

**JERROLD T. BUSHBERG Ph.D., DABMP, DABSNM**  
**◆HEALTH AND MEDICAL PHYSICS CONSULTING◆**

---

7784 Oak Bay Circle Sacramento, CA 95831  
(800) 760-8414–jbushberg@hampc.com

December 18, 2008

Darrell W. Daugherty  
PLANcom Inc.  
302 State Place  
Escondido, California 92029-1362

### **Introduction**

At your request, I have reviewed the technical specifications and calculated the maximum radiofrequency, (RF), power density from the proposed Verizon Wireless (VW) wireless telecommunications site, (referenced as Nimitz), to be located at 1475 Catalina Blvd, San Diego, CA as depicted in attachment 1.

This proposed VW telecommunication site will utilize directional transmit panel antennae configured in three (3) sectors. The antennae are planned to be mounted behind RF transparent screens within a new dormer on the existing building and a faux chimney, with their center at least 24.0 feet above grade directed at 136 (sector A), 256 (sector B), and 16 (sector C) degrees true north. The antennas specified are Antel, Inc. model #WPA-80063/4CF; BXA-70063/4CF (Cellular frequencies) and BXA-185063/8CF (PCS frequencies) for all sectors. Technical specifications of this antenna is provided in attachment two. The sectorized antennas are designed to transmit with an effective radiated power (ERP) of up to 1,750 watts per sector within a bandwidth between approximately 880 and 894 MHz (Cellular frequencies) and with an ERP of up to 900 watts per sector within a bandwidth between approximately 1,965 and 1,970 MHz (PCS frequencies).

There will also be two other wireless carriers (AT&T Mobility and Sprint) that will be co-located on the same property as the VW facility. The other carrier's site design specifications are also depicted in attachment 1. The maximum cumulative RF exposure from all three carriers is provided in this report.

### **Calculation Methodology, Results & Recommendations**

Calculations were made in accordance with the recommendations contained in the Federal Communications Commission, Office of Engineering and Technology Bulletin 65 (edition 97-01, page 24, equation 10 ) entitled "Evaluating Compliance with FCC-Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." Several assumptions were made in order to provide the most conservative or "worse case" projections of power densities. Calculations were made assuming that all channels were operating simultaneously at their maximum design effective radiated power. Attenuation (weakening) of the signal that would result from surrounding foliage or buildings was ignored. Buildings can reduce the signal strength by a factor of 10 (i.e., 10 dB) or more depending upon the construction material. The ground or other surfaces were considered to be perfect reflectors (which they are not) and the RF energy was assumed to overlap and interact constructively at all locations (which they would not) thereby resulting in

the calculation of the maximum potential exposure. In fact, the accumulations of all these very conservative assumptions will significantly overestimate the actual exposures that would typically be expected from such a facility. However, this method is a prudent approach that errs on the side of safety.

The maximum public RF exposure from this VW facility was calculated to be less than 6.2 % of the FCC public safety standard. This total exposure is comprised of  $29.4\mu\text{W}/\text{cm}^2$  ( i.e., ~5.1% of the public safety standard at cellular frequencies) and less than  $10.6\mu\text{W}/\text{cm}^2$  ( i.e., ~1.1 % of the public safety standard at PCS frequencies). Exposure details are shown in appendices A-1 and A-2.

Details regarding the antenna models and ERP specifications for the AT&T Mobility and Sprint facilities were not available, but a conservative estimate of their RF exposure can be made from the site plans provided and my extensive experience analyzing similar RF site designs for these carriers. The maximum contribution to the ambient ground level Verizon RF environment from the AT&T and Sprint facilities will be less than 2.2% of the public safety standard. Thus the maximum cumulative exposure from all three carriers will be less than 8.4% of the public safety standard.

A sign conforming to with ANSI C95.2 color, symbol and content, and other markings as appropriate, should be placed close to the antennas with appropriate contact information in order to alert maintenance or other workers approaching the antenna to the presence of RF transmissions and to take precautions to avoid exposures in excess of FCC limits.

### **RF Safety Standards**

The two most widely recognized standards for protection against RF field exposure are those published by the American National Standards Institute (ANSI) C95.1 and the National Council on Radiation Protection and measurement (NCRP) report #86.

The NCRP is a private, congressionally chartered institution with the charge to provide expert analysis of a variety of issues (especially health and safety recommendations) on radiations of all forms. The scientific analyses of the NCRP are held in high esteem in the scientific and regulatory community both nationally and internationally. In fact, the vast majority of the radiological health regulations currently in existence can trace their origin, in some way, to the recommendations of the NCRP.

All RF exposure standards are frequency-specific, in recognition of the differential absorption of RF energy as a function of frequency. The most restrictive exposure levels in the standards are associated with those frequencies that are most readily absorbed in humans. Maximum absorption occurs at approximately 80 MHz in adults. The NCRP maximum allowable continuous occupational exposure at this frequency is  $1,000\mu\text{W}/\text{cm}^2$ . This compares to  $2,933\mu\text{W}/\text{cm}^2$  at cellular frequencies and  $5,000\mu\text{W}/\text{cm}^2$  at PCS frequencies that are absorbed much less efficiently than exposures in the VHF TV band.

The traditional NCRP philosophy of providing a higher standard of protection for members of the general population compared to occupationally exposed individuals, prompted a two-tiered safety standard by which levels of allowable exposure were substantially reduced for "uncontrolled " (e.g., public) and continuous exposures. This measure was taken to account for the fact that workers in an industrial environment are typically exposed no more than eight hours a day while members of the general population in proximity to a source of RF radiation may be exposed continuously. This additional protection factor also provides a

greater margin of safety for children, the infirmed, aged, or others who might be more sensitive to RF exposure. After several years of evaluating the national and international scientific and biomedical literature, the members of the NCRP scientific committee selected 931 publications in the peer-reviewed scientific literature on which to base their recommendations. The current NCRP recommendations limit continuous public exposure at cellular frequencies (e.g., ~ 820MHz ) to  $550 \mu\text{W}/\text{cm}^2$  and to  $1,000 \mu\text{W}/\text{cm}^2$  at PCS frequencies (~1,900 MHz).

The 1992 ANSI standard was developed by Scientific Coordinating Committee 28 (SCC 28) under the auspices of the Institute of Electrical and Electronic Engineers (IEEE). This standard, entitled "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (IEEE C95.1-1991), was issued in April 1992 and subsequently adopted by ANSI. A revision of this standard (C95.1-2005) was completed in October 2005 by SCC 39- the IEEE International Committee on Electromagnetic Safety. Their recommendations are similar to the NCRP recommendation for the maximum permissible exposure (MPE) to the public at cellular and PCS frequencies ( $410 \mu\text{W}/\text{cm}^2$  and  $950 \mu\text{W}/\text{cm}^2$  for continuous exposure at 820 MHz and 1,900 MHz respectively) and incorporates the convention of providing for a greater margin of safety for public as compared with occupational exposure. Higher whole body exposures are allowed for brief periods provided that no 30 minute time-weighted average exposure exceeds these aforementioned limits.

On August 9, 1996, the Federal Communications Commission (FCC) established a RF exposure standard that is a hybrid of the current ANSI and NCRP standards. The maximum permissible exposure values used to assess environmental exposures are those of the NCRP (i.e., maximum public continuous exposure at cellular and PCS frequencies of  $550 \mu\text{W}/\text{cm}^2$  and  $1,000 \mu\text{W}/\text{cm}^2$  respectively). The FCC issued these standards in order to address its responsibilities under the National Environmental Policy Act (NEPA) to consider whether its actions will "significantly affect the quality of the human environment." In as far as there was no other standard issued by a federal agency such as the Environmental Protection Agency (EPA), the FCC utilized their rulemaking procedure to consider which standards should be adopted. The FCC received thousands of pages of comments over a three-year review period from a variety of sources including the public, academia, federal health and safety agencies (e.g., EPA & FDA) and the telecommunications industry. The FCC gave special consideration to the recommendations by the federal health agencies because of their special responsibility for protecting the public health and safety. In fact, the maximum permissible exposure (MPE) values in the FCC standard are those recommended by EPA and FDA. The FCC standard incorporates various elements of the 1992 ANSI and NCRP standards which were chosen because they are widely accepted and technically supportable. There are a variety of other exposure guidelines and standards set by other national and international organizations and governments, most of which are similar to the current ANSI/IEEE or NCRP standard, figure one.

The FCC standards "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation" (Report and Order FCC 96-326) adopted the ANSI/IEEE definitions for controlled and uncontrolled environments. In order to use the higher exposure levels associated with a controlled environment, RF exposures must be occupationally related (e.g., wireless company RF technicians) and they must be aware of and have sufficient knowledge to control their exposure. All other environmental areas are considered uncontrolled (e.g., public) for which the stricter (i.e., lower) environmental exposure limits apply. All carriers were required to be in compliance with the new FCC RF exposure standards for new telecommunications facilities by October 15, 1997. These standards applied retroactively for existing telecommunications facilities on September 1, 2000.

The task for the physical, biological, and medical scientists that evaluate health implications of the RF data base has been to identify those RF field conditions that can produce harmful biological effects. No panel of experts can guarantee safe levels of exposure because safety is a null concept, and negatives are not susceptible to proof. What a dispassionate scientific assessment can offer is the presumption of safety when RF-field conditions do not give rise to a demonstrable harmful effect.

### **Summary & Conclusions**

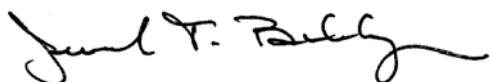
This proposed wireless facility as specified above will be in full compliance with FCC RF public safety standards. Wireless PCS and Cellular transmitters, by design and operation, are low-power devices. Even under maximal exposure conditions in which all the channels from all antennas, from all three carriers, are operating at full power, the maximum cumulative exposure from all wireless carriers will not result in RF exposures in excess of 8.4% of the public safety standard at any publically accessible location. This maximum exposure is more than 11 times lower than the FCC public exposure standards for these frequencies. A chart of the electromagnetic spectrum and a comparison of RF power densities from various common sources is presented in figures two and three respectively in order to place exposures from wireless telecommunications systems in perspective.

It is important to realize that the FCC maximum allowable exposures are not set at a threshold between safety and known hazard but rather at 50 times below a level that the majority of the scientific community believes may pose a health risk to human populations. Thus the previously mentioned maximum exposure from the site represent a "safety margin" from this threshold of potentially adverse health effects of more than 595 times.

Given the low levels of radiofrequency fields that would be generated from this facility, and given the evidence on biological effects in a large data base, there is no scientific basis to conclude that harmful effects will attend the utilization of the proposed wireless telecommunications facility. This conclusion is supported by a large numbers of scientists that have participated in standard-setting activities in the United States who are overwhelmingly agreed that RF radiation exposure below the FCC exposure limits has no demonstrably harmful effects on humans.

These findings are based on my professional evaluation of the scientific issues related to the health and safety of non-ionizing electromagnetic radiation and my analysis of the technical specification as provided by VW. The opinions expressed herein are based on my professional judgment and are not intended to necessarily represent the views of any other organization or institution. Please contact me if you require any additional information.

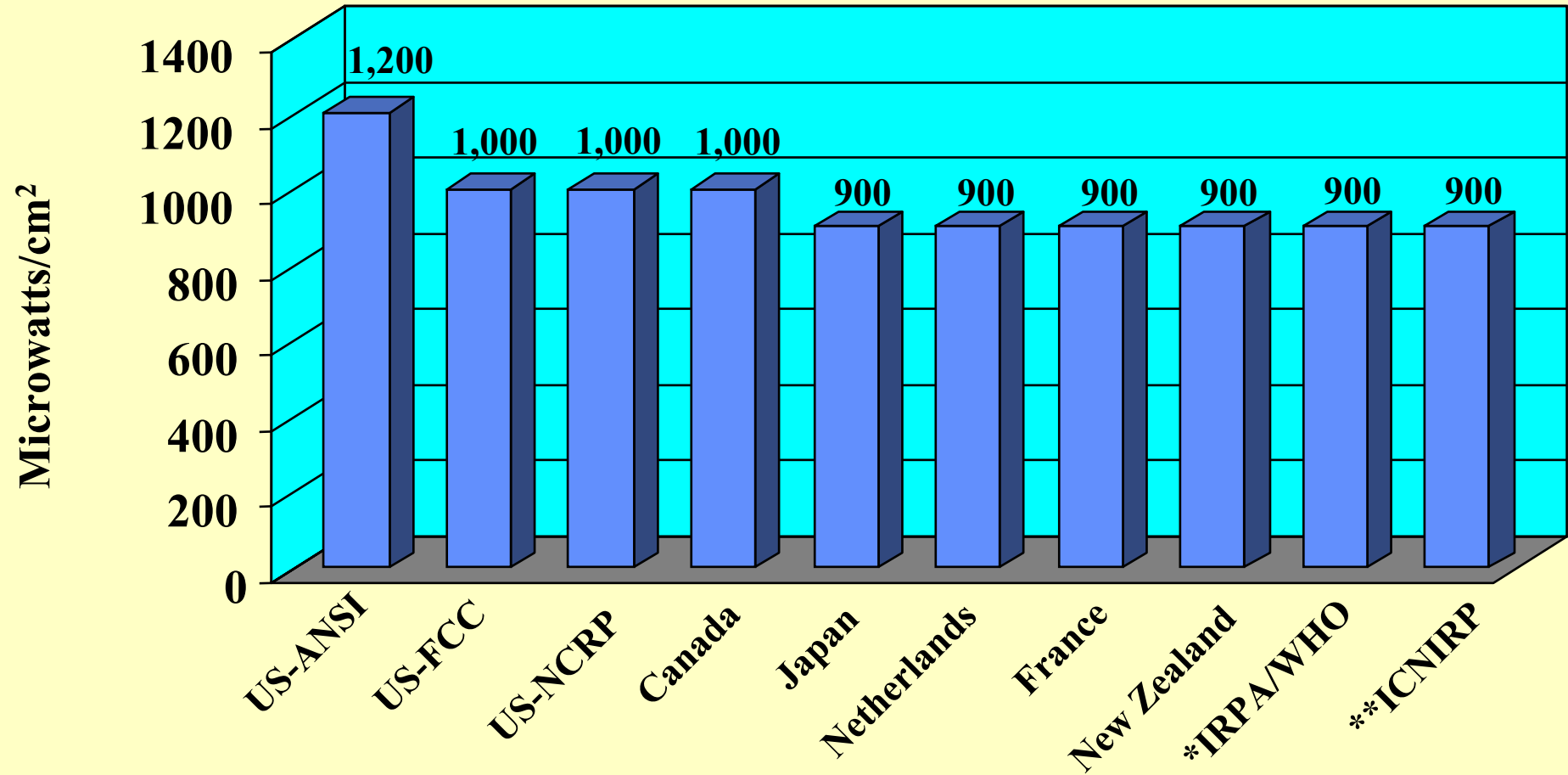
Sincerely,



Jerrold T. Bushberg Ph.D., DABMP, DABSNM  
Diplomate, American Board of Medical Physics (DABMP)  
Diplomate, American Board of Science in Nuclear Medicine (DABSNM)

Enclosures: Figures 1-3; Attachments 1, 2; Appendices A-1&A-2, and Statement of Experience.

# Public Safety Exposure Standards at PCS (~1,800 MHz) Frequencies



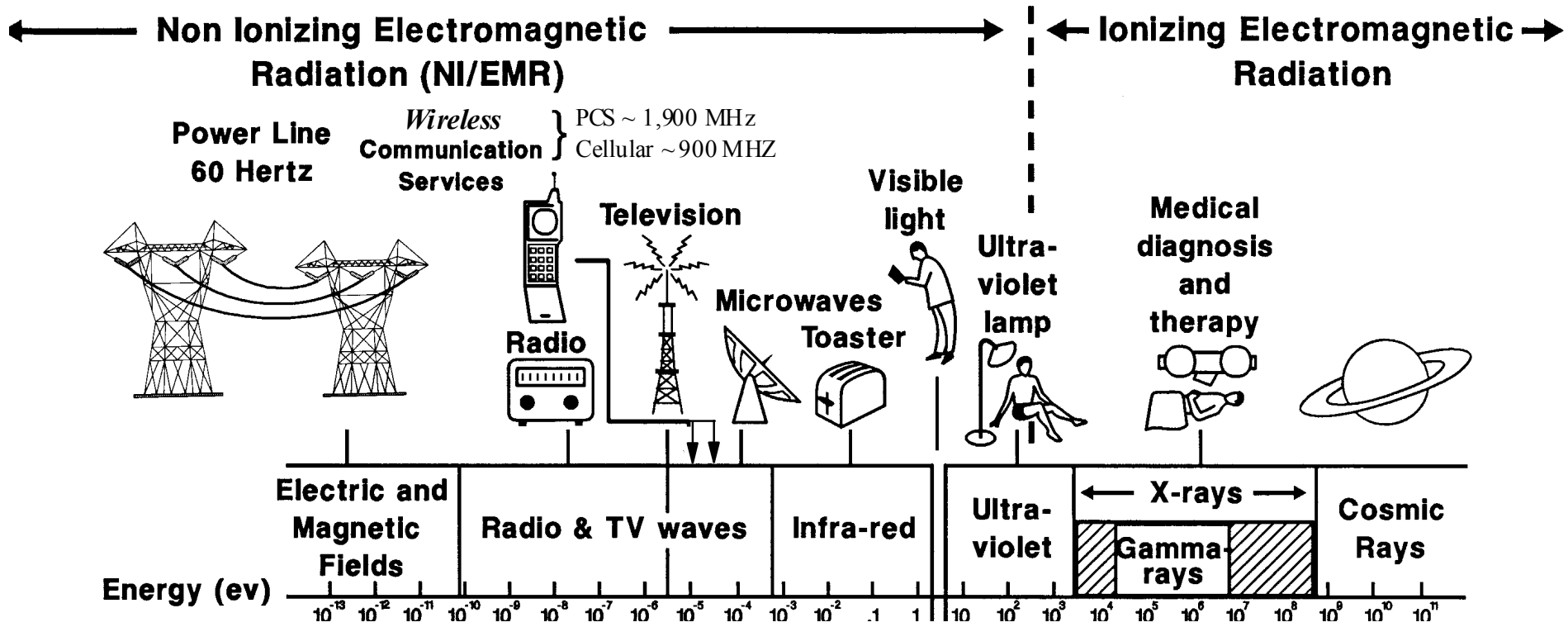
**\*International Radiation Protection Association (IRPA)/ World Health Organization Environmental Health (WHO) Public Safety Exposure Standard (1993). Members of the Scientific Committee were from:**

- Australia
- Canada
- France
- Germany
- Hungary
- Italy
- Poland
- Russia
- United Kingdom
- United States

**\*\*International Commission on Non-Ionizing Radiation Protection Public Safety Exposure Standard (1998). Members of the Scientific Committee were from:**

- Australia
- Sweden
- France
- Germany
- Hungary
- Finland
- Italy
- Poland
- Austria
- United Kingdom
- United States
- Japan

Figure 1



The Electromagnetic Spectrum

Figure 2

# Typical Exposure from Various Radio Frequency / Microwave Sources

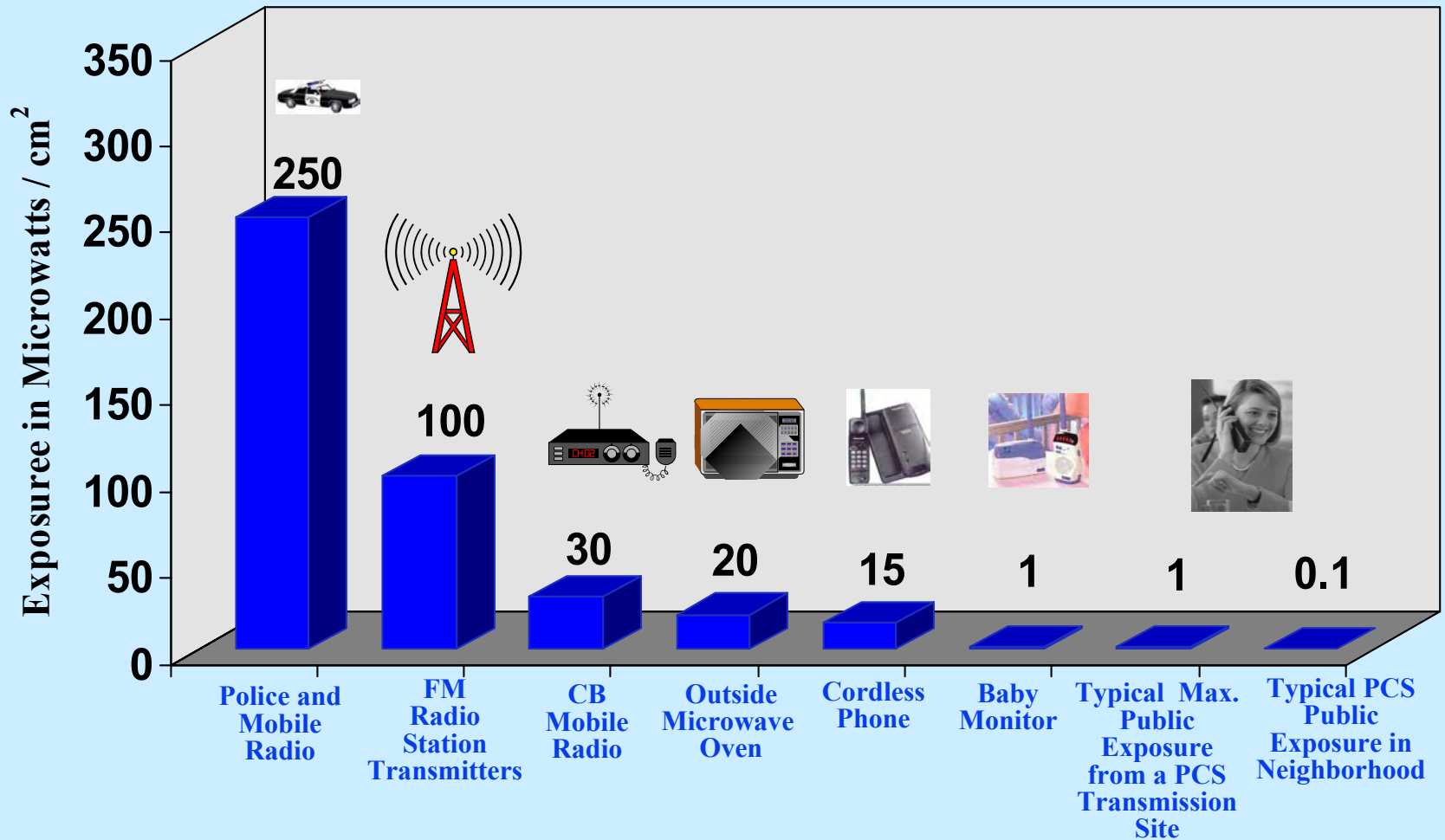


Figure 3

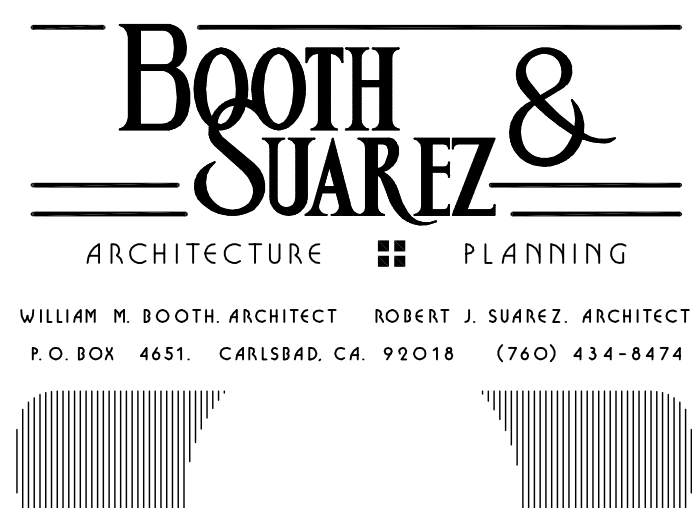
# **Attachment 1**

## **Site Specifications**





**NIMITZ**  
**1475 CATALINA BLVD.**  
**SAN DIEGO, CA 92107**



PREPARED FOR  
  
 P.O. BOX 19707  
 IRVINE, CA 92623-9707  
 (949) 222-7000

**VICINITY MAP**

THOMAS GUIDE PAGE 1288, 1A

ADDRESS:  
 1475 CATALINA BLVD.  
 SAN DIEGO, CA 92107

COORDINATES (NAD 27):  
 LATITUDE: 32° 43' 53.13" NORTH  
 LONGITUDE: 117° 14' 31.90" WEST

DIRECTIONS:  
 TAKE I-5 SOUTH TO SAN DIEGO. TAKE THE SEAWORLD DRIVE EXIT WEST TOWARDS THE BEACH. MERGE LEFT ONTO NIMITZ BLVD. TAKE THE CATALINA BLVD. EXIT. TURN RIGHT ON CATALINA. LOOK FOR ALL SOULS EPISCOPAL CHURCH ON THE LEFT.

**ACCESSIBILITY DISCLAIMER**

THIS PROJECT IS AN UNOCCUPIED WIRELESS PCS TELECOMMUNICATIONS FACILITY AND, ACCORDING TO WRITTEN INTERPRETATION FROM THE CALIFORNIA DEPARTMENT OF THE STATE ARCHITECT, IS EXEMPT FROM DISABLED ACCESS REQUIREMENTS.

**CONSULTANT TEAM**

ARCHITECT:  
 WILLIAM BOOTH & ROBERT SUAREZ  
 ARCHITECTURE & PLANNING  
 P.O. BOX 4651  
 CARLSBAD, CA 92018  
 (760) 434-8474  
 (760) 434-8596 (FAX)

SURVEYOR:  
 FLOYD SURVEYING, INC.  
 357 N. SHERIDAN STREET, SUITE 133  
 CORONA, CA 92880  
 (951) 738-0936  
 (951) 738-0937 (FAX)

LEASING/PLANNING  
 PLANCOM, INC.  
 JODY BITTERLIN  
 302 STATE PLACE  
 ESCONDIDO, CA 92029  
 (619) 920-7572

TYPE OF PERMIT REQUIRED:  
 ● NEIGHBORHOOD USE PERMIT

EXISTING PERMITS:  
 ● SPRINT - PERMIT # 410-289-05  
 EXPIRATION DATE 6.29.2011

**SCALE**

THE DRAWING SCALES SHOWN IN THIS SET REPRESENT THE CORRECT SCALE ONLY WHEN THESE DRAWINGS ARE PRINTED IN A 24" x 36" FORMAT. IF THIS DRAWING SET IS NOT 24" x 36", THIS SET IS NOT TO SCALE.

**PROJECT SUMMARY**

APPLICANT: VERIZON WIRELESS  
 15505 SAND CANYON AVENUE  
 IRVINE, CA 92618  
 CONTACT: JODY BITTERLIN  
 PHONE: (619) 920-7572

OWNER: RECTOR WARDENS & VESTRYMEN OF  
 ALL SOULS PARISH POINT LOMA  
 1475 CATALINA BLVD.  
 SAN DIEGO, CA 92107  
 SITE CONTACT: REV. MICHAEL B. RUSSELL  
 (619) 223-6394

PROJECT DESCRIPTION:

- INSTALLATION OF THREE (3) VERIZON WIRELESS TELECOMMUNICATION EQUIPMENT CABINETS ON A CONCRETE PAD INSIDE A NEW 12'-0" x 20'-0" CONCRETE BLOCK EQUIPMENT ENCLOSURE WITH A CHAINLINK LID AND WOOD TRELLIS
- INSTALLATION OF THREE (3) VERIZON WIRELESS ANTENNA SECTORS, OF FOUR (4) ANTENNAS EACH (TOTAL OF 12 ANTENNAS). TWO SECTORS ARE MOUNTED INSIDE (1) NEW FAUX CHIMNEY BEHIND RF TRANSPARENT SCREENS, AND ONE SECTOR IS MOUNTED INSIDE (1) NEW DORMER BEHIND AN RF TRANSPARENT SCREEN ON ROOF OF EXISTING BUILDING
- INSTALL COAX CABLE IN AN UNDERGROUND CABLE TRENCH FOR THE SERVICE CONNECTION BETWEEN ANTENNAS AND EQUIPMENT ENCLOSURE.
- INSTALLATION OF (2) NEW GPS ANTENNAS
- INSTALLATION OF NEW 200 AMP ELECTRICAL SERVICE FROM EXISTING SDG&E TRANSFORMER
- INSTALLATION OF NEW TELCO SERVICE FROM EXISTING TELCO VAULT
- MINOR LANDSCAPE & IRRIGATION IS PLANNED FOR THIS PROJECT

LEGAL DESCRIPTION:  
 PARCEL 1:  
 LOTS 1 TO 5 INCLUSIVE IN BLOCK 49 OF POINT LOMA HEIGHTS, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 1106, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, DECEMBER 30, 1907.

