

PROJECT TEAM

APPLICANT:

AT&T
5001 Executive Parkway
San Ramon, Ca 94583

ARCHITECT/ENGINEER:

Rodney Barnes
Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 707.592.5924
rodney@meridian.management

ZONING CONTACT

Matt Yergovich
Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598
T 415.596.3474
myergo@gmail.com

LEASING CONTACT:

Matt Yergovich
Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598
T 415.596.3474
myergo@gmail.com

CONSTRUCTION MANAGER:

Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598

Attachment C

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE AT&T WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING METAL LIGHT POLE IN THE PUBLIC RIGHT-OF-WAY. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
2. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT DRAINAGE, NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.
3. CHANGES FROM THE APPROVED PLANS DURING THE COURSE OF CONSTRUCTION SHALL CAUSE CONSTRUCTION TO BE SUSPENDED UNTIL SUCH TIME AS THE PLANS CAN BE AMENDED BY THE DESIGNER AND SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL.

CODE COMPLIANCE

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

- CALIFORNIA CODES
- 2016 CALIFORNIA BUILDING CODE
- 2016 CALIFORNIA MECHANICAL CODE
- 2016 CALIFORNIA PLUMBING CODE
- 2016 CALIFORNIA ELECTRIC CODE
- 2016 GREEN BUILDING CODE
- 2016 EDITION OF TITLE 24 ENERGY STANDARDS
- ANY LOCAL BUILDING CODE AMENDMENTS TO THE ABOVE
- CITY / COUNTY ORDINANCES
- CITY OF OAKLAND PUBLIC WORKS DEPARTMENT
- GENERAL ORDER 95 (JUNE 2009 EDITION)

SITE IMAGE



5001 EXECUTIVE PARKWAY, SAN RAMON, CA 94583

CRAN-RSFR-SF0K6-024

PAGE ID:

ROW AT 276 29TH ST, OAKLAND, CA 94611

COUNTY: ALAMEDA

SITE TYPE: WOOD POLE

FA:14307065 HUB:19 USID:192872



DRIVING DIRECTIONS

FROM AT&T WIRELESS OFFICE AT 5001 EXECUTIVE PARKWAY, SAN RAMON, CA

1. Head north-east on Bishop Dr towards Sunset Dr
2. Turn right onto Sunset Dr
3. Use the right 2 lanes to turn right onto Bollinger Canyon Rd
4. Use the right 2 lanes to merge onto I-680 N via the slip road to Sacramento
5. Merge onto I-680 N
6. Use the right 2 lanes to take exit 46A for State Route 24 towards Oakland/Lafayette
7. Continue onto CA-24 W
8. Keep left at the fork to stay on CA-24 W
9. Use the right 2 lanes to take exit 2B for Interstate 580 E towards Hayward
10. Use the right lane to merge onto I-580 E
11. Take exit 21A for Harrison St
12. Turn right onto Harrison St
13. Turn right onto 29th St

INDEX

T.1	TITLE SHEET
T.2	GENERAL NOTES, LEGEND, ABBREVIATIONS
A.1	OVERALL SITE PLAN
A.2	POLE PLAN, EQUIPMENT ENLARGEMENTS
A.3	ELEVATIONS
A.4	ELEVATIONS
A.5	EQUIPMENT DETAILS
A.6	EQUIPMENT DETAILS

DRAWING SIGN-OFF

VINCULUMS

	Signature	Date
SITE ACQUISITION:		
PLANNING:		
CONSTRUCTION:		
MANAGEMENT:		

AT&T

	Signature	Date
CONSTRUCTION:		
REAL ESTATE:		
RF ENGINEER:		
EQUIPMENT ENGINEER:		
MW ENG/TRANSPORT:		
OWNER:		

PROJECT DESCRIPTION

THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE AT&T WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING WOOD POLE IN THE PUBLIC RIGHT-OF-WAY.

SCOPE OF WORK & SITE COMPLETION CHECKLIST:

1. ANTENNA & ASSOCIATED EQUIPMENT BOXES: INSTALL A NEW TELECOMMUNICATION ANTENNA, NEW 7' BAYONET EXTENSION, (2) EQUIPMENT BOXES, NEW FIBER BOX, AND NEW DISCONNECT/BREAKER BOX ON AN EXISTING WOOD POLE. ALL POLE-MOUNTED EQUIPMENT TO BE INSTALLED ON A GO95 COMPLIANT STANDOFF BRACKET.
2. DURABLE PAINT: ANTENNAS, MOUNTING BRACKETS, CABLING, AND RADIO RELAY UNITS TO BE PAINTED SHERWIN WILLIAMS MESA BROWN
3. CABLING: CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS
4. LOGO REMOVAL: ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (E.G. NODE IDENTIFICATION), SHALL BE PAINTED OVER OR REMOVED, RAISED/DEPRESSED TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, TO BE SANDED OFF OR SIMILARLY REMOVED AND/OR FILLED
5. SIGNAGE: FCC MANDATED RF WARNING SIGNAGE SHALL FACE CLIMBING SPACE. OPTIONAL SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD BUILDING IF THERE IS NO WINDOW.
6. UTILITY LINES: PROPOSED UTILITY LINES BETWEEN EXISTING POINT OF CONNECTION TO BE IN CONDUIT ON POLE

SITE INFORMATION

OWNER:	PG&E
APPLICANT:	AT&T 5001 EXECUTIVE PARKWAY SAN RAMON, CA 94583
LATITUDE:	37.8172500 (NAD 83)
LONGITUDE:	-122.2614700 (NAD 83)
GROUND ELEVATION:	34' AMSL
ADJACENT APN#:	(IFO) 9-702-1-1
ZONING JURISDICTION:	CITY OF OAKLAND
CURRENT ZONING:	PUBLIC ROW
PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & FIELD CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME



AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:



Project Architect:



575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SF0K6-024

PAGE ID:

ROW AT 276 29TH ST
OAKLAND, CA 94611
COUNTY: ALAMEDA

Site Name:

Professional Seal:

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional Architect/Engineer, to alter this document.

Rev.	Date	Description
01	09/26/17	Zoning Dwg. 90%
02	10/23/17	Zoning Dwg. 95%

Project No.:

Date: 10/23/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

TITLE SHEET

Sheet Title:

T.1

Sheet No.:

© Meridian Management LLC, 2017

GENERAL CONSTRUCTION NOTES

- PLANS ARE INTENDED TO BE DIAGRAMMATIC OUTLINE ONLY. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL OBTAIN, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL CONTACT USA (UNDERGROUND SERVICE ALERT) AT (800) 227-2600, FOR UTILITY LOCATIONS, 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE, OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CBC / IBC'S REQUIREMENTS REGARDING EARTHQUAKE RESISTANCE, FOR, BUT NOT LIMITED TO, PIPES, LIGHT FIXTURES, CEILING GRID, INTERIOR PARTITIONS, AND MECHANICAL EQUIPMENT. ALL WORK MUST COMPLY WITH LOCAL EARTHQUAKE CODES AND REGULATIONS.
- REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWINGS, SHALL NOT BE USED TO IDENTIFY OR ESTABLISH BEARING OF TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT / ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE CIVIL SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ARCHITECT / ENGINEER.
- THE BUILDING DEPARTMENT ISSUING THE PERMITS SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK, OR AS OTHERWISE STIPULATED BY THE CODE ENFORCEMENT OFFICIAL HAVING JURISDICTION.
- DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
- ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON THE PLAN HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT / ENGINEER AND THE OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR THE ACCURACY OF THE INFORMATION SHOWN ON THE PLANS, OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTORS SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTORS SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
- CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES, BOTH HORIZONTAL AND VERTICALLY, PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT / ENGINEER FOR RESOLUTION AND INSTRUCTION. AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT / ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE.
- ALL PROPOSED AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
- ANY DRAIN AND/OR FIELD TILE ENCOUNTERED / DISTURBED DURING CONSTRUCTION SHALL BE RETURNED TO ITS ORIGINAL CONDITION PRIOR TO COMPLETION OF WORK. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON "AS-BUILT" DRAWINGS BY GENERAL CONTRACTOR, AND ISSUED TO THE ARCHITECT / ENGINEER AT COMPLETION OF PROJECT.
- ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
- INCLUDE MISC. ITEMS PER AT&T WIRELESS SPECIFICATIONS

GENERAL NOTES FOR EXISTING CELL SITES

- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND TI CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD PROPOSED TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

APPLICABLE CODES, REGULATIONS AND STANDARDS:

- SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION.
- THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
- SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
 - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
 - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES
 - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRICAL EQUIPMENT.
 - IEEE C42.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")
- TIA 407 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS TELCORDIA GR-63 NETWORK EQUIPMENT-BUILDING SYSTEM (NBS); PHYSICAL PROTECTION TELCORDIA GR-347 GENERAL OFFICE POWER WIRING TELCORDIA GR-1275 GENERAL INSTALLATION REQUIREMENTS TELCORDIA GR-1503 COAXIAL CABLE CONNECTIONS
- ANY AND ALL OTHER LOCAL & STATE LAWS AND REGULATIONS
- FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

GENERAL TRENCHING NOTES

- MAINTAIN 40" MINIMUM COVER FOR ALL ELECTRICAL CONDUITS.
- MAINTAIN 30" MINIMUM COVER FOR ALL TELECOMMUNICATIONS CONDUITS.
- MINIMUM 1" SAND SHADING BELOW CONDUITS, AND 6" COVERING ON TOP OF CONDUITS REQUIRED.
- ALL ELECTRICAL CONDUITS FROM POWER COMPANY FROM ANY POLE, TRANSFORMER OR OTHER LOCATIONS WILL BE SLURRY BACKFILLED.
- IN STREET SLURRY TO GRADE AND MILL DOWN 1-1/2" FOR A.C. CAP.
- IN DIRT SLURRY 18" FROM GRADE AND FILL 95% COMPACTION NATIVE SOIL FOR BALANCE
- WARNING TAPE TO BE PLACED IN TRENCH 12" ABOVE ALL CONDUITS AND 18" WARNING TAPE ABOVE RING.

