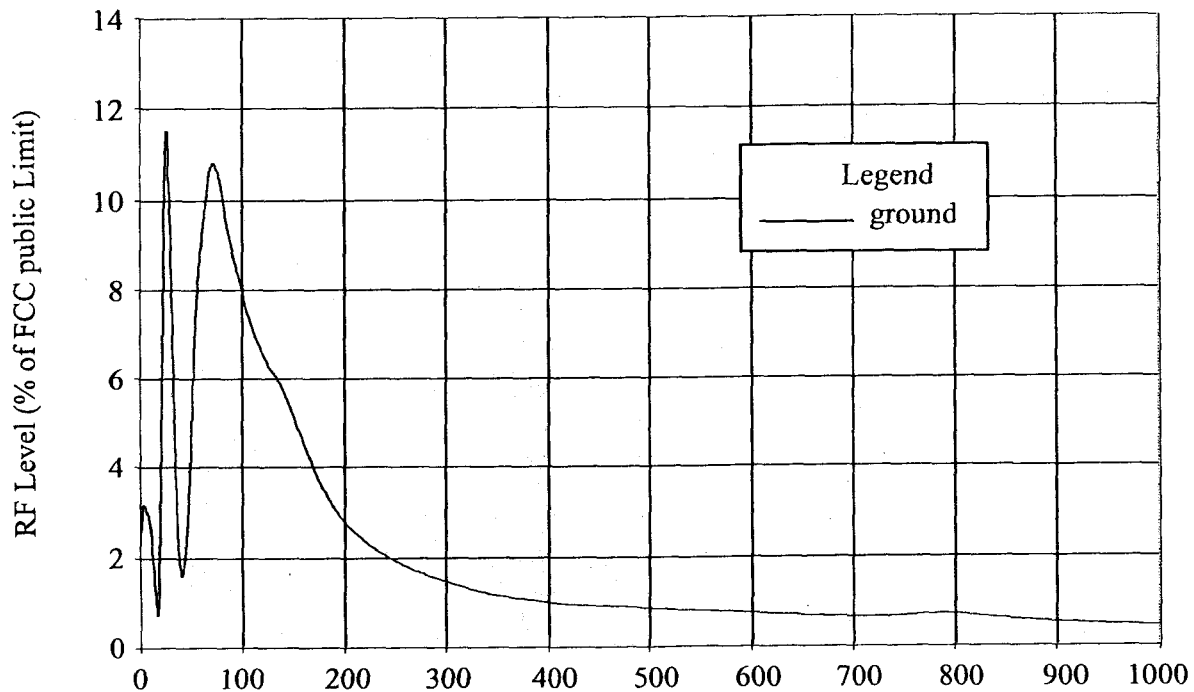
HAMMETT & EDISON, INC.
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Methodology
Figure 2

Verizon Wireless • Proposed Base Station (Site No. 158656 "Mar Monte")
T-Mobile • Proposed Base Station (Site No. SF05735)
1253 Trabling Road • Watsonville, California
Compliance with Santa Cruz County Code §13.10.659(g)(2)(ix)

"Compliance with the FCC's non-ionizing electromagnetic radiation (NIER) standards or other applicable standards shall be demonstrated for any new wireless communication facility through submission, at the time of application for the necessary permit or entitlement, of NIER calculations specifying NIER levels in the area surrounding the proposed facility. Calculations shall be made of expected NIER exposure levels during peak operation periods at a range of distances from fifty (50) to one thousand (1,000) feet, taking into account cumulative NIER exposure levels from the proposed source in combination with all other existing NIER transmission sources within a one-mile radius. This should also include a plan to ensure that the public would be kept at a safe distance from any NIER transmission source associated with the proposed wireless communication facility, consistent with the NIER standards of the FCC, or any potential future superceding standards."

Calculated Cumulative NIER Exposure Levels during Peak Operation Periods



RF level (% limit)	Distance (feet) in direction of maximum level						
Distance (feet)	50	100	200	300	500	750	1,000
ground	5.5%	8.0%	2.8%	1.5%	0.85%	0.67%	0.44%

Calculated using formulas in FCC Office of Engineering Technology Bulletin No. 65 (1997), considering terrain variations within 1,000 feet of site.

Maximum effective radiated power (peak operation) - 2,900 watts (Verizon), 960 watts (T-Mobile)

Effective Verizon and T-Mobile antenna height above ground - 53 feet, 45¹/₂ feet

Other sources nearby - AT&T Wireless, MetroPCS, and Sprint Nextel

Other sources within one mile - No AM, FM, or TV broadcast stations

No two-way stations close enough to affect compliance

Plan for restricting public access - Antennas are mounted on a tall pole



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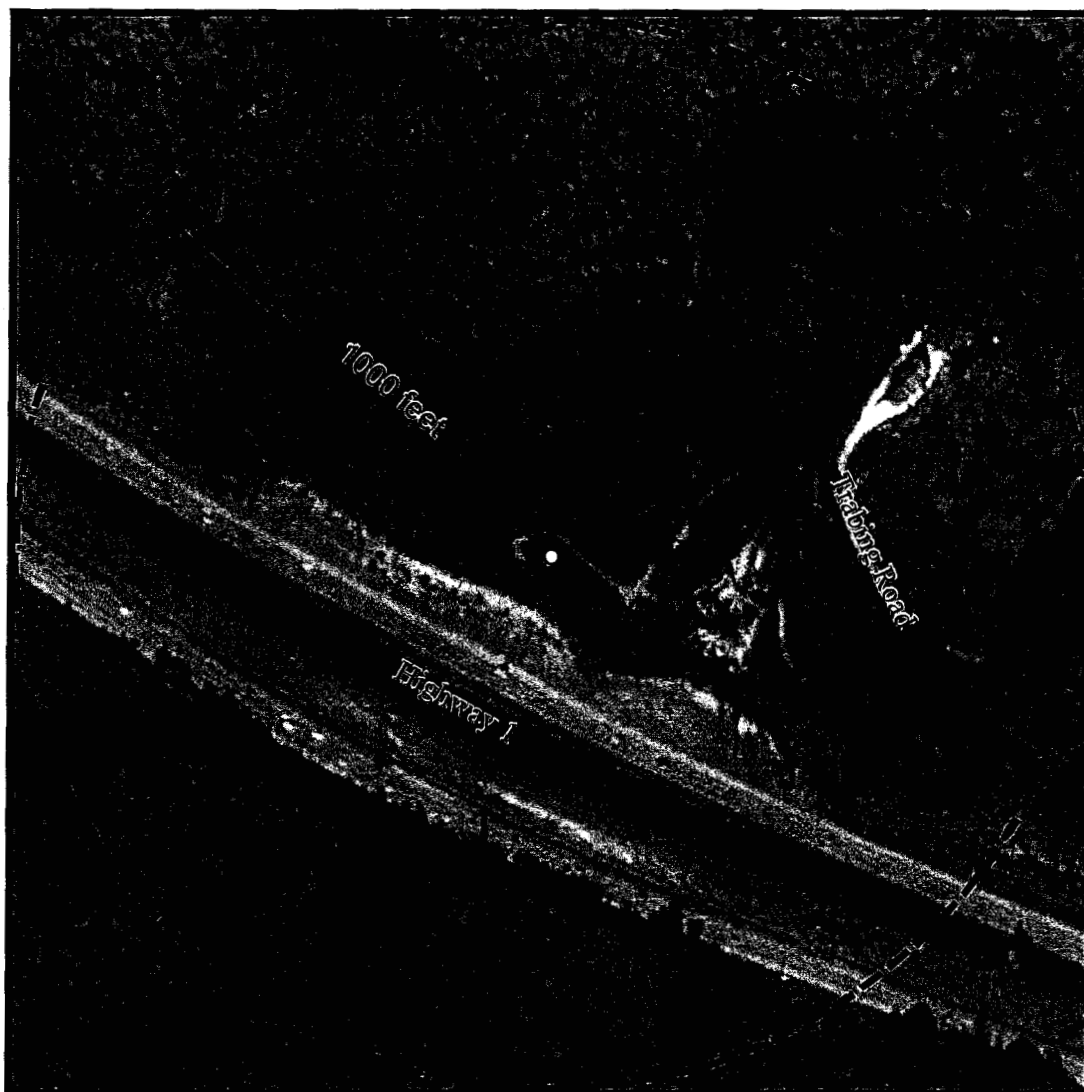
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Figure 3A

Verizon Wireless • Proposed Base Station (Site No. 158656 "Mar Monte")
T-Mobile • Proposed Base Station (Site No. SF05735)
1253 Trabing Road • Watsonville, California

Calculated NIER Exposure Levels
Within 1,000 Feet of Proposed Site
for Simultaneous Operation of Verizon, T-Mobile, Metro, Sprint Nextel, and AT&T



Aerial photo from Terraserver

Legend	
blank	- less than 5% of FCC public limit (<i>i.e.</i> , more than 20 times below)
▨	- 5% and above near ground level (highest level is 12%)

Calculated using formulas in FCC Office of Engineering Technology Bulletin No. 65 (1997), considering terrain variations within 1,000 feet of site. See text for further information.