ALSO THAT PORTION OF THE SOUTHWESTERLY HALF OF THE ALLEY IN SAID BLOCK 49 IMMEDIATELY ADJOINING SAID LOTS ON THE NORTHEAST AS CLOSED TO PUBLIC USE, AND THE NORTHEASTERLY HALF OF PESCADERO AVENUE ADJOINING SAID LOTS ON THE SOUTHWEST AS CLOSED TO PUBLIC USE

PROJECT ADDRESS: 1475 CATALINA BLVD.  
 SAN DIEGO, CA 92107

ASSESSORS PARCEL NUMBER: 530-142-20-00

EXISTING ZONING: RS-1-5

TOTAL SITE AREA: 92,165 SF  
 2.12 ACRES

PROPOSED PROJECT AREA: 240 SF

PROPOSED OCCUPANCY: NONE (EXTERIOR RADIO EQUIPMENT CABINETS ONLY)

PROPOSED TYPE OF CONSTRUCTION: NONE (EXTERIOR RADIO EQUIPMENT CABINETS ONLY)

NOTE: THERE IS ONE EXISTING TELECOMMUNICATIONS FACILITY ON THIS SITE (SPRINT)

**SHEET SCHEDULE**

T-1	TITLE SHEET & PROJECT DATA
A-0	SITE PLAN
A-0.1	WATER POLLUTION CONTROL PLAN
A-1	ROOF PLAN
A-2	EQUIPMENT ENCLOSURE PLAN
A-3	ANTENNA PLANS A & B
A-4	EXTERIOR ELEVATIONS
A-5	EXTERIOR ELEVATIONS
L-1	LANDSCAPE DEVELOPMENT PLAN
C-1	SITE SURVEY
C-2	SITE SURVEY
C-3	SITE SURVEY

**GRADING NOTE:**

NO GRADING IS PROPOSED FOR THIS SITE

**APPLICABLE CODES**

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:  
 CALIFORNIA STATE BUILDING CODE, TITLE 24, 2007 EDITION  
 CALIFORNIA PLUMBING CODE, 2007 EDITION  
 CALIFORNIA MECHANICAL CODE, 2007 EDITION  
 CALIFORNIA ELECTRICAL CODE, 2007 EDITION  
 CALIFORNIA FIRE CODE, 2007 EDITION  
 CALIFORNIA ENERGY CODE, 2007 EDITION

IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL

APPROVALS

A&C	DATE
RE	DATE
RF	DATE
INT	DATE
EE/IN	DATE
OPS	DATE
EE/OUT	DATE

PROJECT NAME

**NIMITZ**

1475 CATALINA BLVD.  
 SAN DIEGO, CA 92107  
 SAN DIEGO COUNTY

DRAWING DATES

09/02/08	PRELIM ZD REVIEW (rd)
09/16/08	PLANNING COMMENTS (rd)
09/17/08	EASEMENT UPDATE (job)
11/20/08	REVISED ZD (cl)

SHEET TITLE

**TITLE SHEET & PROJECT DATA**

PROJECTS\verizon\08083zd\08083zT1.dwg

**T-1**



PREPARED FOR



P.O. BOX 19707  
IRVINE, CA 92623-9707  
(949) 222-7000

### APPROVALS

A&C	DATE
RE	DATE
RF	DATE
INT	DATE
EE/IN	DATE
OPS	DATE
EE/OUT	DATE

### PROJECT NAME

**NIMITZ**

1475 CATALINA BLVD.  
SAN DIEGO, CA 92107  
SAN DIEGO COUNTY

### DRAWING DATES

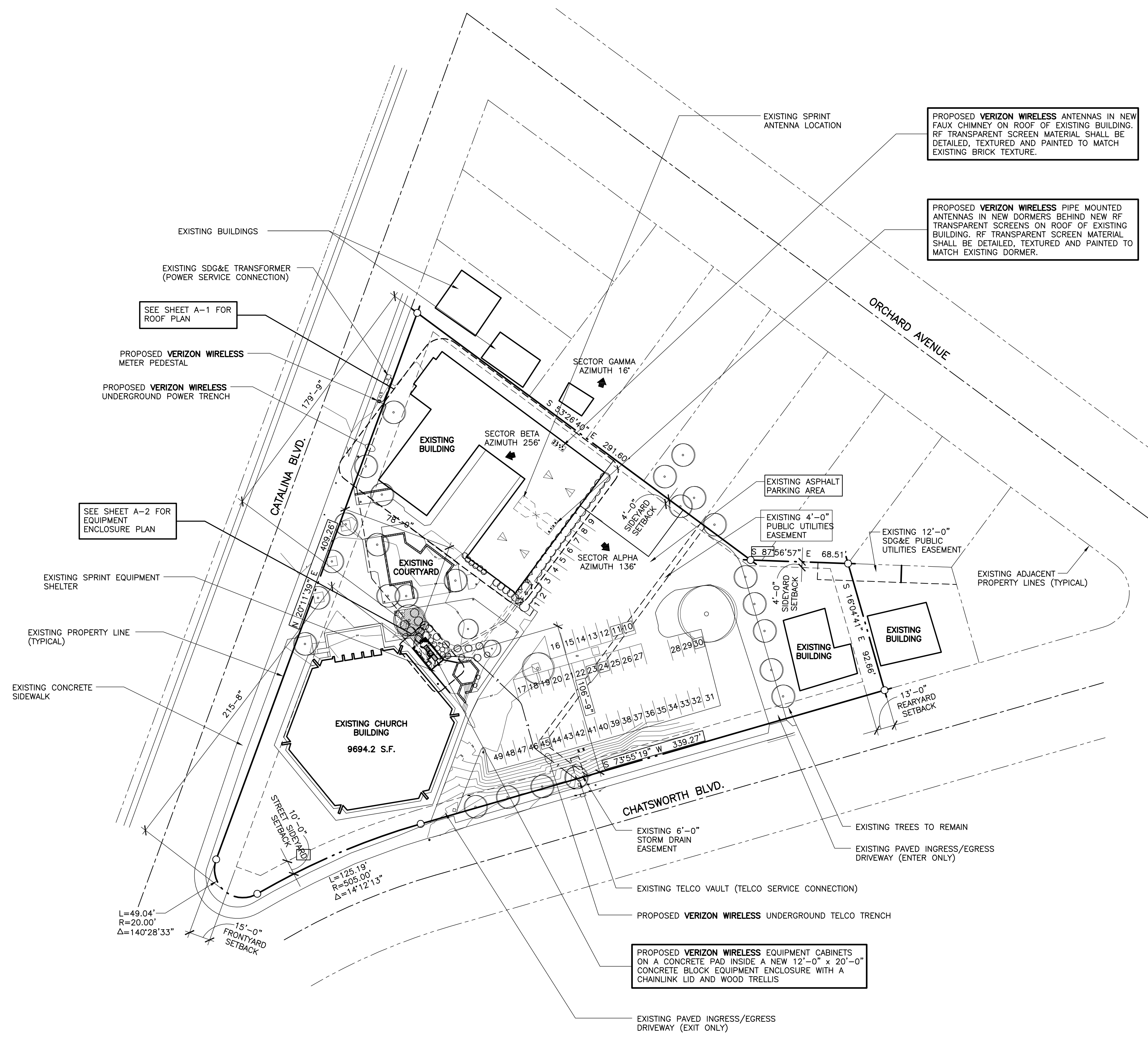
09/02/08	PRELIM 2D REVIEW (rd)
09/16/08	PLANNING COMMENTS (rd)
09/17/08	EASEMENT UPDATE (job)
11/20/08	REVISED 2D (cl)

### SHEET TITLE

**SITE PLAN**

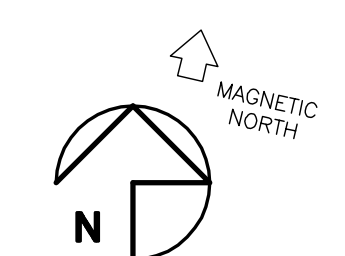
PROJECTS\verizon\08088zd\08088zA0.dwg

**A-0**



## SITE PLAN

SCALE: 1" = 40'-0"



PROPOSED VERIZON WIRELESS ANTENNAS IN NEW FAUX CHIMNEY ON ROOF OF EXISTING BUILDING. RF TRANSPARENT SCREEN MATERIAL SHALL BE DETAILED, TEXTURED AND PAINTED TO MATCH EXISTING BRICK TEXTURE.

PROPOSED VERIZON WIRELESS PIPE MOUNTED ANTENNAS IN NEW DORMERS BEHIND NEW RF TRANSPARENT SCREENS ON ROOF OF EXISTING BUILDING. RF TRANSPARENT SCREEN MATERIAL SHALL BE DETAILED, TEXTURED AND PAINTED TO MATCH EXISTING DORMER.

SEE SHEET A-1 FOR ROOF PLAN

SEE SHEET A-2 FOR EQUIPMENT ENCLOSURE PLAN

- "PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS, THE APPLICANT SHALL INCORPORATE ANY CONSTRUCTION BMP'S NECESSARY TO COMPLY WITH CHAPTER 14, ARTICLE 2, DIVISION 1 OF THE MUNICIPAL CODE INTO THE CONSTRUCTION PLANS OR SPECIFICATIONS SATISFACTORY TO THE CITY ENGINEER."
- "PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS THE APPLICANT SHALL SUBMIT A WATER POLLUTION CONTROL PLAN. THE WPCP SHALL BE PREPARED IN ACCORDANCE WITH THE GUIDELINES IN APPENDIX E OF THE CITY'S STORMWATER STANDARDS. SATISFACTORY TO THE CITY ENGINEER."

Lessee's Certificate  
Standard Wireless Facility Project  
For Post-construction BMP's

I, the undersigned, as lessee of a portion of the property described as  
1475 Catalina Blvd, San Diego, CA 92107  
(Address or legal description)

understand that, in accordance with the San Diego Municipal Code, Land Development Manual - Storm Water Standards, this project is required to "Identify Pollutants from the Project Area" and incorporate "Site Design" and "Source Control" BMPs.

I certify to the best of my knowledge, that the pollutants anticipated by the proposed land use are as follows:

- Sediments
- Nutrients
- Turbidity
- Oxygen Demanding Substance
- Oil & Grease
- Bacteria & Viruses
- Particulates

I/We will incorporate the following into the site design:

- Maintain pre-development runoff characteristics
- Minimize impervious foot print by constructing walkways, patios and driveways with permeable surfaces.
- Conserve natural areas
- Use natural drainage systems as opposed to lined swales or underground drainage systems
- Drain roof tops, walkways, patios and driveways into adjacent landscaping prior to discharging to the public drainage system.
- Preserve existing native trees and shrubs
- Protect all slopes from erosion

Additionally, I/we will:

- Minimize the use of pesticides
- Use efficient irrigation systems and landscape design, incorporating rain shutoff devices and flow reducers as needed.

I/We will maintain the above Standard Permanent BMP's for the duration of the lease.

Lessee: Dwight Woods Company Name: Verizon Wireless

Lessee: Dwight Woods Date: 1-9-2008

TRENCHING CUBIC YARDS:  
= 10.4 CUBIC YARDS

PARKING:  
9694.2 S.F. / 1000 S.F./PARKING SPACE  
= 9.69

### VERIZON WIRELESS TELECOMMUNICATIONS TRANSMITTER FREQUENCIES AND POWER LEVELS:

**CDMA EQUIPMENT:**  
TX FREQUENCY: 1965-1970 MHz  
RX FREQUENCY: 1885-1890 MHz  
TX POWER: 600W

**PCS EQUIPMENT:**  
TX FREQUENCY: 880-894 MHz  
RX FREQUENCY: 835-848 MHz  
TX POWER: 6150W

**EASEMENTS:**  
EASEMENTS SHOWN REFLECT PRELIMINARY RESEARCH OF RECORDED PARCEL MAPS & PRELIMINARY TITLE REPORT. EASEMENTS ARE SUBJECT TO REVIEW OF FINAL TITLE REPORT. SEE SHEET C-1 FOR ADDITIONAL EASEMENT INFORMATION.

**BOUNDARY NOTE:**  
THE PROJECT BOUNDARY SHOWN ON THIS DRAWING IS APPROXIMATE AND IS SHOWN FOR REFERENCE ONLY. A BOUNDARY SURVEY WAS NOT PERFORMED.



**A. Site Management Requirements**

Construction is a dynamic operation where changes are expected. Storm water BMPs for construction sites are usually temporary measures that require frequent maintenance to maintain their effectiveness and may require relocation, revision and re-installation, particularly as project grading progresses. Therefore, owner/contractor self-inspections are required. They shall be performed by the owner's/contractor's Qualified Contact Person specifically trained in storm water pollution prevention site management and storm water BMPs, including the installation and maintenance of sediment and erosion control measures. Additional qualified persons may assist with the inspection activities under the direction of the Qualified Contact Person. A Qualified Contact Person is required for all sites during both wet and dry weather conditions.

There are four primary purposes of the self-inspections conducted by owners and contractors:

- To ensure that the owners/contractors take full responsibility for managing storm water pollution caused by their activities.
- To ensure that storm water BMPs are properly documented and implemented and are functioning effectively.
- To identify maintenance (e.g., sediment removal) and repair needs.
- To ensure that the project proponents implement their storm water management plans.

A self-inspection checklist, noting date, time, conditions and inspection date, must be kept on-site and made available for inspection, if requested (note: the State General Construction Permit has additional inspection requirements that must be met to comply with the permit). Self-inspections must be performed by a Qualified Contact Person according to the following schedule:

- Daily forecasting at all times
- At 24-hour intervals during extended rainfall events
- Daily evaluations as earth moving/grading is being conducted during the wet season
- Weekly (every 7 days) in the dry season as earth moving/grading is progressing

Storm water pollution prevention site management requirements include:

- A qualified person who is trained and competent in the use of BMPs shall be on site daily, although not necessarily full time, to evaluate the conditions of the site with respect to storm water pollution prevention. This qualified contact person shall represent the contractor/owner on storm water issues.
- The qualified person shall implement the conditions of the Storm Water Pollution Prevention Plan, contract documents and/or local ordinances with respect to erosion and sediment control and other waste management regulations.
- The qualified person is responsible for monitoring the weather and implementation of any emergency plans as needed. The weather shall be monitored on a 5-day forecast plan and a full BMP protection plan shall be activated when there is a 40% or greater chance of rain.
- The qualified person is responsible for overseeing any site grading and operations and evaluating the effectiveness of the BMPs. This person shall modify the BMPs as necessary to keep the dynamics of the site in compliance. This person or other qualified persons are responsible for checking the BMPs routinely for maintenance and documenting the BMPs being implemented.

**PRIORITY: LOW**

IDENTIFY POLLUTANTS FROM THE PROJECT AREA

COMMERCIAL DEVELOPMENT: SEDIMENT - POTENTIAL  
 NUTRIENTS - POTENTIAL  
 ORGANIC COMPOUNDS - N/A  
 TRASH & DEBRIS - ANTICIPATED  
 OXYGEN DEMANDING SUBSTANCES - ANTICIPATED  
 BACTERIA & VIRUSES - N/A  
 PESTICIDES - POTENTIAL

**STANDARD LID BMPs:**

- MINIMIZE IMPERVIOUS FOOTPRINT
- MINIMIZE SOIL COMPACTION IN LANDSCAPE AREA
- SOIL AMENDMENT

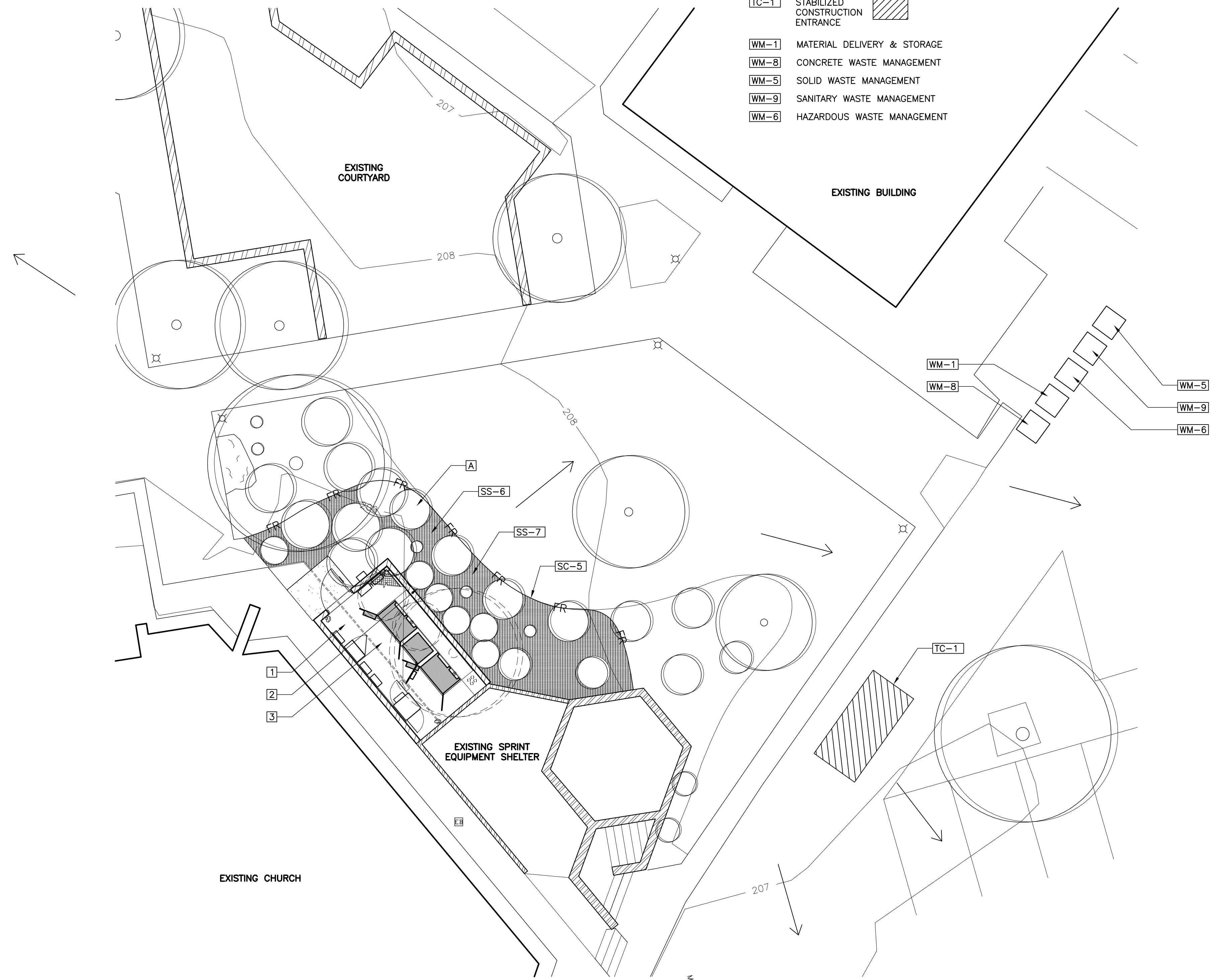
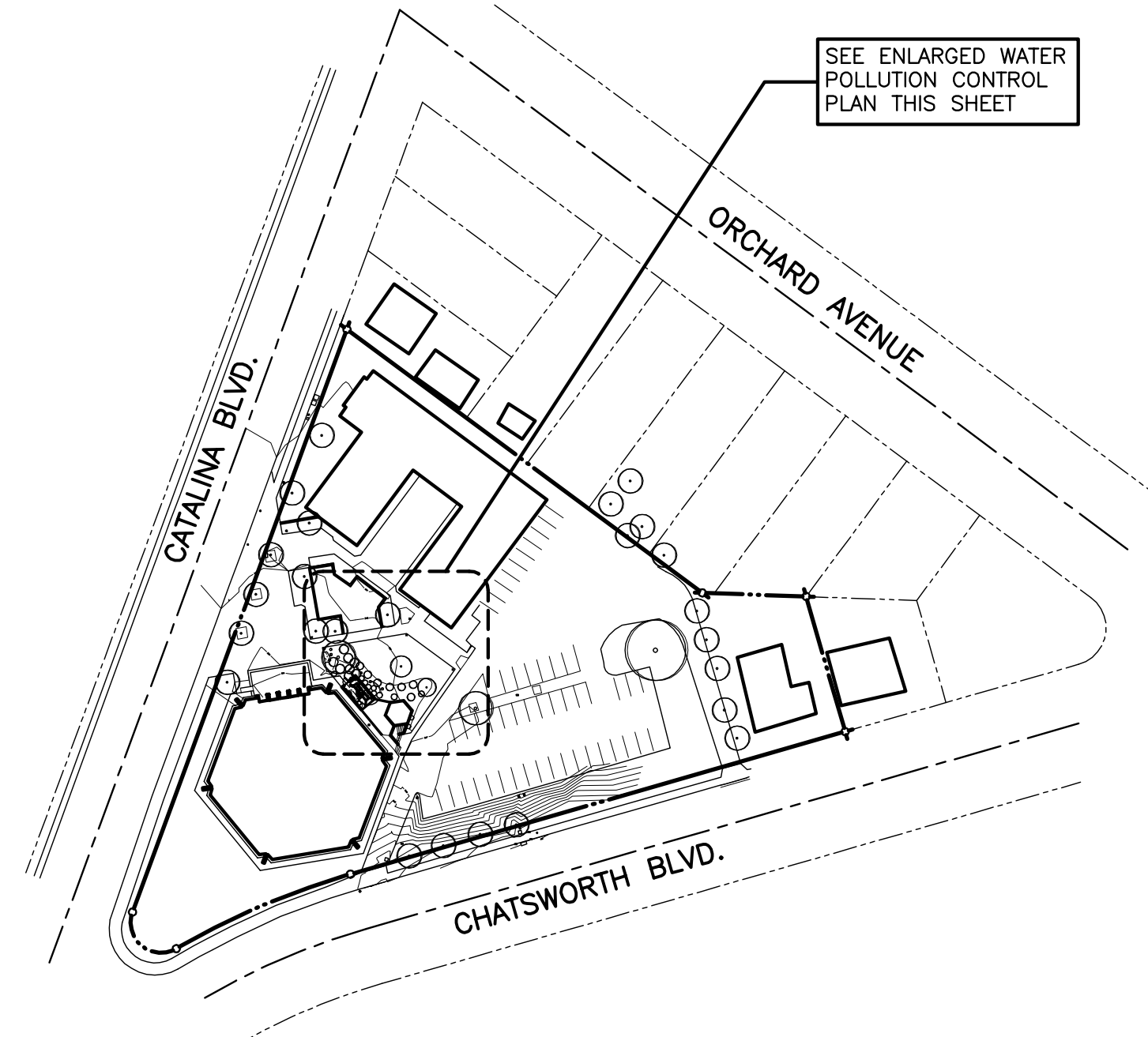
**SOURCE CONTROL BMPs:**

- USE EFFICIENT IRRIGATION SYSTEM

**CONSTRUCTION STORMWATER BMPs:**

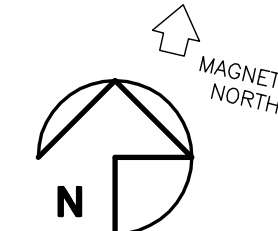
DIRECTION OF LOT DRAINAGE → →

- SS-7 EROSION CONTROL BLANKET
- SS-6 MULCH, STRAW, WOOD CHIPS
- SC-5 FIBER ROLLS -FR-FR-
- TC-1 STABILIZED CONSTRUCTION ENTRANCE
- WM-1 MATERIAL DELIVERY & STORAGE
- WM-8 CONCRETE WASTE MANAGEMENT
- WM-5 SOLID WASTE MANAGEMENT
- WM-9 SANITARY WASTE MANAGEMENT
- WM-6 HAZARDOUS WASTE MANAGEMENT



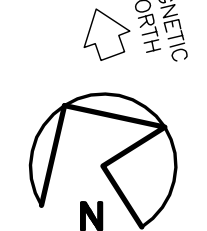
**WATER POLLUTION CONTROL PLAN**

SCALE: 1" = 100'-0"



**ENLARGED WATER POLLUTION CONTROL PLAN**

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



**BOOTH & SUAREZ**

ARCHITECTURE ■ PLANNING  
 WILLIAM M. BOOTH, ARCHITECT ROBERT J. SUAREZ, ARCHITECT  
 P.O. BOX 4651, CARLSBAD, CA 92018 (760) 434-8474



PREPARED FOR



P.O. BOX 19707  
 IRVINE, CA 92623-9707  
 (949) 222-7000

APPROVALS

A&C	DATE
RE	DATE
RF	DATE
INT	DATE
EE/IN	DATE
OPS	DATE
EE/OUT	DATE

PROJECT NAME

**NIMITZ**

1475 CATALINA BLVD.  
 SAN DIEGO, CA 92107  
 SAN DIEGO COUNTY

DRAWING DATES

09/02/08	PRELIM 2D REVIEW (rd)
09/16/08	PLANNING COMMENTS (rd)
09/17/08	EASEMENT UPDATE (job)
11/20/08	REVISED 2D (cl)