GENERAL GROUNDING NOTES

- 5/8" X 8" ROD, CAD WELD BELOW GRADE
- GROUND TESTED AT 5 OHMS OR LESS.
- 45 GROUND AND BOND WIRE.
- 4 GROUND 3" FROM POLE.
- PLACE 3 #10 GA WIRES FROM IESCO BREAKER TO PBMD OR STRONG BOX.
- WOOD MOLDING, STAPLED EVERY 3" AND AT EACH END.

GENERAL CONDUIT NOTES

- ALL CONDUITS WILL BE MANHOLED AND EQUIPPED WITH 3/8" PULL ROPE.
- SCHEDULE 40 CONDUIT FOR UNDERGROUND USE.
- SCHEDULE 80 CONDUIT FOR RISER USE.
- 2" GALVANIZED STEEL CONDUIT FOR ANY CONDUIT UNDER 3". STUB UP 10" THEN CONVERT TO SCHEDULE 80.
- CONVERT 4" CONDUIT TO 3" AT BASE OF POLE.
- CONTRACTOR TO STUB UP POLE 10" w/ 3" POWER CONDUIT. POWER COMPANY TO CONVERT FROM 3" STUB SCHEDULE 80 TO 2".
- SCHEDULE 80 POLE LEFT FROM REARRANGEMENT OF CLUMB STEPS TO BE FILLED.
- INSTALL STEPS PER AT&T REQUIREMENTS

TYPICAL R.O.W. POLE CONSTRUCTION NOTES

- CABLE NOT TO IMPEDE 15' CLEAR SPACE OFF POLE FACE.
- ALL CLUMB STEPS NEXT TO CONDUIT SHALL HAVE EXTENDED STEPS.
- NO BOLT HEADS TO PROTRUDE MORE THAN 1-1/2".
- USE 1/2" DIA. CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
- 90° SHORT SWEEPS UNDER ANTENNA ARM. ALL CABLES MUST TRANSITION ON THE INSIDE OR BOTTOM OF THE ARM (NO CABLE ON TOP OF ARM).
- USE 90° CONNECTOR AT CABLE CONNECTION FOR OMNI DOWN ANTENNAS.
- USE CABLE CLAMPS TO SECURE CABLE TO ARMS. PLACE 2" AT&T WIRELESS CABLE I.D. TAGS ON BOTH SIDES OF ARMS.
- USE 1/2" DIA. CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
- PLACE GPS ON ARM OF SOUTHERN SKY EXPOSURE AT MINIMUM 6" FROM TRANSMIT ANTENNA WHICH IS 24" AWAY FROM CENTER OF POLE.
- FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.

GENERAL NOTES

	PROPOSED ANTENNA		GROUT OR PLASTER		TELCO RUN
	EXISTING ANTENNA		(E) BRICK		POWER/TELCO RUN
	GROUND ROD		(E) MASONRY		GROUNDING CONDUCTOR
	GROUND BUS BAR		CONCRETE		GROUNDING CONDUCTOR
	MECHANICAL GRND. CONN.		EARTH		CONDUIT UNDERGROUND
	GROUND ACCESS WELL		GRAVEL		FUSE SIZE AND TYPE AS INDICATED.
	ELECTRIC BOX		PLYWOOD		SAFETY SWITCH, 2P-240V-60A W/60A FUSES, NEMA 3R ENCLOSURE, SQ D CATALOG NO. H222NR8
	TELEPHONE BOX		WOOD CONT.		MANUAL TRANSFER SWITCH, 2P-240V-200A, NO FUSE, NEMA 3R ENCLOSURE
	LIGHT POLE		WOOD BLOCKING		LIGHTING FIXTURE, FLUORESCENT, 10.94" x 4'-0", 2/40W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG #WSW232T
	FND. MONUMENT		STEEL		LIGHTING FIXTURE, FLUORESCENT, 10.94" x 8'-0", 2/95W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG #TWSM232T
	SPOT ELEVATION		CENTERLINE		LIGHTING FIXTURE, HIGH PRESSURE SODIUM, 1/70W, WALL MOUNTING TYPE, HUBBELL LIGHTING CATALOG #NRG-307 OR 1/50W, HUBBELL LIGHTING CATALOG #NRG-121
	SET POINT		MATCH LINE		EXIT SIGN, THERMOPLASTIC LED, SINGLE FACE, UNIVERSAL MOUNTING, W/BATTERY PACK, HUBBELL LIGHTING CATALOG #PRB
	REVISION		WORK POINT		COMBINATION, EXIT SIGN & EMERGENCY LIGHTING, HUBBELL LIGHTING CATALOG #PRC
	GRID REFERENCE		GROUND CONDUCTOR		EMERGENCY LIGHTING, 2/50W, HUBBELL LIGHTING CATALOG #HE6-50-2-R91
	DETAIL REFERENCE		COAXIAL CABLE		LIGHTING FIXTURE, INCANDESCENT, 1/100W, WALL MOUNTING TYPE, HUBBELL LIGHTING CATALOG #BRH-100-06-1
	ELEVATION REFERENCE		OVERHEAD SERVICE CONDUCTORS		LIGHTING FIXTURE, HALOGEN, QUARTZ, 1/300W, HUBBELL LIGHTING CATALOG #QL-505
	SECTION REFERENCE		CHAIN LINK FENCING		LIGHTING FIXTURE, 1/175W, METAL HALIDE, HUBBELL CAT #MIC-0175H-336
			OVERHEAD ELEPHONE/OVERHEAD POWER		POWER RUN
			OVERHEAD TELEPHONE LINE		
			OVERHEAD POWER LINE		
			POWER RUN		

	5/8" X 10'-0" CU. GND ROD IN TEST WELL 30' MIN. BELOW GRADE.
	CHEMICAL GROUND ROD (KIT GROUND ROD)
	CADWELD CONNECTION
	MECHANICAL CONNECTION
	HALO GROUND CONNECTION
	CIRCUIT BREAKER
	UTILITY METER BASE
	TRANSFORMER
	STEPDOWN TRANSFORMER
	RECEPTACLE, 2P-3W-125V-15A, DUPLEX, GROUND TYPE, HUBBELL CATALOG #5362
	TOGGLE SWITCH, 1P-125V-15A, HUBBELL CATALOG #HBL 1201CN
	TOGGLE SWITCH, 1P-120V-15A, "WP"
	IONIZATION SMOKE DETECTOR W/ALARM HORN & AUXILIARY CONTACT, 120 VAC, GENTEX PART NO. 7100F
	POLE
	PROPOSED POLE MOUNTED XFMR
	PROPOSED PAD MOUNTED XFMR
	(E) PAD MOUNTED XFMR

