verizon

SF HIGHLANDS BAYWOOD PARK 003

PUBLIC RIGHT-OF-WAY, ADJACENT TO 1852 LEXINGTON AVE. SAN MATEO, CA 94402

LOCATION CODE: PROJECT ID:

SF HIGHLANDS BAYWOOD PARK 003 438407 20171536393 PG&E UTILITY POLE SAN MATEO COUNTY

San Mateo County Planning Division

PROJECT DESCRIPTION:

VERIZON WIRELESS PROPOSES TO CONSTRUCT A NEW WIRELESS COMMUNICATIONS SITE ON AN EXISTING PGAE WOODEN UTILITY POLE. THE WIRELESS COMMUNICATIONS SITE WILL BE COLOCATED WITH OTHER UTILITIES. THE GOAL OF THE PROJECT IS TO EXPAND THE VERIZON WIRELESS NETWORK COVERAGE.

SCOPE OF WORKS

THE PROPOSED SCOPE OF WORK CONSISTS OF THE FOLLOWING:

- . INSTALL (1) NEW 7'-0" BAYONET EXTENSION ON TOP OF EXISTING UTILITY POLE
- INSTALL (1) NEW CANNISTER ANTENNA ON TOP OF BAYONET
- INSTALL (1) NEW STEEL SHROUD HOUSING FOR COMBINERS/ SPLITTERS AS DEPICTED IN THESE DRAWINGS

 1. INSTALL (6) NEW SIGNAL HYBRID COUPLERS
- INSTALL (2) NEW REMOTE RADIO UNITS, WITH/PSU MOUNTED BEHIND, TO SIDE OF EXISTING UTILITY POLE

 1. INSTALL (1) NEW RRUS-32

 2. INSTALL (1) NEW RRUS-2212
- . INSTALL (1) NEW POWER METER ON EXISTING UTILITY POLE
- INSTALL (1) NEW FIBER POINT-OF-CONNECTION ON SIDE OF EXISTING UTILITY POLE
- INSTALL NEW COAXIAL AND POWER CONDUITS FROM NEW EQUIPMENT TO ANTENNAS LOCATED WITHIN CANNISTER AT TOP OF EXISTING UTILITY POLE
- PAINT ALL NEW EQUIPMENT TO MATCH EXISTING UTILITY POLE IN COLOR
- INSTALL NEW COAXIAL AND POWER CABLING AND DRESS IN A TIGHT, NEAT MANNER WITHOUT EXCESS CABLING LOOPS

PROJECT INFORMATION:

SITE ADDRESS

NEAR 1852 LEXINGTON AVENUE SAN MATEO, CA 94402

OWNER:

PAÇIFIC GAS & ELECTRIC

LATITUDE:

LONGITUDE

37° 31' 07.50"

CITY :

SAN MATEO SAN MATEO COUNTY PUBLIC RIGHT-OF-WAY NEAR 041-135-120

ACCESSOR'S PARCEL NUMBER

ELEVATION

N/A, PUBLIC RIGHT-OF-WAY BASE OF POLE - 557.1' AMSL

CODES AND REFERENCE MATERIAL

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

- 2016 CALIFORNIA ADMINISTRATIVE CODES (INCL. TITLES 24 & 25)
 2016 CALIFORNIA BUILDING CODE
 2016 CALIFORNIA ELECTRICAL CODE
 2016 CALIFORNIA MECHANICAL CODE
 2016 CALIFORNIA MECHANICAL CODE
 2016 CALIFORNIA PILUMBING CODE
 2016 CALIFORNIA FIRE CODE
 2016 CALIFORNIA FIRE CODE
 2016 CALIFORNIA FIRE CODE
 2016 CALIFORNIA FIRE CODE
 2016 CALIFORNIA ENERGY CODE
 GENERAL ORDER 95

DISABLED ACCESS REQUIREMENTS:

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, ACCESSIBILITY REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE, CODE OF REGULATIONS, TITLE 24, PART 2, VOLUME 1, CHAPTER 11B, DIVISION 2, SECTION 11B-203.5

OCCUPANCY AND CONSTRUCTION TYPE:

OCCUPANCY: N/A (NOT FOR HUMAN HABITATION) CONSTRUCTION TYPE: G.O. 128 AND 2009 AASHTO 5TH EDITION STANDARD

PROJECT TEAM CONTACT INFORMATION:

APPLICANT:

SCOTT REVARD
MODUS-CORPORATION, INC.
240 STOCKTON STREET, 3RD FLOOR
SAN FRANCISCO, CA 94108
PHONE: (45) 595-0938
EMAIL: srevard@modus-corp.com

ARCHITECT OF RECORD:

LEASING AGENT

LAND USE PLANNER:

KEVIN BOWYER
MODUS-CORPORATION, INC.
240 STOCKTON STREET, 3RD FLOOR
SAN FRANCISCO, CA 94108
PHONE: (408) 219-5442
EMAIL: kbowyer@modus-corp.com

RYAN GNUSTI RASKOP CHARLES M. SALTER ASSOCIATES INC. 130 SUTTER STREET, FLOOR 5 SAN FRANCISCO, CA 94104 PHONE: (510) 698-2724 EMAIL: ryan.raskop@cmsalter.com

CONSTRUCTION MANAGER:

KRESSTON HAYNES
MODUS-CORPORATION, INC.
240 STOCKTON STREET, 3RD FLOOR
SAN FRANCISCO, CA 94108
PHONE: (209) 938-7251
EMAIL: khaynes@modus-corp.com

VERIZON WIRELESS PROJECT MANAGER: KAREN MCPHERSON 2785 MITCHELL DRIVE, SUITE #9 WALNUT CREEK, CA 94598 PHONE: (925) 200-6328 EMAIL: karen.mcpherson@verizonw

DRAWING SHEET LIST SHEET NAME

T-1	TITLE SHEET	
G-1	GENERAL NOTES & ABBREVIATIONS	
C-1	TOPOGRAPHIC SURVEY EXISTING CONDITIONS	
A-1	ENLARGED SITE & EQUIPMENT PLANS	
A-2	ELEVATIONS	
A-3	CONSTRUCTION DETAILS	
A-4	CONSTRUCTION DETAILS	
E-1	CABLING LINE & GROUNDING DIAGRAMS	

DIRECTIONS TO SITE FROM VERIZON REGIONAL OFFICE:

Head northeast on Mitchell Dr toward Oak Grove Rd

Turn right onto Ygnacio Valley Rd

Use the left 2 lanes to turn left onto the Interstate 680 S ramp to San Jose

Continue on I-680 S, Take I-580 W and CA-92 W to Polhemus Rd in San Mateo, Take exit 9A from CA-92 W

Merge onto I-680 S

Take exit 30B to merge onto I-580 W toward Dublin/Oakland

Keep left at the fork to continue on I-238 N, follow signs for I-880

Use the right 2 lanes to take exit 16A for Interstate 880 S toward San Jose/San Mateo Bridge

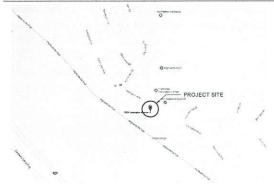
Use the right 2 lanes to take exit 27 to merge onto CA-92 W toward San Mateo Bridge/Jackson St Partial toll road