SHEET TITLE

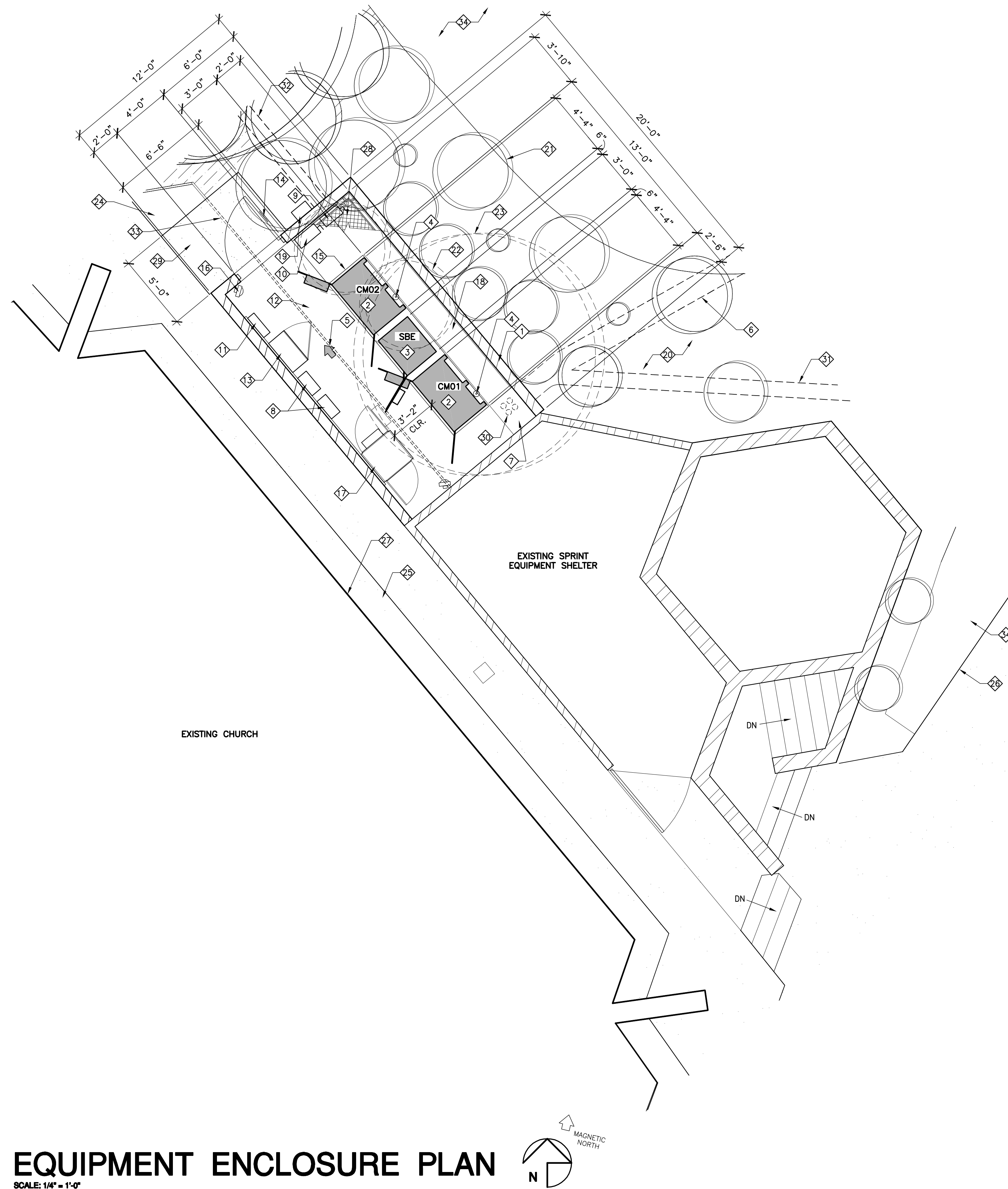
**WATER POLLUTION CONTROL PLAN**

PROJECTS\verizon\08088zd\08088zA0.1.dwg

**A-0.1**

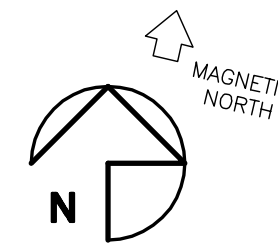






**EQUIPMENT ENCLOSURE PLAN**

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



**EQUIPMENT ENCLOSURE PLAN NOTES:**

- 1 PROPOSED VERIZON WIRELESS CONCRETE BLOCK WALL ENCLOSURE WITH CHAIN LINK LID AND WOOD TRELLIS. LEASE LINE IS SAME AS OUTER PERIMETER OF PROPOSED CONCRETE BLOCK WALL ENCLOSURE
- 2 PROPOSED VERIZON WIRELESS 'CMO' COMPACT METRO CELL OUTDOOR EQUIPMENT ENCLOSURE (TYPICAL OF 2), 52" WIDE x 55" HIGH x 30" DEEP. WEIGHT: 2082 LBS.
- 3 PROPOSED VERIZON WIRELESS SIMPLIFIED BATTERY ENCLOSURE (SBE), 36" WIDE x 57" HIGH x 30" DEEP. WEIGHT: 2375 LBS.
- 4 PROPOSED GPS ANTENNA MOUNTED TO EACH "CMO" EQUIPMENT CABINET (TYPICAL OF 2).
- 5 CONCRETE SLOPED TO DRAIN. 1% MIN.
- 6 PROPOSED UNDERGROUND COAXIAL CABLE TRENCH (SHOWN DASHED)
- 7 PROPOSED COAX CABLE SHROUD
- 8 PROPOSED TELCO CABINET GR-487-CORE UNISTRUT MOUNTED TO WALL (TYPICAL OF 2) (STACKED)
- 9 PROPOSED FUSED DISCONNECT SWITCH UNISTRUT MOUNTED TO WALL
- 10 PROPOSED MANUAL TRANSFER SWITCH UNISTRUT MOUNTED TO WALL
- 11 PROPOSED 200 AMP ELECTRICAL PANEL UNISTRUT MOUNTED TO WALL
- 12 PROPOSED POURED-IN-PLACE CONCRETE PAD FOR VERIZON WIRELESS CABINETS.
- 13 PROPOSED TELCO CABINET "THE BEAST" UNISTRUT MOUNTED TO WALL
- 14 PROPOSED STEEL GATE AND FRAME WITH VERIZON WIRELESS SIGNAGE
- 15 PROPOSED RAISED CONCRETE PAD FOR VERIZON WIRELESS CABINETS.
- 16 PROPOSED WALL MOUNTED LIGHT FIXTURE ON A MANUAL TIMER SWITCH (TYPICAL OF 2)
- 17 PROPOSED PURCELL FIBER CABINET UNISTRUT MOUNTED TO WALL
- 18 PROPOSED COAX CABLE TRAY. MAXIMUM HEIGHT 8" ABOVE CONCRETE EQUIPMENT PAD AND ROUTED ON BACK WALL OF ENCLOSURE
- 19 PROPOSED LUG BOX FOR EMERGENCY GENERATOR CONNECTION
- 20 EXISTING LANDSCAPING AREA
- 21 EXISTING SHRUBS TO REMAIN
- 22 EXISTING SHRUBS TO BE REMOVED (SHOWN DASHED)
- 23 EXISTING TREE TO BE REMOVED (SHOWN DASHED)
- 24 EXISTING CRUSHED GRAVEL WITH 2x P.T. GRAVEL STOP
- 25 EXISTING RAISED CONCRETE CURB
- 26 EXISTING EDGE OF CONCRETE
- 27 LINE OF EXISTING CHURCH BUILDING
- 28 PROPOSED CHAINLINK LID
- 29 PROPOSED CONCRETE LANDING
- 30 PROPOSED (4) 4" COAX CABLE CONDUITS
- 31 PROPOSED VERIZON WIRELESS UNDERGROUND TELCO TRENCH.
- 32 PROPOSED VERIZON WIRELESS UNDERGROUND POWER TRENCH.
- 33 EXISTING GRAVEL STOP & CRUSHED GRAVEL TO BE REMOVED TO ACCOMODATE PROPOSED CONCRETE BLOCK EQUIPMENT ENCLOSURE (SHOWN DASHED.)
- 34 EXISTING GRASS AREA



PREPARED FOR



P.O. BOX 19707  
IRVINE, CA 92623-9707  
(949) 222-7000

APPROVALS

A&C	DATE
RE	DATE
RF	DATE
INT	DATE
EE/IN	DATE
OPS	DATE
EE/OUT	DATE

PROJECT NAME

**NIMITZ**

1475 CATALINA BLVD.  
SAN DIEGO, CA 92107  
SAN DIEGO COUNTY

DRAWING DATES

09/02/08	PRELIM ZD REVIEW (rd)
09/16/08	PLANNING COMMENTS (rd)
09/17/08	EASEMENT UPDATE (job)
11/20/08	REVISED ZD (cl)

SHEET TITLE

**EQUIPMENT ENCLOSURE PLAN**

PROJECTS\verizon\08088zd\08088zA2.dwg





PREPARED FOR



P.O. BOX 19707  
 IRVINE, CA 92623-9707  
 (949) 222-7000

APPROVALS

A&C	DATE
RE	DATE
RF	DATE
INT	DATE
EE/IN	DATE
OPS	DATE
EE/OUT	DATE

PROJECT NAME

**NIMITZ**

1475 CATALINA BLVD.  
 SAN DIEGO, CA 92107  
 SAN DIEGO COUNTY

DRAWING DATES

09/02/08	PRELIM ZD REVIEW (rd)
09/16/08	PLANNING COMMENTS (rd)
09/17/08	EASEMENT UPDATE (job)
11/20/08	REVISED ZD (cl)

SHEET TITLE

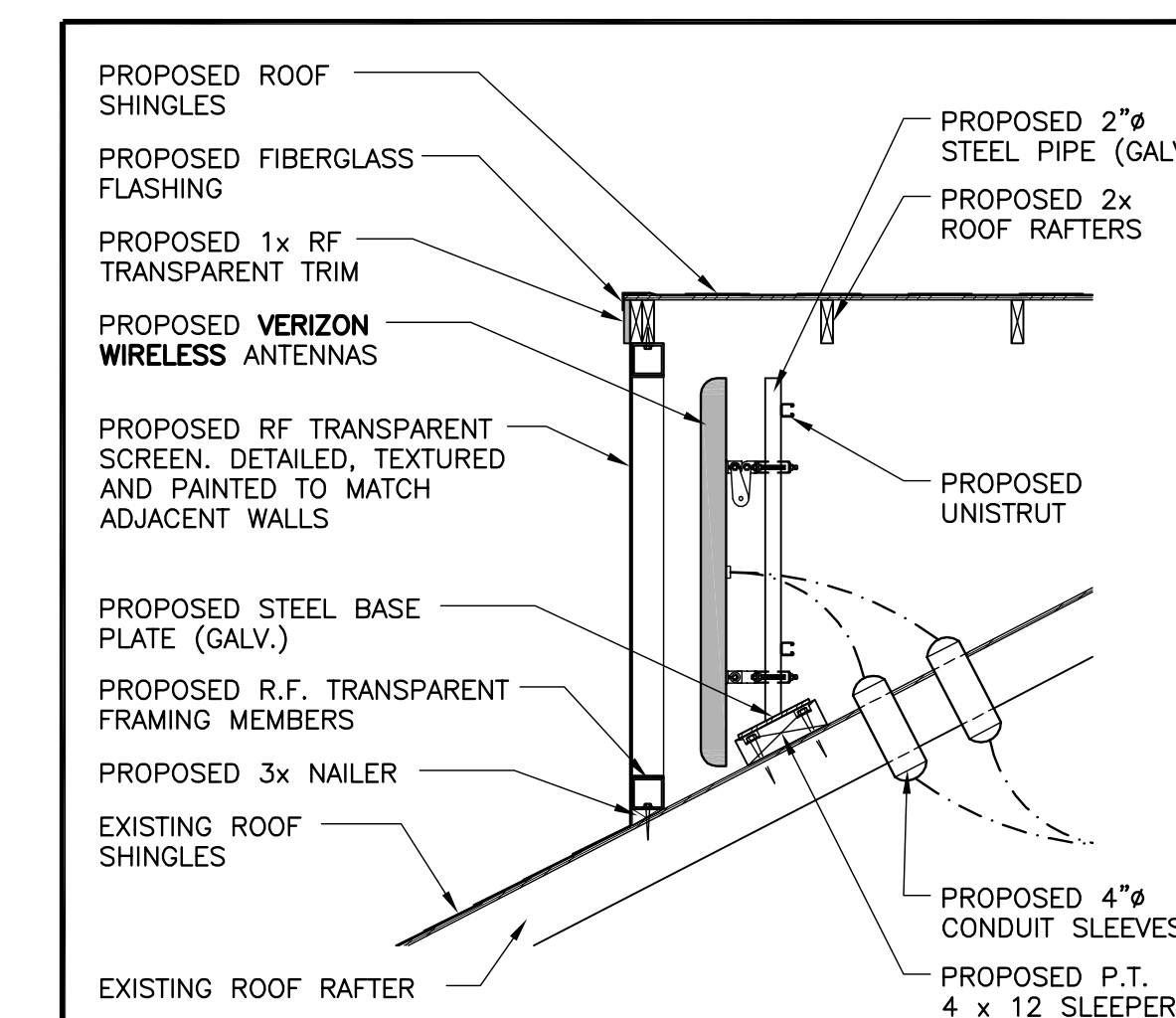
**ANTENNA PLANS  
 A & B**

PROJECTS\verizon\08088zd\08088za3.dwg

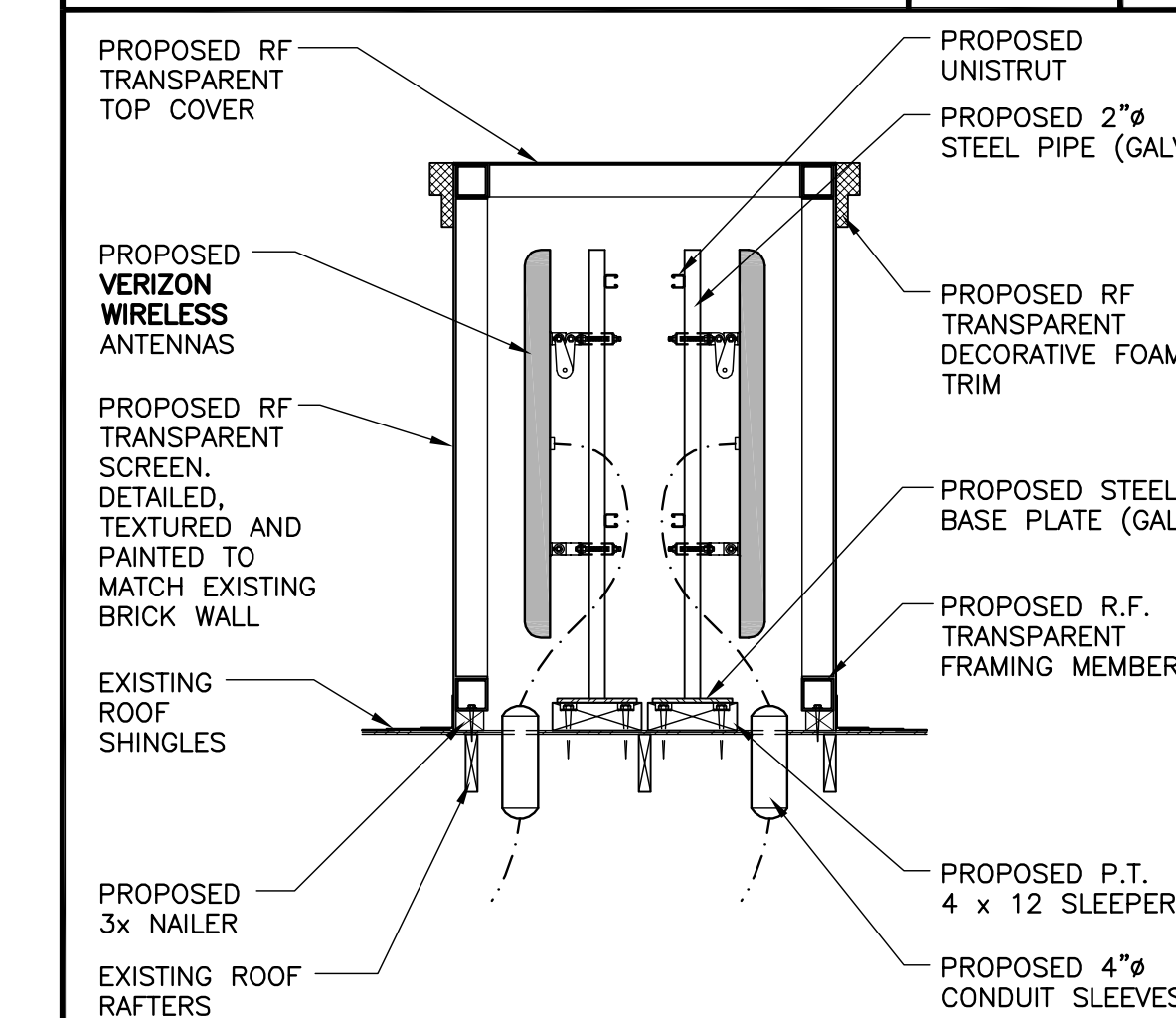
**A-3**

**ANTENNA PLAN NOTES:**

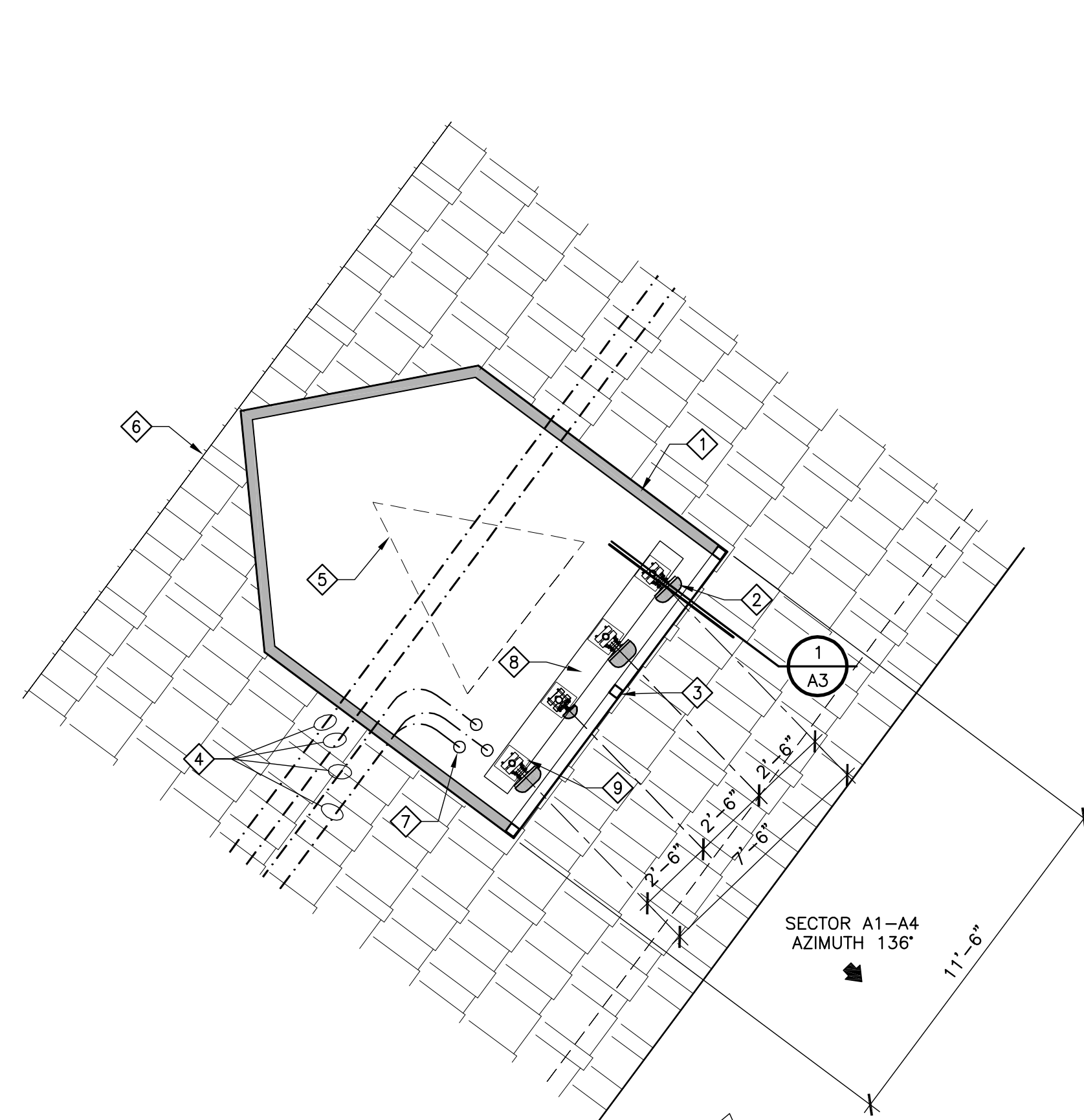
- 1 PROPOSED WOOD FRAMED DORMER WITH T&G WOOD SIDING TO MATCH EXISTING DORMER
- 2 PROPOSED VERIZON WIRELESS PIPE MOUNTED ANTENNAS INSIDE PROPOSED BEHIND RF TRANSPARENT PANELS.
- 3 PROPOSED R.F. TRANSPARENT PANELS & FRAMING TO BE DETAILED, TEXTURED, & PAINTED TO MATCH ADJACENT WALLS.
- 4 ROUTE PROPOSED COAX CABLE THROUGH ATTIC SPACE OF EXISTING ROOF.
- 5 REMOVE EXISTING "SMALL" DORMER (SHOWN DASHED)
- 6 EXISTING ROOF RIDGE.
- 7 PROPOSED (3) 4" CONDUIT SLEEVES AT DORMER & (6) 4" CONDUIT SLEEVES AT CHIMNEY FOR COAX CABLE PENETRATION THRU ROOF.
- 8 PROPOSED SLEEPER
- 9 PROPOSED BASE PLATE
- 10 PROPOSED ROOF CRICKET



**ANTENNA MOUNT IN DORMER** SCALE 1/2"=1'-0" 1

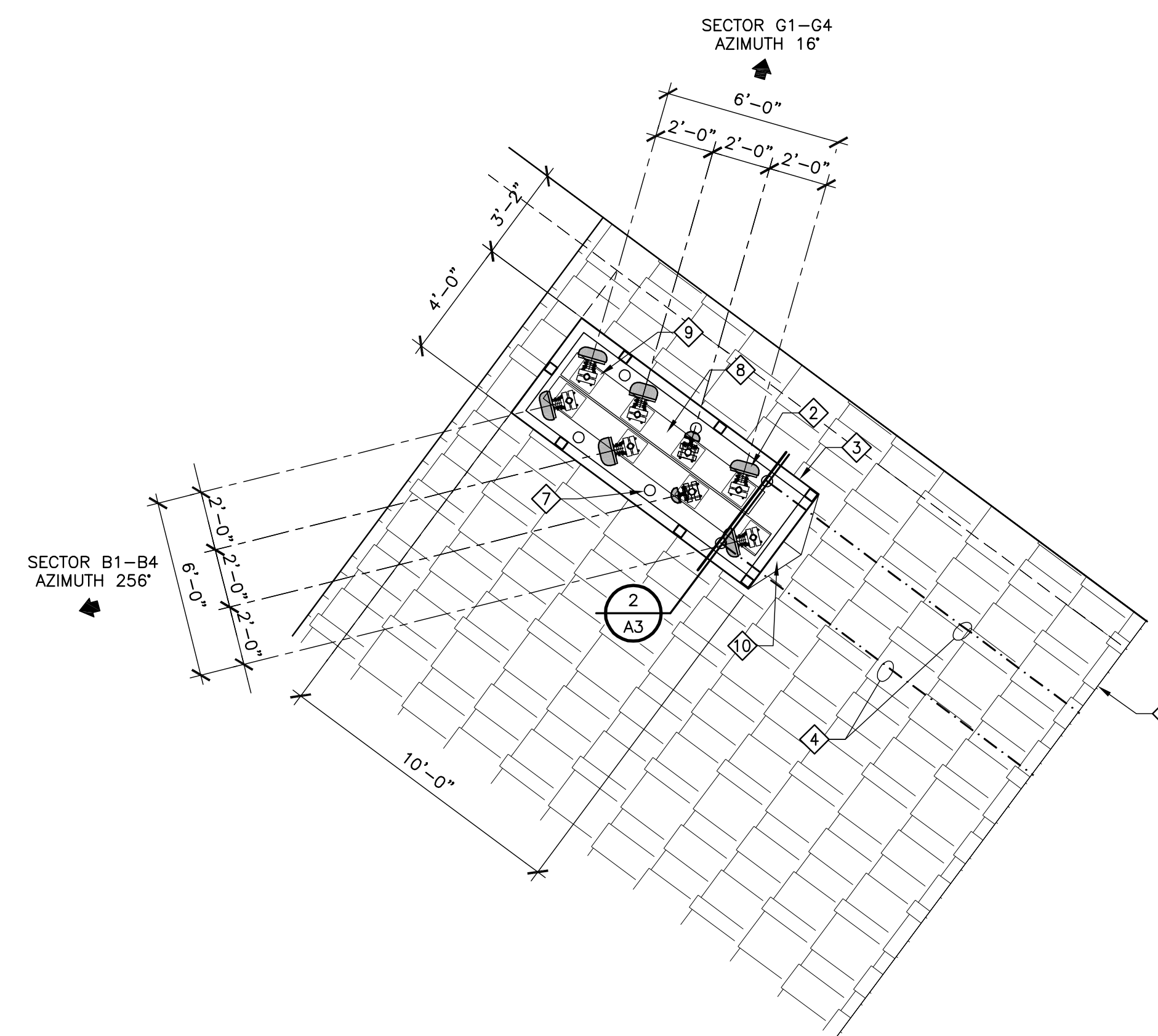


**ANTENNA MOUNT IN CHIMNEY** SCALE 1/2"=1'-0" 2



**ANTENNA PLAN B**

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



**ANTENNA PLAN A**

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

**ANTENNA AND COAXIAL CABLE SCHEDULE**

SECTOR ANTENNA	DIRECTION	AZIMUTH	ANTENNA MODEL NUMBER	DOWNTILT	SKW ANGLE	SERIAL NUMBER	NUMBER OF CABLES PER SECTOR	COAX. CABLE LENGTH (+ / - 5')	JUMPER LENGTH (+ / - 3')	COAX SIZE
ALPHA1	SOUTHEAST	136°	AMPHENOL ANTEL: WPA-80063/4CF	0°	N/A		6	180'-0"	6'-0"	1 5/8"
ALPHA2			AMPHENOL ANTEL: WPA-80063/4CF							
ALPHA3			AMPHENOL ANTEL: BXA-70063/4CF							
ALPHA4			AMPHENOL ANTEL: BXA-185063/BCF							
BETA1	WEST	256°	AMPHENOL ANTEL: WPA-80063/4CF	0°	N/A		6	185'-0"	6'-0"	1 5/8"
BETA2			AMPHENOL ANTEL: WPA-80063/4CF							
BETA3			AMPHENOL ANTEL: BXA-70063/4CF							
BETA4			AMPHENOL ANTEL: BXA-185063/BCF							
GAMMA1	NORTH	16°	AMPHENOL ANTEL: WPA-80063/4CF	0°	N/A		6	230'-0"	6'-0"	1 5/8"
GAMMA2			AMPHENOL ANTEL: WPA-80063/4CF							
GAMMA3			AMPHENOL ANTEL: BXA-70063/4CF							
GAMMA4			AMPHENOL ANTEL: BXA-185063/BCF							



PREPARED FOR



P.O. BOX 19707  
 IRVINE, CA 92623-9707  
 (949) 222-7000

APPROVALS

A&C	DATE
RE	DATE
RF	DATE
INT	DATE
EE/IN	DATE
OPS	DATE
EE/OUT	DATE

PROJECT NAME

**NIMITZ**

1475 CATALINA BLVD.  
 SAN DIEGO, CA 92107  
 SAN DIEGO COUNTY

DRAWING DATES

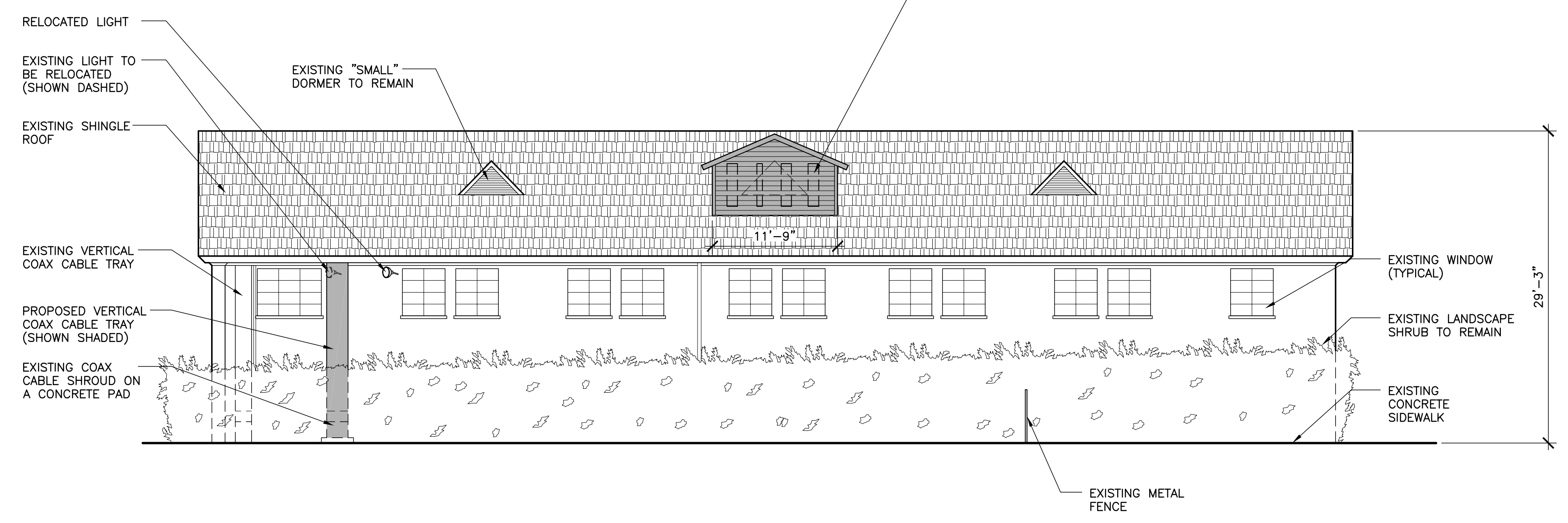
09/02/08	PRELIM 2D REVIEW (rd)
09/16/08	PLANNING COMMENTS (rd)
09/17/08	EASEMENT UPDATE (job)
11/20/08	REVISED 2D (cl)

SHEET TITLE

**EXTERIOR ELEVATIONS**

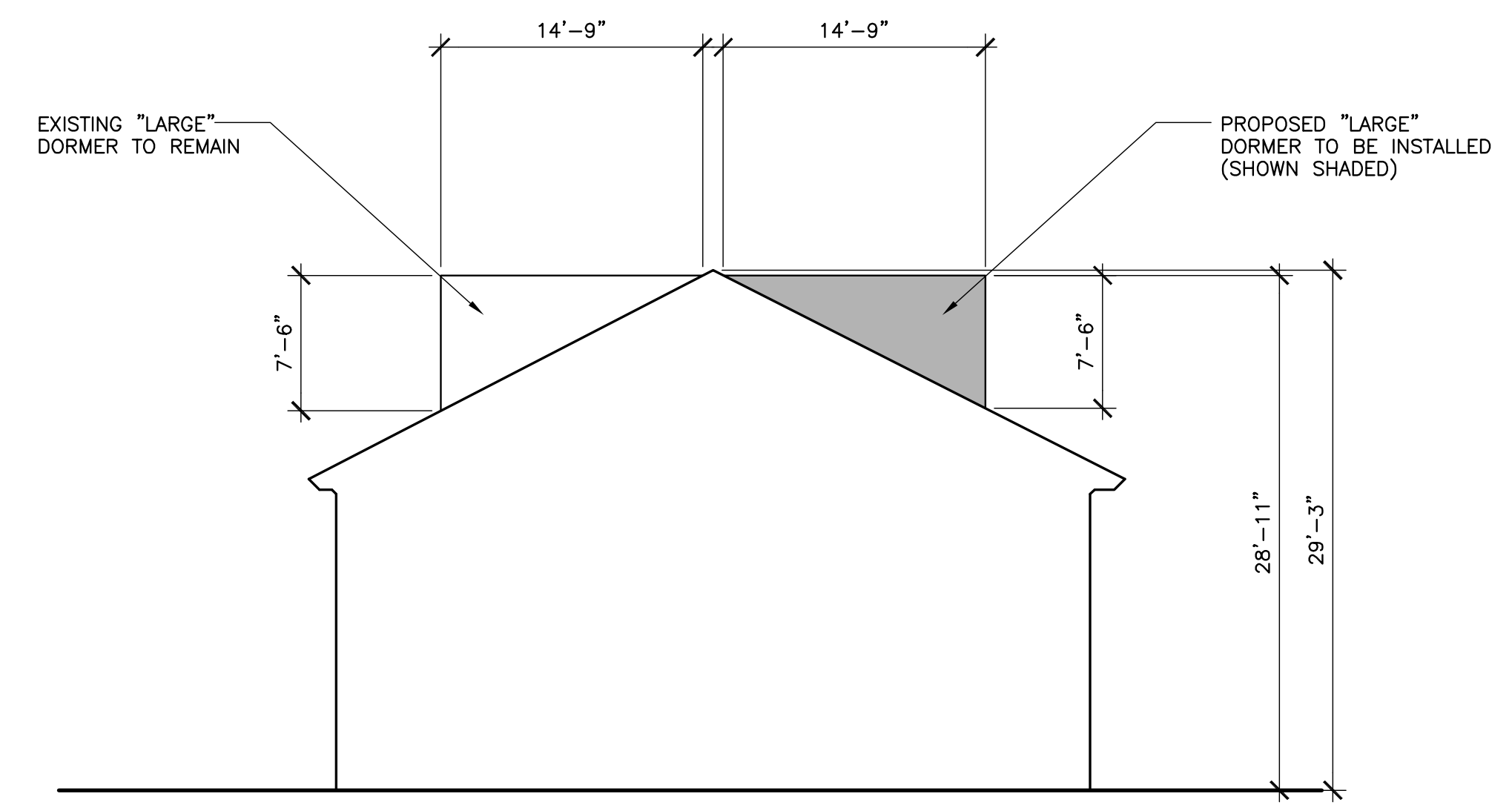
PROJECTS\verizon\08088zd\08088zA4.dwg

PROPOSED VERIZON WIRELESS PIPE MOUNTED ANTENNAS IN NEW DORMERS BEHIND NEW RF TRANSPARENT SCREENS ON ROOF OF EXISTING BUILDING. RF TRANSPARENT SCREEN MATERIAL SHALL BE DETAILED, TEXTURED AND PAINTED TO MATCH EXISTING DORMER.