A	AMPERE	HT.	HEIGHT
A.B.	ANCHOR BOLT	ICGB.	ISOLATED COPPER GROUND BUS
ABV.	ABOVE	INT	INTERIOR
ACCA	ANTENNA CABLE COVER ASSEMBLY	LB.(#)	POUND(S)
ADD'L	ADDITIONAL	LB.	LAG BOLTS
A.F.F.	ABOVE FINISHED FLOOR	L.F.	LINEAR FEET (FOOT)
A.F.G.	AMPERE INTERRUPTING CAPACITY	L.G.	LENGTH
AIC	ALUMINUM	L	LONGITUDINAL
ALUM.	ALTERNATE	LP	LOW PRESSURE SODIUM
ALT.	ANTENNA	M.S.	MASONRY
APPX.	APPROXIMATELY	MAX.	MAXIMUM
ARCH.	ARCHITECT(URAL)	M.B.	MACHINE BOLT
AT.	AMPERE TRIP	MECH.	MECHANICAL
AWG.	AMERICAN WIRE GAUGE	MFR.	MANUFACTURER
BATT.	BATTERY	MIN.	MINIMUM
BD.	BOARD	MISC.	MISCELLANEOUS
B.D.G.	BUILDING	MO.	MAIN LUGS ONLY
B.K.	BLOCK	MTD.	MOUNTED
BLKG.	BLOCKING	MTG.	MOUNTING
BM.	BEAM	MTL.	METAL
B.N.	BOUNDARY NAILING	MTS.	MANUAL TRANSFER SWITCH
BR.	BRANCH	N	NEUTRAL
BRK.	BREAKER	N	NOTED
BRK.	BARE TINNED COPPER WIRE	N	NOTED
BS.	BASE TRANSMISSION SYSTEM	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
B.O.F.	BOTTOM OF FOOTING	NO. (#)	NUMBER
BU	BACK-UP CABINET	N.T.S.	NOT TO SCALE
BU	CONDUIT	OH	OVERHEAD
CAB.	CABINET	O.C.	ON CENTER
CANL.	CAN(L)EVER(ED)	OPENING	OPENING
CB	CIRCUIT BREAKER	P	POLE
C.I.P.	CAST IN PLACE	P/C	PRECAST CONCRETE
CKT.	CIRCUIT	P.C.	PERSONAL COMMUNICATION SERVICES
CLG.	CLEAR	PH	PHASE
CLR.	CLEAR	PLY.	PLYWOOD
COL.	COLUMN	PNBD	PANELBOARD
CONC.	CONCRETE	PPC	POWER PROTECTION CABINET
CONC.	CONNECTION(OR)	PRC	PRIMARY RADIO CABINET
CONN.	CONSTRUCTION	PR	PRIMARY
CONST.	CONSTRUCTION	P.S.F.	POUNDS PER SQUARE FOOT
CONG.	CONCRETE	P.S.I.	POUNDS PER SQUARE INCH
d	PENNY (NAILS)	P.T.	PRESSURE TREATED
DBL	DOUBLE	PWR.	POWER (CABINET)
DEPT.	DEPARTMENT	QTY.	QUANTITY
D.F.	DIAGNOSIS FR	RAD.(R)	RADIUS
DIA.	DIAMETER	REF.	REFERENCE
DIAG.	DIAGONAL	REF.	REINFORCEMENT(ING)
DIA.	DIMENSION	REQD.	REQUIRED
DWG.	DRAWING(S)	RGL	RIGID GALVANIZED STEEL
DWL.	DOWEL(S)	SAF	SAFETY
EACH	EMERGENCY GENERATOR RECEPTACLE	SCH.	SCHEDULE
ELEV.	ELEVATION	SCH.	SOFT DRAWN BARE COPPER
ELEC.	ELECTRICAL	SEC	SECONDARY
ELEV.	ELEVATOR	SH.	SHEET
ENT.	ELECTRICAL METALLIC TUBING	SH.	SHIM
ENCL.	ENCLOSURE	S.N.	SOLID NEUTRAL
ENG.	ENGINEER	SPEC.	SPECIFICATION(S)
ENG.	ENGINEER	SQ.	SQUARE
EQ.	EQUAL	S.S.	STAINLESS STEEL
EXT.(E)	EXISTING	STD.	STANDARD
EXP.	EXPANSION	STL.	STEEL
EXT.	EXTERIOR	STRUC.	STRUCTURAL
FAB.	FABRICATION(OR)	SURF.	SURFACE
FAC.	FACTORY	SW	SWITCH
F.A.	FIRE ALARM	TEL	TELEPHONE
F.F.	FINISH FLOOR	TEMP.	TEMPORARY
F.F.	FINISH FLOOR	THK.	THICKNESS
F.F.	FINISH FLOOR	TAL	TOE NAIL
F.F.	FINISH FLOOR	T.O.A.	TOP OF ANTENNA
F.F.	FINISH FLOOR	T.O.C.	TOP OF CURB
F.F.	FINISH FLOOR	T.O.F.	TOP OF FOUNDATION
F.F.	FINISH FLOOR	T.O.P.	TOP OF PLATE (PARAPET)
F.F.	FINISH FLOOR	T.O.S.	TOP OF STEEL
F.F.	FINISH FLOOR	T.O.W.	TOP OF WALL
F.F.	FINISH FLOOR	TYP.	TYPICAL
F.F.	FINISH FLOOR	U.G.	UNDER GROUND
F.F.	FINISH FLOOR	ULL.	UNDERWRITERS LABORATORY INC.
F.F.	FINISH FLOOR	UNCL.	UNLESS NOTED OTHERWISE
F.F.	FINISH FLOOR	VOLT	VOLT
F.F.	FINISH FLOOR	VAC	VOLTS ALTERNATING CURRENT
F.F.	FINISH FLOOR	V.I.F.	VERIFY IN FIELD
F.F.	FINISH FLOOR	W	WATT OR WIRE
F.F.	FINISH FLOOR	WD	WIDE(WIDTH)
F.F.	FINISH FLOOR	W/O	WITHOUT
F.F.	FINISH FLOOR	W/P	WEATHERPROOF
F.F.	FINISH FLOOR	WT.	WEIGHT
F.F.	FINISH FLOOR	WTR	WATER
F.F.	FINISH FLOOR	XFMR	TRANSFORMER
F.F.	FINISH FLOOR	XLP	CROSS-LINK POLYETHYLENE
F.F.	FINISH FLOOR	Y	COVERLINE
F.F.	FINISH FLOOR	Z	PLATE, PROPERTY LINE

LEGEND

ABBREVIATIONS



AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:



Project Architect:



575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SF0K6-024

PAGE ID:
ROW AT 276 29TH ST
OAKLAND, CA 94611
COUNTY: ALAMEDA

Site Name:

Professional Seal:

It is a violation of law for any person,
unless they are acting under the direction
of a licensed Professional
Architect/Engineer, to alter this document.

Rev.	Date	Description
01	09/26/17	Zoning Dwgs 90%
02	10/23/17	Zoning Dwgs 95%

Project No.:

Date: 10/23/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

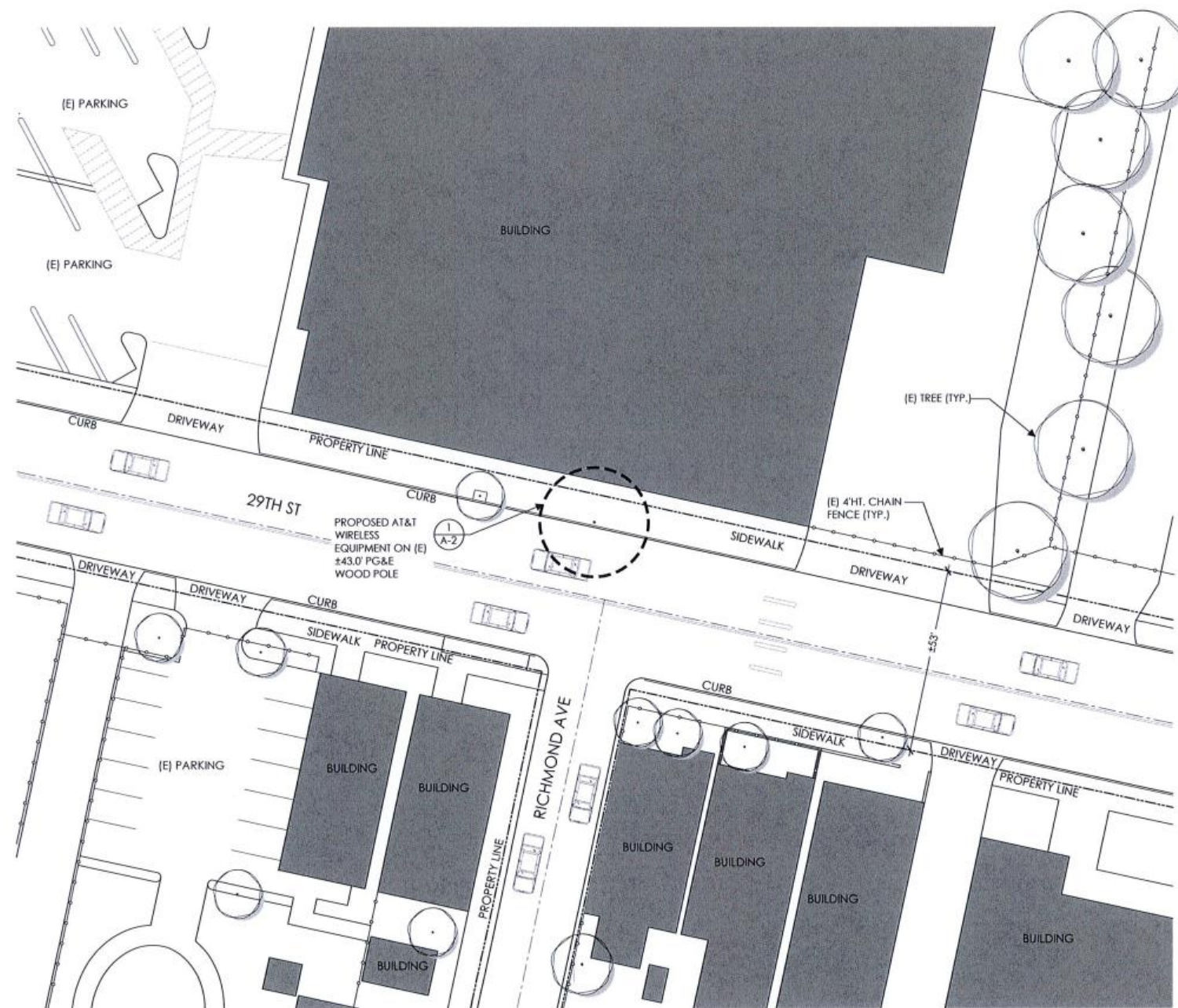
GENERAL NOTES LEGEND ABBREVIATIONS

Sheet Title:

T.2

Sheet No.:

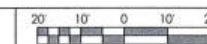
© Meridian Management LLC. 2017



NOTE:
THIS SITE PLAN WAS GENERATED WITHOUT THE USE OF A SURVEY. PROPERTY LINES, RIGHT-OF-WAYS, POWER & TELCO UTILITY POINT CONNECTIONS/ROUTES AND EASEMENTS SHOWN ON THESE PLANS ARE ESTIMATED. ALL ITEMS AND DIMENSIONS SHOULD BE VERIFIED IN THE FIELD.