Take Ticonderoga Dr to Lexington Ave in Highlands-Baywood Park

Turn right onto Polhemus Rd

Turn left onto Ticonderoga Dr

VICINITY MAP:



WALNUT CREEK, CA 94598



240 STOCKTON ST., 3rd FLOOR SAN FRANCISCO, CA 94108



CHARLES M. SALTER ASSOCIATES 130 SUTTER ST. FLR. 5 SAN FRANCISCO, CA 94104



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SF HIGHLANDS **BAYWOOD PARK 003**

1852 LEXINGTON AVENUE SAN MATEO, CA 94402

TITLE SHEET

20171536393
438407
01/04/2018
AEM, RGR
AEM, RGR

SCALE AS NOTED, SHEET SIZE 30"x42" SCALE .75xNOTED, SHEET SIZE 24"x36"

GENERAL ABBREVIATIONS:

GEN	ERAL ABBREVIATIONS:	5	
A	AMPERES	ОС	ON CENTER
ACP	ACCESS CONTROL PANEL	OFE	OWNER FURNISHED
ACS	ACCESS CONTROL PANEL	OFE	EQUIPMENT
AFF	ABOVE FINISHED FLOOR	OFCI	OWNER FURNISHED.
AHJ	AUTHORITY HAVING	0.01	CONTRACTOR INSTALLED
	JURISDICTION	OFOL	OWNER FURNISHED,
AMP	AMPLIFIER		OWNER INSTALLED
AOR	ARCHITECT OF RECORD	OSP	OUTSIDE PLANT
ALS	ASSISTIVE LISTENING SYSTEM	OPAC	OWNER FURNISHED BOOK
AUD	AUDIO		MANAGEMENT SYSTEM
AUTO		P	PAGING LOUDSPEAKER
AUX	AUXILIARY	PB	PULL BOX
AV	AUDIOVISUAL	PIR	PASSIVE INFRARED
AVC	AUDIOVISUAL CONTRACTOR	PNL	PANEL
AVTO	CABINET CABINET	POE	POWER OVER ETHERNET PORT PATCH PANEL
AWG	AMERICAN WIRE GAUGE	PR	PAIR OF CONDUCTORS
BCT	BONDING CONDUCTOR	PROJ	PROJECTOR
	FOR TELECOMMUNICATIONS	PT	POKE THROUGH DEVICE
BP	FOR TELECOMMUNICATIONS BROADCAST PANEL	PTZ	PAN TILT ZOOM
C	CONDUIT	PVC	POLYVINYL CHLORIDE
CATV		PWR	POWER
	TELEVISION SYSTEM	R	RIGHT AUDIO
CFCI	CONTRACTOR FURNISHED,	RCP	REFLECTED CEILING PLAN
	CONTRACTOR INSTALLED	REX	REQUEST TO EXIT REQUEST FOR INFORMATION
CFOI	CONTRACTOR FURNISHED. OWNER INSTALLED	RMC	RIGID METALLIC CONDUIT
-01	OWNER INSTALLED	S	CEILING LOUDSPEAKER
CL	CENTERLINE CAMERA	SAD	SEE ARCHITECTURAL
CP	CONTROL PANEL		DRAWINGS
CPU	COMPUTER	SC	PROJECTION SCREEN
cs	CONDUIT STUB		CONTROL PANEL
CSA	CHARLES SALTER ASSOCIATES	SCRN	PROJECTION SCREEN CASE
DA	DISTRIBUTION AMPLIFIER	SED	SEE ELECTRICAL DRAWINGS SECURITY EQUIPMENT HUB
DC	DOCUMENT CAMERA	SEH	SECURITY EQUIPMENT HUB
DGP	DATA GATHERING PANEL	SDI	SERIAL DIGITAL INTERFACE
DP .	FLAT PANEL DISPLAY	SM	SINGLE MODE
DS	DIGITAL SIGNAGE	SMS	SECURITY MANAGEMENT SYSTEM
DSP	DIGITAL SIGNAL PROCESSOR	SPD	SURGE PROTECTION DEVICE
DIV	DIVISION DOOR MANAGEMENT ALARM	SR	SURROUND REAR
DVI	DIGITAL VISUAL INTERFACE		LOUDSPEAKER
(E)	EXISTING	SS	SURROUND SIDE
ÉĆ	ELECTRICAL CONTRACTOR EMERGENCY COMMUNICATION		LOUDSPEAKER
ECS	EMERGENCY COMMUNICATION	STR	STRANDS (OF FIBER) SHIELDED TWISTED PAIR
COMMENT	SYSTEM	STP	SHIELDED TWISTED PAIR
EF	ENTRANCE FACILITY FOR	SUB	SUBWOOFER LOUDSPEAKER SECURITY
	TELECOMMUNICATIONS (MPOE)	SYS	SYSTEM
EMT	(MPOE) ELECTRIC METALLIC TUBING	0.0	TABLE BOX
ER	EQUIPMENT ROOM	TBB	TELECOMMUNICATIONS
EXT	EXTERIOR	TB	BONDING BACKBONE
(F)	FUTURE	TELCO	TELEPHONE COMPANY
FACP		TGB	
FATC	FIRE ALARM TERMINAL	IGB	TELECOMMUNICATIONS GROUNDING BUSBAR
FB	CABINET FLOORBOX	TMGB	TELECOMMUNICATIONS MAIN
FO	FIBER OPTIC	INCO	GROUNDING BUSBAR
FOV	FIELD OF VIEW	TP	TOUCH PANEL
GC	GENERAL CONTRACTOR	TR	TELECOM ROOM (IDF)
GE	GROUNDING EQUALIZER	TYP	TYPICAL
HDBT	HD BASE-T	UON	UNLESS OTHERWISE NOTED
HDMI	HIGH DEFINITION MULTIMEDIA	UPS	UNINTERRUPTIBLE POWER
	INTERFACE	LITTO	SUPPLY
IC	INTERCOM	UTP	UNSHIELDED TWISTED PAIR VOLTS
IDF	INTERMEDIATE DISTRIBUTION	VC	VOLUME CONTROL
IDS	FRAME INTRUSION DETECTION	VDA	VIDEO DISTRIBUTION
103	SYSTEM	4071	AMPLIFIER
INT	INTERIOR	VP	VIDEO PROJECTOR
IP	INTERNET PROTOCOL	VSS	VIDEO SURVEILLANCE
IT	INFORMATION TECHNOLOGY		SYSTEM
JB	JUNCTION BOX	WB	WALL BOX
L	LEFT AUDIO	WW	WIRELESS MICROPHONE
LVC	LOW VOLTAGE CONTROLLER	WP	RECEIVER ANTENNA WEATHERPROOF
MATV	MASTER ANTENNA TELEVISION	VVP	WEATHERPROUP
MDF	MAIN DISTRIBUTION FRAME		
MIC	MICROPHONE MULTIMODE		
MPOE			
(N)	NEW POINT OF ENTRY		
NC	NORMALLY CLOSED		
NIC	NOT IN CONTRACT		
NO	NORMALLY OPEN NOT TO SCALE		
NTS	NOT TO SCALE		

SHEET REFERENCING CONVENTIONS:



NUMBERED SHEET NOTE. APPLIES TO SHEET ON WHICH NOTE IS FOUND ONLY



ELEVATION REFERENCE - REFER TO ELEVATION AS NOTED IN REFERENCE CALL-OUT



SECTION REFERENCE - REFER TO SECTION AS NOTED IN REFERENCE CALL-OUT



DETAIL REFERENCE OR CALL-OUT

ELECTRICAL POWER AND CONDUIT SYMBOLS:

DOUBLE DUPLEX PLACEHOLDER FOR POWER, REFER TO ELECTRICAL DOCUMENTS FOR SPECIFICS.