Site Location - The site was located by using the street address, plotted on MapQuest and confirmed by the presence of the existing tree pole and telecommunication equipment.

Viewpoint Selection - The site is located on a hilltop alongside Hwy 1, adjacent to an existing tree pole. The terrain in the area is dramatically hilly. Because of the hills the existing tree pole could NOT be spotted from southbound Hwy 1. The only views from Hwy 1 were northbound, for a short section approaching the site. The tree pole is more difficult to see from the slow lanes, so the photo was taken from the median. Even from the fast lane it was difficult to spot, so the photograph gives a somewhat unrepresentative view of the new tree pole. There are only partial views of the existing tree pole from Hwy 1, and because of the difficulty is viewing the site, the photosim from Hwy 1 is clearly a "worst case scenario" view. The clearest viewpoint is from the access road, although the photographs taken from private property. Finally, a view was provided from southbound Hwy 1 near the rest area, showing how the median completely blocks the view from the southbound travel lanes.

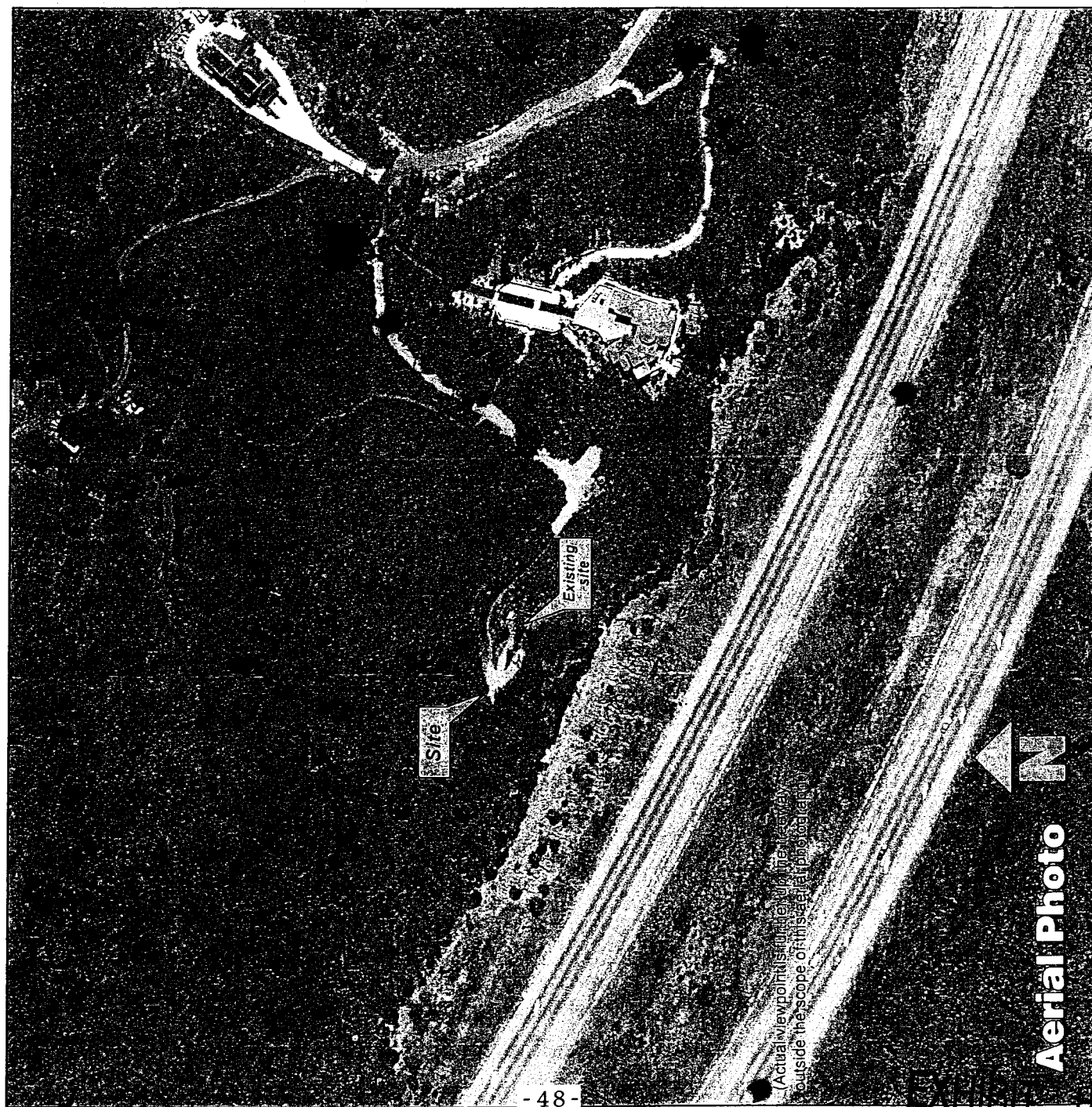
Scale - The proposed tree pole will be located near an existing tree pole. The dimensions of the existing tree pole were provided by 100% Zoning Drawings, supplied by the project applicant and prepared by Omni Design Group. Rough measurements were taken in the field to confirm the drawings and it was concluded the drawings were accurate. A 20 ft telescoping survey pole is included in all photographs.

Equipment Information - The images were taken with a Canon 1Ds Mark II Professional Digital camera with a 1:1 conversion ratio using standard lenses. GPS equipment: Garmin Vista. Distance measured with Bushnell 1000 digital laser range finder. Height scale achieved with Suunto clinometer or Topcon theodolite. All image manipulation done with Adobe Photoshop on Macintosh G5 workstations.

Mar Monte

1253 Trabling Road
Watsonville, CA 95076
158656

verizonwireless



(Actual viewpoints are taken from the location outside the scope of this aerial photograph.)