UNDERGROUND UTILITIES NOTE:
THE LOCATIONS AND EXISTENCE OF ANY UNDERGROUND PIPES, STRUCTURES, OR CONDUITS SHOWN ON THIS PLAN WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THERE MAY BE EXISTING UTILITIES OTHER THAN THOSE SHOWN ON THIS PLAN. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT SHOWN ON THIS PLAN.

OVERALL SITE PLAN



SCALE
1" = 20'

1



AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:



Project Architect:



575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SF0K6-024

PACE ID:
ROW AT 276 29TH ST
OAKLAND, CA 94611
COUNTY: ALAMEDA

Site Name:

Professional Seal:

It is a violation of law for any person,
unless they are acting under the direction
of a licensed Professional
Architect/Engineer, to alter this document.

Rev.	Date	Description
01	09/26/17	Zoning Dwg 90%
02	10/23/17	Zoning Dwg 95%

Project No.:

Date: 10/23/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

OVERALL SITE
PLAN

Sheet Title:

A.1

Sheet No.:

© Meridian Management LLC, 2017

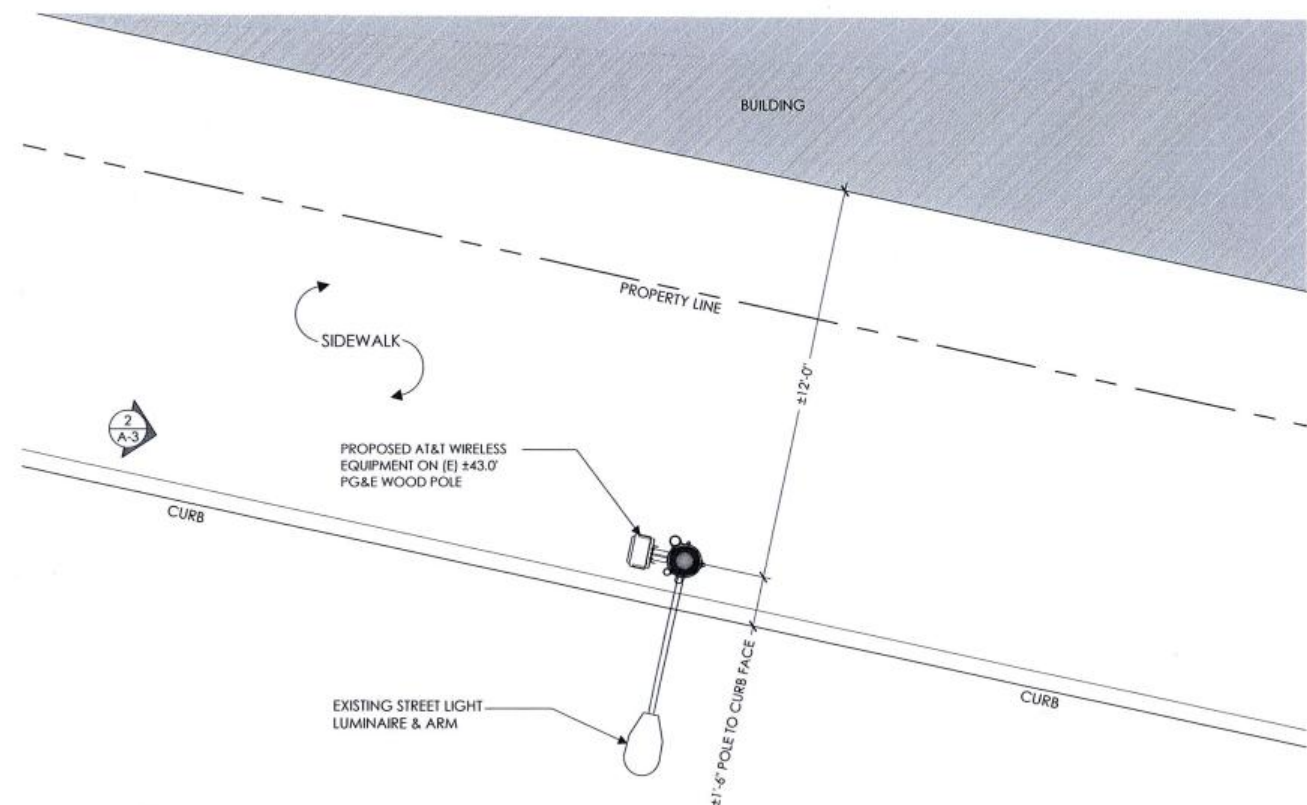
- (N) AT&T EQUIPMENT TO BE MOUNTED IN THE 9:00 QUADRANT
- CLIMBING SPACE BETWEEN 12:00 & 3:00
- POLE STEPS REQUIRED FROM 8.5' TO COMMUNICATIONS ZONE PER GO95
- STEPS SHOULD BE USABLE WHEN INSTALLED WITHIN CLIMBING SPACE

EQUIPMENT SYSTEM:

ALL NEW COMPONENTS NOT SHOP PAINTED SHOULD BE FIELD PAINTED SHERWIN WILLIAMS MESA BROWN

NEW CONDUIT FOR POWER/TELCO:

- (1) 2" CONDUIT FOR POWER
- (1) 2" CONDUIT FOR FIBER
- (1) 3/4" CONDUIT FOR COAX
- (1) 1" WOOD MOLDING FOR GROUND



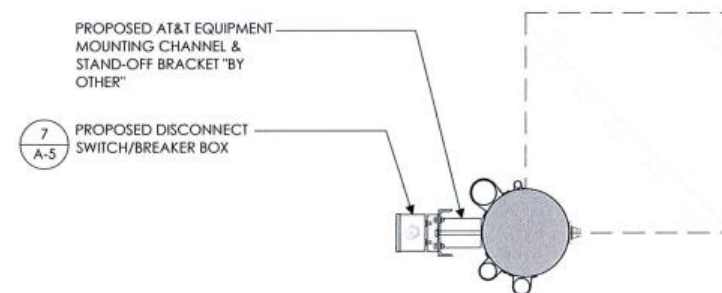
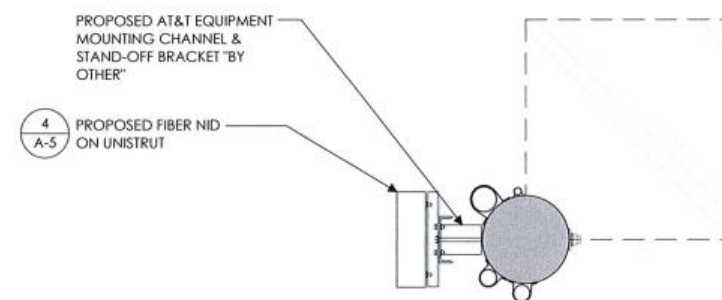
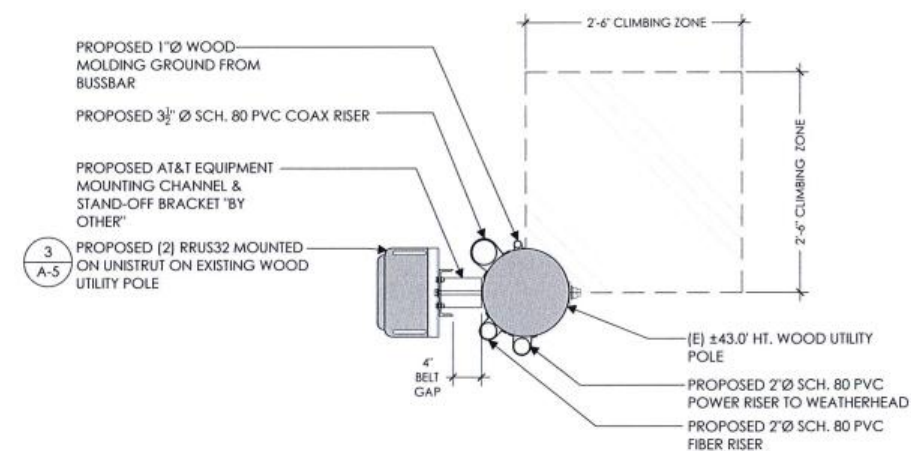
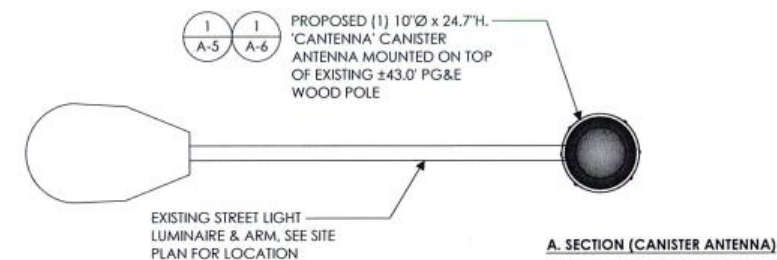
POLE PLAN ENLARGEMENT