DUPLEX PLACEHOLDER FOR POWER. REFER TO ELECTRICAL DOCUMENTS FOR SPECIFICS.

O CONDUIT, SOLID WHEN COMING UP FROM BELOW

CONDUIT, UNDERGROUND OR UNDERSLAB

CONDUIT, TURNED UP

CONDUIT, TURNED DOWN

GENERAL NOTES:

- PRIOR TO SUBMISSION OF BIDS, VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, FOLLOWING THE SITE VISIT, SHOULD FIELD CONDITIONS CONFLICT WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ARCHITECT / EMONIECE OF RECORD FOR ALL CONFLICTS THROUGH A STANDARD RFI PROCESS
- RECEIVE WRITTEN AUTHORIZATION THROUGH FORMAL REQUEST FOR INFORMATION (RRI) PROCESS TO PROCEED ON ANY WORK NOT CLEARLY DEFINED OR IDENTIFIED IN THE CONTRACTDOCUMENTS BEFORE COMMENCING WORK.
- ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES, INCLUDING APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS. THE CODES AND REGULATIONS LISTED ON THIS SHEET ARE NOT MEANT TO BE ALL-INCLUSIVE.
- 4. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS, IF THE RECOMMENDATIONS ARE IN CONFICITOR WITH THE CONTRACT AND CONSTRUCTION DOCUMENTS AND/OR APPLICABLE CODES OR REGULATIONS, REVIEW AND RESOLVE THE CONFLICT WITH DIRECTION FROM THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER OF RECORD PRIOR TO PROCEEDING.
- 5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATION OF ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTRACT AND COORDINATION WITH THE MUPLEMENTATION ENGINEER AND WITH THE AUTHORIZED REPRESENTATIVE OF ANY OUTSIDE POLE OR PROPERTY OWNER.
- 6. MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO PAVING, CURBS, VEGETATION, GALVANIZED SURFACE OR OTHER EXISTING ELEMENTS AND UPON COMPLETION OF THE WORK, REPAIR AND DAMAGE THAT OCCURRED DURING CONSTRUCTION TO THE SATISFACTION OF AT&T MOBILITY.
- MAINTAIN GENERAL AREA TO BE CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT. DEBRIS, RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY, LEAVE PREMISES IN CLEAN CONDITION DAILY.
- PLANS ARE INTENDED TO BE DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED UNLESS OTHERWISE NOTED. ANNOTATED DIMENSIONS TAKE PRECENDENT OVER DRAWING SCALE. SUBMIT REQUEST FOR INFORMATION IF DISCREPANCIES OCCUR.
- 9. THE EXISTENCE AND LOCATION OF UTILITIES AND OTHER AGENCY'S FACILITIES WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. OTHER FACILITIES MAY EMIST. CONTRACTOR SHALL VERIETY LOCATIONS FRIOR TO START OF CONSTRUCTION AND USE EXTREME CARE AND PROTECTIVE MEASURES TO PREVENT DAMAGE TO THE FACILITIES. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF UTILITIES OF OTHER AGENCY'S FACILITIES WITHIN THE LIMITS OF THE WORK, WHETHER THEY ARE IDENTIFIED IN THE CONTRACT DOCUMENTS OR NOT.
- NOTIFY UNDERGROUND SERVICE ALERT (800) 227-2600, AT LEAST TWO WORKING DAYS PRIOR TO START OF ANY EXCAVATION.

verizon/

VERIZON WIRELESS 2785 MITCHELL DRIVE, SUITE 9 WALNUT CREEK, CA 94598



MODUS INC. 240 STOCKTON ST., 3rd FLOOR SAN FRANCISCO, CA 94108



CHARLES M. SALTER ASSOCIATES 130 SUTTER ST. FLR. 5 SAN FRANCISCO, CA 94104



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GENERAL NOTES & ABBREVIATIONS

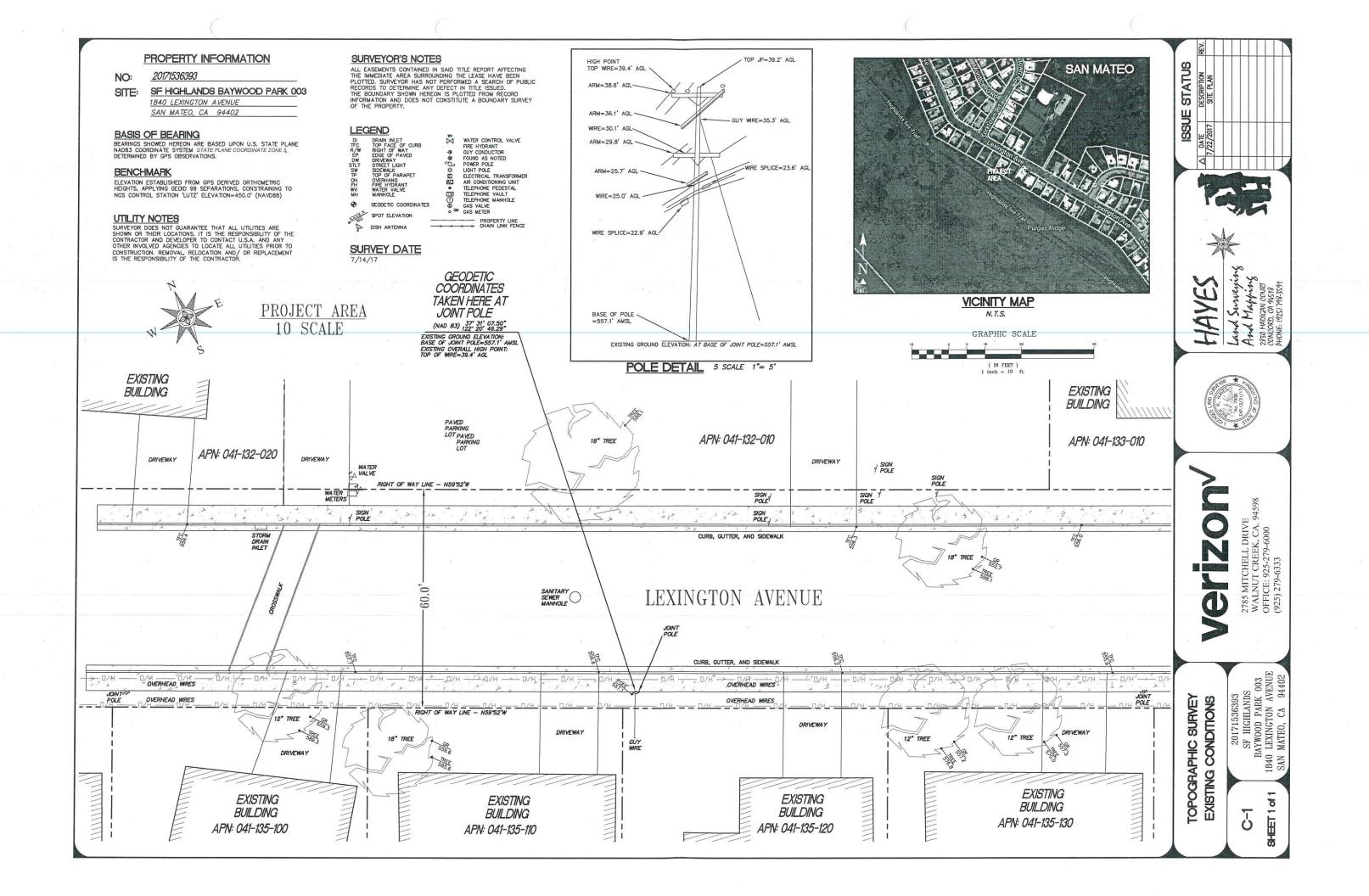
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MODUS PROJECT#	20171536393
LOCATION IDENTIFICATION #	438407
DATE DRAWN	01/04/2018
DRAWN BY	AEM, RGR
CHECKED BY	AEM, RGR