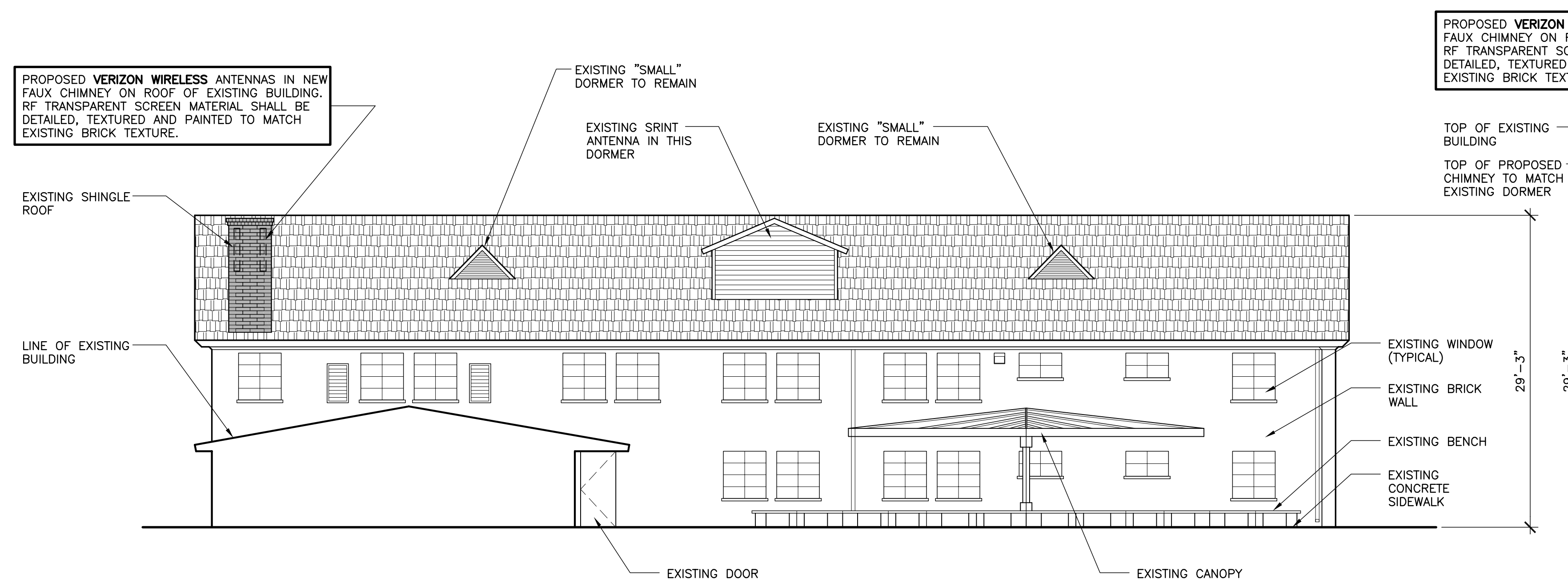
**SOUTH ELEVATION**

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



**SECTION AT DORMER**

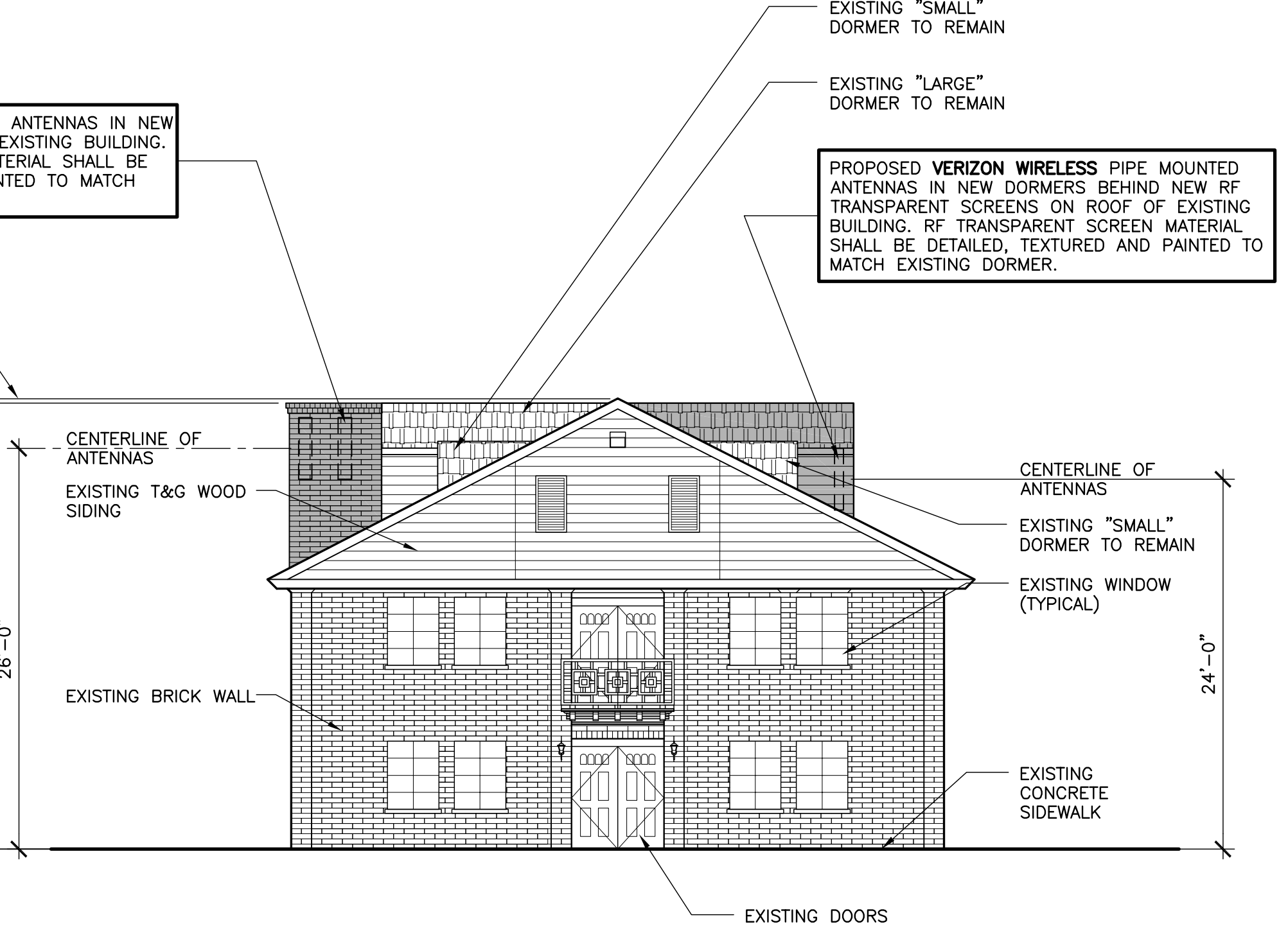
SCALE: 1/8" = 1'-0"



**NORTH ELEVATION**

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

PROPOSED VERIZON WIRELESS ANTENNAS IN NEW FAUX CHIMNEY ON ROOF OF EXISTING BUILDING. RF TRANSPARENT SCREEN MATERIAL SHALL BE DETAILED, TEXTURED AND PAINTED TO MATCH EXISTING BRICK TEXTURE.



**WEST ELEVATION**

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

PREPARED FOR



P.O. BOX 19707  
 IRVINE, CA 92623-9707  
 (949) 222-7000

APPROVALS

A&C	DATE
RE	DATE
RF	DATE
INT	DATE
EE/IN	DATE
OPS	DATE
EE/OUT	DATE

PROJECT NAME

**NIMITZ**

1475 CATALINA BLVD.  
 SAN DIEGO, CA 92107  
 SAN DIEGO COUNTY

DRAWING DATES

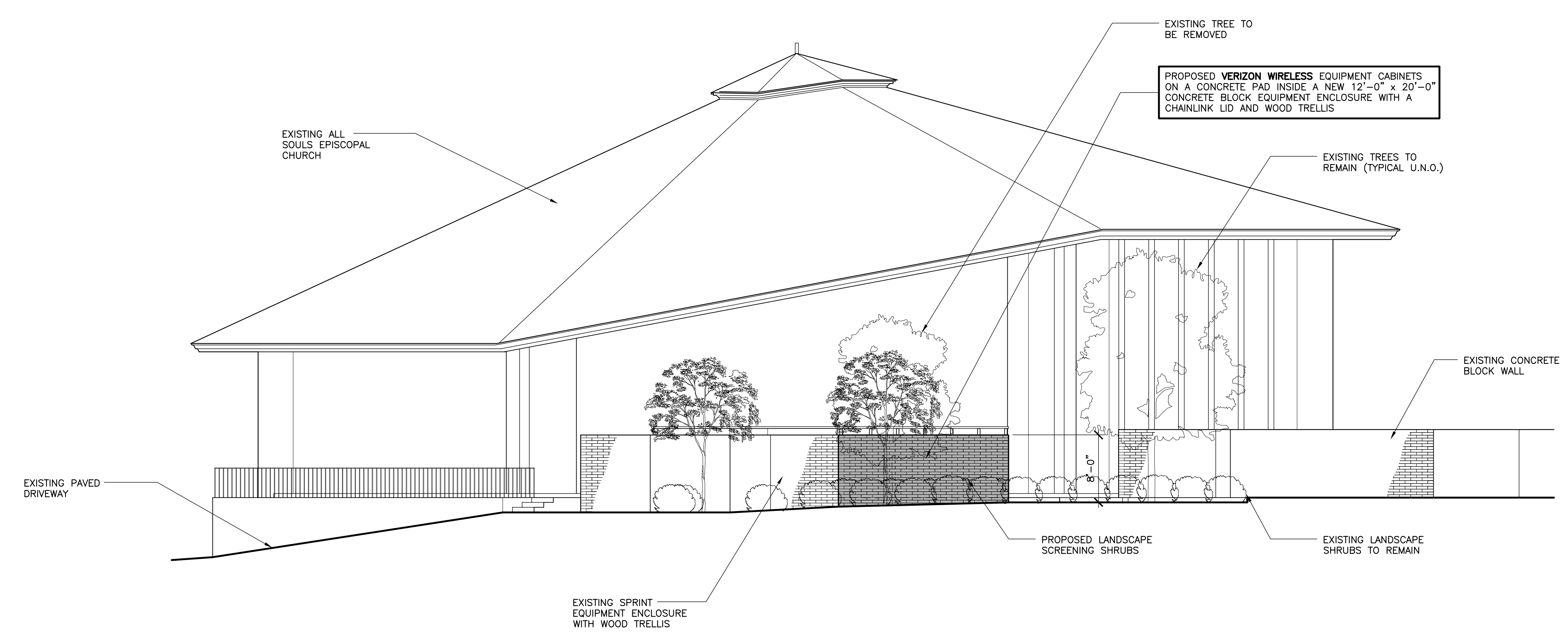
09/02/08	PRELIM ZD REVIEW (rd)
09/16/08	PLANNING COMMENTS (rd)
09/17/08	EASEMENT UPDATE (job)
11/20/08	REVISED ZD (cl)

SHEET TITLE

**EXTERIOR ELEVATIONS**

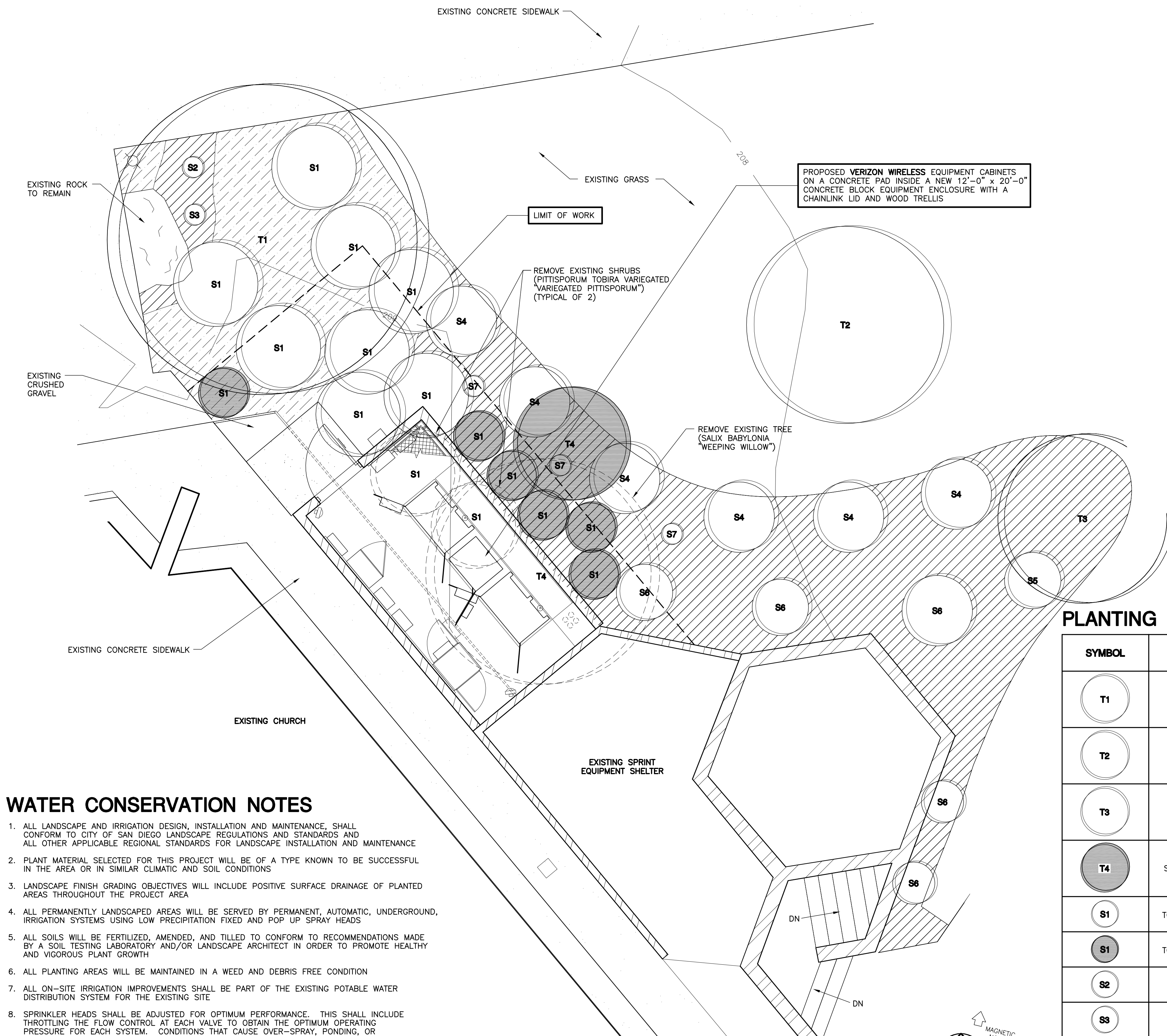
PROJECTS\verizon\08088zd\08088zA5.dwg

**A-5**



**EAST ELEVATION**  
 SCALE: 1/8" = 1'-0"





PROPOSED VERIZON WIRELESS EQUIPMENT CABINETS ON A CONCRETE PAD INSIDE A NEW 12'-0" x 20'-0" CONCRETE BLOCK EQUIPMENT ENCLOSURE WITH A CHAINLINK LID AND WOOD TRELLIS

### WATER CONSERVATION NOTES

- ALL LANDSCAPE AND IRRIGATION DESIGN, INSTALLATION AND MAINTENANCE, SHALL CONFORM TO CITY OF SAN DIEGO LANDSCAPE REGULATIONS AND STANDARDS AND ALL OTHER APPLICABLE REGIONAL STANDARDS FOR LANDSCAPE INSTALLATION AND MAINTENANCE
- PLANT MATERIAL SELECTED FOR THIS PROJECT WILL BE OF A TYPE KNOWN TO BE SUCCESSFUL IN THE AREA OR IN SIMILAR CLIMATIC AND SOIL CONDITIONS
- LANDSCAPE FINISH GRADING OBJECTIVES WILL INCLUDE POSITIVE SURFACE DRAINAGE OF PLANTED AREAS THROUGHOUT THE PROJECT AREA
- ALL PERMANENTLY LANDSCAPED AREAS WILL BE SERVED BY PERMANENT, AUTOMATIC, UNDERGROUND, IRRIGATION SYSTEMS USING LOW PRECIPITATION FIXED AND POP UP SPRAY HEADS
- ALL SOILS WILL BE FERTILIZED, AMENDED, AND TILLED TO CONFORM TO RECOMMENDATIONS MADE BY A SOIL TESTING LABORATORY AND/OR LANDSCAPE ARCHITECT IN ORDER TO PROMOTE HEALTHY AND VIGOROUS PLANT GROWTH
- ALL PLANTING AREAS WILL BE MAINTAINED IN A WEED AND DEBRIS FREE CONDITION
- ALL ON-SITE IRRIGATION IMPROVEMENTS SHALL BE PART OF THE EXISTING POTABLE WATER DISTRIBUTION SYSTEM FOR THE EXISTING SITE
- SPRINKLER HEADS SHALL BE ADJUSTED FOR OPTIMUM PERFORMANCE. THIS SHALL INCLUDE THROTTLING THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM. CONDITIONS THAT CAUSE OVER-SPRAY, PONDING, OR RUN-OFF SHALL BE ELIMINATED. ADJUST SYSTEM TO AVOID THESE CONDITIONS
- BEST IRRIGATION MANAGEMENT PRACTICES SHALL BE USED TO ELIMINATE OR CONTROL TO THE BEST EXTENT POSSIBLE PONDING, RUN-OFF, OVER-SPRAY AND MISTING
- IRRIGATION HEADS SHALL BE LOCATED OR ADJUSTED TO MINIMIZE OR ELIMINATE OVER-SPRAYING ON SIDEWALKS, STREETS AND NON-DESIGNATED USE AREAS
- NEW IRRIGATION SYSTEM TO BE CONNECTED TO THE CLOSEST EXISTING IRRIGATION VALVE BOX

## LANDSCAPE DEVELOPMENT PLAN

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

### PLANTING LEGEND (REMOVAL)

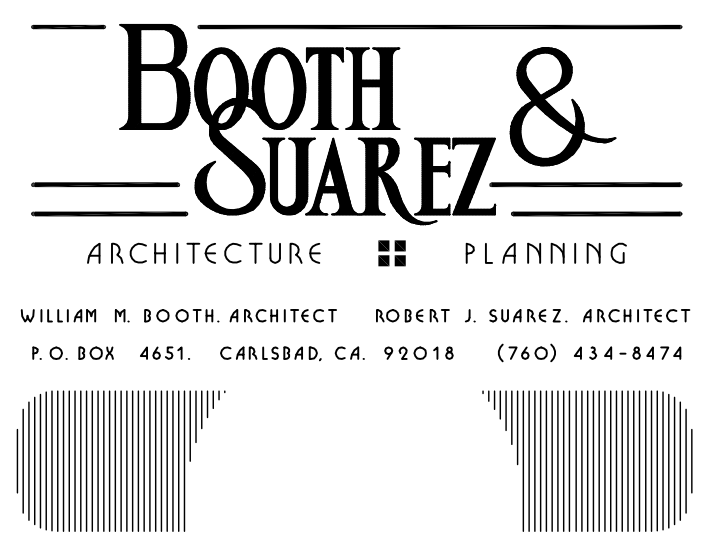
SYMBOL	BOTANICAL NAME	COMMON NAME	FORM / FUNCTION	PLANTING SIZE	QUANTITY	EXISTING HEIGHT & SPREAD
S1	PITTISPORUM TOBIRA VARIEGATA	VARIEGATED PITTISPORUM	-	EXISTING	2	6'-0" HEIGHT 4'-0" SPREAD
T4	SALIX BABYLONIA	WEeping WILLOW	-	EXISTING	1	23'-0" HEIGHT 18'-0" SPREAD

### PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	FORM / FUNCTION	PLANTING SIZE	QUANTITY	MATURE HEIGHT & SPREAD
T1	METROSIDEROS EXCELSA	NEW ZEALAND CHRISTMAS TREE	-	EXISTING	1	-
T2	TIPUANA TIPU	ROSEWOOD TREE	-	EXISTING	1	-
T3	COTONEASTER LACTEUS	COTONEASTER	-	EXISTING	1	-
T4	SALIX BABYLONIA	WEeping WILLOW	-	24" BOX	1	60'-0" HEIGHT 60'-0" SPREAD
S1	PITTISPORUM TOBIRA VARIEGATA	VARIEGATED PITTISPORUM	-	EXISTING	8	-
S1	PITTISPORUM TOBIRA VARIEGATA	VARIEGATED PITTISPORUM	DENSE HEDGE SHRUB (SCREENING)	5 GAL.	6	8'-12" HEIGHT 12'-18" SPREAD
S2	PHILODENDRON XANADU	XANADU	-	EXISTING	1	-
S3	CAMELLIA JAPONICA	CAMELLIA	-	EXISTING	1	-
S4	RHAPHIOLEPIS INDICA	INDIAN HAWTHORN	-	EXISTING	6	-
S5	AGAPANTHUS AFRICANUS	BLUE LILY OF THE NILE	-	EXISTING	1	-
S6	CALLIANDRA INEQUILATERA	POWDER PUFF PLANT	-	EXISTING	5	-
S7	HEMEROCALLIS	DAYLILY	-	EXISTING	3	-
G1	BARK MULCH	BARK MULCH	GROUND COVER	-	-	-
G2	HEDERA HELIX IVY	NEEDLEPOINT IVY	-	EXISTING	-	-

### PLANTING NOTES

- DETERMINE THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE INITIATION OF ANY WORK. ALL WORK SHALL BE PERFORMED IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE TO UTILITIES. HAND EXCAVATE AS REQUIRED.
- TREES SHALL BE LOCATED A MINIMUM OF FIVE FEET FROM ANY DRAINAGE FLOW LINE, SEWER LINE, WATER LINE, GAS LINE, OR ELECTRICAL CONDUIT.
- ROOT BARRIERS SHALL BE INSTALLED ADJACENT TO ALL PAVING SURFACES, WHERE A PAVING SURFACE IS LOCATED WITHIN 5' OF A TREE'S TRUNK. ROOT BARRIERS SHALL EXTEND FOUR FEET IN EACH DIRECTION, FROM THE CENTER LINE OF THE TRUNK, FOR A TOTAL DISTANCE OF 8 FEET. INSTALLING ROOT BARRIERS AROUND THE ROOT BALL IS UNACCEPTABLE.
- TREES WILL BE LOCATED A MINIMUM DISTANCE OF 3 FEET FROM ANY PAVING SURFACE, CURB, WALL, OR CONCRETE MOW STRIP.
- ALL PLANTING AREAS, SHALL RECEIVE A 3" LAYER OF MULCH.
- PLANTING INSTALLATION CRITERIA:  
ALL PROPOSED TREES SHALL BE SELF-SUPPORTING, WOODY PLANTS WITH AT LEAST ONE WELL DEFINED TRUNK AND SHALL NORMALLY ATTAIN A MATURE HEIGHT AND SPREAD OF AT LEAST 15 FEET.
- PLANTING MAINTENANCE CRITERIA:  
ALL LANDSCAPE INSTALLATION SHALL BE MAINTAINED IN ACCORDANCE WITH THE CITY OF SAN DIEGO LANDSCAPE STANDARDS.
- MINIMUM TREE SEPARATION DISTANCE IMPROVEMENT/MINIMUM DISTANCE TO STREET TREE:  
TRAFFIC SIGNALS (STOP SIGN) - 20 FEET  
UNDERGROUND UTILITY LINES - 5 FEET  
INTERSECTIONS (INTERSECTING CURB LINES OF TWO STREETS) - 25 FEET  
ABOVE GROUND UTILITY STRUCTURES - 10 FEET  
DRIVEWAY (ENTRIES) - 10 FEET  
INTERSECTIONS (INTERSECTING CURB LINES OF TWO STREETS) - 25 FEET
- IRRIGATION: AN IRRIGATION SYSTEM SHALL BE PROVIDED AS REQUIRED FOR PROPER IRRIGATION, DEVELOPMENT AND MAINTENANCE OF THE VEGETATION. THE DESIGN OF THE SYSTEM SHALL PROVIDE ADEQUATE SUPPORT FOR THE VEGETATION SELECTED.
- VERIZON WIRELESS IS RESPONSIBLE FOR THE LONG TERM MAINTENANCE OF THE PROJECT AREA. CONTACT: 15505 SAND CANYON AVENUE, IRVINE, CA 92718 (949) 286-8735  
A LANDSCAPE MAINTENANCE AGREEMENT MAY BE REQUIRED FOR THE AREAS WITHIN THE RIGHT-OF-WAY AND ANY LARGE REVEGETATED AREAS VISIBLE TO THE PUBLIC UNTIL SUCH TIME AS AN APPROVED ENTITY CAN ASSUME MAINTENANCE RESPONSIBILITIES.
- MAINTENANCE: ALL REQUIRED LANDSCAPE AREAS SHALL BE MAINTAINED BY VERIZON WIRELESS. THE LANDSCAPE AREAS SHALL BE MAINTAINED IN A FREE OF DEBRIS AND ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION. DISEASED OR DEAD PLANT MATERIAL SHALL BE SATISFACTORILY TREATED OR REPLACED PER THE CONDITIONS OF THE PERMIT.
- ALL LANDSCAPE AND IRRIGATION SHALL CONFORM TO THE STANDARDS OF THE CITY-WIDE LANDSCAPE REGULATIONS AND THE CITY OF SAN DIEGO LAND DEVELOPMENT MANUAL LANDSCAPE STANDARDS AND ALL OTHER LANDSCAPE RELATED CITY AND REGIONAL STANDARDS.
- ALL GRADED, DISTURBED OR ERODED AREAS THAT WILL NOT BE PERMANENTLY PAVED OR COVERED BY STRUCTURES SHALL BE PERMANENTLY REVEGETATED AND IRRIGATED AS SHOWN IN TABLE 142-04F AND IN ACCORDANCE WITH THE STANDARDS IN THE LDM.
- MAINTENANCE: ALL LANDSCAPE AREAS SHALL BE MAINTAINED BY ALL SOULS PARISH OF POINT LOMA. THE LANDSCAPE AREAS SHALL BE MAINTAINED FREE OF DEBRIS AND LITTER AND ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION. DISEASED OR DEAD PLANT MATERIAL SHALL BE SATISFACTORILY TREATED OR REPLACED PER THE CONDITIONS OF THE PERMIT.