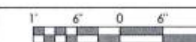
SCALE
3/8" = 1'-0"

1

POLE PLAN ENLARGEMENTS



D. SECTION (DISCONNECT SWITCH/BREAKER BOX)



SCALE
1" = 1'-0"

2



AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:



Project Architect:



575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SF0K6-024

PACE ID:
ROW AT 276 29TH ST
OAKLAND, CA 94611
COUNTY: ALAMEDA

Site Name:

Professional Seal:

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional Architect/Engineer, to alter this document.

Rev.	Date	Description
01	09/26/17	Zoning Dwgs 90%
02	10/23/17	Zoning Dwgs 95%

Project No.:

Date: 10/23/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

POLE PLAN
EQUIPMENT
ENLARGEMENTS

Sheet Title:

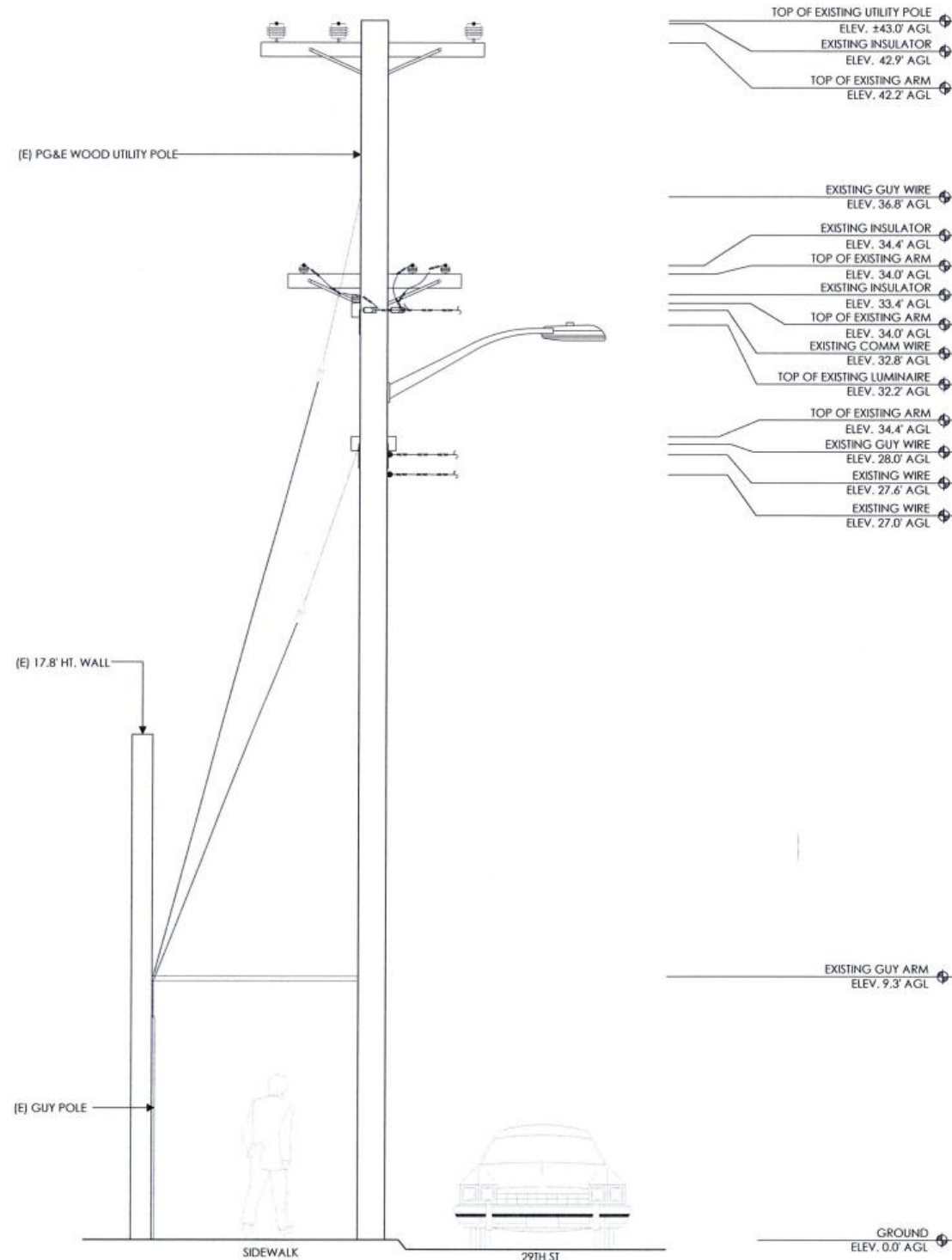
A.2

Sheet No.:

© Meridian Management LLC, 2017

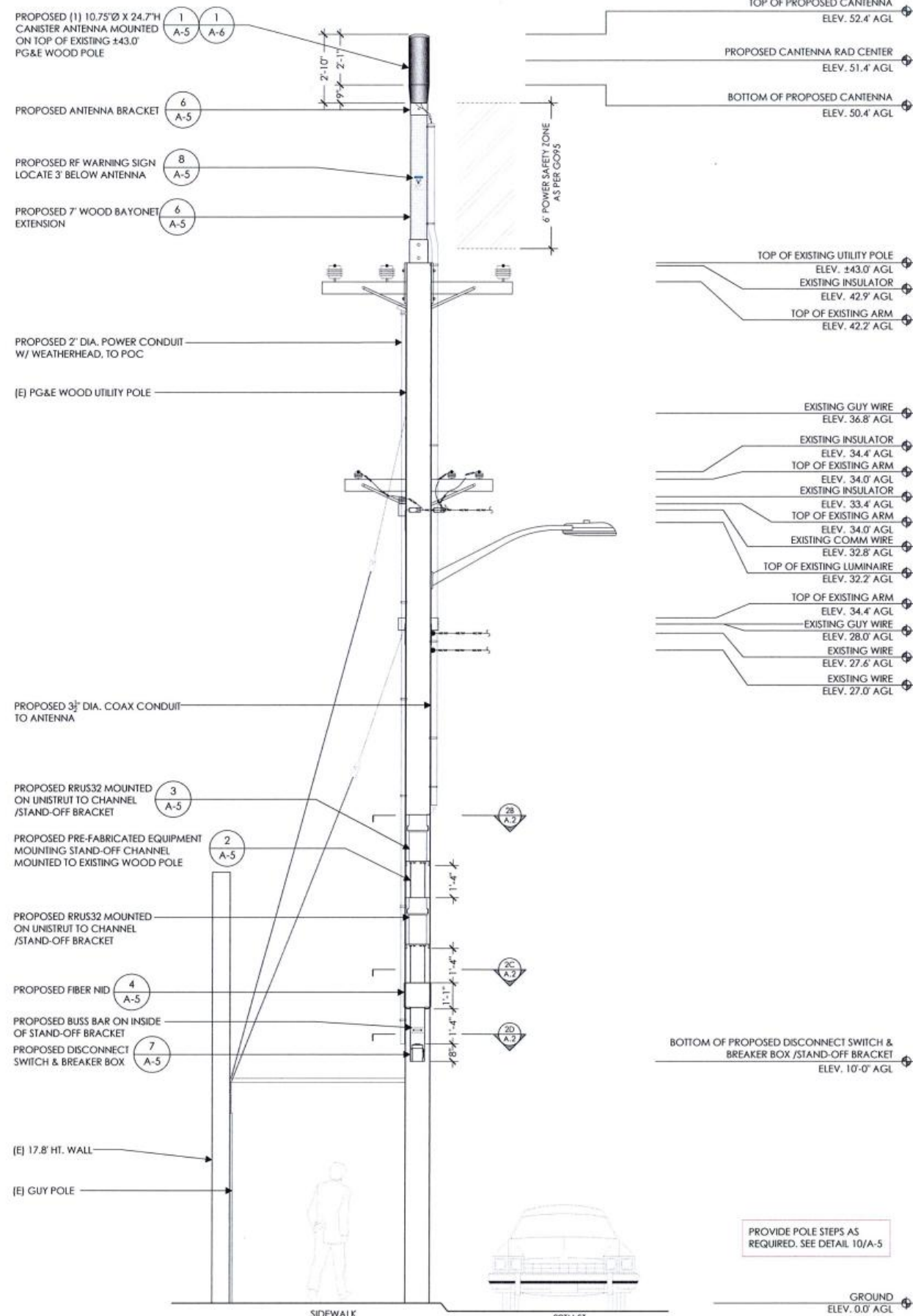
SCALE NOTE:

IF DIMENSIONS SHOWN ON PLAN DO NOT SCALE
CORRECTLY, CHECK FOR REDUCTION OR
ENLARGEMENT FROM ORIGINAL PLANS.