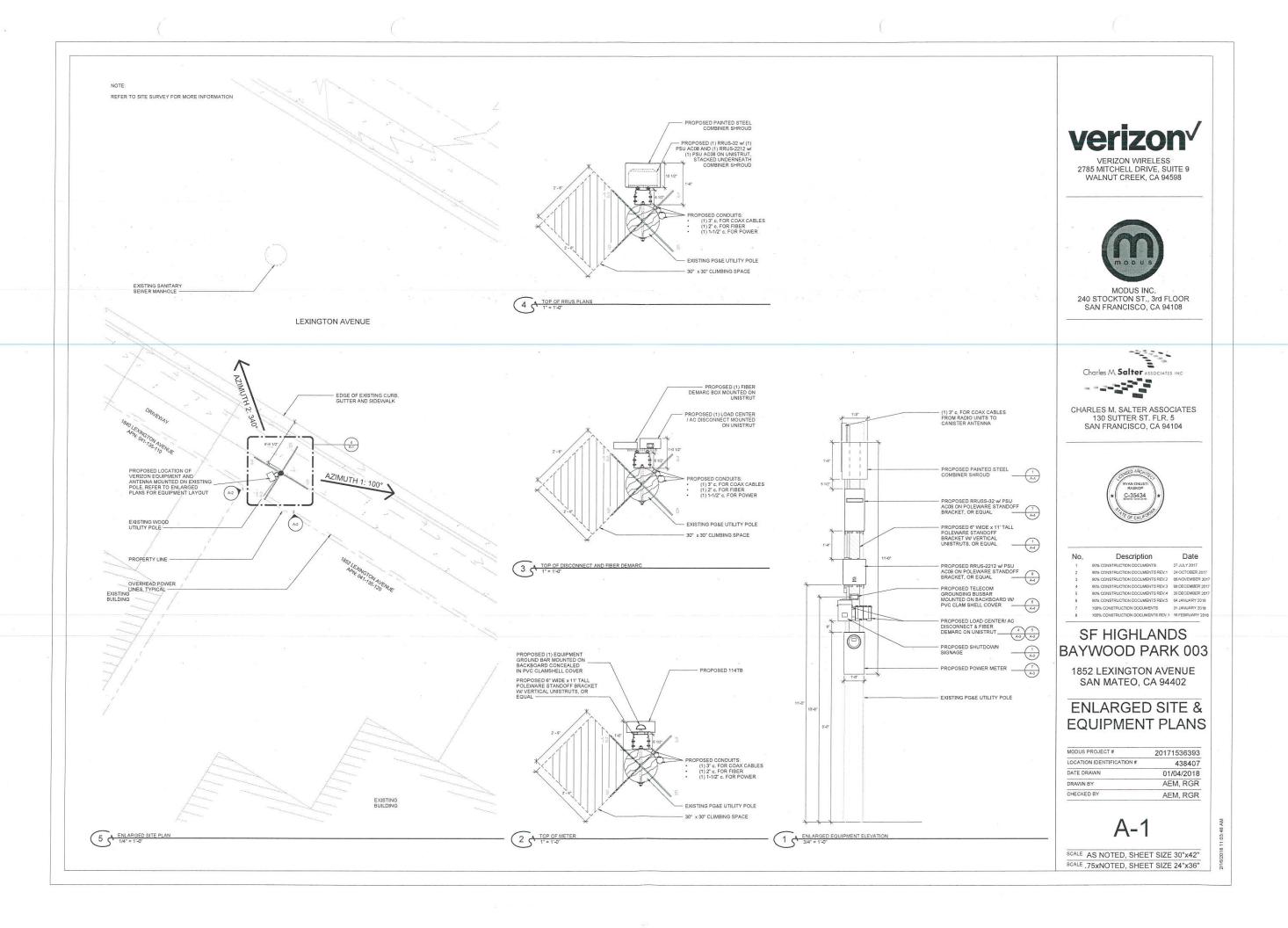
G-1

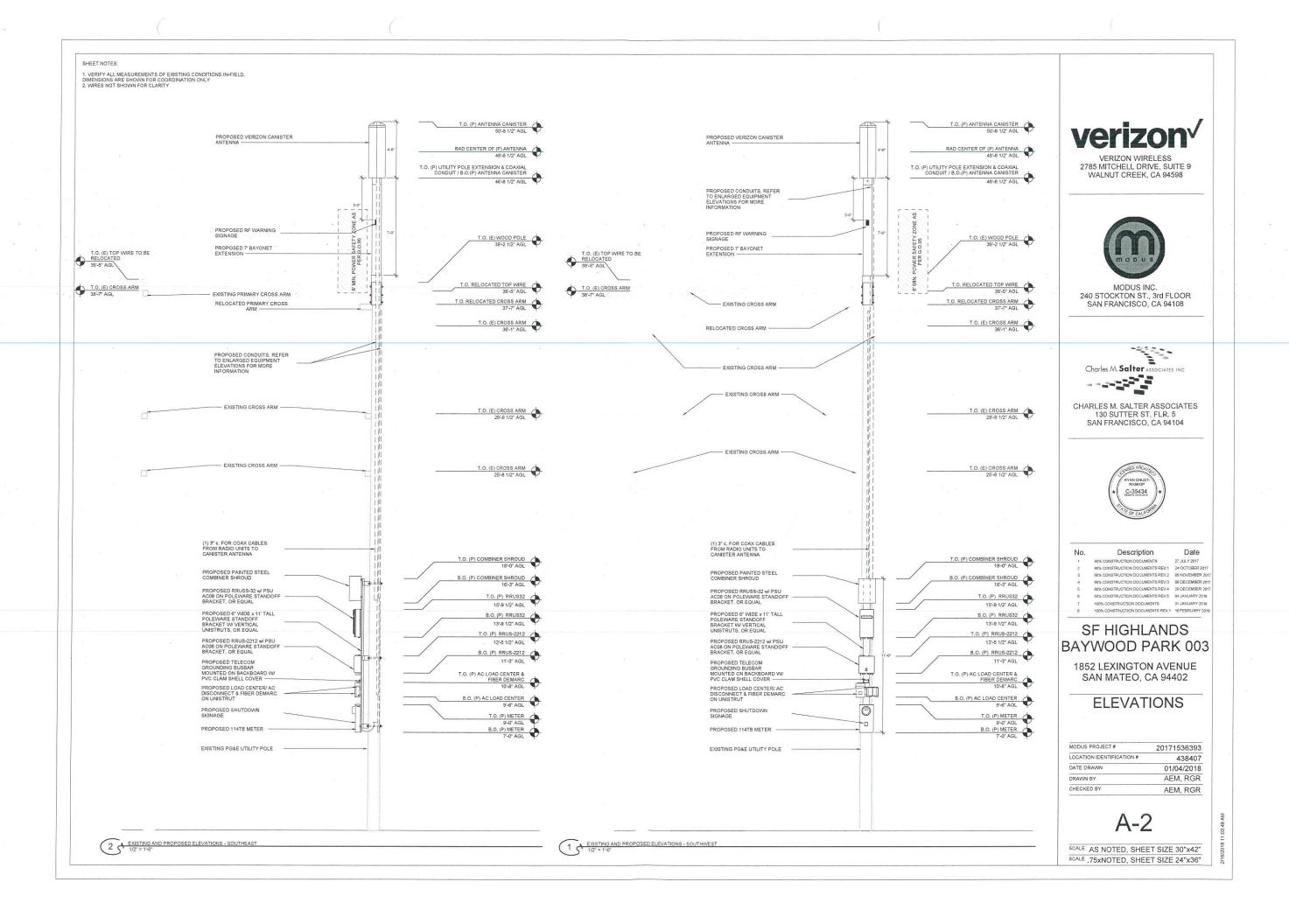
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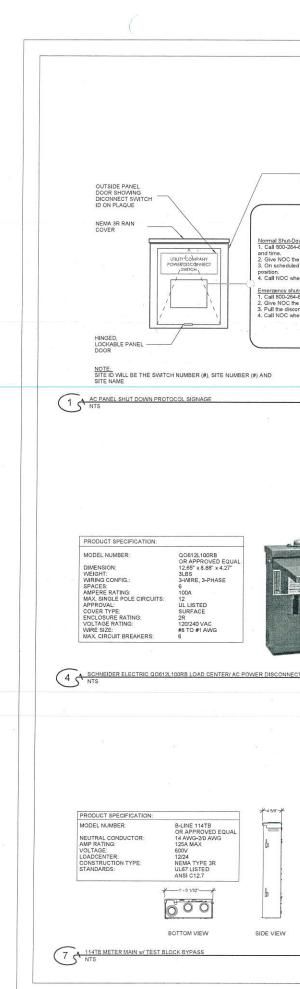


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AC SERVICE PANEL SQUARE-D PART #: Q0612L100RBCP (NEMA 3R) OR APPROVED EQUAL. WIRE FOR SINGLE-SWITCH SHUTDOWN

SHUT DOWN DISCONNECT

Normal Shut-Down Protocols: 1. Call 800-264-6620 NOC 24 HRS Prior to schedule a shut-down Day and time.

2. Give NOC the Node number: MARKET I.D. / SITE I.D. / SITE NAME

3. On scheduled day of shut-down, pull the disconnect to the "OFF"

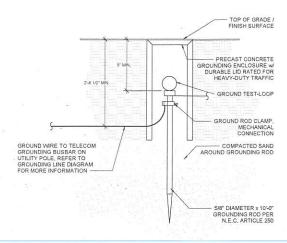
1. Call 800-264-6520 NOC.
2. Give NOC the Node number: MARKET I.D. / SITE I.D. / SITE NAME
3. Pull the disconnect handle to the "OFF" position.
4. Call NOC when work is completed.

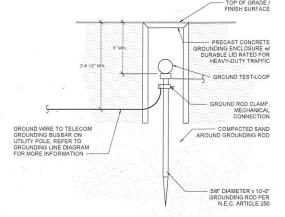
FRONT VIEW

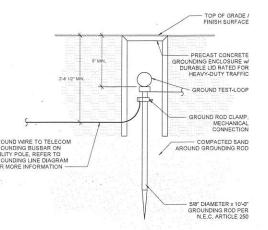
SIDE VIEW