PREPARED FOR  
**verizon wireless**  
P.O. BOX 19707  
IRVINE, CA 92623-9707  
(949) 222-7000

#### APPROVALS

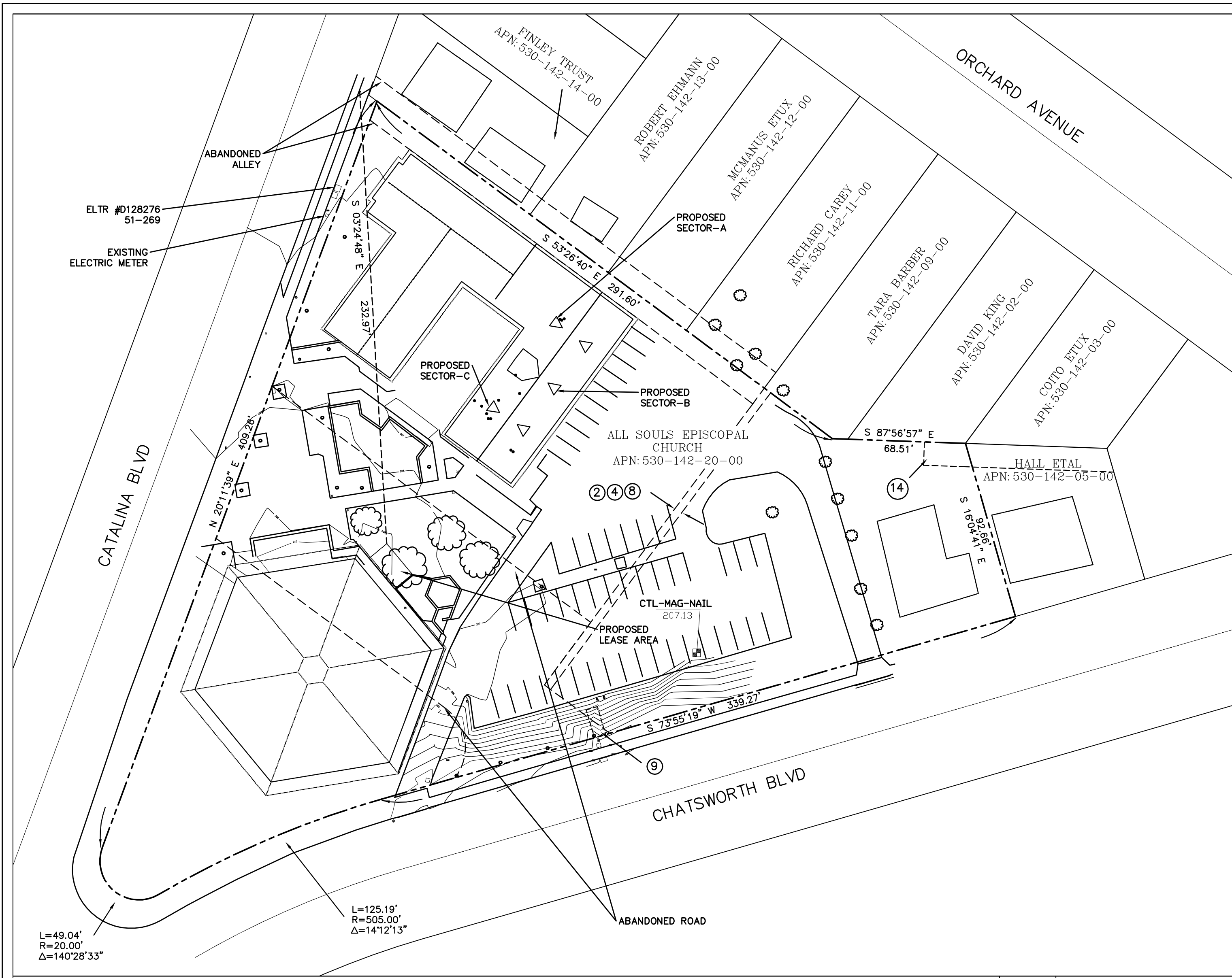
A&C	DATE
RE	DATE
RF	DATE
INT	DATE
EE/IN	DATE
OPS	DATE
EE/OUT	DATE

PROJECT NAME  
**NIMITZ**  
1475 CATALINA BLVD.  
SAN DIEGO, CA 92107  
SAN DIEGO COUNTY

DRAWING DATES  
09/02/08 PRELIM ZD REVIEW (rd)  
09/16/08 PLANNING COMMENTS (ej)  
09/17/08 EASEMENT UPDATE (job)  
11/20/08 REVISED ZD (cl)

SHEET TITLE  
**LANDSCAPE DEVELOPMENT PLAN**

PROJECTS\verizon\08088zd\08088zL1.dwg



**TITLE REPORT NOTES:**

THE FOLLOWING EASEMENTS EFFECT SAID PARCEL AND ARE SHOWN HEREON. SEE PRELIMINARY TITLE REPORT NO.04617525 PREPARED BY COMMONWEALTH LAND TITLE COMPANY AND DATED JULY 30, 2008 FOR OTHER DOCUMENTS (NON-EASEMENTS) EFFECTING SAID PROPERTY.

ITEM #2 - An easement for the purposes shown below and rights incidental thereto as shown or as offered for dedication on the recorded map shown below. Map: 2655  
Recorded May 4, 1950  
Easement purpose: Unnamed easement  
Affects: A portion of said land  
(AS SHOWN HEREON)

ITEM #3 - An easement for the purpose shown below and rights incidental thereto as set forth in a document  
Granted to: City of San Diego  
Purpose: Public street  
Recorded: March 18, 1952 in Book 4407, Page 149 of Official Records  
Affects: said land more particularly described therein  
(AS SHOWN HEREON - CONTAINED IN CATALINA BLVD)

ITEM #4 - Easements as shown on Map No. 2655 Affects: said land, as shown on said Map  
(AS SHOWN HEREON)

ITEM #7 - An easement for aerial and underground telegraph, telephone, and communication structures and purposes incidental thereto as granted to Pacific Telephone and Telegraph Company, by deed recorded.  
(NO DOCUMENT LISTED)

ITEM #8 - An easement for the purpose shown below and rights incidental thereto as set forth in a document  
Granted to: The Pacific Telephone and Telegraph Company  
Purpose: Public utilities  
Recorded: June 19, 1950 in Book 3663, Page 300 of Official Records  
(AS SHOWN HEREON)

ITEM #9 - An easement for the purpose shown below and rights incidental thereto as set forth in a document  
Granted to: City of San Diego  
Purpose: The construction, operation and maintenance of a storm drain and appurtenances thereof  
Recorded: February 5, 1951 in Book 3962, Page 298 of Official Records  
(AS SHOWN HEREON)

ITEM #10 - An easement for the purpose shown below and rights incidental thereto as set forth in a document  
Granted to: The City of San Diego, a Municipal Corporation  
Purpose: The purpose of a right of way for a public street and incidents thereto  
Recorded: August 15, 1949 in Book 3287, Page 378 of Official Records  
(AS SHOWN HEREON - CONTAINED IN CHATSWORTH BLVD)

ITEM #12 - An easement for the purpose shown below and rights incidental thereto as set forth in a document  
Granted to: San Diego Gas & Electric Company  
Purpose: Underground communication and electrical facilities  
Recorded: September 4, 1991 as File/Page No. 1991-0452373 of Official Records  
(EXACT LOCATION IS NOT DISCLOSED OF RECORD - 3' AROUND ALL EXISTING FACILITIES PRIOR TO 1991)

ITEM #14 - An easement for the purpose shown below and rights incidental thereto as set forth in a document  
Granted to: San Diego Gas & Electric Company  
Purpose: public utilities, ingress and egress  
Recorded: August 5, 2004 as Instrument No. 2004-0740711 of Official Records  
(AS SHOWN HEREON)

END OF EASEMENTS

**\*\*ALL PLOTTABLE EASEMENTS AS DESCRIBED IN SAID TITLE REPORT ARE SHOWN HEREON AND DO NOT EFFECT THE PROPOSED VERIZON LEASE AREA.**

**ADD. LEGEND**

EC	EDGE OF CONCRETE
ELTR	ELECTRICAL TRANSFORMER
FF	FINISH FLOOR
FL	FLOWLINE CURB & GUTTER
FP	FLAG POLE TOP
LIP	LIP OF GUTTER
LP	LIGHT POLE TOP
NG	SPOT ELEVATION
RFOH	ROOF FLOOR
RFVT	ROOF OVERHANG
RTOP	ROOF VENT
SDINL	STORM DRAIN INLET
SW	SIDEWALK
TC	TOP OF CURB
TRTP	TREE TOP
TW	TOP OF WALL
---	BOUNDARY LINE
- - - - -	MISC. PROPERTY LINE
- · - · -	MISC. TIE LINE
- · - - -	RIGHT-OF-WAY LINE
- · - · - · -	EASEMENT LINE
- x - x - x -	FENCE LINE

- This is not a boundary survey. This is a specialized topographic map. The property lines and easements shown hereon are from record information as noted hereon. Floyd Surveying, Inc. translated the topographic survey to record information using the two found monuments shown hereon. No title research was performed by Floyd Surveying, Inc.
- Any changes made to the information on this plan, without the written consent of Floyd Surveying, Inc. relieves Floyd Surveying, Inc. of any and all liability.
- These drawings & specifications are the property & copyright of Floyd Surveying, Inc. & shall not be used on any other work except by agreement with the Surveyor. Written dimensions shall take preference over scaled & shall be verified on the job site. Any discrepancy shall be brought to the notice of the Surveyor prior to commencement of any work.
- Field survey completed on AUGUST 7, 2008.

AC	AIR CONDITIONER	PM	PARCEL MAP
ASPH	ASPHALT	PKM	PARKING METER
BC	BOTTOM OF CURB	PP	POWER POLE
BLDG	BUILDING	ROS	RECORD OF SURVEY
BOLL	BOLLARD	ROD	ROOF DRAIN
CONC	CONCRETE	ROO	ROOF OUTLET
CP	CONTROL POINT	RTOP	ROOF TOP
DR	DOOR	RV	ROOF VENT
EB	ELECTRIC BOX	SSM	SANITARY SEWER MANHOLE
FENCE	FENCE	SCO	SEWER CLEAN OUT
FHY	FIRE HYDRANT	SP	SIGN POST
FM	FOUND MONUMENT	SE	SPOT ELEVATION
GM	GAS METER	SPR	SPRINKLER
GV	GAS VALVE	SDM	STORM DRAIN MANHOLE
GPS	GPS POINT	TB	TELEPHONE BOX
GR	GUARD RAIL	TM	TELEPHONE MANHOLE
GA	GUY ANCHOR	TP	TELEPHONE PEDISTAL
HTR	HEATER	TBM	TEMPORARY BENCHMARK
IB	IRRIGATION BOX	TR	TITLE REPORT EXCEPTION
IV	IRRIGATION VALVE	TC	TOP OF CURB
LB	LIGHT BUILDING	TSB	TRAFFIC SIGNAL BOX
LG	LIGHT GROUND	TSR	TRAFFIC SIGNAL POLE
LS	LIGHT STREET	T	TREE
MD	MEASURED DISTANCE	UP	UTILITY POLE
MW	MONITORING WELL	WM	WATER METER

**OVERALL SITE PLAN**

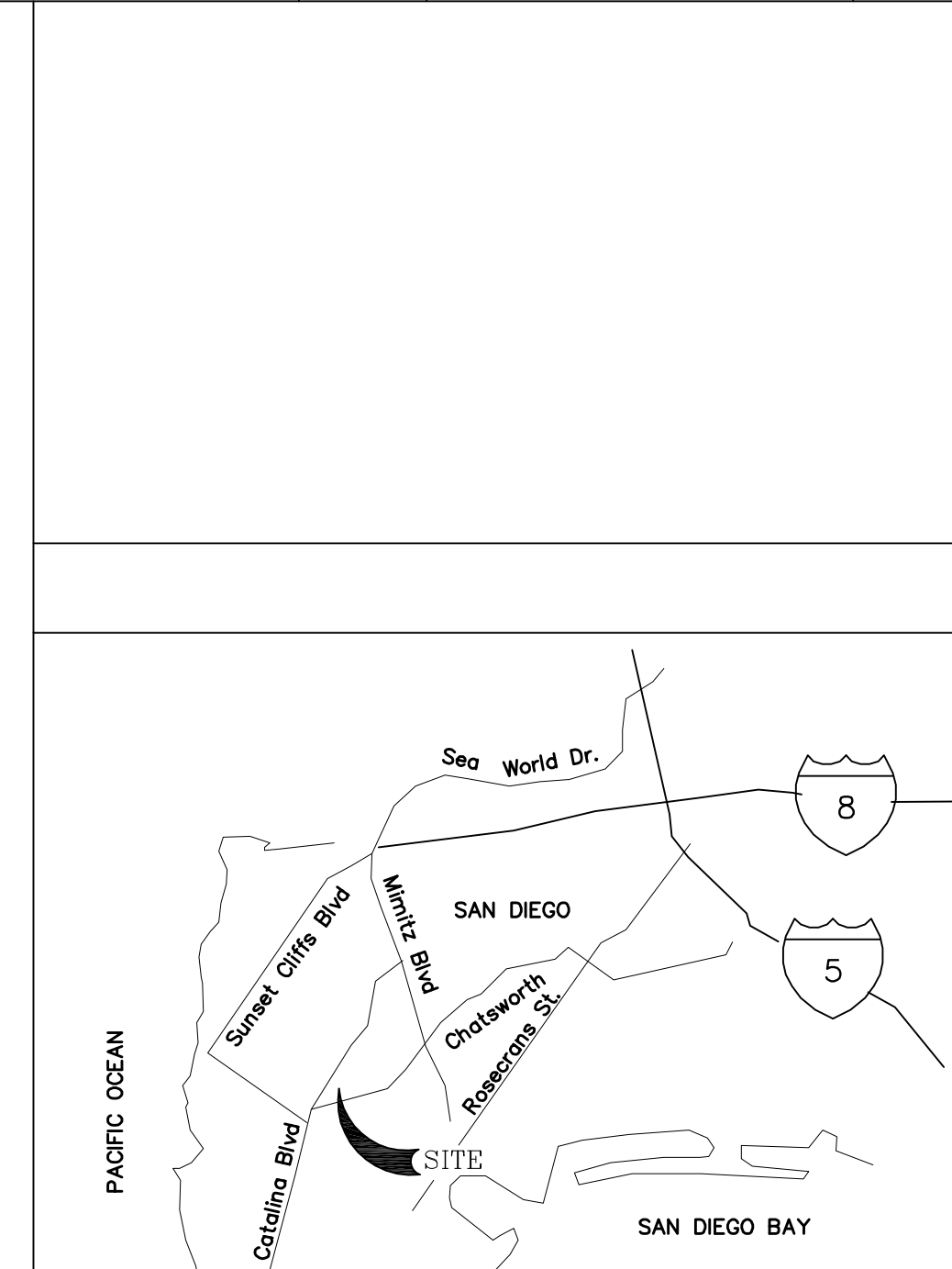
**Parcel 1:**  
Lots 1 to 5 inclusive in Block 49 of Point Loma Heights, in the City of San Diego, County of San Diego, State of California, according to Map thereof No. 1106, filed in the Office of the County Recorder of San Diego County, December 30, 1907.

Also that portion of the Southwesterly Half of the alley in said Block 49 immediately adjoining said Lots on the Northeast as closed to public use, and the Northeast Half of Pescadero Avenue adjoining said Lots on the Southwest as closed to public use.

**Parcel 2:**  
Lots 7 and 8 in Block 4 of Loma Lands Park, in the City of San Diego, County of San Diego, State of California, according to Map thereof No. 2655, filed in the Office of the County Recorder of San Diego County, May 4, 1950 together with that portion of Lot 1 in said Block 4 of Loma Lands Park, lying Southwesterly of the Southeastly prolongation of the center line of that certain alley lying within Block 49 of Point Loma Heights, according to Map thereof No. 1106, filed in the Office of the County Recorder of San Diego County, December 30, 1907, as now vacated and closed to public use.

**Parcel 3:**  
All that portion of Lot 196 of the Pueblo Lands of San Diego, in the City of San Diego, County of San Diego, State of California, according to Map thereof made by James Pascoe in 1870, a copy of which said Map was filed in the Office of the Recorder of said County, November 14, 1921 and is known as Miscellaneous Map No. 36, described as follows:  
Beginning at the intersection of the center line of Pescadero Avenue, now vacated, with the Southeastly line of Catalina Boulevard, as shown on Map No. 1322, of Loma Park, Records of said County; Thence Southwesterly along said Southeastly line of Catalina Boulevard and along the boundary of Block 103 of Loma Park to the Northwesterly line of Chatsworth Boulevard; Thence Northeastly along said Northwesterly line of Chatsworth Boulevard to a point distant thereon 80.6 feet most Easterly from the Southerly end of the curve forming the most Easterly corner of said Block 103 and having a radius of

25.00 feet the aforesaid point being on the Southeastly line of said Pueblo Lot 196; Thence Northeastly along said Southeastly line to its intersection with the center line of Pescadero Avenue; Thence Northwesterly along said center line of Pescadero Avenue, 238 feet more or less to the point of beginning; together with that portion of Pueblo Lot 197 of the Pueblo Lands of San Diego, in the City of San Diego, County of San Diego, State of California, according to Map thereof made by James Pascoe in 1870, a copy of which said Map was filed in the Office of the County Recorder of said County, and is known as Miscellaneous Map No. 36, described as follows:  
Beginning at a point of intersection of the Northwesterly line of said Pueblo Lot 197 with the center line of Pescadero Avenue as said Avenue is shown on Loma Park, according to Map thereof No. 1322, filed in the Office of the County Recorder of said County; said point of beginning being also the most Westerly corner of Lot 8 in Block 4 of Loma Lands Park, according to Map thereof No. 2655, filed in the Office of the County Recorder of said County; Thence South 53°56'50" East along the Southwesterly line of said Lot 8, a distance of 47.50 feet to a point in the Northerly line of Chatsworth Boulevard as said Boulevard is shown on Map No. 1322; Thence South 73°26'10" West along the Westerly prolongation of said Northerly line of said Northwesterly line of Pueblo Lot 197; Thence Northeastly along said Northwesterly line to the point of beginning.



**TITLE REPORT REVIEW**

OWNER'S NAME: THE RECTOR, WARDENS & VESTRYMEN OF ALL SOULS PARISH

ASSESSOR'S PARCEL NUMBER(S) 530-142-20-00

(NAD 83; Epoch 2002)

LATITUDE	LONGITUDE
SECTOR A: 32°43'53.78" North	117°14'31.91" West
SECTOR B: 32°43'53.43" North	117°14'31.88" West
SECTOR C: 32°43'53.35" North	117°14'31.28" West

**BASIS OF BEARINGS:**  
THE BEARINGS SHOWN HEREON ARE BASED ON TRUE NORTH AS DETERMINED BY G.P.S. OBSERVATIONS, USING TRIMBLE 5700/5800 RECEIVERS AND TRIMBLE GEODETTIC OFFICE 1.60 SOFTWARE.

**BASIS OF ELEVATIONS:** NAVD 1988  
ELEVATIONS ARE BASED ON GPS OBSERVATIONS FROM TWO NATIONAL GEODETIC SURVEY C.O.R.S. REFERENCE STATIONS: 1) PLO3, ELEVATION = 44.68' AND 2) MONP, ELEVATION = 6152.81' WITH GEOID99 CORRECTIONS APPLIED.

**SITE TEMPORARY BENCHMARK:**  
BENCHMARK IS LOCATED EAST OF LEASE AREA. ELEVATION = 207.13'. AS SHOWN HEREON.

**SITE DATA**

**FEMA FLOOD ZONE DESIGNATION:** National Flood Insurance Program: County: San Diego Effective Date: 6/19/1997  
Panel: 1876 Community-Panel Number: 06073C1876-F  
The Flood Zone Designation for this site is: ZONE - X

**PROPERTY LEGAL DESCRIPTION**

**VICINITY MAP**

**FEMA FLOOD ZONE INFORMATION**

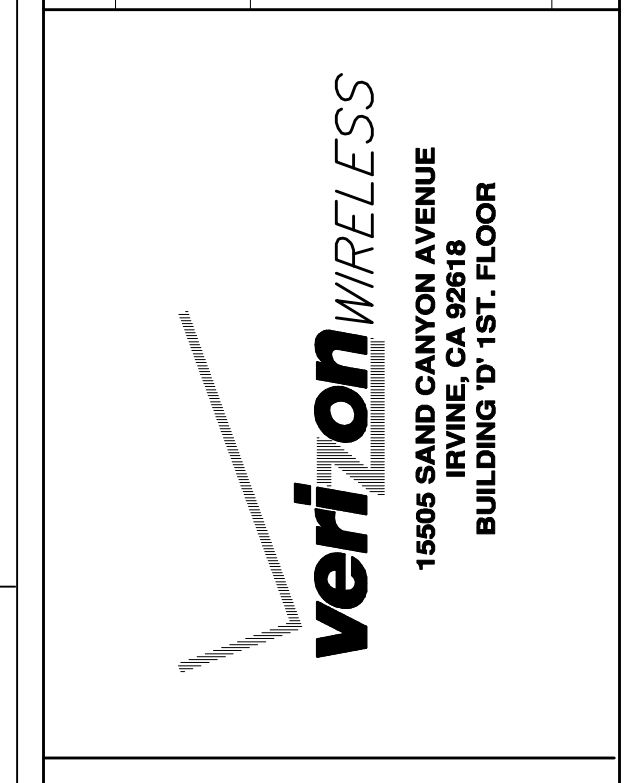
**LEGEND**

**PROPRIETARY INFORMATION**  
THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CINGULAR WIRELESS IS STRICTLY PROHIBITED.

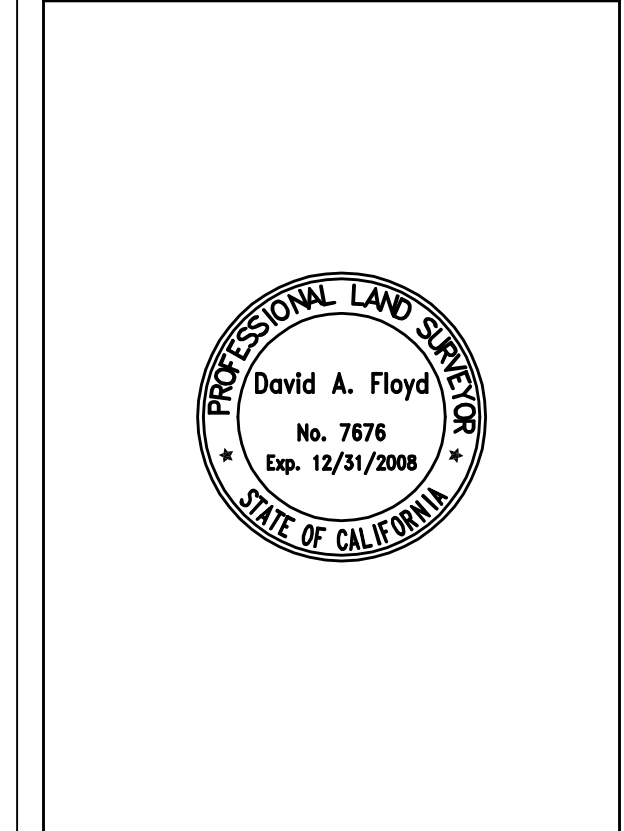
DATE: 8/11/2008  
SURVEYOR: DAVID A. FLOYD  
DRAWN BY: DAF  
CHECK BY: DAF

**REVISIONS**

REV	DATE	DESCRIPTION	BY
1.	8/11/08	FIRST SUBMITTAL	daf
2.	9/09/08	TITLE REVIEW	daf



**FLOYD SURVEYING, INC.**  
138 GURNEE RD  
NEWARK, NY 14513  
OFFICE/FAX (315) 331-2612  
EMAIL: fs@floydsurveying.com



SITE NAME: NIMITZ

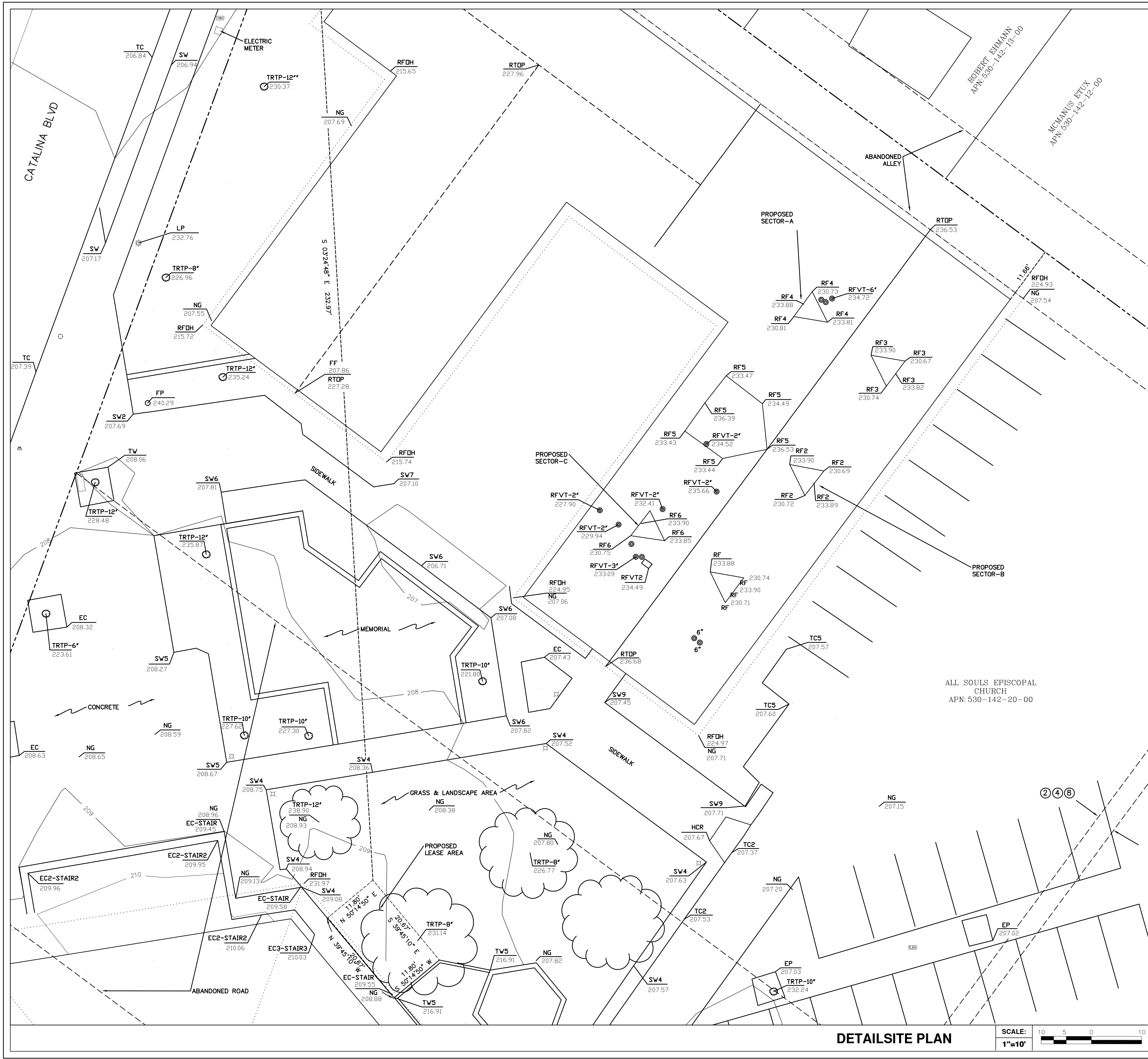
SITE NUMBER:

SITE LOCATION: 1475 CATALINA BLVD, SAN DIEGO, CA 92107

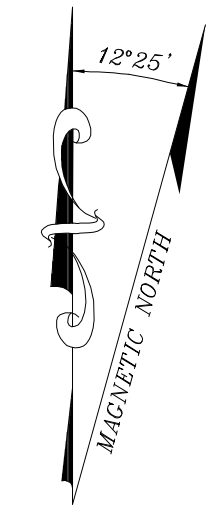
TITLE: SITE SURVEY

SHEET NUMBER: C-1





**DETAILS SITE PLAN**



**ADD. LEGEND**

EC	EDGE OF CONCRETE
ELTR	ELECTRICAL TRANSFORMER
FF	FINISH FLOOR
FL	FLOWLINE CURB & GUTTER
FP	FLAG POLE TOP
LIP	LIP OF GUTTER
LP	LIGHT POLE TOP
NG	SPOT ELEVATION
RFOH	ROOF FLOOR
RFVT	ROOF OVERHANG
RTOP	ROOF VENT
SDINL	STORM DRAIN INLET
SW	SIDEWALK
TC	TOP OF CURB
TRTP	TREE TOP
TW	TOP OF WALL
---	BOUNDARY LINE
---	MISC. PROPERTY LINE
---	MISC. TIE LINE
---	RIGHT-OF-WAY LINE
---	EASEMENT LINE
x-x-x-x	FENCE LINE

- 1) This is not a boundary survey. This is a specialized topographic map. The property lines and easements shown hereon are from record information as noted hereon. Floyd Surveying, Inc. translated the topographic survey to record information using the two found monuments shown hereon. No title research was performed by Floyd Surveying, Inc.
- 2) Any changes made to the information on this plan, without the written consent of Floyd Surveying, Inc. relieves Floyd Surveying, Inc. of any and all liability.
- 3) These drawings & specifications are the property & copyright of Floyd Surveying, Inc. & shall not be used on any other work except by agreement with the Surveyor. Written dimensions shall take preference over scaled & shall be verified on the job site. Any discrepancy shall be brought to the notice of the Surveyor prior to commencement of any work.
- 4) Field survey completed on AUGUST 7, 2008.