NORTHWEST ELEVATION - EXISTING

0 1' 2' 4' 6' SCALE 3/8" = 1'-0"



NORTHWEST ELEVATION - PROPOSED

0 1' 2' 4' 6' SCALE 3/8" = 1'-0"



AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:



Project Architect:



575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SF0K6-024

PACE ID:
ROW AT 276 29TH ST
OAKLAND, CA 94611
COUNTY: ALAMEDA

Site Name:

Professional Seal:

It is a violation of law for any person,
unless they are acting under the direction
of a licensed Professional
Architect/Engineer, to alter this document.

Rev.	Date	Description
01	09/26/17	Zoning Dwgs 90%
02	10/23/17	Zoning Dwgs 95%

Project No.:

Date: 10/23/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

ELEVATIONS

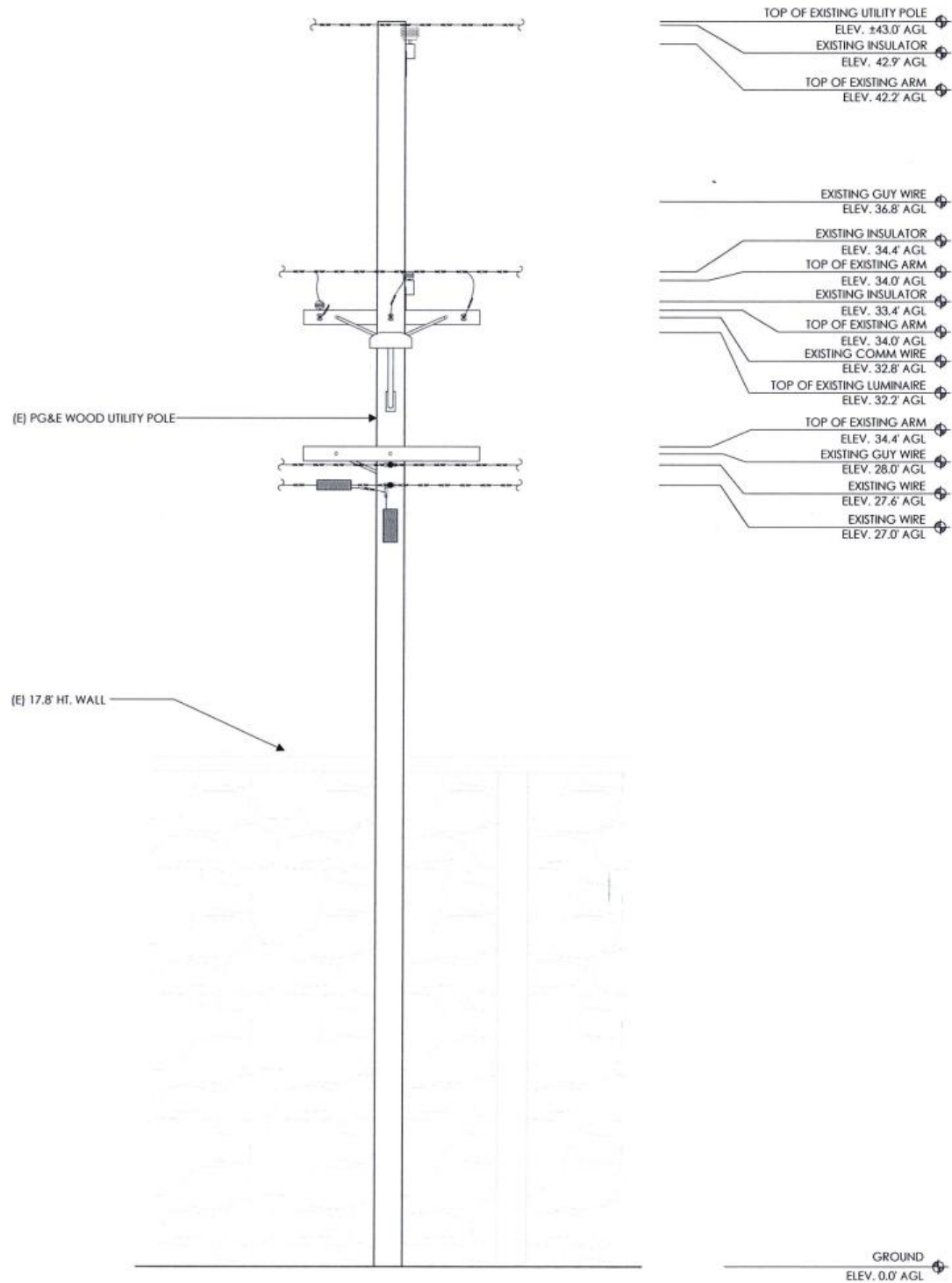
Sheet Title:

A.3

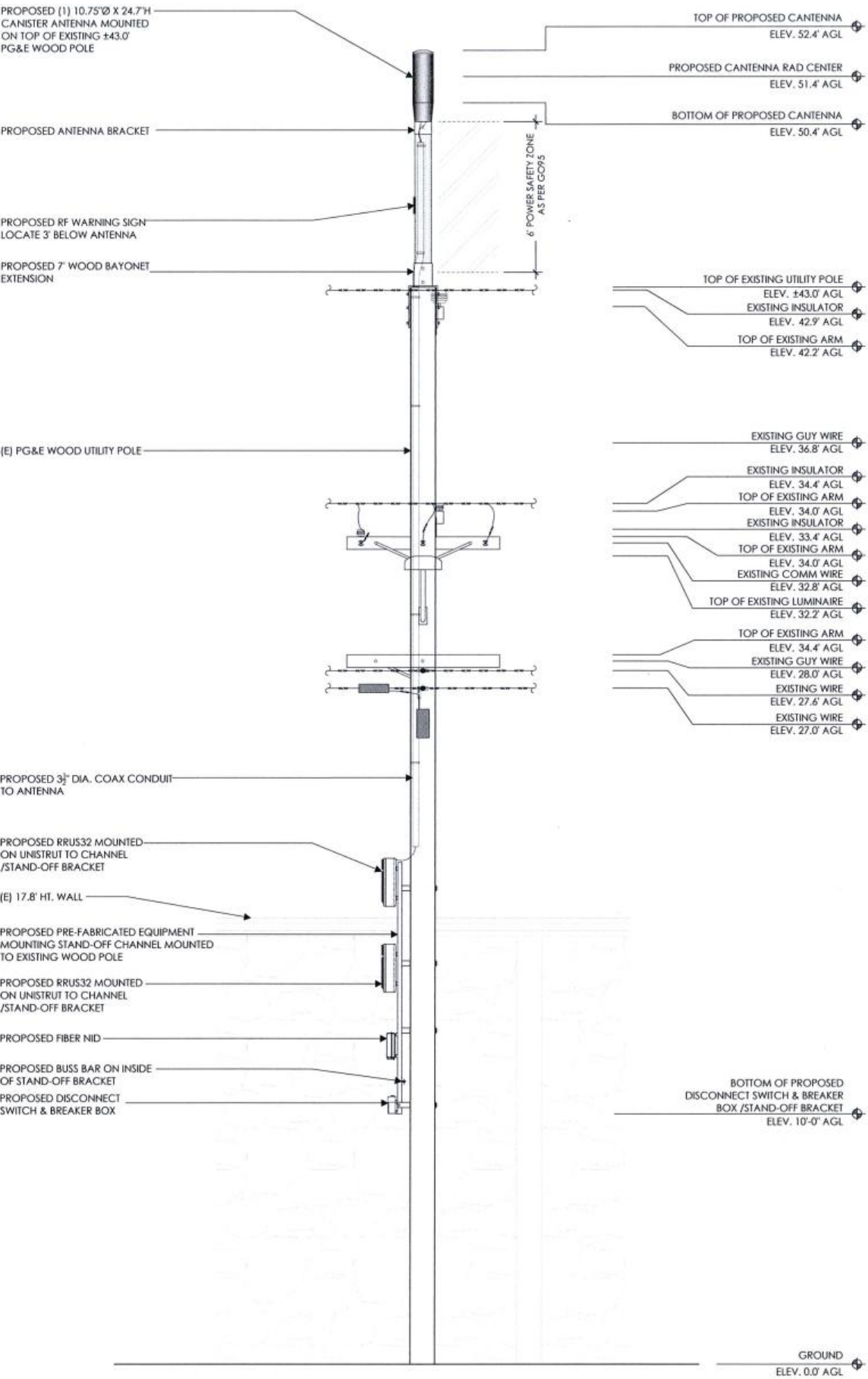
Sheet No.:

© Meridian Management LLC, 2017

SCALE NOTE:
IF DIMENSIONS SHOWN ON PLAN DO NOT SCALE
CORRECTLY, CHECK FOR REDUCTION OR
ENLARGEMENT FROM ORIGINAL PLANS.