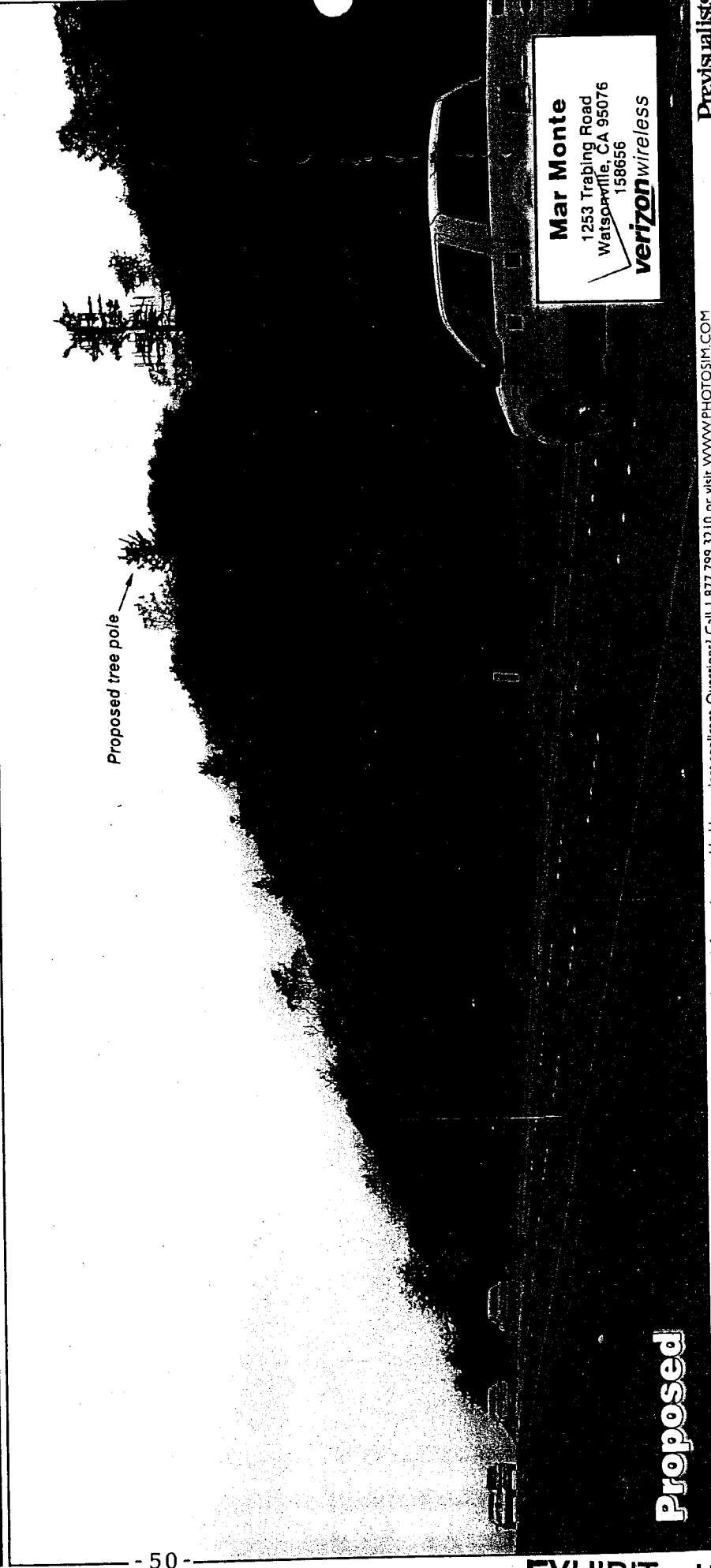
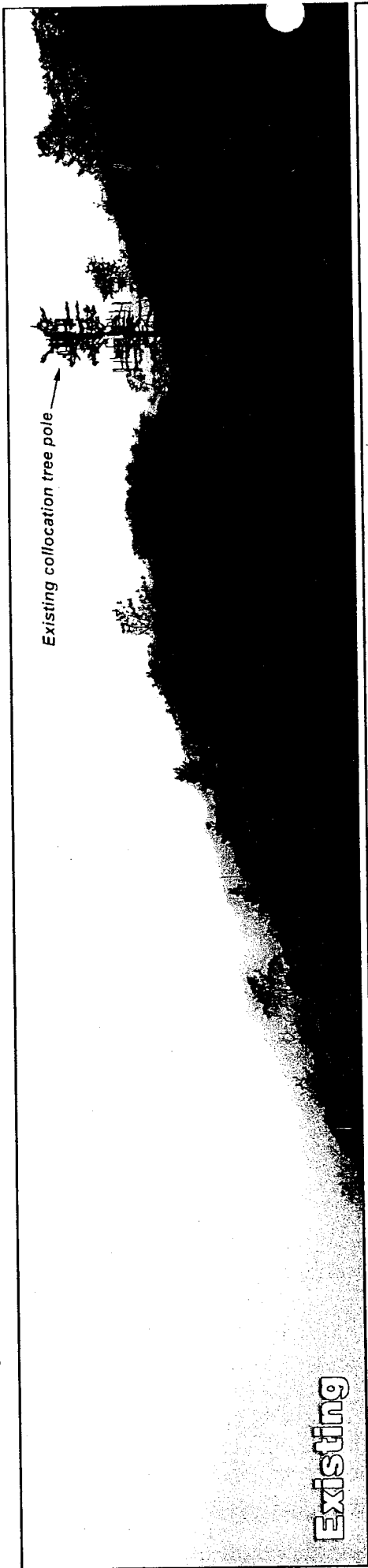
Aerial Photo

Photosimulation of view looking east from Hwy 101 at the Rest Area.