AC	AIR CONDITIONER	PM	PARCEL MAP
ASPH	ASPHALT	P	PARKING METER
BLDG	BUILDING	PP	POWER POLE
B	BOLLARD	ROS	RECORD OF SURVEY
C	CONCRETE	R	ROOF DRAIN
CP	CONTROL POINT	RO	ROOF OUTLET
D	DOOR	RTOP	ROOF TOP
EB	ELECTRIC BOX	R	ROOF VENT
F	FENCE	S	SANITARY SEWER MANHOLE
FH	FIRE HYDRANT	SC	SEWER CLEAN OUT
FM	FOUND MONUMENT	SP	SIGN POST
GM	GAS METER	SE	SPOT ELEVATION
GV	GAS VALVE	S	SPRINKLER
GP	GPS POINT	SD	STORM DRAIN MANHOLE
GR	GUARD RAIL	TB	TELEPHONE BOX
GA	GUY ANCHOR	TM	TELEPHONE MANHOLE
H	HEATER	TP	TELEPHONE PEDISTAL
I	INLET	TBE	TEMPORARY BENCHMARK
IB	IRRIGATION BOX	TE	TITLE REPORT EXCEPTION
IV	IRRIGATION VALVE	TC	TOP OF CURB
LB	LIGHT BUILDING	TSC	TRAFFIC SIGNAL BOX
LG	LIGHT GROUND	TP	TRAFFIC SIGNAL POLE
LS	LIGHT STREET	T	TREE
M	MEASURED DISTANCE	UP	UTILITY POLE
MW	MONITORING WELL	W	WATER METER

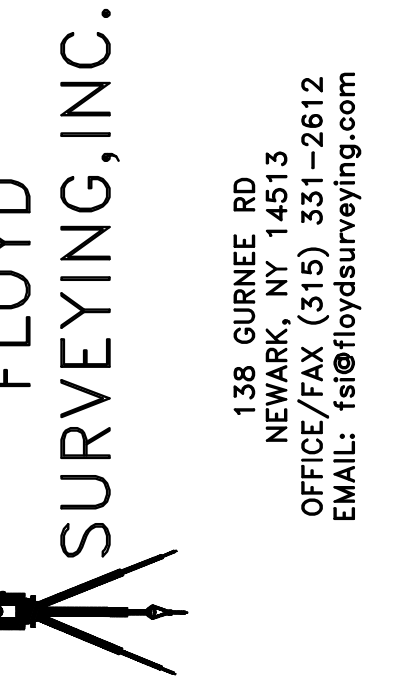
**LEGEND**

**PROPRIETARY INFORMATION**  
THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CINGULAR WIRELESS IS STRICTLY PROHIBITED.

DATE: 8/11/2008  
SURVEYOR: DAVID A. FLOYD  
DRAWN BY: DAF  
CHECK BY: DAF

**REVISIONS**

REV	DATE	DESCRIPTION	BY
1.	8/11/08	FIRST SUBMITTAL	daf
2.	9/09/08	TITLE REVIEW	daf



SITE NAME: NIMITZ  
SITE NUMBER:  
SITE LOCATION: 1475 CATALINA BLVD, SAN DIEGO, CA 92107  
TITLE: SITE SURVEY  
SHEET NUMBER: C-2

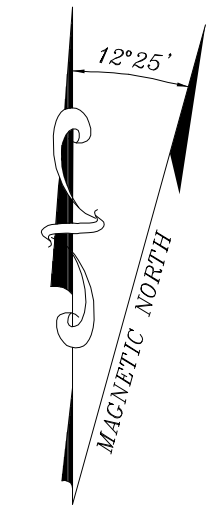
PARCEL 1: (Lease Parcel Area)

BEING A PORTION OF LOT 196 OF THE PUEBLO LANDS OF SAN DIEGO, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF MADE BY JAMES PASCOE IN 1870, A COPY OF WHICH SAID MAP WAS FILED IN THE OFFICE OF THE RECORDER OF SAID COUNTY, NOVEMBER 14, 1921 AND IS KNOWN AS MISCELLANEOUS MAP NO. 36, DESCRIBED AS FOLLOWS:

COMMENCING AT A LEAD AND TACK FOUND ON A 5 FOOT WESTERLY EXTENSION OF THE CENTERLINE OF THE ABANDONED ALLEY OF BLOCK 49 OF POINT LOMA HEIGHTS, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 1106, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, DECEMBER 30, 1907 FROM THE CURRENT RIGHT OF WAY OF CATALINA BOULEVARD, SAID CATALINA BOULEVARD HAVING A BEARING OF SOUTH 20°11'39" WEST, WITH ALL BEARINGS HEREIN RELATIVE THERETO; THENCE, SOUTH 3°24'48" EAST, A DISTANCE OF 232.97 FEET TO THE NORTHWEST CORNER OF THE LEASE PARCEL AREA (LPA), SAID POINT BEING THE POINT OF BEGINNING; THENCE, THE FOLLOWING FOUR (4) COURSES:

- 1) SOUTH 39°45'10" EAST, A DISTANCE OF 20.67 FEET; THENCE,
- 2) SOUTH 50°14'50" WEST, A DISTANCE OF 11.80 FEET; THENCE,
- 3) NORTH 39°45'10" WEST, A DISTANCE OF 20.67 FEET; THENCE,
- 4) NORTH 50°14'50" EAST, A DISTANCE OF 11.80 FEET TO THE POINT OF BEGINNING.

CONTAINING 244 SQUARE FEET, MORE OR LESS.



ADD. LEGEND

EC	EDGE OF CONCRETE
ELTR	ELECTRICAL TRANSFORMER
FF	FINISH FLOOR
FL	FLOWLINE CURB & GUTTER
FP	FLAG POLE TOP
LIP	LIP OF GUTTER
LP	LIGHT POLE TOP
NG	SPOT ELEVATION
RFOH	ROOF FLOOR
RFVT	ROOF OVERHANG
RTOP	ROOF VENT
SDINL	STORM DRAIN INLET
SW	SIDEWALK
TC	TOP OF CURB
TRTP	TREE TOP
TW	TOP OF WALL
---	BOUNDARY LINE
---	MISC. PROPERTY LINE
---	MISC. TIE LINE
---	RIGHT-OF-WAY LINE
---	EASEMENT LINE
- x - x - x -	FENCE LINE

1) This is not a boundary survey. This is a specialized topographic map. The property lines and easements shown hereon are from record information as noted hereon. Floyd Surveying, Inc. translated the topographic survey to record information using the two found monuments shown hereon. No title research was performed by Floyd Surveying, Inc.

2) Any changes made to the information on this plan, without the written consent of Floyd Surveying, Inc. relieves Floyd Surveying, Inc. of any and all liability.

3) These drawings & specifications are the property & copyright of Floyd Surveying, Inc. & shall not be used on any other work except by agreement with the Surveyor. Written dimensions shall take preference over scaled & shall be verified on the job site. Any discrepancy shall be brought to the notice of the Surveyor prior to commencement of any work.

4) Field survey completed on AUGUST 7, 2008.

AC	AIR CONDITIONER	PM	PARCEL MAP
	ASPHALT		PARKING METER
BC	BOTTOM OF CURB		POWER POLE
BLDG	BUILDING	ROS	RECORD OF SURVEY
	BOLLARD		ROOF DRAIN
	CONCRETE		ROOF OUTLET
	CONTROL POINT	RTOP	ROOF TOP
	DOOR		ROOF VENT
	ELECTRIC BOX		SANITARY SEWER MANHOLE
- x - x -	FENCE		SEWER CLEAN OUT
	FIRE HYDRANT		SIGN POST
	FOUND MONUMENT		SPOT ELEVATION
	GAS METER		SPRINKLER
	GAS VALVE		STORM DRAIN MANHOLE
	GPS POINT		TELEPHONE BOX
	GUARD RAIL		TELEPHONE MANHOLE
	GUY ANCHOR		TELEPHONE PEDISTAL
HETR	HEATER		TEMPORARY BENCHMARK
	INLET		TITLE REPORT EXCEPTION
	IRRIGATION BOX	TC	TOP OF CURB
	IRRIGATION VALVE		TRAFFIC SIGNAL BOX
	LIGHT BUILDING		TRAFFIC SIGNAL POLE
	LIGHT GROUND		TREE
	LIGHT STREET		UTILITY POLE
( )	MEASURED DISTANCE		WATER METER
	MONITORING WELL		

PROPRIETARY INFORMATION  
THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CINGULAR WIRELESS IS STRICTLY PROHIBITED.

DATE: 8/11/2008

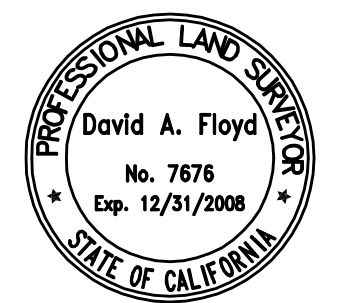
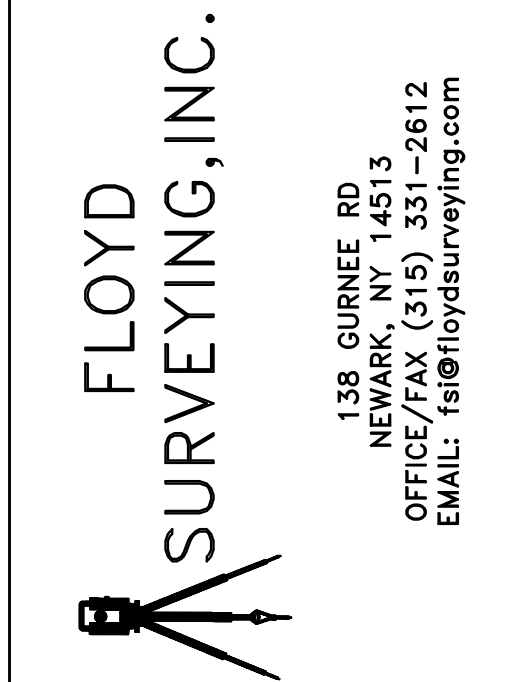
SURVEYOR: DAVID A. FLOYD

DRAWN BY: DAF

CHECK BY: DAF

REVISIONS

REV	DATE	DESCRIPTION	BY
1.	8/11/08	FIRST SUBMITTAL	daf
2.	9/09/08	TITLE REVIEW	daf



SITE NAME:  
NIMITZ

SITE NUMBER:

SITE LOCATION:  
1475 CATALINA BLVD  
SAN DIEGO, CA 92107

TITLE:  
SITE SURVEY

SHEET NUMBER:  
C-3

ADDITIONAL INFORMATION

LEGEND

# **Attachment 2**

## **Antenna Specifications**

# WPA-80063/4CF \_\_\_\_\_

When ordering, replace “\_\_\_” with connector type.

## Mechanical specifications

Length	1205 mm	47.4 in
Width	300 mm	11.8 in
Depth	100 mm	3.9 in
4) Weight	5.4 kg	12.0 lbs
Wind Area		
Front	0.361 m <sup>2</sup>	3.88 ft <sup>2</sup>
Side	0.120 m <sup>2</sup>	1.28 ft <sup>2</sup>
Rated Wind Velocity (Safety factor 2.0)		
	>431 km/hr	>267 mph
Wind load @ 100 mph (161 km/hr)		
Front	516 N	116 lbs
Side	194 N	43.7 lbs

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiberglass radome.

## Mounting & Downtilting:

Mounting brackets attach to a pipe diameter of Ø50-127 mm (2.0-5.0 in).

Mounting bracket kit #36210002

Downtilt bracket kit #36114003

## Electrical specifications

Frequency Range	806-960 MHz
Impedance	50Ω
3) Connector	NE, E-DIN
1) VSWR	≤1.4:1
Polarization	Vertical
1) Gain	13 dBd
2) Power Rating	500 W
1) Half Power Angle	
H-Plane	63°
E-Plane	16°
1) Electrical Downtilt	0°
1) Null Fill	10%
Lightning Protection	Direct Ground

Patented Dipole Design: U.S. Patent No. 6,229,496 B1

<sup>1)</sup> Typical Values

<sup>2)</sup> Power Rating limited by connector only.

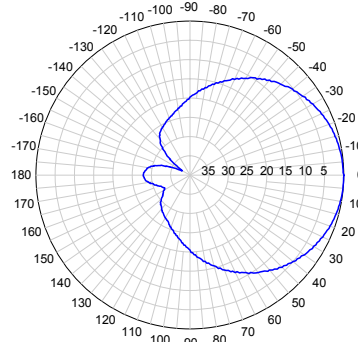
<sup>3)</sup> NE indicates an elongated N Connector.

E-DIN indicates an elongated DIN Connector.

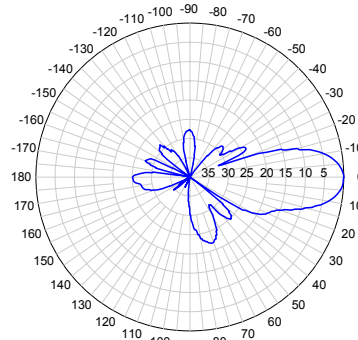
<sup>4)</sup> The antenna weight listed above does not include the bracket weight.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

## Radiation-pattern<sup>1)</sup>



Horizontal



Vertical



**Amphenol Antel's Exclusive 3T (True Transmission Line Technology) Antenna Design:**

- Watercut brass feedline assembly for consistent performance.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad bandwidth and superior performance.
- Air as insulation for virtually no internal signal loss.

*Every Amphenol Antel antenna is under a five-year limited warranty for repair or replacement.*

**Antenna available with center-fed connector only.**

## Featuring upper side lobe suppression.

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the Front-to-Back Ratio.

CF Denotes a Center-Fed Connector.

**806-960 MHz**



Revision Date: 6/3/04

# BXA-70063/4CF \_\_\_

When ordering replace "\_\_\_" with connector type.

## Mechanical specifications

Length	1205 mm	47.4 in
Width	285 mm	11.2 in
Depth	126 mm	5.0 in
Depth with z-bracket	166 mm	6.5 in
4) Weight	4.5 kg	9.9 lbs
Wind Area		
Fore/Aft	0.36 m <sup>2</sup>	3.9 ft <sup>2</sup>
Side	0.15 m <sup>2</sup>	1.7 ft <sup>2</sup>
Rated Wind Velocity (Safety factor 2.0)	>653 km/hr	>406 mph
Wind Load @ 100 mph (161 km/hr)		
Fore/Aft	522 N	117 lbs
Side	244 N	54.5 lbs

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiberglass radome.

## Mounting and Downtilting

Mounting brackets attach to a pipe diameter of Ø50-160 mm (2.0-6.3 in).

Mounting bracket kit #36210002

Downtilt bracket kit #36114003

## Electrical specifications

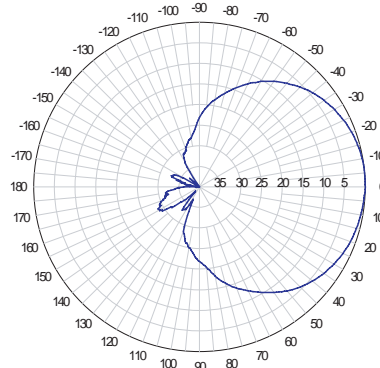
Frequency Range	696-900 MHz
Impedance	50Ω
3) Connector(s)	NE or E-DIN 2 ports / center
1) VSWR	≤ 1.4:1
Polarization	Slant ± 45°
1) Isolation Between Ports	< -30 dB
1) Gain	13 dBd
2) Power Rating	500 W
1) Half Power Angle	
H-Plane	63°
E-Plane	15°
1) Electrical Downtilt	0°
1) Null Fill	5%
Lightning Protection	Direct Ground

Patented Dipole Design: U.S. Patent No. 6,608,600 B2

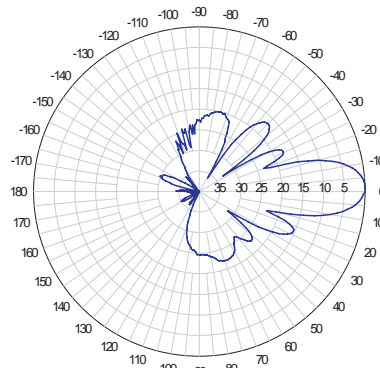
- 1) Typical values.
- 2) Power rating limited by connector only.
- 3) NE indicates an elongated N connector.  
E-DIN indicates an elongated DIN connector.
- 4) The antenna weight listed above does not include the bracket weight.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

## Radiation pattern<sup>1)</sup>



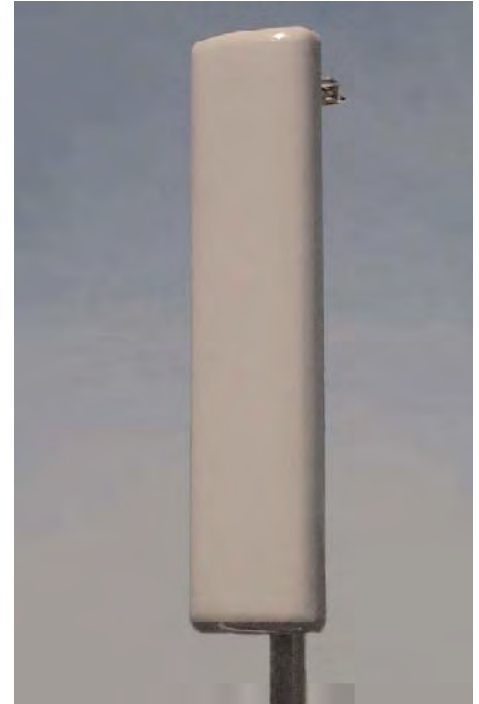
Horizontal



Vertical

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the Front-to-Back ratio.



**Amphenol Antel's Exclusive 3T (True Transmission Line Technology) Antenna Design:**

- Watercut brass feedline assembly for consistent performance.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad bandwidth and superior performance.
- Air as insulation for virtually no internal signal loss.

*This Amphenol Antel antenna is under a five-year limited warranty for repair or replacement.*

**Antenna available with center-fed connectors only.**

**CF Denotes a Center-Fed Connector.**

**696-900 MHz**



Revision Date: 2/12/08



# BXA-185063/8CF \_\_\_

When ordering replace "\_\_\_" with connector type.

## Mechanical specifications

Length	1238 mm	48.8 in
Width	154 mm	6.1 in
Depth	80 mm	3.2 in
Depth with t-bracket	108 mm	4.3 in
4) Weight	4.5 kg	10.0 lbs
Wind Area		
Fore/Aft	0.19 m <sup>2</sup>	2.1 ft <sup>2</sup>
Side	0.10 m <sup>2</sup>	1.1 ft <sup>2</sup>
Rated Wind Velocity (Safety factor 2.0)	>322 km/hr	>200 mph
Wind Load @ 100 mph (161 km/hr)		
Fore/Aft	288 N	65 lbs
Side	170 N	38 lbs

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiberglass radome.

## Mounting and Downtilting

Mounting brackets attach to a pipe diameter of Ø50-102 mm (2.0-4.0 in).

Mounting bracket kit #26799997

Downtilt bracket kit #26799999

The downtilt bracket kit includes the mounting bracket kit.

## Electrical specifications

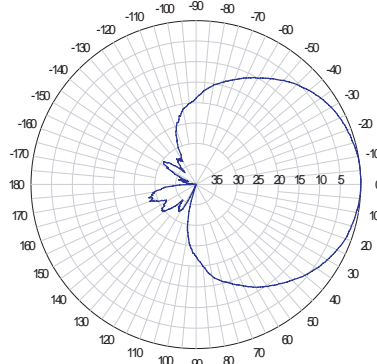
Frequency Range	1850-1990 MHz
Impedance	50Ω
3) Connector(s)	NE or E-DIN 2 ports / center or bottom
1) VSWR	≤ 1.4:1
Polarization	Slant ± 45°
1) Isolation Between Ports	< -30 dB
1) Gain	18.5 dBi
2) Power Rating	250 W
1) Half Power Angle	
H-Plane	63°
E-Plane	7°
1) Electrical Downtilt	0°
1) Null Fill	5%
Lightning Protection	Direct Ground

Patented Dipole Design: U.S. Patent No. 6,597,324 B2

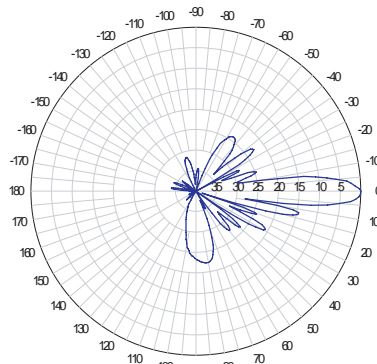
- 1) Typical values.
- 2) Power rating limited by connector only.
- 3) NE indicates an elongated N connector.  
E-DIN indicates an elongated DIN connector.
- 4) The antenna weight listed above does not include the bracket weight.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

## Radiation pattern<sup>1)</sup>



Horizontal



Vertical

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the Front-to-Back ratio.



**Amphenol Antel's Exclusive 3T (True Transmission Line Technology) Antenna Design:**

- Watercut brass feedline assembly for consistent performance.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad bandwidth and superior performance.
- Air as insulation for virtually no internal signal loss.