SOUTHWEST ELEVATION - EXISTING



SOUTHWEST ELEVATION - PROPOSED



AT&T

AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client: _____

Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 707.592.5924
www.meridianmanagement.com

Project Architect: _____

VINCULUMS

575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent: _____

95% Zoning Drawings

Drawing Phase: _____

CRAN-RSFR-SF0K6-024
PACE ID:
ROW AT 276 29TH ST
OAKLAND, CA 94611
COUNTY: ALAMEDA

Site Name: _____

Professional Seal:

It is a violation of law for any person,
unless they are acting under the direction
of a licensed Professional
Architect/Engineer, to alter this document.

Rev.	Date	Description
01	09/26/17	Zoning Dwgs 90%
02	10/23/17	Zoning Dwgs 95%

Project No.: _____

Date: 10/23/17 Job No.: _____

Scale: AS SHOWN CAD File: _____

Designed By: JG Checked: RB

ELEVATIONS

Sheet Title: _____

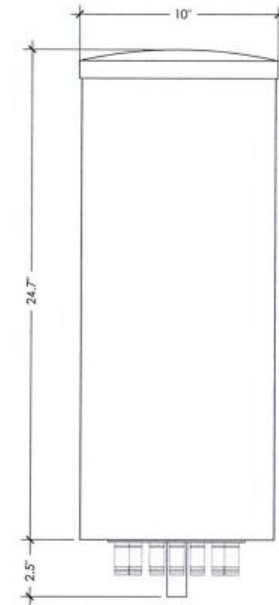
A.4

Sheet No.: _____

© Meridian Management LLC, 2017

AT&T CANISTER ANTENNA 'CAN-TENNA'

ANTENNA COLOR: LIGHT GRAY
DIMENSIONS: 10.0"Ø x 24.7" TALL
NET WEIGHT: 19.0 LBS



RRUS 32
HEIGHT: 27.2"
WIDTH: 12.1"
DEPTH: 7.0"
WEIGHT: 53 LBS



AFL MODEL# OPN-760 SPECIFICATIONS

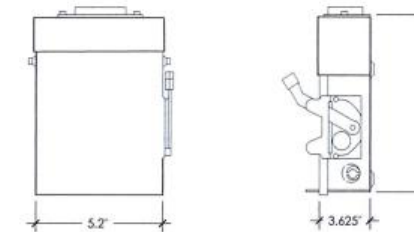
DEMARCATON CAPACITY: (2) JDSU BRIGHT JACKS WITH NO SPLICE TRAY OR (1) JDSU BRIGHT JACK WITH ONE SPLICE TRAY
DIMENSIONS: 1'-1" H. x 1'-1" W. x 4" D.



- NOTES:
1. INSTALL AT&T NETWORK INTERFACE DEVICE (NID) BELOW RRU ENCLOSURES & FEED FROM AT&T AERIAL FIBER CABLE ON POLE.
 2. AFL - OPN-760 CONFIGURATION: DM000915, PID # 316079607

MURRAY LW002GRU SPECIFICATIONS

LOAD CENTER DEPTH: 3.625"
LOAD CENTER WIDTH: 5.2"
LOAD CENTER HEIGHT: 8.125"
WEIGHT: 4.55 LB
LOAD CENTER TYPE: MAIN LUG
MAX AMPERAGE: 60
MOUNTING TYPE: PLUG IN
NUMBER OF PHASES: 1
NUMBER OF SPACES: 2
VOLTAGE (VOLTS): 120/240
INDOOR/OUTDOOR: OUTDOOR
ELECTRICAL PRODUCT TYPE: LOAD CENTER



NOTICE



Radio frequency fields beyond this point may exceed the FCC general public exposure limit.
Obey all posted signs and site guidelines for working in radio frequency environments.

In accordance with Federal Communications Commission rules on radio frequency emissions 47 CFR 1.1307(b)

ANTENNA DETAIL

1

RRUS32

3

FIBER NID

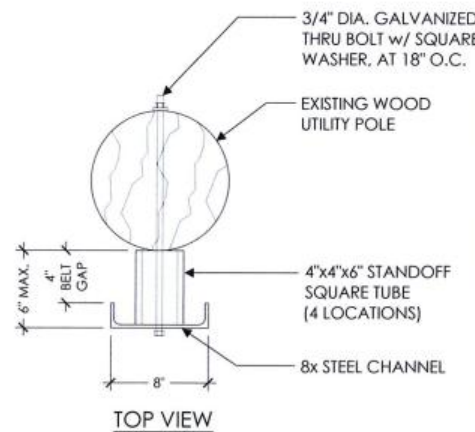
4

DISCONNECT SWITCH/BREAKER BOX

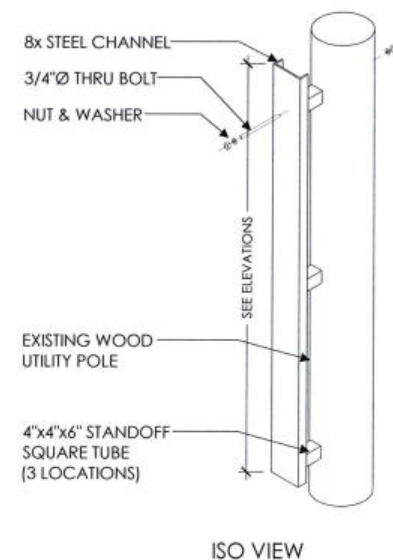
7

NOTICE SIGNAGE

8



TOP VIEW



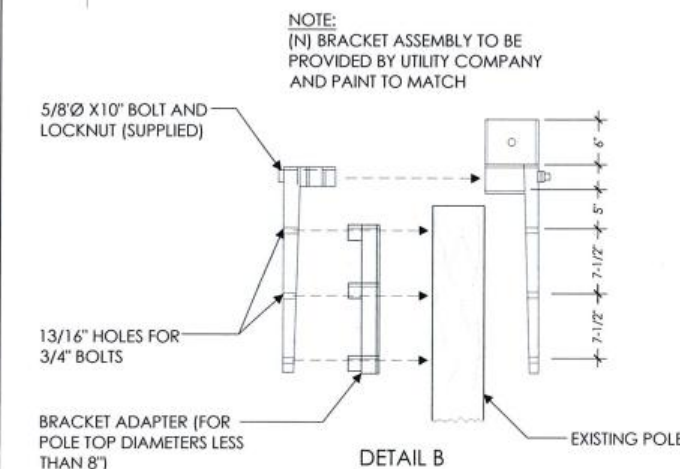
ISO VIEW

MOUNTING CHANNEL

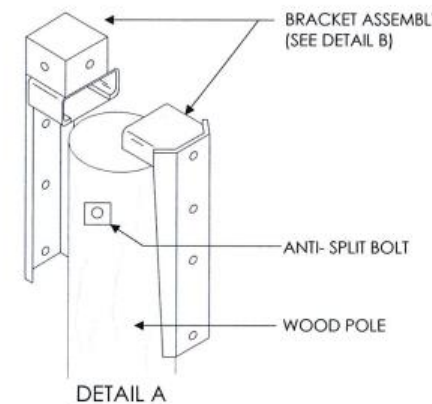
2

WOOD POLE EXTENSION

NOT USED



DETAIL B



DETAIL A

5

DISCONNECT SIGNAGE

9

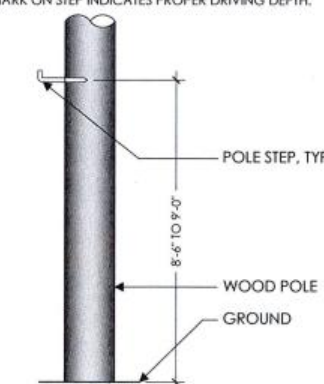
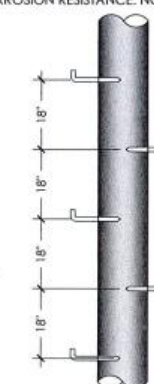
STEP: WEIGHT PER 100: 99 LBS
MANUFACTURER: AERIAL SERVICE COMPANY, INC. 1-800-256-5186
<http://www.linemen-tools.com/>
J1118

MODEL #:

DESCRIPTION:

POLE 2 X 10 INCH GALVANIZED
99 LBS
AERIAL SERVICE COMPANY, INC.
1-800-256-5186
<http://www.linemen-tools.com/>
J1118

POLE STEPS ARE USED ON WOOD POLES WHERE FREQUENT ACCESS TO POLE MOUNTED EQUIPMENT IS REQUIRED. FLAT DRIVING SURFACE AND SHARP POINT EASE INSTALLATION. FETTER-DRIVE THREAD PERMITS REMOVAL WITH A WRENCH. HOT-DIPPED GALVANIZED FOR CORROSION RESISTANCE. NOTCHED MARK ON STEP INDICATES PROPER DRIVING DEPTH.