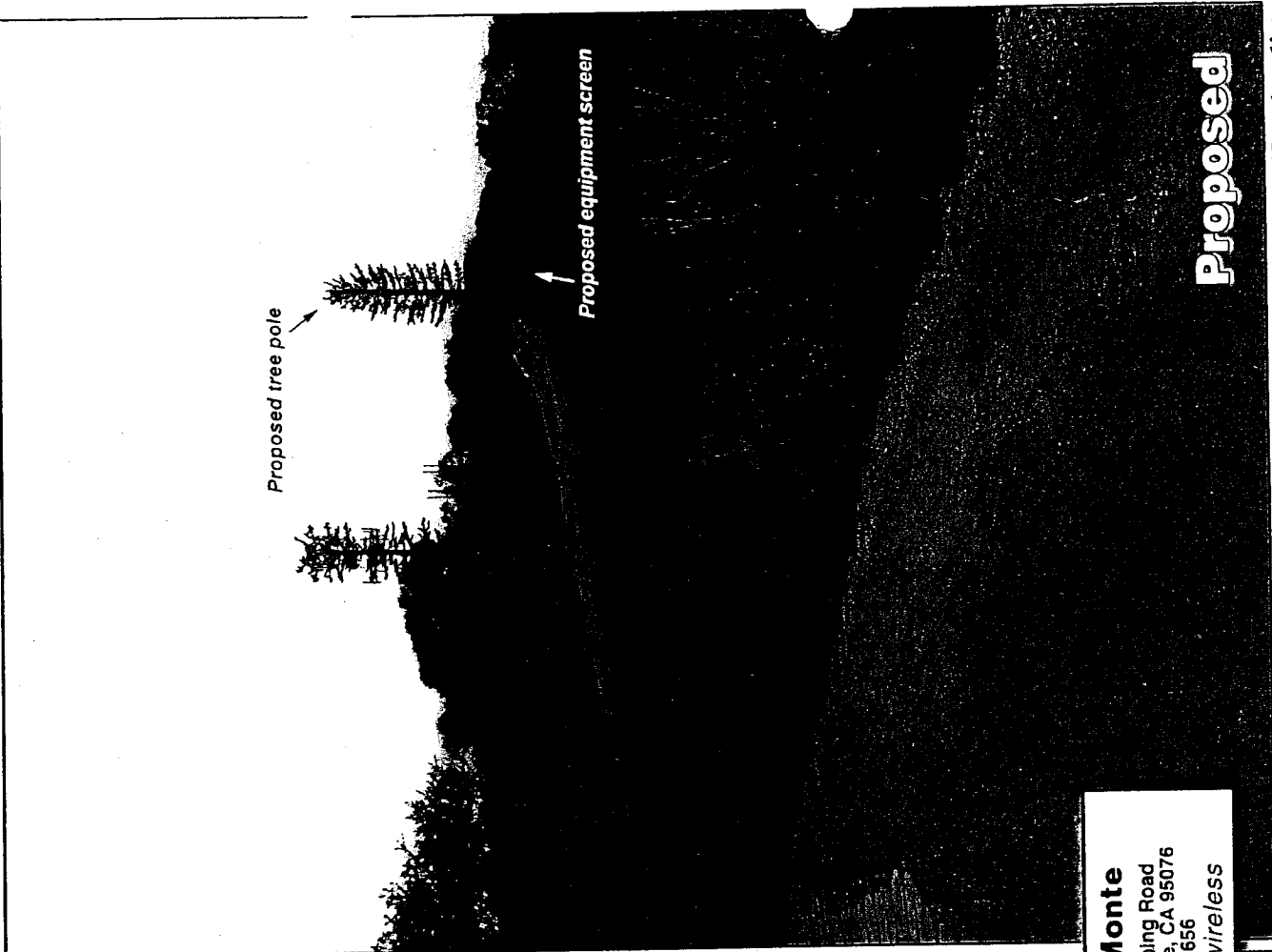
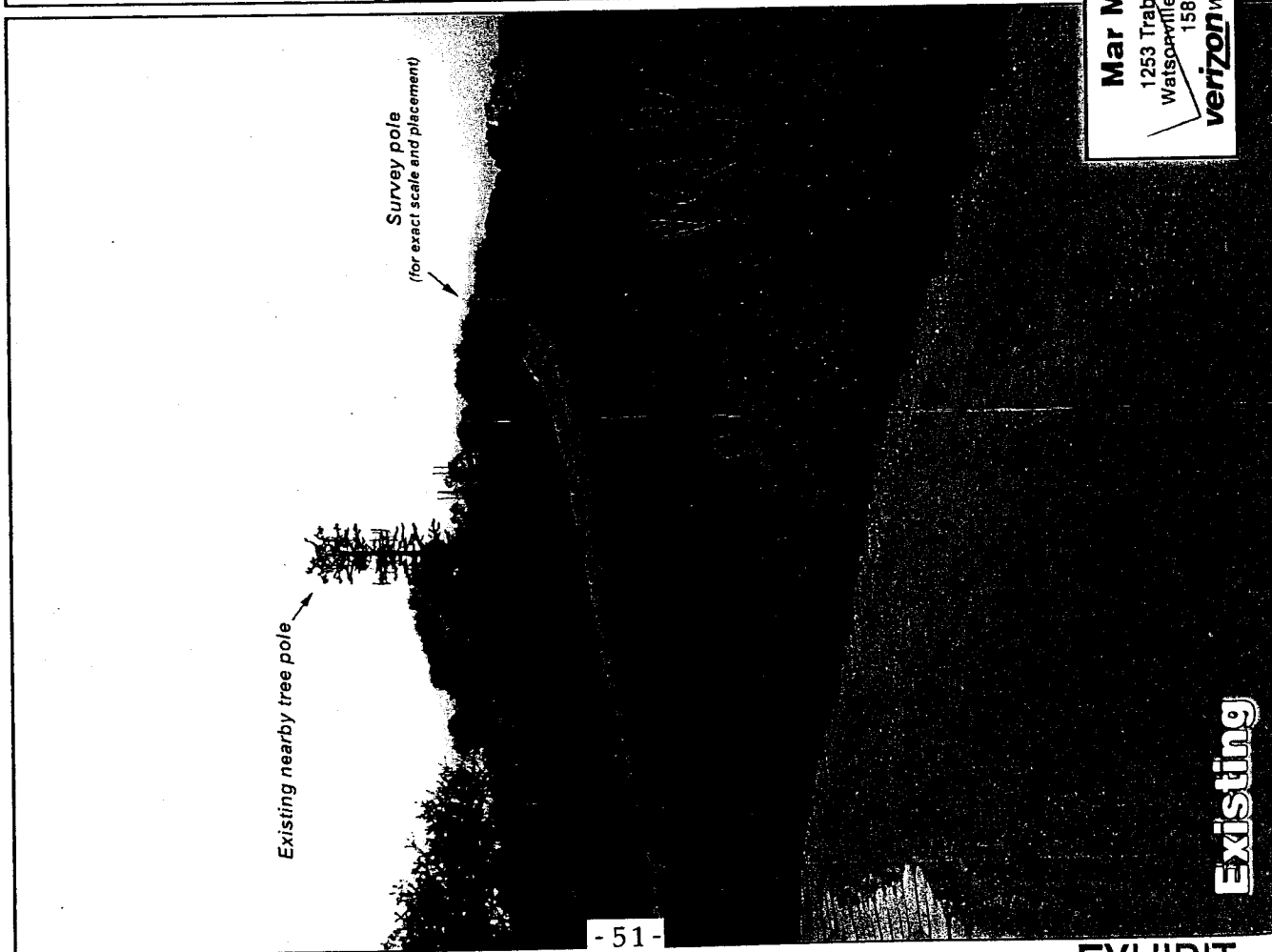
Location of existing
and proposed tree poles,
not visible to Southbound
Hwy 101 travel lanes.

Mar Monte
1253 Trabling Road
Watsonville, CA 95076
158656
verizonwireless

Photosimulation of view looking north from the median of Hwy 101.



Photosimulation of view looking west from the access road (private property).