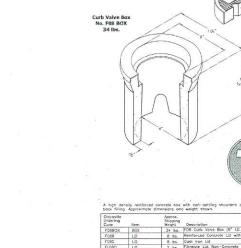
position.

4. Call NOC when work is completed. Emergency shut-down Protocols: 1, Call 800-264-6620 NOC.









Etched polygrapylene face
 Face anchared in concrete
 Ultra-violet inhibitor
 Exceeds ASIM-D1893 Standards
 for Environmental Stress Cracking Resistance





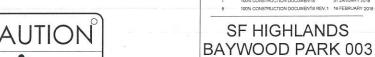
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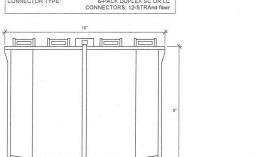
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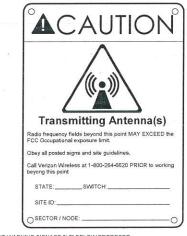
CONSTRUCTION **DETAILS**

MODUS PROJECT #	20171536393
LOCATION IDENTIFICATION #	438407
DATE DRAWN	01/04/2018
DRAWN BY	AEM, RGR
CHECKED BY	AEM, RGR

A-3

SCALE AS NOTED, SHEET SIZE 30"x42" SCALE .75xNOTED, SHEET SIZE 24"x36"





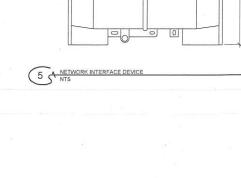
PRODUCT INFORMATION:

COUPLER WIND AREA WEIGHT DIMENSIONS

MICROLAB CA-X4 0.06 sf 1.43 lbs / 0.65 kg 5.20" X 1.73" X 1.0"