*This Amphenol Antel antenna is under a five-year limited warranty for repair or replacement.*

**Antenna can be ordered with center-fed or bottom-fed connectors.**

**Center-fed: BXA-185063/8CF + (NE or E-DIN)  
Bottom-fed: BXA-185063/8BF + (NE or E-DIN)**

**CF Denotes a Center-Fed Connector.**

**1850-1990 MHz**

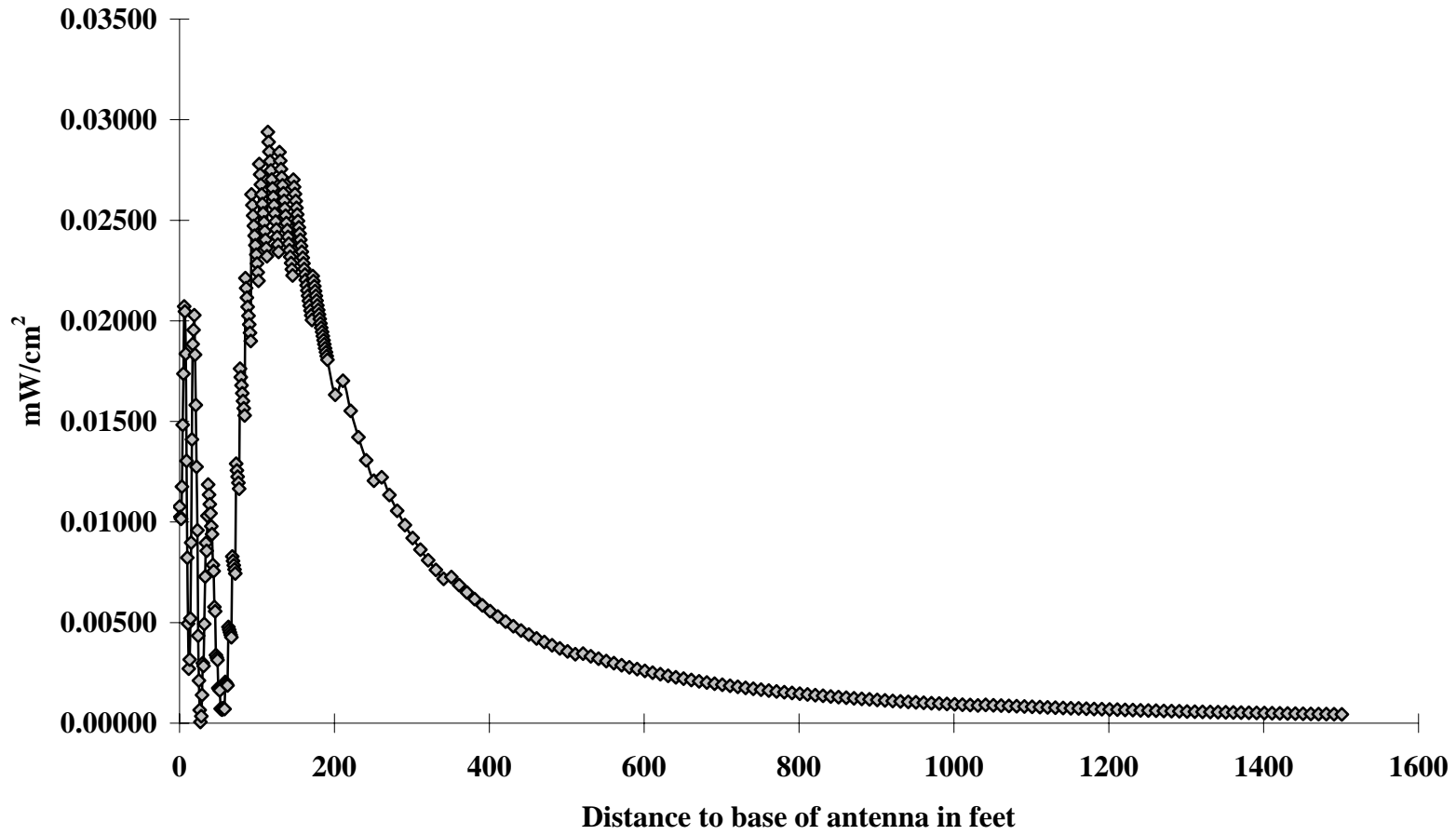




# **Appendix A-1**

**Antel Model WPA-80063/4CF  
Exposure Calculation 6.0 ft AGL  
Antenna Center 24 ft  
ERP 1,750 Watts (Cellular-CDMA)**

**RF exposure levels AGL= 6 feet  
Antenna Center 24.0 feet AGL**



Ant AGL 18 Max gain: 13 Max exposure: 0.02938988 mW/cm<sup>2</sup>

Max ERP: 1750 Ant type: Antel WPA-80063/4CF Feet from site: 114

### RF Exposure Level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
----------------------	------------------	-----------------	--------------------	--------------------	------------------	-----------------------------	-----------------------

0	90.000	-11.5	-24.5	548.64	6209.2343	0.01077	1.85985
1	86.820	-11.7	-24.7	549.49	5929.7727	0.01025	1.77068
2	83.660	-11.7	-24.7	552.02	5929.7727	0.01016	1.75449
3	80.538	-11	-24	556.21	6966.8755	0.01176	2.03039
4	77.471	-9.9	-22.9	562.02	8975.0742	0.01483	2.56180
5	74.476	-9.1	-22.1	569.41	10790.4125	0.01737	3.00053
6	71.565	-8.2	-21.2	578.32	13275.1076	0.02072	3.57866
7	68.749	-8.1	-21.1	588.67	13584.3245	0.02046	3.53439
8	66.038	-8.4	-21.4	600.39	12677.6293	0.01836	3.17097
9	63.435	-9.7	-22.7	613.40	9398.0564	0.01304	2.25200
10	60.945	-11.5	-24.5	627.62	6209.2343	0.00823	1.42121
11	58.570	-13.5	-26.5	642.98	3917.7620	0.00495	0.85440
12	56.310	-15.9	-28.9	659.38	2254.4367	0.00271	0.46750
13	54.162	-15	-28	676.77	2773.5631	0.00316	0.54598
14	52.125	-12.6	-25.6	695.05	4819.9002	0.00521	0.89954
15	50.194	-10	-23	714.17	8770.7766	0.00898	1.55043
16	48.366	-7.8	-20.8	734.06	14555.8660	0.01410	2.43554
17	46.637	-6.3	-19.3	754.65	20560.7072	0.01885	3.25509
18	45.000	-5.9	-18.9	775.89	22544.3672	0.01955	3.37636
19	43.452	-5.5	-18.5	797.74	24719.4070	0.02028	3.50214
20	41.987	-5.7	-18.7	820.13	23606.8504	0.01832	3.16435
21	40.601	-6.1	-19.1	843.04	21529.7035	0.01581	2.73125
22	39.289	-6.8	-19.8	866.40	18324.7496	0.01274	2.20096
23	38.047	-7.8	-20.8	890.20	14555.8660	0.00959	1.65605
24	36.870	-11	-24	914.40	6966.8755	0.00435	0.75124
25	35.754	-13.9	-26.9	938.96	3573.0414	0.00212	0.36539
26	34.695	-18.8	-31.8	963.86	1156.2135	0.00065	0.11221
27	33.690	-29.2	-42.2	989.07	105.4479	0.00006	0.00972
28	32.735	-21.1	-34.1	1014.58	680.8290	0.00035	0.05963
29	31.827	-14.8	-27.8	1040.35	2904.2771	0.00140	0.24193
30	30.964	-11.3	-24.3	1066.36	6501.8665	0.00298	0.51552
31	30.141	-11.3	-24.3	1092.61	6501.8665	0.00284	0.49104

Ant AGL 18 Max gain: 13 Max exposure: 0.02938988 mW/cm<sup>2</sup>

Max ERP: 1750 Ant type: Antel WPA-80063/4CF Feet from site: 114

### RF Exposure Level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
32	29.358	-8.7	-21.7	1119.08	11831.4521	0.00493	0.85179
33	28.610	-6.8	-19.8	1145.74	18324.7496	0.00729	1.25858
34	27.897	-5.7	-18.7	1172.59	23606.8504	0.00896	1.54797
35	27.216	-5.7	-18.7	1199.61	23606.8504	0.00856	1.47901
36	26.565	-4.7	-17.7	1226.80	29719.2639	0.01031	1.78036
37	25.942	-3.9	-16.9	1254.13	35730.4140	0.01186	2.04817
38	25.346	-3.9	-16.9	1281.61	35730.4140	0.01136	1.96129
39	24.775	-3.9	-16.9	1309.22	35730.4140	0.01088	1.87943
40	24.228	-3.9	-16.9	1336.96	35730.4140	0.01044	1.80226
41	23.703	-4	-17	1364.81	34917.0905	0.00979	1.69009
42	23.199	-4	-17	1392.77	34917.0905	0.00940	1.62290
43	22.714	-4.6	-17.6	1420.84	30411.5145	0.00786	1.35820
44	22.249	-4.6	-17.6	1449.00	30411.5145	0.00756	1.30592
45	21.801	-5.6	-18.6	1477.26	24156.7246	0.00578	0.99802
46	21.371	-5.6	-18.6	1505.60	24156.7246	0.00556	0.96080
47	20.956	-7.6	-20.6	1534.03	15241.8628	0.00338	0.58397
48	20.556	-7.6	-20.6	1562.53	15241.8628	0.00326	0.56286
49	20.171	-7.6	-20.6	1591.10	15241.8628	0.00314	0.54282
50	19.799	-10	-23	1619.75	8770.7766	0.00175	0.30141
51	19.440	-10	-23	1648.46	8770.7766	0.00168	0.29100
52	19.093	-10	-23	1677.23	8770.7766	0.00163	0.28110
53	18.759	-13.4	-26.4	1706.06	4009.0184	0.00072	0.12418
54	18.435	-13.4	-26.4	1734.95	4009.0184	0.00070	0.12008
55	18.122	-13.4	-26.4	1763.89	4009.0184	0.00067	0.11617
56	17.819	-12.8	-25.8	1792.89	4602.9690	0.00075	0.12911
57	17.526	-12.8	-25.8	1821.93	4602.9690	0.00072	0.12502
58	17.241	-12.8	-25.8	1851.02	4602.9690	0.00070	0.12112
59	16.966	-8	-21	1880.15	13900.7441	0.00205	0.35454
60	16.699	-8	-21	1909.32	13900.7441	0.00199	0.34379
61	16.440	-8	-21	1938.54	13900.7441	0.00193	0.33351
62	16.189	-8	-21	1967.79	13900.7441	0.00187	0.32367
63	15.945	-3.8	-16.8	1997.08	36562.6823	0.00479	0.82654
64	15.709	-3.8	-16.8	2026.40	36562.6823	0.00465	0.80279
65	15.479	-3.8	-16.8	2055.76	36562.6823	0.00452	0.78002
66	15.255	-3.8	-16.8	2085.15	36562.6823	0.00439	0.75819

Ant AGL 18 Max gain: 13 Max exposure: 0.02938988 mW/cm<sup>2</sup>

Max ERP: 1750 Ant type: Antel WPA-80063/4CF Feet from site: 114

### RF Exposure Level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
67	15.038	-3.8	-16.8	2114.57	36562.6823	0.00427	0.73724
68	14.826	-0.8	-13.8	2144.02	72952.1421	0.00828	1.43085
69	14.621	-0.8	-13.8	2173.50	72952.1421	0.00806	1.39230
70	14.421	-0.8	-13.8	2203.01	72952.1421	0.00785	1.35525
71	14.226	-0.8	-13.8	2232.54	72952.1421	0.00764	1.31963
72	14.036	-0.8	-13.8	2262.10	72952.1421	0.00744	1.28537
73	13.851	1.7	-11.3	2291.68	129729.2922	0.01290	2.22712
74	13.671	1.7	-11.3	2321.29	129729.2922	0.01257	2.17068
75	13.496	1.7	-11.3	2350.92	129729.2922	0.01225	2.11631
76	13.325	1.7	-11.3	2380.56	129729.2922	0.01195	2.06392
77	13.158	1.7	-11.3	2410.23	129729.2922	0.01166	2.01342
78	12.995	3.6	-9.4	2439.92	200926.8838	0.01762	3.04299
79	12.836	3.6	-9.4	2469.63	200926.8838	0.01720	2.97022
80	12.680	3.6	-9.4	2499.36	200926.8838	0.01679	2.89999
81	12.529	3.6	-9.4	2529.11	200926.8838	0.01640	2.83217
82	12.381	3.6	-9.4	2558.87	200926.8838	0.01602	2.76667
83	12.236	3.6	-9.4	2588.65	200926.8838	0.01565	2.70338
84	12.095	3.6	-9.4	2618.44	200926.8838	0.01530	2.64221
85	11.957	5.3	-7.7	2648.25	297192.6392	0.02212	3.82062
86	11.821	5.3	-7.7	2678.08	297192.6392	0.02163	3.73599
87	11.689	5.3	-7.7	2707.92	297192.6392	0.02116	3.65411
88	11.560	5.3	-7.7	2737.78	297192.6392	0.02070	3.57485
89	11.434	5.3	-7.7	2767.64	297192.6392	0.02025	3.49811
90	11.310	5.3	-7.7	2797.53	297192.6392	0.01982	3.42377
91	11.189	5.3	-7.7	2827.42	297192.6392	0.01941	3.35176
92	11.070	5.3	-7.7	2857.33	297192.6392	0.01900	3.28196
93	10.954	6.8	-6.2	2887.25	419795.7608	0.02629	4.54031
94	10.840	6.8	-6.2	2917.18	419795.7608	0.02575	4.44762
95	10.729	6.8	-6.2	2947.12	419795.7608	0.02523	4.35771
96	10.620	6.8	-6.2	2977.07	419795.7608	0.02473	4.27046
97	10.513	6.8	-6.2	3007.03	419795.7608	0.02424	4.18578
98	10.408	6.8	-6.2	3037.01	419795.7608	0.02376	4.10357
99	10.305	6.8	-6.2	3066.99	419795.7608	0.02330	4.02373
100	10.204	6.8	-6.2	3096.98	419795.7608	0.02285	3.94617
101	10.105	6.8	-6.2	3126.99	419795.7608	0.02241	3.87081
102	10.008	6.8	-6.2	3157.00	419795.7608	0.02199	3.79756
103	9.913	7.9	-5.1	3187.02	540801.7007	0.02779	4.80047

Ant AGL 18 Max gain: 13 Max exposure: 0.02938988 mW/cm<sup>2</sup>

Max ERP: 1750 Ant type: Antel WPA-80063/4CF Feet from site: 114

### RF Exposure Level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
104	9.819	7.9	-5.1	3217.05	540801.7007	0.02728	4.71127
105	9.728	7.9	-5.1	3247.09	540801.7007	0.02678	4.62451
106	9.638	7.9	-5.1	3277.13	540801.7007	0.02629	4.54010
107	9.549	7.9	-5.1	3307.19	540801.7007	0.02581	4.45796
108	9.462	7.9	-5.1	3337.25	540801.7007	0.02535	4.37801
109	9.377	7.9	-5.1	3367.32	540801.7007	0.02490	4.30017
110	9.293	7.9	-5.1	3397.39	540801.7007	0.02446	4.22437
111	9.211	7.9	-5.1	3427.48	540801.7007	0.02403	4.15054
112	9.130	7.9	-5.1	3457.57	540801.7007	0.02362	4.07861
113	9.051	7.9	-5.1	3487.66	540801.7007	0.02321	4.00852
114	8.973	9	-4	3517.77	696687.5485	0.02939	5.07597
115	8.896	9	-4	3547.88	696687.5485	0.02889	4.99018
116	8.820	9	-4	3577.99	696687.5485	0.02841	4.90653
117	8.746	9	-4	3608.12	696687.5485	0.02794	4.82495
118	8.673	9	-4	3638.24	696687.5485	0.02748	4.74537
119	8.601	9	-4	3668.38	696687.5485	0.02703	4.66772
120	8.531	9	-4	3698.52	696687.5485	0.02659	4.59196
121	8.461	9	-4	3728.66	696687.5485	0.02616	4.51801
122	8.393	9	-4	3758.82	696687.5485	0.02574	4.44582
123	8.326	9	-4	3788.97	696687.5485	0.02533	4.37533
124	8.259	9	-4	3819.13	696687.5485	0.02493	4.30649
125	8.194	9	-4	3849.30	696687.5485	0.02455	4.23926
126	8.130	9	-4	3879.47	696687.5485	0.02417	4.17358
127	8.067	9	-4	3909.65	696687.5485	0.02379	4.10940
128	8.005	9	-4	3939.83	696687.5485	0.02343	4.04668
129	7.943	9.9	-3.1	3970.01	857112.9339	0.02839	4.90309
130	7.883	9.9	-3.1	4000.20	857112.9339	0.02796	4.82936
131	7.824	9.9	-3.1	4030.40	857112.9339	0.02754	4.75727
132	7.765	9.9	-3.1	4060.59	857112.9339	0.02714	4.68678
133	7.707	9.9	-3.1	4090.80	857112.9339	0.02674	4.61783
134	7.651	9.9	-3.1	4121.00	857112.9339	0.02635	4.55038
135	7.595	9.9	-3.1	4151.21	857112.9339	0.02596	4.48439
136	7.539	9.9	-3.1	4181.43	857112.9339	0.02559	4.41981
137	7.485	9.9	-3.1	4211.65	857112.9339	0.02522	4.35662
138	7.431	9.9	-3.1	4241.87	857112.9339	0.02487	4.29476
139	7.379	9.9	-3.1	4272.10	857112.9339	0.02452	4.23420
140	7.326	9.9	-3.1	4302.33	857112.9339	0.02417	4.17491
141	7.275	9.9	-3.1	4332.56	857112.9339	0.02384	4.11685
142	7.224	9.9	-3.1	4362.79	857112.9339	0.02351	4.05998
143	7.174	9.9	-3.1	4393.03	857112.9339	0.02318	4.00428
144	7.125	9.9	-3.1	4423.28	857112.9339	0.02287	3.94971

Ant AGL 18 Max gain: 13 Max exposure: 0.02938988 mW/cm<sup>2</sup>

Max ERP: 1750 Ant type: Antel WPA-80063/4CF Feet from site: 114

### RF Exposure Level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
145	7.076	9.9	-3.1	4453.52	857112.9339	0.02256	3.89624
146	7.028	9.9	-3.1	4483.77	857112.9339	0.02226	3.84385
147	6.981	10.8	-2.2	4514.03	1054479.2756	0.02701	4.66579
148	6.934	10.8	-2.2	4544.28	1054479.2756	0.02666	4.60387
149	6.888	10.8	-2.2	4574.54	1054479.2756	0.02630	4.54317
150	6.843	10.8	-2.2	4604.80	1054479.2756	0.02596	4.48365
151	6.798	10.8	-2.2	4635.07	1054479.2756	0.02562	4.42529
152	6.754	10.8	-2.2	4665.33	1054479.2756	0.02529	4.36806
153	6.710	10.8	-2.2	4695.60	1054479.2756	0.02497	4.31192
154	6.667	10.8	-2.2	4725.87	1054479.2756	0.02465	4.25686
155	6.624	10.8	-2.2	4756.15	1054479.2756	0.02433	4.20284
156	6.582	10.8	-2.2	4786.43	1054479.2756	0.02403	4.14983
157	6.540	10.8	-2.2	4816.71	1054479.2756	0.02373	4.09782
158	6.499	10.8	-2.2	4846.99	1054479.2756	0.02343	4.04677
159	6.459	10.8	-2.2	4877.28	1054479.2756	0.02314	3.99667
160	6.419	10.8	-2.2	4907.56	1054479.2756	0.02286	3.94749
161	6.379	10.8	-2.2	4937.85	1054479.2756	0.02258	3.89921
162	6.340	10.8	-2.2	4968.15	1054479.2756	0.02230	3.85181
163	6.302	10.8	-2.2	4998.44	1054479.2756	0.02203	3.80526
164	6.263	10.8	-2.2	5028.74	1054479.2756	0.02177	3.75955
165	6.226	10.8	-2.2	5059.04	1054479.2756	0.02151	3.71465
166	6.189	10.8	-2.2	5089.34	1054479.2756	0.02125	3.67055
167	6.152	10.8	-2.2	5119.64	1054479.2756	0.02100	3.62722
168	6.116	10.8	-2.2	5149.95	1054479.2756	0.02076	3.58466
169	6.080	10.8	-2.2	5180.26	1054479.2756	0.02051	3.54284
170	6.044	10.8	-2.2	5210.56	1054479.2756	0.02028	3.50174
171	6.009	10.8	-2.2	5240.88	1054479.2756	0.02004	3.46135
172	5.974	11.3	-1.7	5271.19	1183145.2069	0.02223	3.83916
173	5.940	11.3	-1.7	5301.51	1183145.2069	0.02198	3.79538
174	5.906	11.3	-1.7	5331.82	1183145.2069	0.02173	3.75234
175	5.873	11.3	-1.7	5362.14	1183145.2069	0.02148	3.71003
176	5.839	11.3	-1.7	5392.46	1183145.2069	0.02124	3.66842
177	5.807	11.3	-1.7	5422.79	1183145.2069	0.02100	3.62751
178	5.774	11.3	-1.7	5453.11	1183145.2069	0.02077	3.58728
179	5.742	11.3	-1.7	5483.44	1183145.2069	0.02054	3.54771
180	5.711	11.3	-1.7	5513.76	1183145.2069	0.02032	3.50879
181	5.679	11.3	-1.7	5544.09	1183145.2069	0.02009	3.47050
182	5.648	11.3	-1.7	5574.42	1183145.2069	0.01988	3.43284
183	5.618	11.3	-1.7	5604.76	1183145.2069	0.01966	3.39578
184	5.587	11.3	-1.7	5635.09	1183145.2069	0.01945	3.35932
185	5.557	11.3	-1.7	5665.43	1183145.2069	0.01924	3.32344

Ant AGL 18 Max gain: 13 Max exposure: 0.02938988 mW/cm<sup>2</sup>

Max ERP: 1750 Ant type: Antel WPA-80063/4CF Feet from site: 114

### RF Exposure Level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
186	5.528	11.3	-1.7	5695.77	1183145.2069	0.01904	3.28813
187	5.498	11.3	-1.7	5726.10	1183145.2069	0.01884	3.25338
188	5.469	11.3	-1.7	5756.44	1183145.2069	0.01864	3.21918
189	5.440	11.3	-1.7	5786.79	1183145.2069	0.01844	3.18551
190	5.412	11.3	-1.7	5817.13	1183145.2069	0.01825	3.15236
191	5.384	11.3	-1.7	5847.47	1183145.2069	0.01806	3.11973
201	5.117	11.3	-1.7	6151.00	1183145.2069	0.01632	2.81944
211	4.876	11.9	-1.1	6454.64	1358432.4541	0.01702	2.93974
221	4.656	11.9	-1.1	6758.39	1358432.4541	0.01553	2.68144
231	4.456	11.9	-1.1	7062.22	1358432.4541	0.01422	2.45567
241	4.271	11.9	-1.1	7366.14	1358432.4541	0.01307	2.25722
251	4.102	11.9	-1.1	7670.13	1358432.4541	0.01205	2.08184
261	3.945	12.3	-0.7	7974.18	1489491.5669	0.01223	2.11194
271	3.800	12.3	-0.7	8278.28	1489491.5669	0.01135	1.95963
281	3.665	12.3	-0.7	8582.43	1489491.5669	0.01056	1.82319
291	3.540	12.3	-0.7	8886.63	1489491.5669	0.00985	1.70051
301	3.422	12.3	-0.7	9190.87	1489491.5669	0.00920	1.58979
311	3.312	12.3	-0.7	9495.14	1489491.5669	0.00862	1.48953
321	3.209	12.3	-0.7	9799.45	1489491.5669	0.00810	1.39846
331	3.113	12.3	-0.7	10103.79	1489491.5669	0.00762	1.31548
341	3.022	12.3	-0.7	10408.15	1489491.5669	0.00718	1.23967
351	2.936	12.6	-0.4	10712.54	1596018.9689	0.00726	1.25392
361	2.854	12.6	-0.4	11016.95	1596018.9689	0.00686	1.18558
371	2.778	12.6	-0.4	11321.38	1596018.9689	0.00650	1.12268
381	2.705	12.6	-0.4	11625.83	1596018.9689	0.00616	1.06465
391	2.636	12.6	-0.4	11930.30	1596018.9689	0.00585	1.01100
401	2.570	12.6	-0.4	12234.79	1596018.9689	0.00557	0.96130
411	2.508	12.6	-0.4	12539.29	1596018.9689	0.00530	0.91518
421	2.448	12.6	-0.4	12843.80	1596018.9689	0.00505	0.87230
431	2.391	12.6	-0.4	13148.33	1596018.9689	0.00482	0.83236
441	2.337	12.6	-0.4	13452.87	1596018.9689	0.00460	0.79510
451	2.286	12.6	-0.4	13757.42	1596018.9689	0.00440	0.76029
461	2.236	12.6	-0.4	14061.99	1596018.9689	0.00421	0.72771
471	2.189	12.6	-0.4	14366.56	1596018.9689	0.00404	0.69718
481	2.143	12.6	-0.4	14671.14	1596018.9689	0.00387	0.66854
491	2.100	12.6	-0.4	14975.73	1596018.9689	0.00371	0.64162
501	2.058	12.6	-0.4	15280.33	1596018.9689	0.00357	0.61629
511	2.017	12.6	-0.4	15584.94	1596018.9689	0.00343	0.59244
521	1.979	12.8	-0.2	15889.55	1671237.0255	0.00346	0.59680
531	1.941	12.8	-0.2	16194.18	1671237.0255	0.00333	0.57456
541	1.906	12.8	-0.2	16498.80	1671237.0255	0.00320	0.55354



Ant AGL 18 Max gain: 13 Max exposure: 0.02938988 mW/cm<sup>2</sup>

Max ERP: 1750 Ant type: Antel WPA-80063/4CF Feet from site: 114

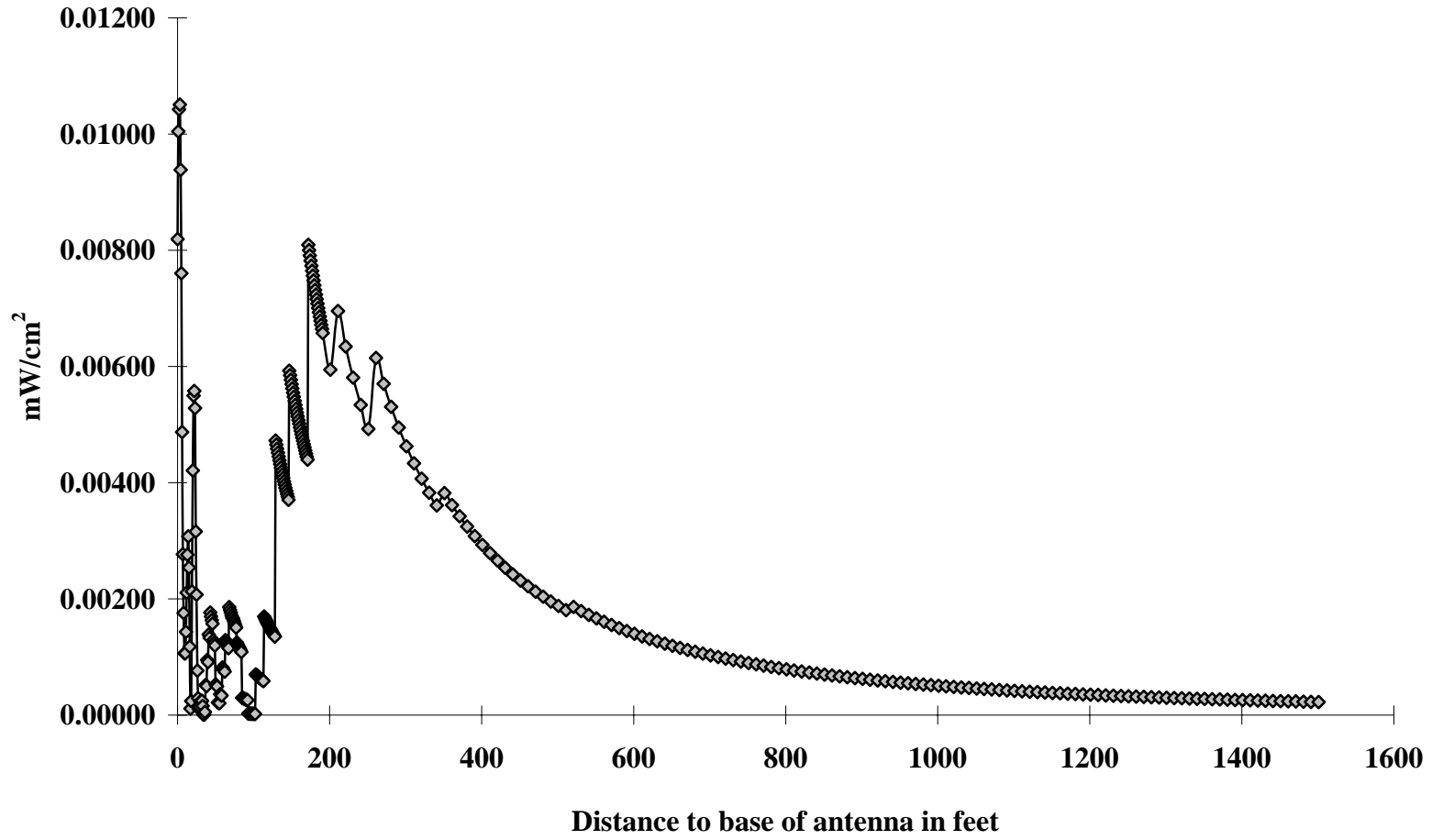
### RF Exposure Level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
551	1.871	12.8	-0.2	16803.44	1671237.0255	0.00309	0.53365
561	1.838	12.8	-0.2	17108.08	1671237.0255	0.00298	0.51481
571	1.806	12.8	-0.2	17412.73	1671237.0255	0.00288	0.49696
581	1.775	12.8	-0.2	17717.38	1671237.0255	0.00278	0.48001
591	1.745	12.8	-0.2	18022.03	1671237.0255	0.00269	0.46392
601	1.716	12.8	-0.2	18326.69	1671237.0255	0.00260	0.44863
611	1.687	12.8	-0.2	18631.36	1671237.0255	0.00251	0.43407
621	1.660	12.8	-0.2	18936.03	1671237.0255	0.00243	0.42022
631	1.634	12.8	-0.2	19240.70	1671237.0255	0.00236	0.40702
641	1.609	12.8	-0.2	19545.38	1671237.0255	0.00228	0.39443
651	1.584	12.8	-0.2	19850.06	1671237.0255	0.00221	0.38241
661	1.560	12.8	-0.2	20154.75	1671237.0255	0.00215	0.37094
671	1.537	12.8	-0.2	20459.44	1671237.0255	0.00208	0.35997
681	1.514	12.8	-0.2	20764.13	1671237.0255	0.00202	0.34948
691	1.492	12.8	-0.2	21068.82	1671237.0255	0.00197	0.33945
701	1.471	12.8	-0.2	21373.52	1671237.0255	0.00191	0.32984
711	1.450	12.8	-0.2	21678.22	1671237.0255	0.00186	0.32063
721	1.430	12.8	-0.2	21982.93	1671237.0255	0.00181	0.31180
731	1.411	12.8	-0.2	22287.63	1671237.0255	0.00176	0.30334
741	1.392	12.8	-0.2	22592.34	1671237.0255	0.00171	0.29521
751	1.373	12.8	-0.2	22897.05	1671237.0255	0.00166	0.28740
761	1.355	12.8	-0.2	23201.77	1671237.0255	0.00162	0.27991
771	1.337	12.8	-0.2	23506.48	1671237.0255	0.00158	0.27270
781	1.320	12.8	-0.2	23811.20	1671237.0255	0.00154	0.26576
791	1.304	12.8	-0.2	24115.92	1671237.0255	0.00150	0.25909
801	1.287	12.8	-0.2	24420.64	1671237.0255	0.00146	0.25266
811	1.271	12.8	-0.2	24725.37	1671237.0255	0.00143	0.24647
821	1.256	12.8	-0.2	25030.09	1671237.0255	0.00139	0.24051
831	1.241	12.8	-0.2	25334.82	1671237.0255	0.00136	0.23476
841	1.226	12.8	-0.2	25639.55	1671237.0255	0.00133	0.22921
851	1.212	12.8	-0.2	25944.28	1671237.0255	0.00130	0.22386
861	1.198	12.8	-0.2	26249.01	1671237.0255	0.00127	0.21869
871	1.184	12.8	-0.2	26553.75	1671237.0255	0.00124	0.21370
881	1.170	12.8	-0.2	26858.48	1671237.0255	0.00121	0.20888
891	1.157	12.8	-0.2	27163.22	1671237.0255	0.00118	0.20422
901	1.144	12.8	-0.2	27467.96	1671237.0255	0.00116	0.19971
911	1.132	12.8	-0.2	27772.70	1671237.0255	0.00113	0.19535
921	1.120	12.8	-0.2	28077.44	1671237.0255	0.00111	0.19113
931	1.108	12.8	-0.2	28382.18	1671237.0255	0.00108	0.18705
941	1.096	12.8	-0.2	28686.93	1671237.0255	0.00106	0.18310
951	1.084	12.8	-0.2	28991.67	1671237.0255	0.00104	0.17927