Mar Monte
1253 Trabling Road
Watsonville, CA 95076
158656
verizonwireless

MEMORANDUM

Application No: 05-0722

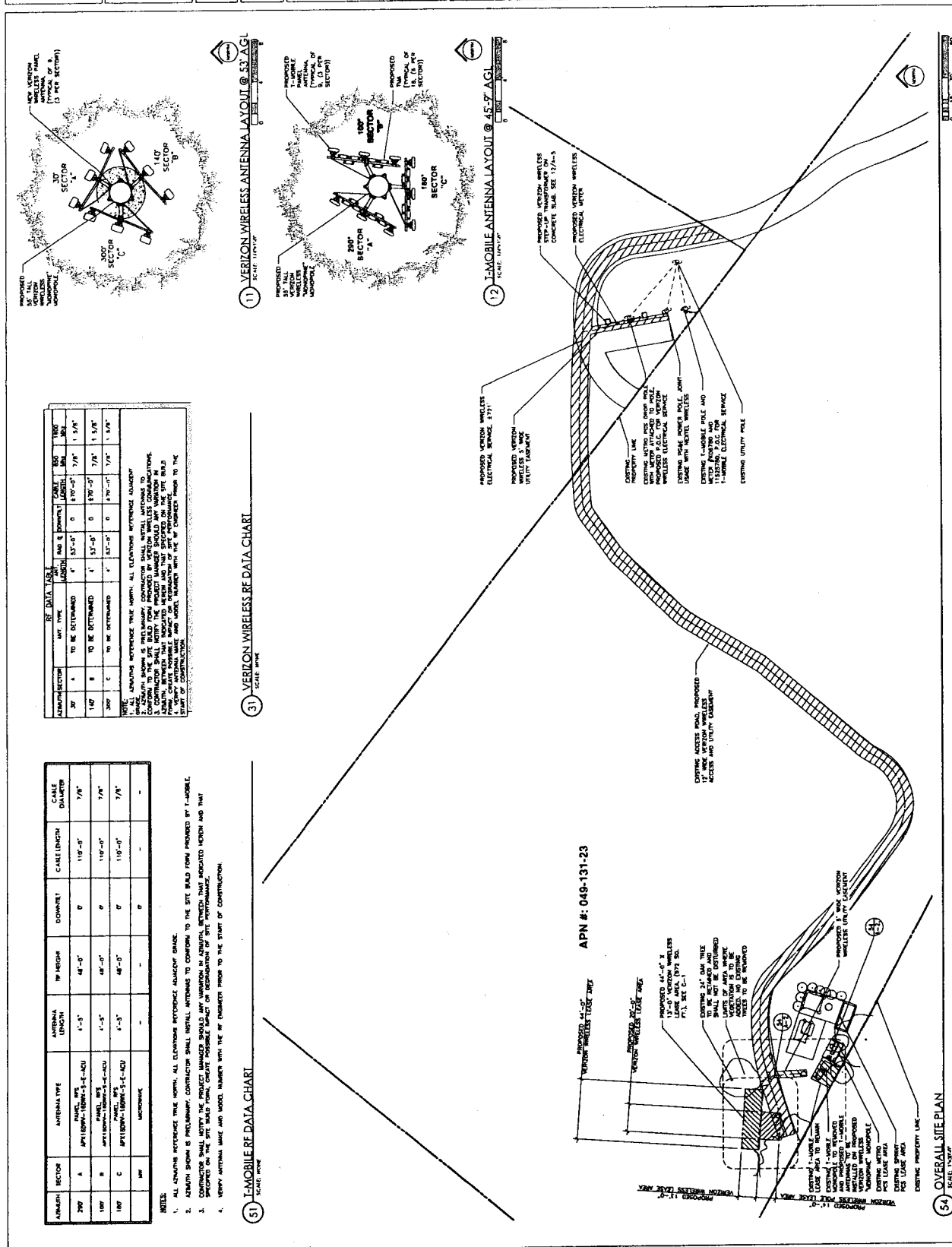
Date: September 12, 2008

To: Sheila McDaniels, Project Planner

From: Lawrence Kasparowitz, Urban Designer

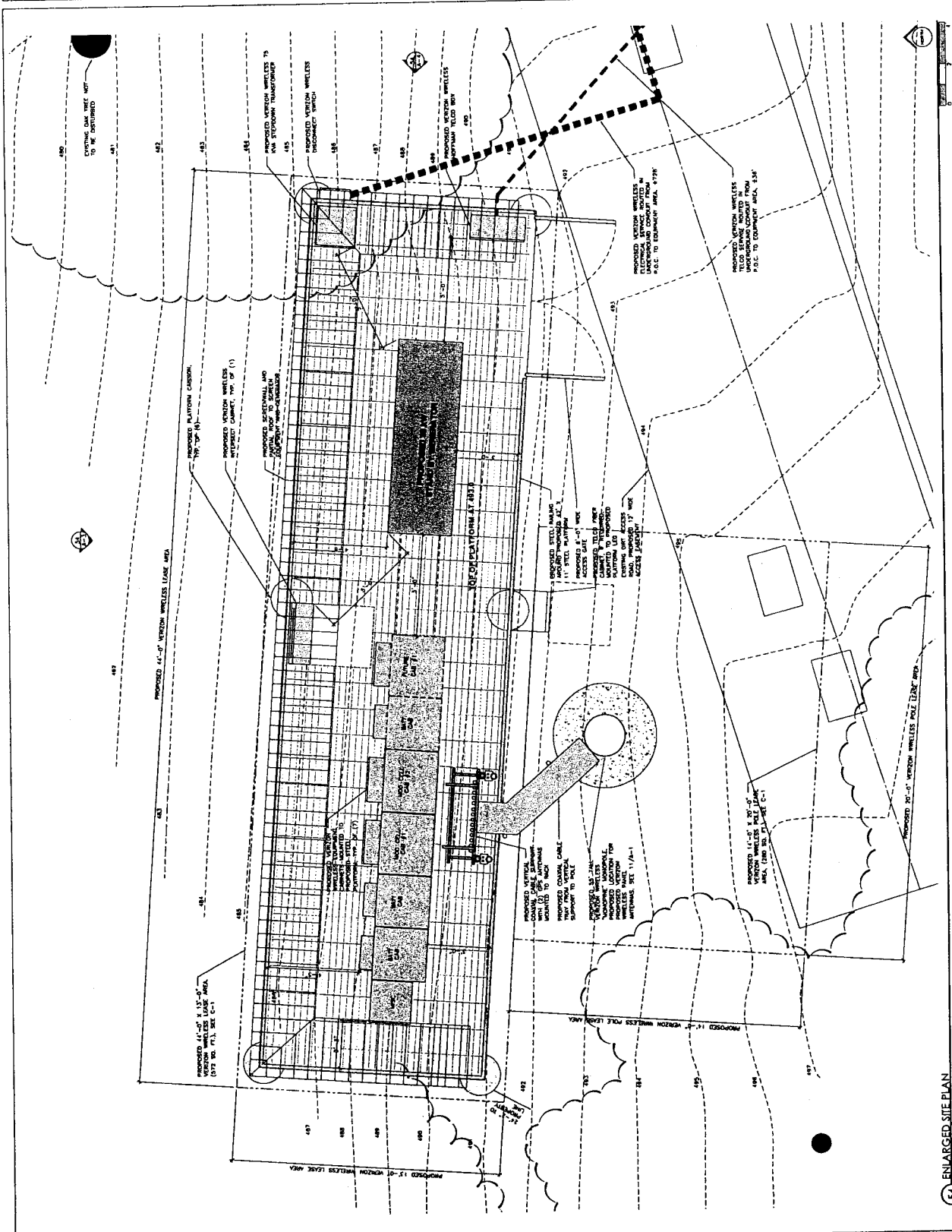
Re: Design Review for the location of cellular antennae, monopine, and installation of associated cabinets at 1253 Trabing Road, Watsonville

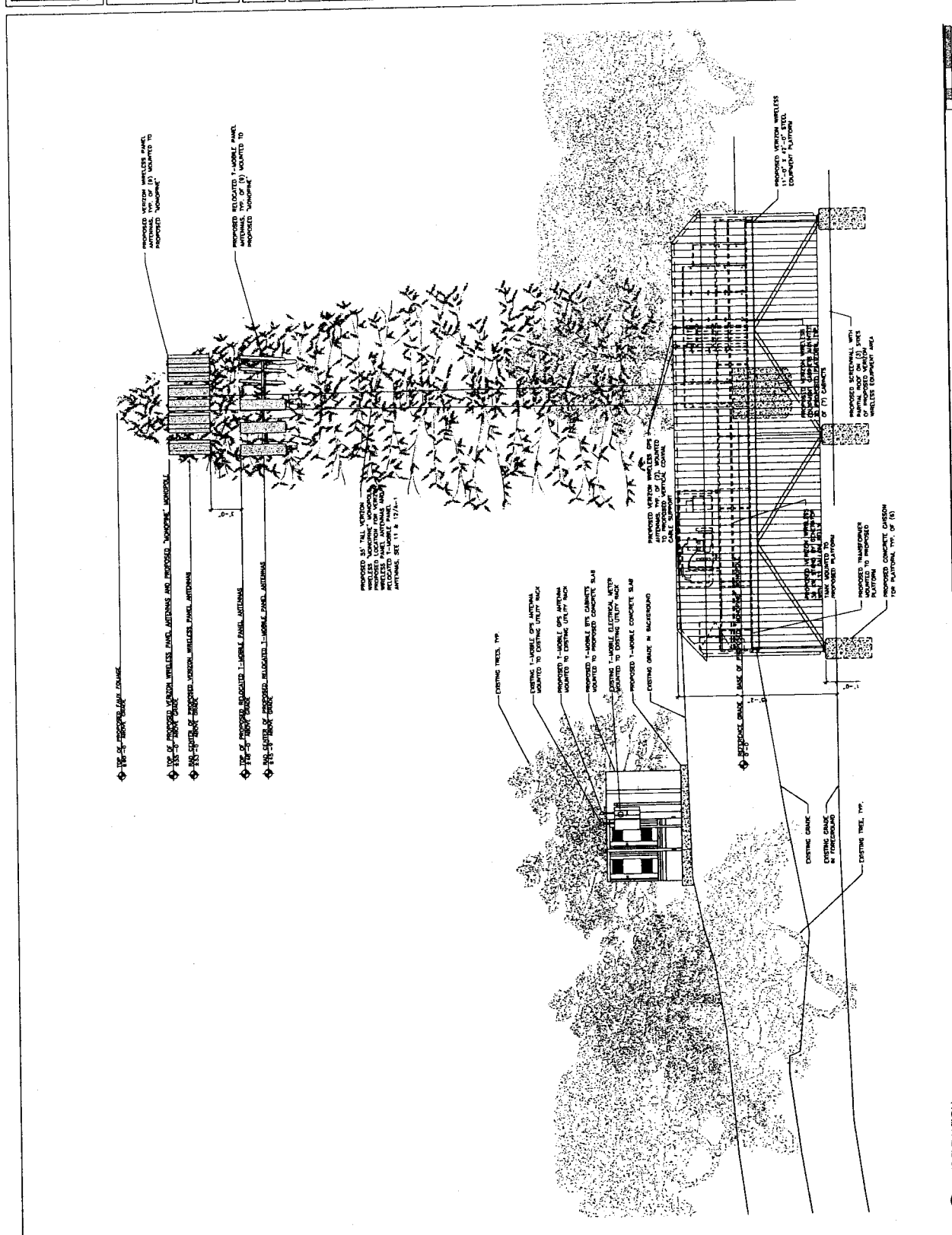
- *The associated ground equipment shall be painted an earth tone color.*
- *The new antennae shall be painted to match the monopine.*
- *Final architectural treatment and materials and colors for the stealth "outbuilding" (equipment shelter) to be reviewed and approved by Urban Designer prior to issuance of building permit.*