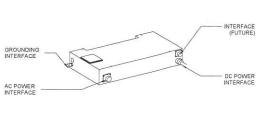
NOTE: MOUNT WARNING SIGNAGE 3'-0" BELOW PROPOSED CANISTER ANTENNA

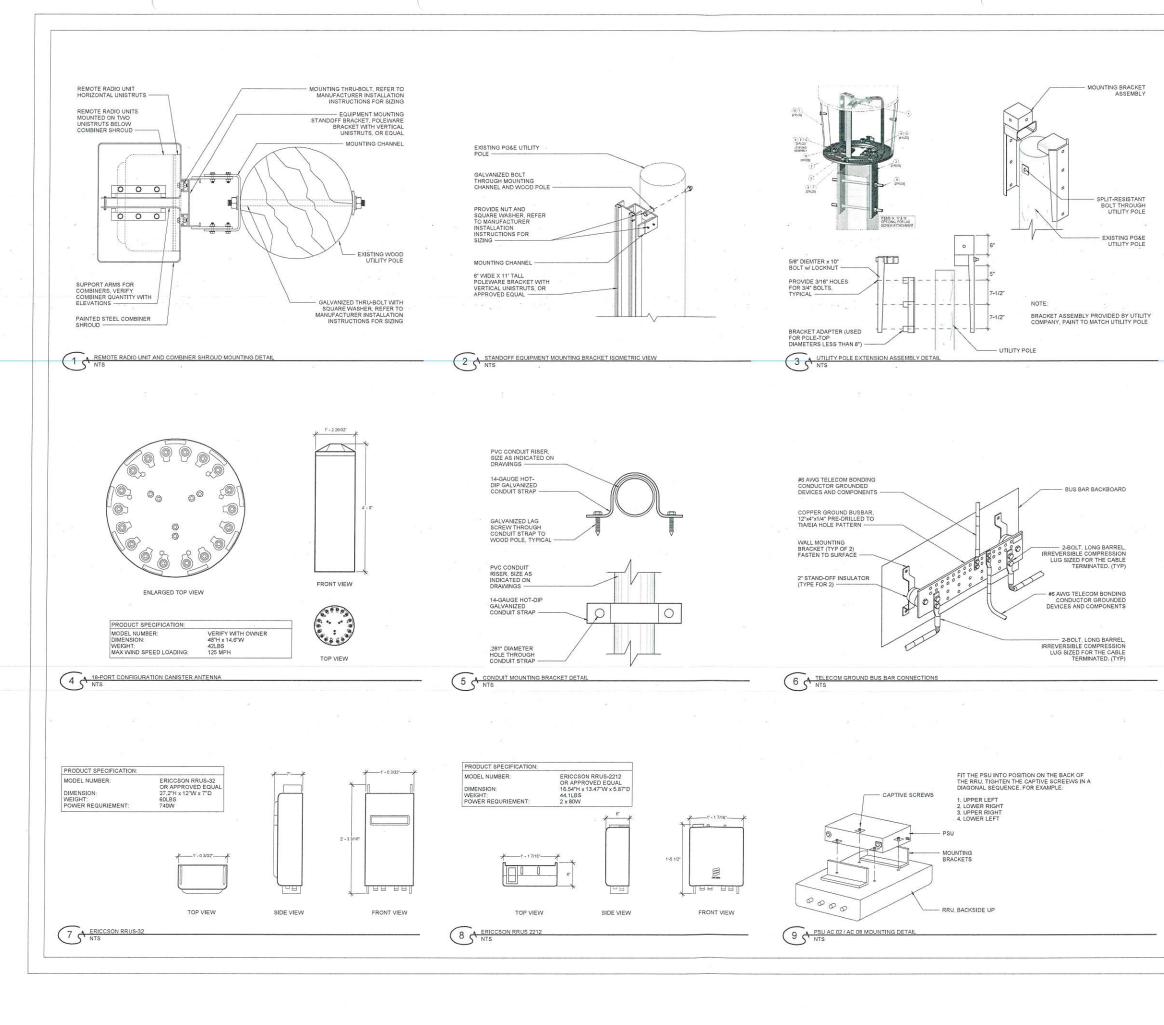




PRODUCT SPECIFICATION

MODEL NUMBER:





verizon√

VERIZON WIRELESS 2785 MITCHELL DRIVE, SUITE 9 WALNUT CREEK, CA 94598



MODUS INC. 240 STOCKTON ST., 3rd FLOOR SAN FRANCISCO, CA 94108



CHARLES M. SALTER ASSOCIATES
130 SUTTER ST. FLR. 5



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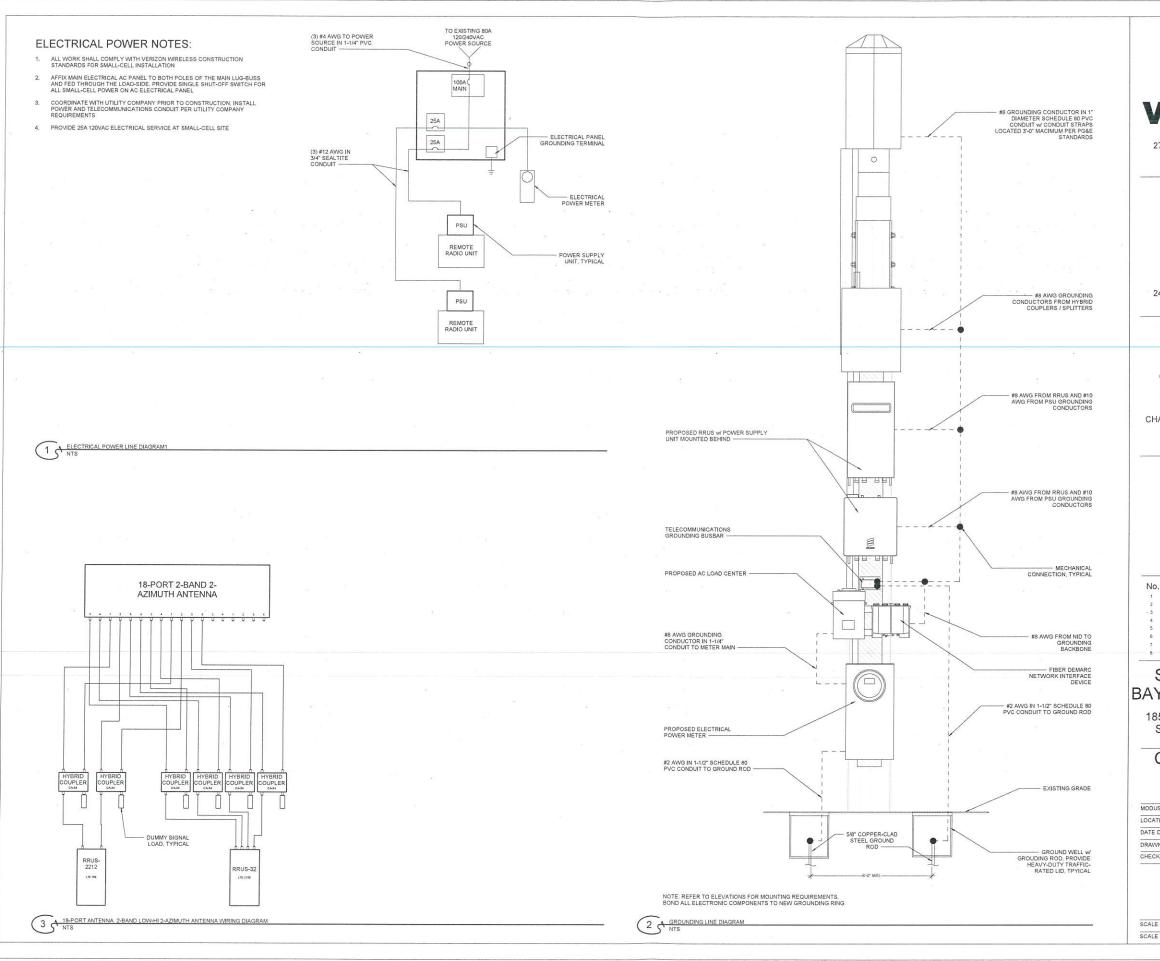
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A-4

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CABLING LINE & GROUNDING DIAGRAMS

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E-1

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BID2018-00071

RECEIVED

FER 8 3 2018

San Maieo County

Planning Division

BEFORE

AFTER





BLD 2018-00071

ASK-01

PHOTO SIMULATION - EAST

SF BAYWOOD PARK 003

REVISION:

SHEETS REF:

PROJECT#: 20171536393

DATE: 1/23/2018

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DRAWN: AEM CHECK: RGR

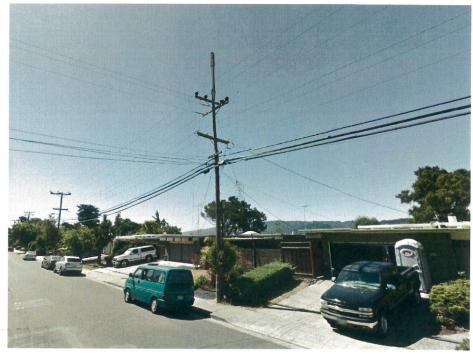
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130 SUTTER STREET, FLOOR 5 SAN FRANCISCO, CA 94104 **BEFORE**

AFTER





ASK-02

PHOTO SIMULATION - NORTHWEST

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SHEETS REF:

SF BAYWOOD PARK 003

REVISION:

PROJECT#: 20171536393

DATE: 1/23/2018 1:12:52 PM

DRAWN: AEM CHECK: RGR



BLD 2018-00071

Radio Frequency - Electromagnetic Energy (RF-EME) Jurisdictional Report

Site No. 438407 SF HIGHLANDS BAYWOOD PARK 003

Adjacent to 1852 Lexington Avenue
San Mateo, California 94002
San Mateo County
37° 31' 7.50" N, -122° 20' 49.29" W NAD83

EBI Project No. 6218000384 February 4, 2018 RECEIVED

FEB 23 2018

San Mateo County
Planning Division



Prepared for:

Verizon Wireless c/o Modus, Inc. 115 Sansome Street, 14th Floor San Francisco, CA 94104

Prepared by:



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EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Verizon Wireless to conduct radio frequency electromagnetic (RF-EME) modeling for Verizon Site 438407 located at Adjacent to 1852 Lexington Avenue in San Mateo, California to determine RF-EME exposure levels from proposed Verizon wireless communications equipment at this site. As described in greater detail in Section 2.0 of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

Statement of Compliance

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits <u>and</u> there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

As presented in the sections below, based on worst-case predictive modeling, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site.

At the nearest walking/working surfaces to the Verizon antennas, the maximum power density generated by the Verizon antennas is approximately 10.80 percent of the FCC's general public limit (2.16 percent of the FCC's occupational limit).

Recommended control measures are outlined in Section 5.0 and within a Site Safety Plan (attached); this plan includes instructions to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol.

1.0 INTRODUCTION

Radio frequency waves are electromagnetic waves from the portion of the electromagnetic spectrum at frequencies lower than visible light and microwaves. The wavelengths of radio waves range from thousands of meters to around 30 centimeters. These wavelengths correspond to frequencies as low as 3 cycles per seconds (or hertz [Hz]) to as high as one gigahertz (one billion cycles per second).

Personal Communication (PCS) facilities used by Verizon in this area operate within a frequency range of 700-2100 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed a distance above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of in areas in the immediate vicinity of the antennas.

MPE limits do not represent levels where a health risk exists, since they are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size or health.

2.0 SITE DESCRIPTION

This project site includes one (I) wireless telecommunication antennas (at two transmitting sectors) on a utility pole located at Adjacent to 1852 Lexington Avenue in San Mateo, California.

	Verizon A	ntenna Inforn	nation (pr	oposed Co	onfigura	ition)			医重量
Antenna # and Model	Frequency (MHz)	# of Transmitters	Transmit Power (Watts)	Azimuth	Gain (dBd)	Feet above Ground (CL)	x	Υ	Z (feet)
A I Ampheno CUUT070X I 2Fxyz0	700 2100	2 2	60 60	100° 340°	6.95 9.85	48.71	30	30	46.7

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general population/uncontrolled exposure limits for members of the general public that may be exposed to antenna fields. While access to this site is considered uncontrolled, the analysis has considered exposures with respect to both controlled and uncontrolled limits as an untrained worker may access adjacent rooftop locations. Additional information regarding controlled/uncontrolled exposure limits is provided in Section 3.0. Appendix B presents a site safety plan that provides a plan view of the utility pole with antenna locations.

3.0 FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the

National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table I and Figure I (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm²). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm²) and an uncontrolled MPE of 1 mW/cm² for equipment operating in the 1900 MHz frequency range. For the Verizon equipment operating at 700 MHz or 850 MHz, the FCC's occupational MPE is 2.83 mW/cm² and an uncontrolled MPE of 0.57 mW/cm². These limits are considered protective of these populations.

(A) Limits for Occupational/Controlled Exposure							
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time [E] ² , [H] ² , or S (minutes)			
0.3-3.0	614	1.63	(100)*	6			
3.0-30	1842/f	4.89/f	(900/f²)*	6			
30-300	61.4	0.163	1.0	6			
300-1,500			f/300	6			
1,500-100,000			5	6			

Та	able I: Limits for	Maximum Permis	sible Exposure (MPI	E)			
(A) Limits for Occupational/Controlled Exposure							
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time [E] ² , [H] ² , or S (minutes)			
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time [E] ² , [H] ² , or S (minutes)			
0.3-1.34	614	1.63	(100)*	30			
1.34-30	824/f	2.19/f	(180/f ²)*	30			
30-300	27.5	0.073	0.2	30			
300-1,500	228		f/1,500	30			
1,500-100,000	<u> </u>		1.0	30			

f = Frequency in (MHz)

^{*} Plane-wave equivalent power density

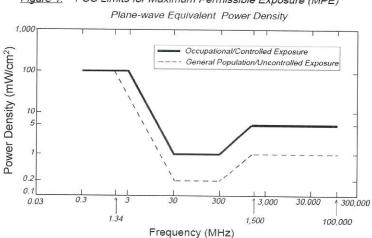


Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)

Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm ²	1.00 mW/cm ²
Cellular Telephone	870 MHz	2.90 mW/cm ²	0.58 mW/cm ²
Specialized Mobile Radio	855 MHz	2.85 mW/cm ²	0.57 mW/cm ²
Most Restrictive Freq, Range	30-300 MHz	1.00 mW/cm ²	0.20 mW/cm ²

MPE limits are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

Personal Communication (PCS) facilities used by Verizon in this area operate within a frequency range of 700-2100 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be

received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

4.0 WORST-CASE PREDICTIVE MODELING

EBI has performed theoretical modeling using RoofView® software to estimate the worst-case power density at the site ground-level resulting from operation of the antennas. RoofView® is a widely-used predictive modeling program that has been developed by Richard Tell Associates to predict both near field and far field RF power density values for roof-top and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

The modeling is based on worst-case assumptions for the number of antennas and transmitter power. The modeling assumes a maximum 2-2 radio configuration for Sectors A and B, with a power level of 48 dbM (60 watts) per transmitter for 700 and 2100 frequencies, in order to provide a worst-case evaluation of predicted MPE levels. The assumptions used in the modeling are based upon information provided by Verizon, and information gathered from other sources. The parameters used for the modeling are summarized in the RoofView® export files presented in Appendix C.

There are no other wireless carriers with equipment installed at this site.

Based on worst-case predictive modeling, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed Verizon antennas that exceed the FCC's occupational or general public exposure limits at this site. At the nearest walking/working surfaces to the Verizon antennas, the maximum power density generated by the Verizon antennas is approximately 10.80 percent of the FCC's general public limit (2.16 percent of the FCC's occupational limit). The composite exposure level from all carriers on this site is approximately 10.80 percent of the FCC's general public limit (2.16 percent of the FCC's occupational limit) at the nearest walking/working surface to each antenna.