# **Appendix A-2**

**Antel Model BXA-185063/8CF  
Exposure Calculation 6.0 ft AGL  
Antenna Center 24 ft  
ERP 900 Watts (PCS)**

**RF levels AGL= 6 feet  
Antenna Center 24 feet AGL**



ARL 18 **Max gain (dBd):** 16

**Max exposure:** 0.01050660 mW/cm<sup>2</sup>

**Max ERP (W):**

900 **Ant type:** Antel BXA185063/8CF

**Feet from site:** 3

### RF Exposure Levels

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
-------------------	---------------	--------------	-----------------	-----------------	---------------	--------------------------	--------------------

0	90.000	-6.8	-22.8	548.64	4723.2671	0.00819	0.81915
1	86.820	-5.9	-21.9	549.49	5810.8881	0.01005	1.00467
2	83.660	-5.7	-21.7	552.02	6084.7468	0.01042	1.04240
3	80.538	-5.6	-21.6	556.21	6226.4787	0.01051	1.05066
4	77.471	-6	-22	562.02	5678.6161	0.00938	0.93849
5	74.476	-6.8	-22.8	569.41	4723.2671	0.00760	0.76047
6	71.565	-8.6	-24.6	578.32	3120.6317	0.00487	0.48708
7	68.749	-10.9	-26.9	588.67	1837.5642	0.00277	0.27682
8	66.038	-12.7	-28.7	600.39	1214.0666	0.00176	0.17582
9	63.435	-14.7	-30.7	613.40	766.0242	0.00106	0.10628
10	60.945	-14.5	-30.5	627.62	802.1258	0.00106	0.10630
11	58.570	-13	-29	642.98	1133.0329	0.00143	0.14307
12	56.310	-11.1	-27.1	659.38	1754.8601	0.00211	0.21070
13	54.162	-9.7	-25.7	676.77	2422.3813	0.00276	0.27610
14	52.125	-9	-25	695.05	2846.0499	0.00308	0.30754
15	50.194	-9.6	-25.6	714.17	2478.8058	0.00254	0.25371
16	48.366	-12.7	-28.7	734.06	1214.0666	0.00118	0.11762
17	46.637	-22.7	-38.7	754.65	121.4067	0.00011	0.01113
18	45.000	-19.1	-35.1	775.89	278.1266	0.00024	0.02412
19	43.452	-9.4	-25.4	797.74	2595.6284	0.00213	0.21292
20	41.987	-6.2	-22.2	820.13	5423.0363	0.00421	0.42089
21	40.601	-4.8	-20.8	843.04	7485.8739	0.00550	0.54985
22	39.289	-4.5	-20.5	866.40	8021.2584	0.00558	0.55782
23	38.047	-4.5	-20.5	890.20	8021.2584	0.00528	0.52839
24	36.870	-6.5	-22.5	914.40	5061.0719	0.00316	0.31598
25	35.754	-8.1	-24.1	938.96	3501.4063	0.00207	0.20732
26	34.695	-12.2	-28.2	963.86	1362.2051	0.00077	0.07654
27	33.690	-16.2	-32.2	989.07	542.3036	0.00029	0.02894
28	32.735	-20.3	-36.3	1014.58	210.9806	0.00011	0.01070
29	31.827	-18.7	-34.7	1040.35	304.9597	0.00015	0.01471

ARL 18 **Max gain (dBd):** 16 **Max exposure:** 0.01050660 **mW/cm<sup>2</sup>**

**Max ERP (W):**

**900**

**Ant type: Antel BXA185063/8CF**

**Feet from site: 3**

### RF Exposure Levels

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
30	30.964	-16.5	-32.5	1066.36	506.1072	0.00023	0.02323
31	30.141	-16.5	-32.5	1092.61	506.1072	0.00022	0.02213
32	29.358	-15.8	-31.8	1119.08	594.6241	0.00025	0.02479
33	28.610	-17.6	-33.6	1145.74	392.8642	0.00016	0.01562
34	27.897	-30.6	-46.6	1172.59	19.6899	0.00001	0.00075
35	27.216	-30.6	-46.6	1199.61	19.6899	0.00001	0.00071
36	26.565	-21.7	-37.7	1226.80	152.8419	0.00005	0.00530
37	25.942	-11.6	-27.6	1254.13	1564.0207	0.00052	0.05191
38	25.346	-11.6	-27.6	1281.61	1564.0207	0.00050	0.04971
39	24.775	-8.6	-24.6	1309.22	3120.6317	0.00095	0.09504
40	24.228	-8.6	-24.6	1336.96	3120.6317	0.00091	0.09114
41	23.703	-6.6	-22.6	1364.81	4945.8679	0.00139	0.13861
42	23.199	-6.6	-22.6	1392.77	4945.8679	0.00133	0.13310
43	22.714	-5.2	-21.2	1420.84	6827.1982	0.00177	0.17654
44	22.249	-5.2	-21.2	1449.00	6827.1982	0.00170	0.16975
45	21.801	-5.2	-21.2	1477.26	6827.1982	0.00163	0.16331
46	21.371	-5.2	-21.2	1505.60	6827.1982	0.00157	0.15722
47	20.956	-5.9	-21.9	1534.03	5810.8881	0.00129	0.12891
48	20.556	-5.9	-21.9	1562.53	5810.8881	0.00124	0.12425
49	20.171	-5.9	-21.9	1591.10	5810.8881	0.00120	0.11982
50	19.799	-9.3	-25.3	1619.75	2656.0883	0.00053	0.05285
51	19.440	-9.3	-25.3	1648.46	2656.0883	0.00051	0.05102
52	19.093	-9.3	-25.3	1677.23	2656.0883	0.00049	0.04929
53	18.759	-12.7	-28.7	1706.06	1214.0666	0.00022	0.02177
54	18.435	-12.7	-28.7	1734.95	1214.0666	0.00021	0.02106
55	18.122	-12.7	-28.7	1763.89	1214.0666	0.00020	0.02037
56	17.819	-10.1	-26.1	1792.89	2209.2380	0.00036	0.03588
57	17.526	-10.1	-26.1	1821.93	2209.2380	0.00035	0.03474
58	17.241	-10.1	-26.1	1851.02	2209.2380	0.00034	0.03366
59	16.966	-6.1	-22.1	1880.15	5549.3550	0.00082	0.08195
60	16.699	-6.1	-22.1	1909.32	5549.3550	0.00079	0.07947
61	16.440	-6.1	-22.1	1938.54	5549.3550	0.00077	0.07709
62	16.189	-6.1	-22.1	1967.79	5549.3550	0.00075	0.07481
63	15.945	-3.6	-19.6	1997.08	9868.3038	0.00129	0.12917

ARL 18 **Max gain**  
(dBd): 16

**Max exposure:** 0.01050660 mW/cm<sup>2</sup>

**Max ERP**  
(W):

900

**Ant type:** Antel BXA185063/8CF

**Feet from site:** 3

### RF Exposure Levels

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
64	15.709	-3.6	-19.6	2026.40	9868.3038	0.00125	0.12545
65	15.479	-3.6	-19.6	2055.76	9868.3038	0.00122	0.12190
66	15.255	-3.6	-19.6	2085.15	9868.3038	0.00118	0.11848
67	15.038	-3.6	-19.6	2114.57	9868.3038	0.00115	0.11521
68	14.826	-1.4	-17.4	2144.02	16377.3077	0.00186	0.18598
69	14.621	-1.4	-17.4	2173.50	16377.3077	0.00181	0.18097
70	14.421	-1.4	-17.4	2203.01	16377.3077	0.00176	0.17616
71	14.226	-1.4	-17.4	2232.54	16377.3077	0.00172	0.17153
72	14.036	-1.4	-17.4	2262.10	16377.3077	0.00167	0.16708
73	13.851	-1.3	-17.3	2291.68	16758.7842	0.00167	0.16658
74	13.671	-1.3	-17.3	2321.29	16758.7842	0.00162	0.16236
75	13.496	-1.3	-17.3	2350.92	16758.7842	0.00158	0.15829
76	13.325	-1.3	-17.3	2380.56	16758.7842	0.00154	0.15437
77	13.158	-1.3	-17.3	2410.23	16758.7842	0.00151	0.15060
78	12.995	-2	-18	2439.92	14264.0387	0.00125	0.12508
79	12.836	-2	-18	2469.63	14264.0387	0.00122	0.12209
80	12.680	-2	-18	2499.36	14264.0387	0.00119	0.11920
81	12.529	-2	-18	2529.11	14264.0387	0.00116	0.11641
82	12.381	-2	-18	2558.87	14264.0387	0.00114	0.11372
83	12.236	-2	-18	2588.65	14264.0387	0.00111	0.11112
84	12.095	-2	-18	2618.44	14264.0387	0.00109	0.10861
85	11.957	-7.5	-23.5	2648.25	4020.1523	0.00030	0.02992
86	11.821	-7.5	-23.5	2678.08	4020.1523	0.00029	0.02926
87	11.689	-7.5	-23.5	2707.92	4020.1523	0.00029	0.02862
88	11.560	-7.5	-23.5	2737.78	4020.1523	0.00028	0.02800
89	11.434	-7.5	-23.5	2767.64	4020.1523	0.00027	0.02740
90	11.310	-7.5	-23.5	2797.53	4020.1523	0.00027	0.02682
91	11.189	-7.5	-23.5	2827.42	4020.1523	0.00026	0.02625
92	11.070	-7.5	-23.5	2857.33	4020.1523	0.00026	0.02570
93	10.954	-17.5	-33.5	2887.25	402.0152	0.00003	0.00252
94	10.840	-17.5	-33.5	2917.18	402.0152	0.00002	0.00247
95	10.729	-17.5	-33.5	2947.12	402.0152	0.00002	0.00242
96	10.620	-17.5	-33.5	2977.07	402.0152	0.00002	0.00237
97	10.513	-17.5	-33.5	3007.03	402.0152	0.00002	0.00232
98	10.408	-17.5	-33.5	3037.01	402.0152	0.00002	0.00228
99	10.305	-17.5	-33.5	3066.99	402.0152	0.00002	0.00223

ARL 18 **Max gain (dBd):** 16

**Max exposure:** 0.01050660 **mW/cm<sup>2</sup>**

**Max ERP (W):**

900

**Ant type:** Antel BXA185063/8CF

**Feet from site:** 3

### RF Exposure Levels

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
100	10.204	-17.5	-33.5	3096.98	402.0152	0.00002	0.00219
101	10.105	-17.5	-33.5	3126.99	402.0152	0.00002	0.00215
102	10.008	-17.5	-33.5	3157.00	402.0152	0.00002	0.00211
103	9.913	-2.2	-18.2	3187.02	13622.0512	0.00070	0.07001
104	9.819	-2.2	-18.2	3217.05	13622.0512	0.00069	0.06871
105	9.728	-2.2	-18.2	3247.09	13622.0512	0.00067	0.06744
106	9.638	-2.2	-18.2	3277.13	13622.0512	0.00066	0.06621
107	9.549	-2.2	-18.2	3307.19	13622.0512	0.00065	0.06502
108	9.462	-2.2	-18.2	3337.25	13622.0512	0.00064	0.06385
109	9.377	-2.2	-18.2	3367.32	13622.0512	0.00063	0.06271
110	9.293	-2.2	-18.2	3397.39	13622.0512	0.00062	0.06161
111	9.211	-2.2	-18.2	3427.48	13622.0512	0.00061	0.06053
112	9.130	-2.2	-18.2	3457.57	13622.0512	0.00059	0.05948
113	9.051	-2.2	-18.2	3487.66	13622.0512	0.00058	0.05846
114	8.973	2.5	-13.5	3517.77	40201.5233	0.00170	0.16959
115	8.896	2.5	-13.5	3547.88	40201.5233	0.00167	0.16672
116	8.820	2.5	-13.5	3577.99	40201.5233	0.00164	0.16393
117	8.746	2.5	-13.5	3608.12	40201.5233	0.00161	0.16120
118	8.673	2.5	-13.5	3638.24	40201.5233	0.00159	0.15855
119	8.601	2.5	-13.5	3668.38	40201.5233	0.00156	0.15595
120	8.531	2.5	-13.5	3698.52	40201.5233	0.00153	0.15342
121	8.461	2.5	-13.5	3728.66	40201.5233	0.00151	0.15095
122	8.393	2.5	-13.5	3758.82	40201.5233	0.00149	0.14854
123	8.326	2.5	-13.5	3788.97	40201.5233	0.00146	0.14618
124	8.259	2.5	-13.5	3819.13	40201.5233	0.00144	0.14388
125	8.194	2.5	-13.5	3849.30	40201.5233	0.00142	0.14164
126	8.130	2.5	-13.5	3879.47	40201.5233	0.00139	0.13944
127	8.067	2.5	-13.5	3909.65	40201.5233	0.00137	0.13730
128	8.005	2.5	-13.5	3939.83	40201.5233	0.00135	0.13520
129	7.943	8	-8	3970.01	142640.3873	0.00472	0.47245
130	7.883	8	-8	4000.20	142640.3873	0.00465	0.46534
131	7.824	8	-8	4030.40	142640.3873	0.00458	0.45840
132	7.765	8	-8	4060.59	142640.3873	0.00452	0.45160
133	7.707	8	-8	4090.80	142640.3873	0.00445	0.44496
134	7.651	8	-8	4121.00	142640.3873	0.00438	0.43846
135	7.595	8	-8	4151.21	142640.3873	0.00432	0.43210
136	7.539	8	-8	4181.43	142640.3873	0.00426	0.42588
137	7.485	8	-8	4211.65	142640.3873	0.00420	0.41979
138	7.431	8	-8	4241.87	142640.3873	0.00414	0.41383
139	7.379	8	-8	4272.10	142640.3873	0.00408	0.40799

ARL 18 **Max gain (dBd):** 16

**Max exposure:** 0.01050660 **mW/cm<sup>2</sup>**

**Max ERP (W):**

900

**Ant type:** Antel BXA185063/8CF

**Feet from site:** 3

### RF Exposure Levels

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
140	7.326	8	-8	4302.33	142640.3873	0.00402	0.40228
141	7.275	8	-8	4332.56	142640.3873	0.00397	0.39669
142	7.224	8	-8	4362.79	142640.3873	0.00391	0.39121
143	7.174	8	-8	4393.03	142640.3873	0.00386	0.38584
144	7.125	8	-8	4423.28	142640.3873	0.00381	0.38058
145	7.076	8	-8	4453.52	142640.3873	0.00375	0.37543
146	7.028	8	-8	4483.77	142640.3873	0.00370	0.37038
147	6.981	10.1	-5.9	4514.03	231335.6204	0.00593	0.59266
148	6.934	10.1	-5.9	4544.28	231335.6204	0.00585	0.58480
149	6.888	10.1	-5.9	4574.54	231335.6204	0.00577	0.57709
150	6.843	10.1	-5.9	4604.80	231335.6204	0.00570	0.56953
151	6.798	10.1	-5.9	4635.07	231335.6204	0.00562	0.56211
152	6.754	10.1	-5.9	4665.33	231335.6204	0.00555	0.55484
153	6.710	10.1	-5.9	4695.60	231335.6204	0.00548	0.54771
154	6.667	10.1	-5.9	4725.87	231335.6204	0.00541	0.54072
155	6.624	10.1	-5.9	4756.15	231335.6204	0.00534	0.53386
156	6.582	10.1	-5.9	4786.43	231335.6204	0.00527	0.52712
157	6.540	10.1	-5.9	4816.71	231335.6204	0.00521	0.52052
158	6.499	10.1	-5.9	4846.99	231335.6204	0.00514	0.51403
159	6.459	10.1	-5.9	4877.28	231335.6204	0.00508	0.50767
160	6.419	10.1	-5.9	4907.56	231335.6204	0.00501	0.50142
161	6.379	10.1	-5.9	4937.85	231335.6204	0.00495	0.49529
162	6.340	10.1	-5.9	4968.15	231335.6204	0.00489	0.48927
163	6.302	10.1	-5.9	4998.44	231335.6204	0.00483	0.48336
164	6.263	10.1	-5.9	5028.74	231335.6204	0.00478	0.47755
165	6.226	10.1	-5.9	5059.04	231335.6204	0.00472	0.47185
166	6.189	10.1	-5.9	5089.34	231335.6204	0.00466	0.46624
167	6.152	10.1	-5.9	5119.64	231335.6204	0.00461	0.46074
168	6.116	10.1	-5.9	5149.95	231335.6204	0.00455	0.45533
169	6.080	10.1	-5.9	5180.26	231335.6204	0.00450	0.45002
170	6.044	10.1	-5.9	5210.56	231335.6204	0.00445	0.44480
171	6.009	10.1	-5.9	5240.88	231335.6204	0.00440	0.43967
172	5.974	12.8	-3.2	5271.19	430767.0831	0.00809	0.80932
173	5.940	12.8	-3.2	5301.51	430767.0831	0.00800	0.80009
174	5.906	12.8	-3.2	5331.82	430767.0831	0.00791	0.79102
175	5.873	12.8	-3.2	5362.14	430767.0831	0.00782	0.78210
176	5.839	12.8	-3.2	5392.46	430767.0831	0.00773	0.77333
177	5.807	12.8	-3.2	5422.79	430767.0831	0.00765	0.76470
178	5.774	12.8	-3.2	5453.11	430767.0831	0.00756	0.75622
179	5.742	12.8	-3.2	5483.44	430767.0831	0.00748	0.74788



ARL 18 **Max gain** 16 **(dBd):** **Max exposure:** 0.01050660 **mW/cm<sup>2</sup>**

**Max ERP**  
**(W):**

**900 Ant type: Antel BXA185063/8CF**

**Feet from site: 3**

### RF Exposure Levels

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
180	5.711	12.8	-3.2	5513.76	430767.0831	0.00740	0.73967
181	5.679	12.8	-3.2	5544.09	430767.0831	0.00732	0.73160
182	5.648	12.8	-3.2	5574.42	430767.0831	0.00724	0.72366
183	5.618	12.8	-3.2	5604.76	430767.0831	0.00716	0.71585
184	5.587	12.8	-3.2	5635.09	430767.0831	0.00708	0.70817
185	5.557	12.8	-3.2	5665.43	430767.0831	0.00701	0.70060
186	5.528	12.8	-3.2	5695.77	430767.0831	0.00693	0.69316
187	5.498	12.8	-3.2	5726.10	430767.0831	0.00686	0.68583
188	5.469	12.8	-3.2	5756.44	430767.0831	0.00679	0.67862
189	5.440	12.8	-3.2	5786.79	430767.0831	0.00672	0.67152
190	5.412	12.8	-3.2	5817.13	430767.0831	0.00665	0.66454
191	5.384	12.8	-3.2	5847.47	430767.0831	0.00658	0.65766
201	5.117	12.8	-3.2	6151.00	430767.0831	0.00594	0.59435
211	4.876	13.9	-2.1	6454.64	554935.5017	0.00695	0.69533
221	4.656	13.9	-2.1	6758.39	554935.5017	0.00634	0.63424
231	4.456	13.9	-2.1	7062.22	554935.5017	0.00581	0.58084
241	4.271	13.9	-2.1	7366.14	554935.5017	0.00534	0.53390
251	4.102	13.9	-2.1	7670.13	554935.5017	0.00492	0.49242
261	3.945	15.2	-0.8	7974.18	748587.3940	0.00615	0.61456
271	3.800	15.2	-0.8	8278.28	748587.3940	0.00570	0.57024
281	3.665	15.2	-0.8	8582.43	748587.3940	0.00531	0.53054
291	3.540	15.2	-0.8	8886.63	748587.3940	0.00495	0.49484
301	3.422	15.2	-0.8	9190.87	748587.3940	0.00463	0.46262
311	3.312	15.2	-0.8	9495.14	748587.3940	0.00433	0.43344
321	3.209	15.2	-0.8	9799.45	748587.3940	0.00407	0.40694
331	3.113	15.2	-0.8	10103.79	748587.3940	0.00383	0.38280
341	3.022	15.2	-0.8	10408.15	748587.3940	0.00361	0.36074
351	2.936	15.7	-0.3	10712.54	839928.8707	0.00382	0.38208
361	2.854	15.7	-0.3	11016.95	839928.8707	0.00361	0.36125
371	2.778	15.7	-0.3	11321.38	839928.8707	0.00342	0.34209
381	2.705	15.7	-0.3	11625.83	839928.8707	0.00324	0.32441
391	2.636	15.7	-0.3	11930.30	839928.8707	0.00308	0.30806
401	2.570	15.7	-0.3	12234.79	839928.8707	0.00293	0.29292
411	2.508	15.7	-0.3	12539.29	839928.8707	0.00279	0.27886
421	2.448	15.7	-0.3	12843.80	839928.8707	0.00266	0.26580
431	2.391	15.7	-0.3	13148.33	839928.8707	0.00254	0.25363
441	2.337	15.7	-0.3	13452.87	839928.8707	0.00242	0.24227
451	2.286	15.7	-0.3	13757.42	839928.8707	0.00232	0.23167
461	2.236	15.7	-0.3	14061.99	839928.8707	0.00222	0.22174
471	2.189	15.7	-0.3	14366.56	839928.8707	0.00212	0.21244

ARL 18 **Max gain**  
(dBd): 16

**Max exposure:** 0.01050660 mW/cm<sup>2</sup>

**Max ERP**  
(W):

900

**Ant type:** Antel BXA185063/8CF

**Feet from site:** 3

### RF Exposure Levels

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
481	2.143	15.7	-0.3	14671.14	839928.8707	0.00204	0.20371
491	2.100	15.7	-0.3	14975.73	839928.8707	0.00196	0.19551
501	2.058	15.7	-0.3	15280.33	839928.8707	0.00188	0.18779
511	2.017	15.7	-0.3	15584.94	839928.8707	0.00181	0.18052
521	1.979	16	0	15889.55	900000.0000	0.00186	0.18609
531	1.941	16	0	16194.18	900000.0000	0.00179	0.17915
541	1.906	16	0	16498.80	900000.0000	0.00173	0.17260
551	1.871	16	0	16803.44	900000.0000	0.00166	0.16639
561	1.838	16	0	17108.08	900000.0000	0.00161	0.16052
571	1.806	16	0	17412.73	900000.0000	0.00155	0.15495
581	1.775	16	0	17717.38	900000.0000	0.00150	0.14967
591	1.745	16	0	18022.03	900000.0000	0.00145	0.14465
601	1.716	16	0	18326.69	900000.0000	0.00140	0.13988
611	1.687	16	0	18631.36	900000.0000	0.00135	0.13535
621	1.660	16	0	18936.03	900000.0000	0.00131	0.13103
631	1.634	16	0	19240.70	900000.0000	0.00127	0.12691
641	1.609	16	0	19545.38	900000.0000	0.00123	0.12298
651	1.584	16	0	19850.06	900000.0000	0.00119	0.11924
661	1.560	16	0	20154.75	900000.0000	0.00116	0.11566
671	1.537	16	0	20459.44	900000.0000	0.00112	0.11224
681	1.514	16	0	20764.13	900000.0000	0.00109	0.10897
691	1.492	16	0	21068.82	900000.0000	0.00106	0.10584
701	1.471	16	0	21373.52	900000.0000	0.00103	0.10285
711	1.450	16	0	21678.22	900000.0000	0.00100	0.09997
721	1.430	16	0	21982.93	900000.0000	0.00097	0.09722
731	1.411	16	0	22287.63	900000.0000	0.00095	0.09458
741	1.392	16	0	22592.34	900000.0000	0.00092	0.09205
751	1.373	16	0	22897.05	900000.0000	0.00090	0.08961
761	1.355	16	0	23201.77	900000.0000	0.00087	0.08728
771	1.337	16	0	23506.48	900000.0000	0.00085	0.08503
781	1.320	16	0	23811.20	900000.0000	0.00083	0.08287
791	1.304	16	0	24115.92	900000.0000	0.00081	0.08078
801	1.287	16	0	24420.64	900000.0000	0.00079	0.07878
811	1.271	16	0	24725.37	900000.0000	0.00077	0.07685
821	1.256	16	0	25030.09	900000.0000	0.00075	0.07499
831	1.241	16	0	25334.82	900000.0000	0.00073	0.07320
841	1.226	16	0	25639.55	900000.0000	0.00071	0.07147
851	1.212	16	0	25944.28	900000.0000	0.00070	0.06980
861	1.198	16	0	26249.01	900000.0000	0.00068	0.06819
871	1.184	16	0	26553.75	900000.0000	0.00067	0.06663

## STATEMENT OF EXPERIENCE

**Jerrold Talmadge Bushberg, Ph.D., DABMP, DABSNM**

(800) 760-8414    jrbushberg@hampc.com

Dr. Jerrold Bushberg has performed health and safety analysis for RF & ELF transmissions systems since 1978 and is an expert in both health physics and medical physics. The scientific discipline of Health Physics is devoted to radiation protection, which, among other things, involves providing analysis of radiation exposure conditions, biological effects research, regulations and standards as well as recommendations regarding the use and safety of ionizing and non-ionizing radiation. In addition, Dr. Bushberg has extensive experience and lectures on several related topics including medical physics, radiation protection, (ionizing and non-ionizing), radiation biology, the science of risk assessment and effective risk communication in the public sector.

Dr. Bushberg's doctoral dissertation at Purdue University was on various aspects of the biological effects of microwave radiation. He has maintained a strong professional involvement in this subject and has served as consultant or appeared as an expert witness on this subject to a wide variety of organizations/institutions including, local governments, school districts, city planning departments, telecommunications companies, the California Public Utilities Commission, national news organizations, and the U.S. Congress. In addition, his consultation services have included detailed computer based modeling of RF exposures as well as on-site safety inspections and RF & ELF environmental field measurements of numerous transmission facilities in order to determine their compliance with FCC and other safety regulations. The consultation services provided by Dr. Bushberg are based on his professional judgement as an independent scientist, however they are not intended to necessarily represent the views of any other organization.

Dr. Bushberg is a member of the main scientific body of International Committee on Electromagnetic Safety (ICES) which reviews and evaluates the scientific literature on the biological effects of non-ionizing electromagnetic radiation and establishes exposure standards. He also serves on the ICES Risk Assessment Working Group that is responsible for evaluating and characterizing the risks of non-ionizing electromagnetic radiation. Dr. Bushberg was appointed and is serving as a member of the main scientific council of the National Council on Radiation Protection and Measurement's (NCRP). He is also a Scientific Vice-President of the NCRP, a member of the NCRP Board of Directors and chairs its committee on Radiation Protection in Medicine. In addition, Dr. Bushberg is a member of NCRP's scientific advisory committee on Non-ionizing Radiation Safety. The NCRP is the nation's preeminent scientific radiation protection organization, chartered by Congress to evaluate and provide expert consultation on a wide variety of radiological health issues. The current FCC RF exposure safety standards are based in large part on the recommendations of the NCRP. Dr. Bushberg was elected to the International Engineering in Medicine and Biology Society Committee on Man and Radiation (COMAR) which has as its primary area of responsibility the examination and interpreting the biological effects of non-ionizing electromagnetic energy and presenting its findings in an authoritative and professional manner. Dr. Bushberg is also a member of a six person U.S. expert delegation to the international scientific community on Scientific and Technical Issues for Mobile Communication Systems established by the Federal Communications Commission.

Dr. Bushberg is a full member of the Bioelectromagnetics Society, the Health Physics Society and the Radiation Research Society. Dr. Bushberg received both a Masters of Science and Ph.D. from the Department of Bionucleonics at Purdue University. Dr. Bushberg is certified by several national professional boards with specific sub-specialty certification in radiation protection and medical physics. Prior to coming to California, Dr. Bushberg was on the faculty of Yale University School of Medicine.