		PROJECT INFORMATION: MAR MONTE VERIZON SITE #: 158656 T-MOBILE SITE #: SF05735 1203 TRAINING ROAD WATSONVILLE, CA 95076 COUNTY OF SAN JOSE	
CURRENT ISSUE DATE: 08/18/08		ISSUED FOR: 80% ZONING	
REV. DATE DESCRIPTION		REV. DATE DESCRIPTION	
7	08/17/07	1	BASE LAYOUT
8	10/03/07	2	ADDITIONAL ANTENNA PLACEMENT
9	10/09/07	3	COMBINE TO ONE SET OF DRAWINGS
10	10/14/07	4	VIEW & LAYOUT COMMENTS
11	10/26/07	5	ROOF & LAYOUT COMMENTS
12	01/25/08	6	REVISED ZONING
13	08/14/08	7	REVISED ZONING

COORDINATING ARCHITECT: 400 West Main Street, Suite 100 Watsonville, CA 95076 Phone: (831) 841-1111 Fax: (831) 841-1112 Email: info@oc-omni.com		CONSULTANT: RIDGE COMMUNICATIONS INC. DRAWN BY: JN, NB, TR SHEET TITLE: VERIZON WIRELESS EQUIPMENT PLAN SHEET NUMBER: A-2 REVISION: 755-41A	
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TREE SOLUTIONS
HEALTHY CARE FOR TREES

Tree Solutions
PO Box 66158
Scotts Valley, CA 95067

ARBORIST REPORT

Prepared at the request of:

Ridge Communications Inc.
12667 Alcosta Blvd., Suite 175
San Ramon, CA 94583

Prepared by:

James Neve, certified arborist
PO Box 66158
Scotts Valley, CA 95067
(831) 247-1696

October 29, 2007

831-247-1696
www.oaksavers.net

Assignment

At the request of Clarence Chavis of Ridge Communications Inc., Tree Solutions assessed a site located at 1253 Trabling Road Watsonville, California where a Verizon Wireless cell tower project is planned. The assessment and arborist report were requested to meet specific requirements by the County of Santa Cruz. The requirements are spelled out on page 3 of 3rd Review letter, 05-07223 dated 6/20/07.

County of Santa Cruz "additional issues"

B. Tree protection measures. "Prior to permit issuance, an arborists report will be required to investigate the health of the trees within 50 feet of the disturbance area, and recommendations of this report shall be implemented during disturbance and construction. The continued health of the trees surrounding the site is important as these provide screening from neighboring residences."

Observations and discussion

On October 15, 2007 I met with Clarence Chavis at the proposed construction site. We walked the area and discussed the County of Santa Cruz tree protection requirements. The exact caisson placement was not marked so the relationship of the caissons and platform deck to a coast live oak tree (**picture 1**) which will be most impacted, is unclear. This report and its recommendations are based upon the best estimate of locations, given by Clarence Chavis during the site visit. Seven pages of plans produced by Omni design group dated 4/28/06 were given to Tree Solutions representative James Neve as a guide.

The construction area consists mostly of native vegetation. The platform and tower are to be placed on a 45% slope. The slope presents the likelihood of soil moving down the hill in to the root zone and onto trunks of trees and shrubs below during construction.

Many coast live oak trees have varying degrees of defoliation caused by California Oakworm. They appear healthy and able to withstand minor construction impacts.

A group of trees, (**picture 2**) whose canopies are located just outside of the construction zone to the southwest along the hillside, will require monitoring during construction of the monopole for possible mitigative measures. When exact location of monopole footing is known, mitigative procedures can be pre-determined. Examples would be root pruning and canopy reduction.

Tree#1 is a coast live oak tree. It has a dbh of 15 inches is approximately 20 feet tall and has a 35 foot spread. It is located within the building footprint and will require substantial canopy reduction pruning and trunk and root zone protection. The longest branches are growing southwest and uphill into the construction zone. This growth pattern indicates that these branches are integral to balance and support of a tree growing on a steep hillside. It is possible that in the future, uprooting may occur due to complete removal of these branches. To integrate with the proposed equipment platform, these branches will likely be removed or

substantially headed back. The complete removal of these branches will constitute approximately twenty-five percent of total canopy area. This percentage pushes the acceptable amount of canopy loss for continued tree health. Tree health and pruning response should be monitored for a period of three to ten years. The monitoring time frame can be determined by the County of Santa Cruz. If corrective pruning is necessary in the future to mitigate the loss of those branches, it must not occur less than three years after the initial pruning. Presently, health of this tree appears normal. There is some minor defoliation caused by the California oakworm. The oakworm infestation in this area can be expected to last through 2008 and possibly longer.

Trees# 2 and #3 are located at the end of a paved road at the top of a hill. **(picture 3)** This area is a possible staging area for the heavy equipment necessary for caisson drilling. The area between the two trees is paved.

Tree#2 has dieback of a major branch. **(picture 4)** This appears to have resulted from the installation of the paved road that ends at the trunk of this tree.

Tree, #3 has what appears to be construction damage. The wound has calloused over. **(picture 5)**

Summary and recommendations

A project arborist should be retained to assist project personnel in following guidelines and requirements.

If, after initial site meeting it is determined that too much canopy must be removed from Tree#1 to accommodate the construction platform and maintain tree health, it is recommended that the tree be removed and replaced with two or more coast live oak trees. The tree should be removed by a licensed/insured tree company under the supervision of site arborist. Integrity of hillside, including native vegetation must be maintained. Re-planting container size is to be determined by the county of Santa Cruz or a professional arboriculture company as decided by the county.

A preferable planting option would be to collect acorns from current tree. The acorns would be sprouted, grown on and planted as replacements using accepted professional methods. This method of replacement is suggested to maintain genetic integrity to the area. Tree protection, watering, monitoring etc. would be necessary. If this option is used, a professional arboriculture company should be retained.

The dead branch on tree#2**(picture 4)** may be removed to make room for construction equipment.

Previous construction; possibly the adjacent cell tower and road installation has negatively impacted the area. Garbage and construction spoils presumably left behind after constructions

have biological and aesthetic impact. There are construction spoils and refuse dumped within the construction zone of the current proposed project. (**pictures 9,10,11**) They represent a biological impact to the native shrubbery and the coast live oak that requires major pruning. It is recommended that they be removed prior to start of this project.

Guidelines and requirements: If guidelines are followed, the trees impacted by this construction should be able to recover with little to no lasting adverse affects.

Avoidance of damage to tree root systems, tree trunk and limb structure shall consist of:

1. Prior to commencement of construction, a site meeting with project arborist and construction foreman to determine exact locations of caisson placements and construction equipment location requirements during construction.
2. Prior to construction a site meeting with project arborist and project foreman to determine exact location of equipment platform as it relates to coast live oak tree within the building footprint. Pruning as required can then be performed. Pruning shall be performed during the months of June-October. Pruning shall be performed by an ISA certified arborist and procedures must meet ANSI 300 standards.
3. Project personnel, especially equipment operators, to be advised of necessity of tree protection, and required to follow all tree protection guidelines.
4. TPZ (tree protection zone) to be established. TPZ is the area beneath the canopy of a protected tree where no construction activity is allowed.
5. No parking of equipment or storage of materials in the unpaved areas past the road ending at top of hill. (**picture 6**) This modified TPZ begins at the interface where the roadway ends and extends 50 feet southwest towards the ocean. **See#9.**
6. Installation of tree protection zone barriers on and around tree trunks that are located near (within 10 feet) large equipment activities to avoid bark damage, stem or limb breakage.
7. Installation of retention barriers to prevent soil from rolling down hillside and building up within tree protection zone.
8. No major grade changes (cuts or permanent fills) within tree root zones. No piling of materials against tree trunks, temporary or permanent. Mechanical soil compaction to be restricted to trench backfill.
9. Non-native materials (cement products, paints, chemicals) are not to be spilled, mixed, stored within tree root zones to avoid danger of absorption and harm to tree tissues.
10. Cement products and garbage left from prior construction project to be removed from site.