The Site Safety Plan also presents areas where Verizon Wireless antennas contribute greater than 5% of the applicable MPE limit for a site. A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix C. A graphical representation of the RoofView® modeling results is presented in Appendix B. It should be noted that RoofView is not suitable for modeling microwave dish antennas; however, these units are designed for point-to-point operations at the elevations of the installed equipment rather than ground level coverage.

5.0 MITIGATION/SITE CONTROL OPTIONS

EBI's modeling indicates that there are no areas in front of the Verizon antennas that exceed the FCC standards for occupational or general public exposure. All exposures above the FCC's safe limits require that individuals be elevated above the ground level. In order to alert people accessing the ground, a Caution sign is recommended for installation 12 feet below antenna bottom facing street.

These protocols and recommended control measures have been summarized and included with a graphic representation of the antennas and associated signage and control areas in a RF-EME Site Safety Plan, which is included as Appendix B. Individuals and workers accessing the roof should be provided with a copy of the attached Site Safety Plan, made aware of the posted signage, and signify their understanding of the Site Safety Plan.

Implementation of the signage recommended in the Site Safety Plan and in this report will bring this site into compliance with the FCC's rules and regulations.

6.0 SUMMARY AND CONCLUSIONS

EBI has prepared a Radiofrequency — Electromagnetic Energy (RF-EME) Compliance Report for telecommunications equipment installed by Verizon Site Number 438407 located at Adjacent to 1852 Lexington Avenue in San Mateo, California to determine worst-case predicted RF-EME exposure levels from wireless communications equipment installed at this site. This report summarizes the results of RF-EME modeling in relation to relevant Federal Communications Commission (FCC) RF-EME compliance standards for limiting human exposure to RF-EME fields.

As presented in the sections above, based on the FCC criteria, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site. Workers should be informed about the presence and locations of antennas and their associated fields. Recommended control measures are outlined in Section 5.0 and within a Site Safety Plan (attached); this plan includes procedures to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol.

7.0 LIMITATIONS

This report was prepared for the use of Verizon Wireless. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

Appendix A Certifications

Reviewed and Approved by:



sealed 4feb2018

Michael McGuire Electrical Engineer

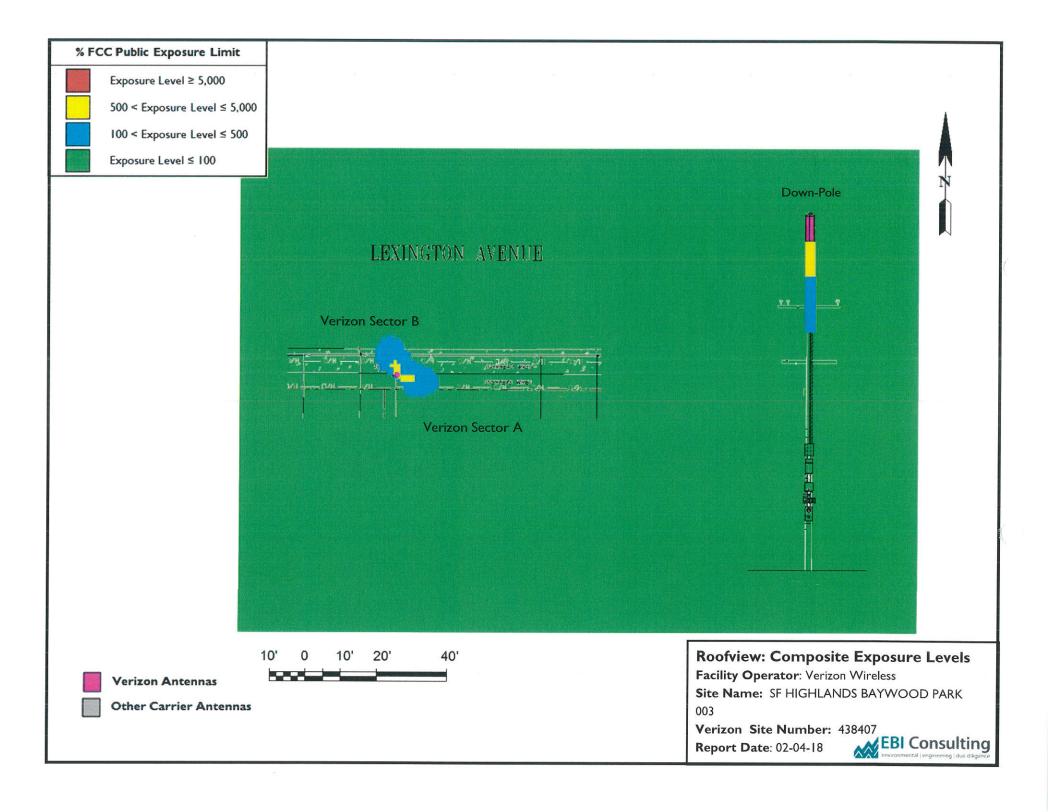
Note that EBI's scope of work is limited to an evaluation of the Radio Frequency – Electromagnetic Energy (RF-EME) field generated by the antennas and broadcast equipment noted in this report. The engineering and design of the structure, as well as the impact of the antennas and broadcast equipment on the structural integrity of the structure, are specifically excluded from EBI's scope of work.

Preparer Certification

I, Thanh Estevam, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am fully aware of and familiar with the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.

Appendix B Radio Frequency Electromagnetic Energy Safety / Signage Plans





Exposure Level > 5

Exposure Level ≤ 5





Facility Operator: Verizon Wireless

Site Name: SF HIGHLANDS BAYWOOD PARK

003

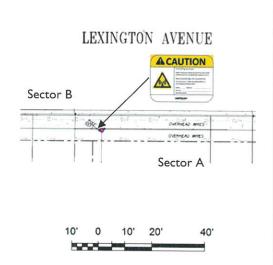
Verizon Site Number: 438407 EBI Consulting

Report Date: 02-04-18





Verizon Signage Plan







Verizon Antennas

Sign Image	Description	Posting Instructions	Required Signage
CAUTION The control of the contro	Yellow Caution Sign Used to alert individuals that they are entering an area where the power density emitted from transmitting antennas may exceed the FCC's maximum permissible exposure limit for the general public and the occupational exposure limit.	Securely post in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	Post sign 12 feet below antenna bottom facing stree

Appendix C Roofview® Export File

StartMapDefinition (MHz) Trans Trans Coax Coax
Freq Power Count Len Type
700 60 10 0
2100 60 10 0
2100 60 10 0
2100 60 10 0 (ft) Z Type
30 46.71
30 46.71
30 46.71
30 46.71 dBd BWdth
Gain Pt Dir
6.95 70;100
9.85 70;340 (ft) Model X Uptime Profile Mfg Model
Amphenol CUUT070X
Amphenol CUUT070X
Amphenol CUUT070X Loss Power Power flag ON• ON• VZW A1 LTE 30 30 30 30 4 VZW A1 LTE VZW A1 LTE ON. VZW A1 LTE StartSymbolData 1 Amphenol CUUT070X: ON• Map Mark Roof X Roof Y Map Label Description (notes for this table only)

5 35 AC Unit Sample symbols

14 5 Roof AC ess

45 5 AC Unit

20 Ladder Sym Sym