Pruning guidelines: Pictures included

Tree#1.....coast live oak (Quercus agrifolia)

- Remove two southwest facing branches (**picture 7**)
 - 11" diameter branch located 3 feet up trunk of tree extending eighteen feet up hillside
 - 7" diameter branch located 14" above 11" diameter branch

- Before removing entire branches, determine if less reduction pruning is possible and prune accordingly.

Tree#2.... coast live oak (*Quercus agrifolia*)

- Remove northeast branch (*picture 8*)
- Remove diseased branch at branch union as shown on photo

Tree#3....coast live oak (*Quercus agrifolia*)

- none required

Tree protection guidelines:**Tree#1....**

- Install tree trunk protection
- Install soil retention barriers uphill from tree trunk

Tree#2....

- Install tree trunk protection
- heavy equipment not allowed to compact soil beneath dripline
- heavy equipment not allowed to damage tree canopy

Tree#3....

- Install tree trunk protection
- heavy equipment not allowed to compact soil beneath dripline
- heavy equipment not allowed to damage tree canopy

California oakworm

A major outbreak of California oakworm infestation is occurring throughout the county of Santa Cruz. Oakworm is a native insect affecting a native tree. It is recommended that trees growing in stressed environments be treated for this pest. If construction of this project is to occur in 2008 these insects shall be monitored and controlled beginning early spring of 2008. The trees shall not be allowed to defoliate.

Activities prohibited within the TPZ include:

- Storage or parking vehicles, building materials, refuse excavated spoils or dumping of poisonous materials on or around trees and roots. Poisonous materials include, but are not limited to, paint, petroleum products, concrete or stucco mix, dirty water or any other material which may be deleterious to tree health.
- The use of tree trunks as a winch support, anchorage, as a temporary power pole, sign posts or other similar function.

Tree trunk protection

Trunk protection shall be installed in the form of vertical 2" thick boards (2x4 or 2x6) approximately eight feet in height strapped to the tree trunk with non-penetrating support (rope or banding straps, *not nails*. Duct tape works well). These boards should be padded underneath with minimum two layers of burlap. These vertical boards serve to minimize

accidental damage to bark and wood and to further demonstrate to workers the importance of tree protection.

Example of vertical trunk protection



Enclosures:

Pictures of significant trees

Assumptions and limiting conditions

Respectfully submitted,

James Neve

James Neve
ISA certified arborist WE-6717A

ASSUMPTIONS AND LIMITING CONDITIONS

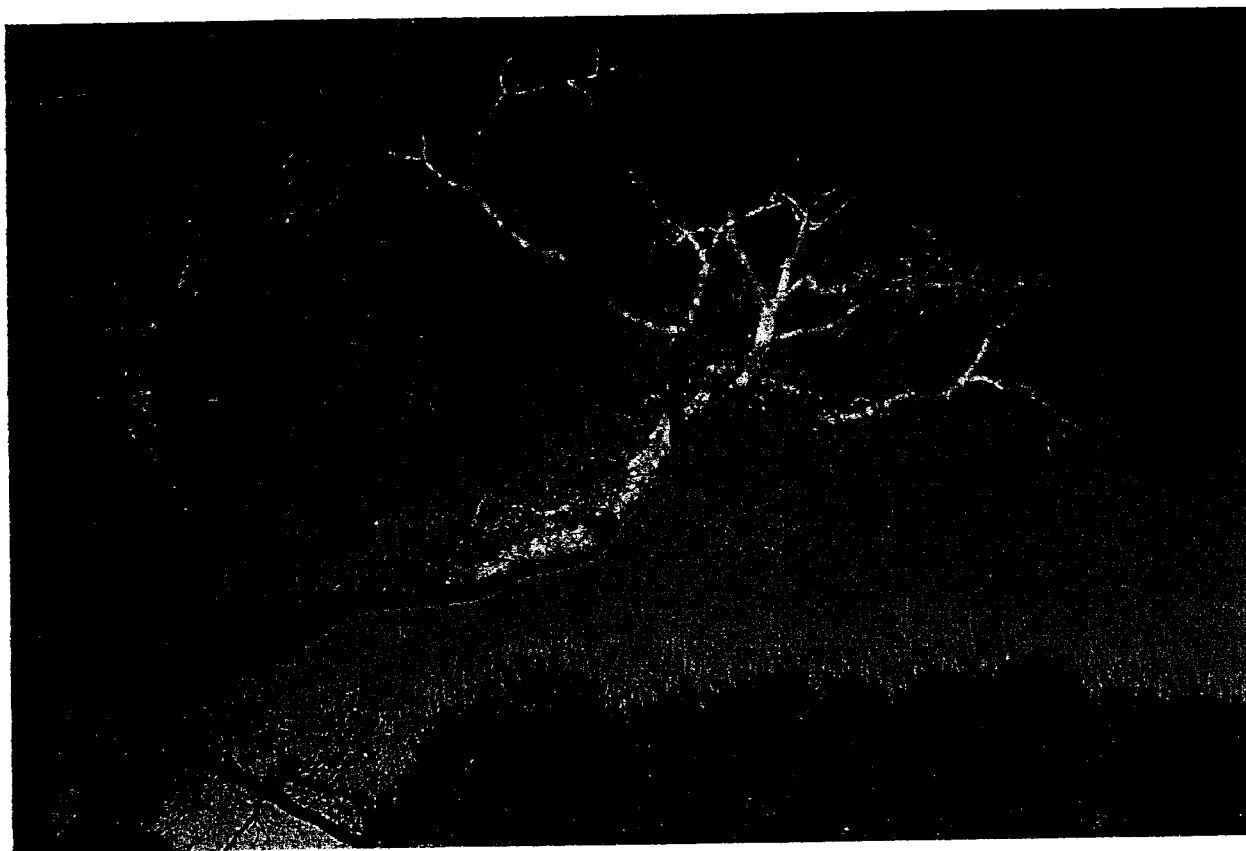
1. Any legal description provided to the arborist/consultant is assumed to be correct. Any titles and ownership to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character nor is any opinion rendered as to the quality of any title.
2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, and other governmental regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the arborist/consultant can neither guarantee nor be responsible for accuracy of information provided by others.
4. The arborist/consultant shall not be required to give testimony or to attend court by any reason of this report unless subsequent written arrangements are made, including payment of an additional fee for services.
5. Loss or removal of any part of this report invalidates the entire report/evaluation.
6. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person(s) to whom it is addressed without written consent of this arborist/consultant.
7. Neither all nor any part of the contents of this report, nor copy thereof, shall be used for any purpose by anyone but the client to whom it is addressed, without prior written consent of the arborist/consultant; nor shall it be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales, or other media, without the written consent and approval of the author; particularly as to value considerations, identity of the arborist/consultant or any professional society or institute or to any initialed designation conferred upon the arborist/consultant as stated in his or her qualifications.
8. This report and the values expressed herein represent the opinion of the arborist/consultant, and the arborist's/consultant's fee is in no way contingent upon the reporting of a specified value nor upon any finding to be reported
9. Sketches, diagrams, graphs, photos, etc. in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys.
10. This report has been made to the best of our ability in conformity with acceptable appraisal/evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.
11. No tree described in this report was climbed, unless otherwise stated. We cannot take responsibility for any defects which could only be described by climbing. A full root collar inspection, consisting of excavating the soil around the tree to uncover the root collar and major buttress roots was not performed unless otherwise stated. We cannot take responsibility for any root defects, which could only have been discovered by such an inspection.

Picture#1



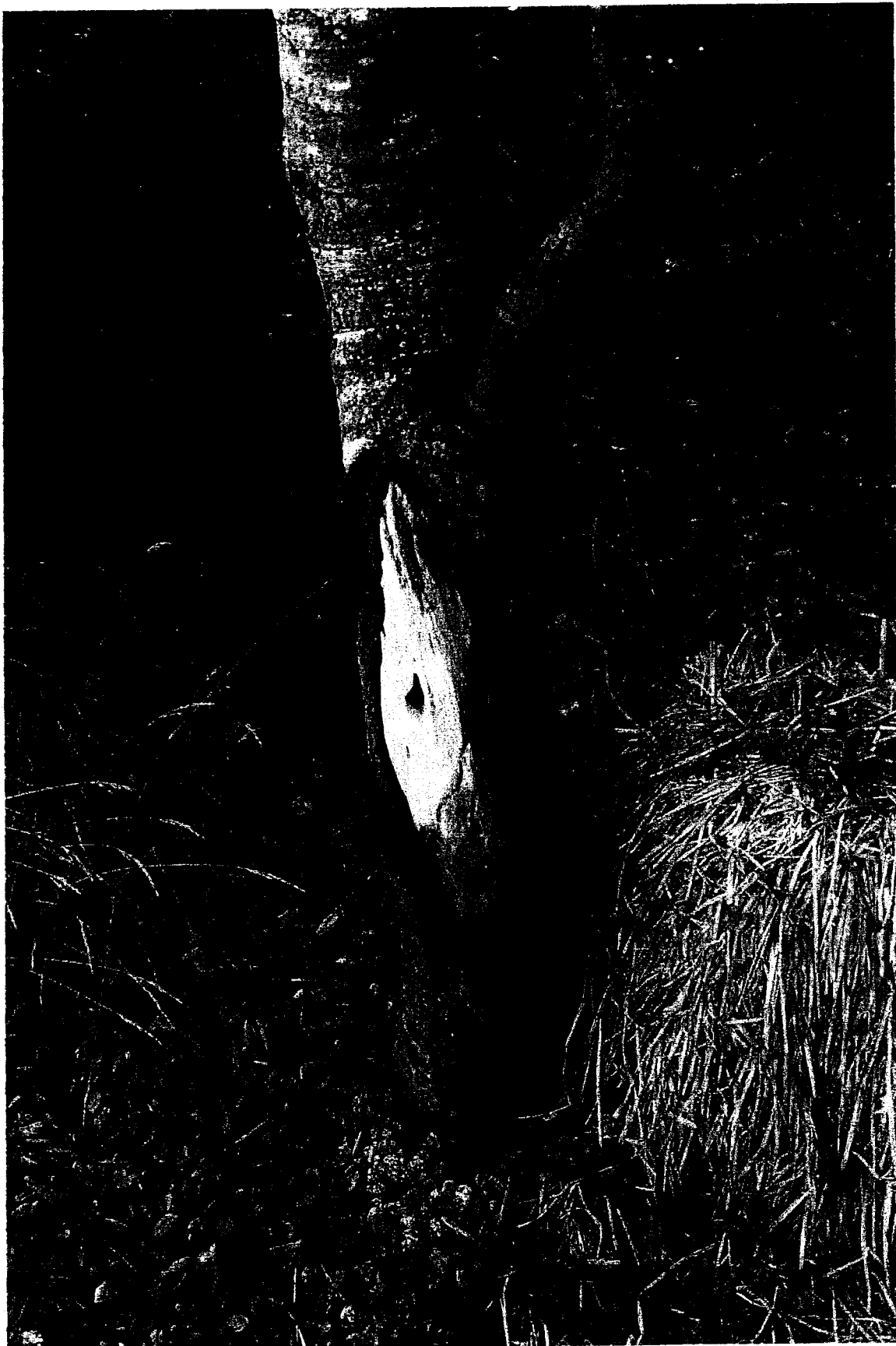
Picture#2

Picture#3



Picture#4

Picture#5



Picture#6



Picture#7

Picture#8



Pictures#9, 10, 11



C O U N T Y O F S A N T A C R U Z
D I S C R E T I O N A R Y A P P L I C A T I O N C O M M E N T S

Project Planner: Sheila Mcdaniel
Application No.: 05-0722
APN: 049-131-23

Date: September 15, 2008
Time: 08:25:03
Page: 1

Environmental Planning Completeness Comments

===== REVIEW ON DECEMBER 2, 2005 BY ROBERT S LOVELAND =====

1. Identify the "Disturbance Area" on sheet "A-1". The "Disturbance Area" shall identify all areas to be impacted in order to construct this project.
2. The existing 24" oak tree (Sheet C-1) should be retained and designed around. Please submit a detailed arborist report for review. The report must be completed by a certified arborist. NOTE: The project is proposed in an area identified as "Special Forest"(San Andreas Oak Woodland). A detailed landscaping plan completed by a local native plant specialist (see enclosed sheet) will need to be submitted for review prior to building permit issuance. The landscaping plan must cover all disturbed areas created as part of this project and proposed screening trees.
3. Identify all grading work to be completed as part of this project. Show existing/proposed contours and provide earthwork quantities (cubic yards).
4. This parcel is mapped "Special Forest", "County Biotic" and "CNDDB". The location proposed for the cell site facility will not have a negative impact on the mapped resources. The landscaping plan and arborist report requested shall enhance the location surrounding the cell site facility.

===== UPDATED ON FEBRUARY 27, 2006 BY ROBERT S LOVELAND =====

1. Item 1 above has been addressed.
2. The arborist report was not provided. This report can be submitted at the building permit stage. The report must include an assessment of the tree's health and protective measures required during construction operations to preserve the tree's long term survival.
3. The "disturbance area" has been identified but grading activity within that area has not been identified. I have located the grading quantities for the cassions on "Sheet A-2", but there are no proposed contours shown within the "disturbance area" on "Sheet A-1". Please show any changes within the "disturbance area", if any, or place a note on "Sheet A-1" stating that: "Earthwork to be completed within the disturbance area is for cassion placement only and no grade change(s) proposed".

===== UPDATED ON MAY 30, 2006 BY ROBERT S LOVELAND =====

Completeness comments have been addressed. ===== UPDATED ON SEPTEMBER 9, 2008 BY ROBERT S LOVELAND =====

Although the homesite and all residential development on this parcel is subject to the "Sensitive Habitat Protection Ordinance" (Chapter 16.32), this proposed project is considered commercial development and is not subject to the 1/4 acre site disturbance condition. NOTE: The proposed project should still minimize to the extent possible, the amount of overall site disturbance.

Discretionary Comments - Continued

Project Planner: Sheila Mcdaniel
Application No.: 05-0722
APN: 049-131-23

Date: September 15, 2008
Time: 08:25:03
Page: 2

Environmental Planning Miscellaneous Comments

===== REVIEW ON DECEMBER 2, 2005 BY ROBERT S LOVELAND =====

Conditions of Approval:

1. Submit a soils report completed by a California licensed geotechnical engineer for review and approval.

2. All recommendations made within the "Arborist Report" (Tree Solutions, dated 10/29/07) shall be incorporated into the plans and clearly identified.

===== UPDATED ON NOVEMBER 27, 2007 BY ROBERT S LOVELAND =====

4th Routing:

I received an arborist report, dated 10/29/07. I have reviewed and accepted the report.

Dpw Drainage Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

===== REVIEW ON DECEMBER 2, 2005 BY CARISA REGALADO =====
This application is for development in Zone 0.

Plans accepted as submitted. Discretionary stage application review is complete for this division. (Additional note in Miscellaneous Comments.)

Please call or visit the Dept. of Public Works, Stormwater Management Division, from 8:00 am to 12:00 pm if you have any questions. ===== UPDATED ON MAY 29, 2007 BY CARISA R DURAN ===== 2ND ROUTING - 5/29/07 This application is for development in Zone 0.

Revised drawings dated 5/21/07 were received. Plans accepted as submitted. Discretionary stage application review is complete for this division.

Dpw Drainage Miscellaneous Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

===== REVIEW ON DECEMBER 2, 2005 BY CARISA REGALADO =====

Maintain existing drainage patterns as shown on the plans and do not adversely affect adjacent and/or downstream structures and properties (by flooding, erosion, etc.).

Environmental Health Completeness Comments

===== REVIEW ON NOVEMBER 29, 2005 BY JIM G SAFRANEK =====
NO COMMENT

Discretionary Comments - Continued

Project Planner: Sheila Mcdaniel
Application No.: 05-0722
APN: 049-131-23

Date: September 15, 2008
Time: 08:25:03
Page: 3

Environmental Health Miscellaneous Comments

===== REVIEW ON NOVEMBER 29, 2005 BY JIM G SAFRANEK =====
NO COMMENT