6

POLE STEPS

10



AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:



Project Architect:



575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.6500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SF0K6-024

PAGE ID:
ROW AT 276 29TH ST
OAKLAND, CA 94611
COUNTY: ALAMEDA

Site Name:

Professional Seal:

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional Architect/Engineer, to alter this document.

Rev.	Date	Description
01	09/26/17	Zoning Dwgs 90%
02	10/23/17	Zoning Dwgs 95%

Project No.:

Date: 10/23/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

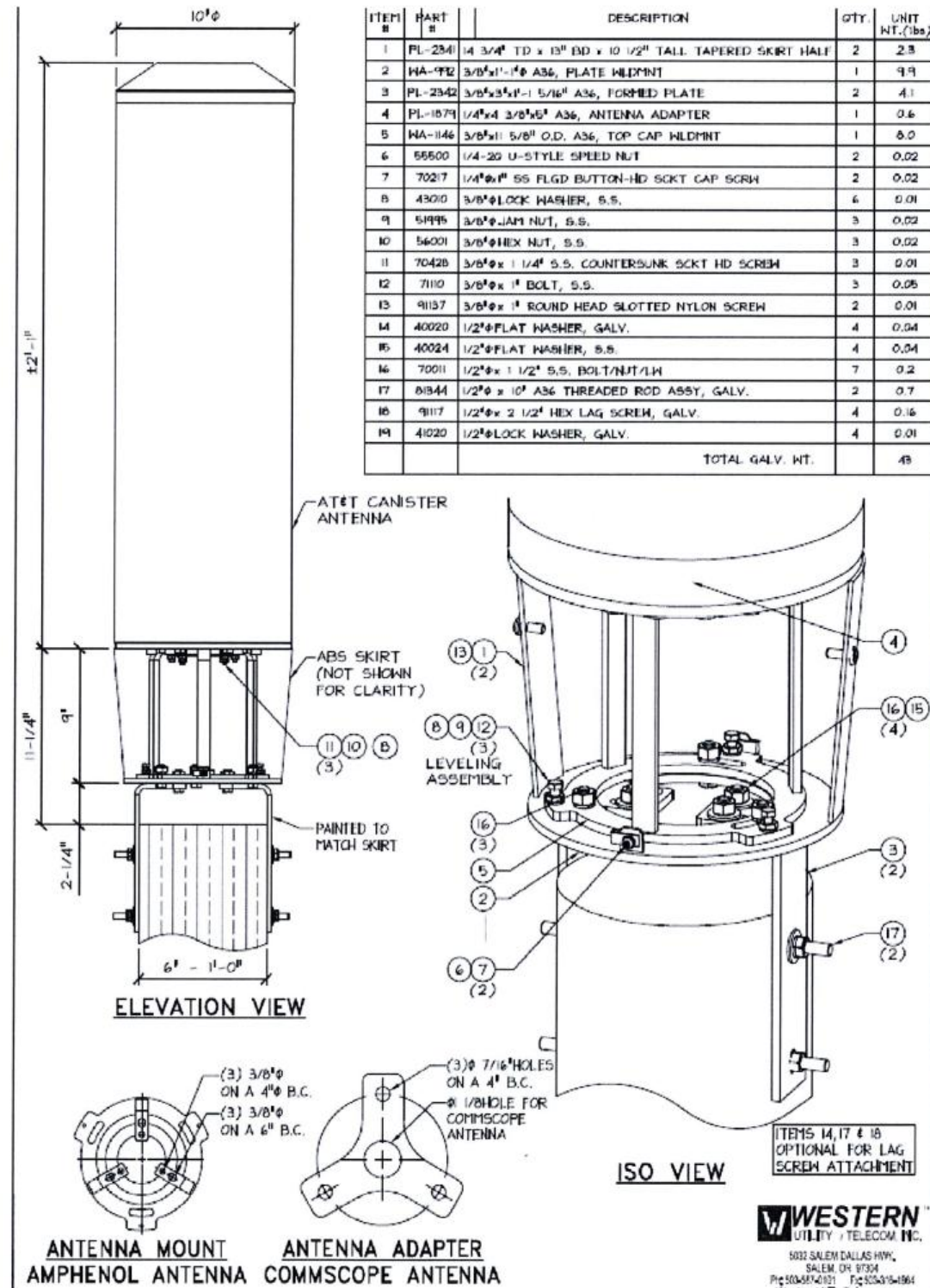
EQUIPMENT DETAILS

Sheet Title:

A.5

Sheet No.:

© Meridian Management LLC, 2017

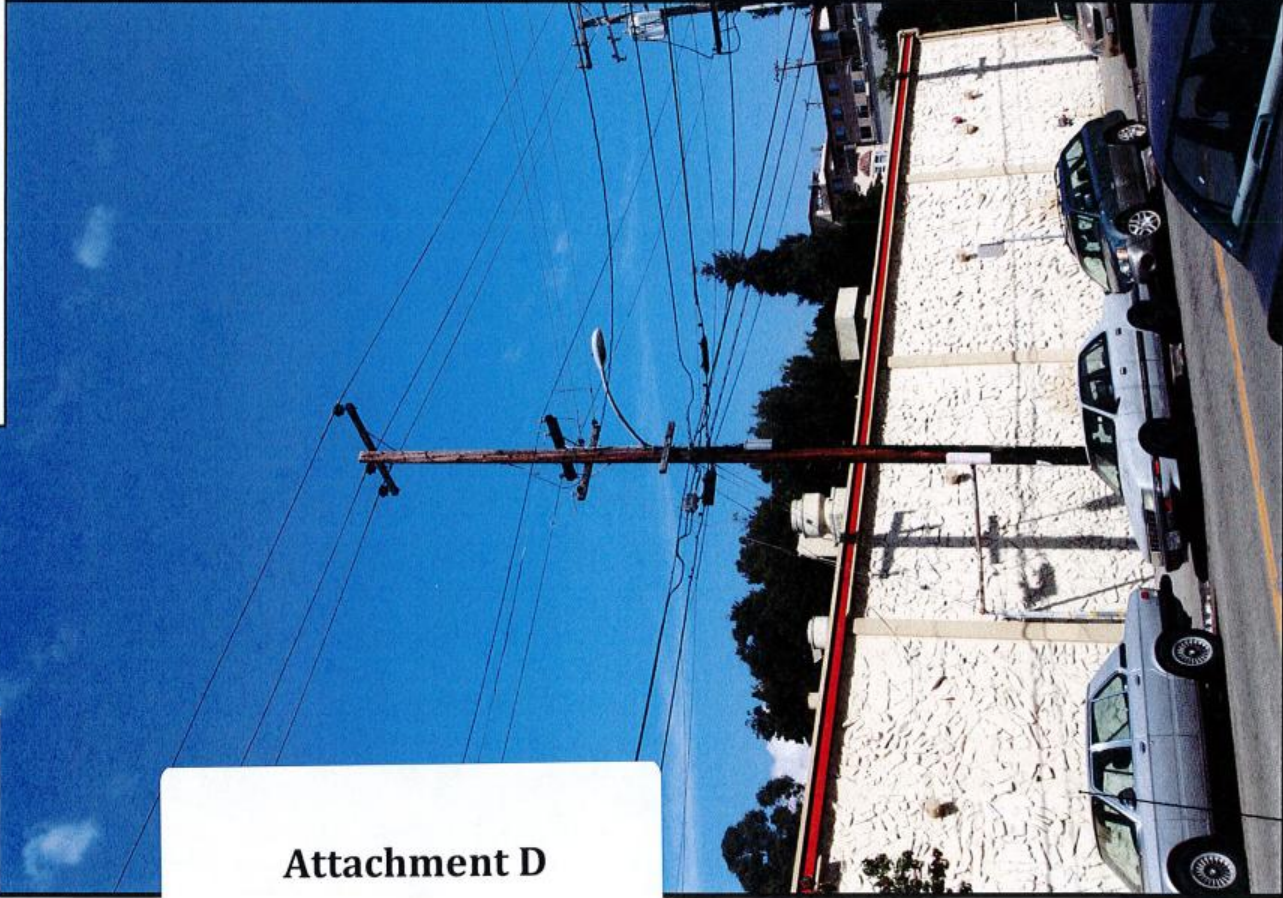


Rev.	Date	Description
01	09/26/17	Zoning Dwgs 90%
02	10/23/17	Zoning Dwgs 95%

Existing

Proposed

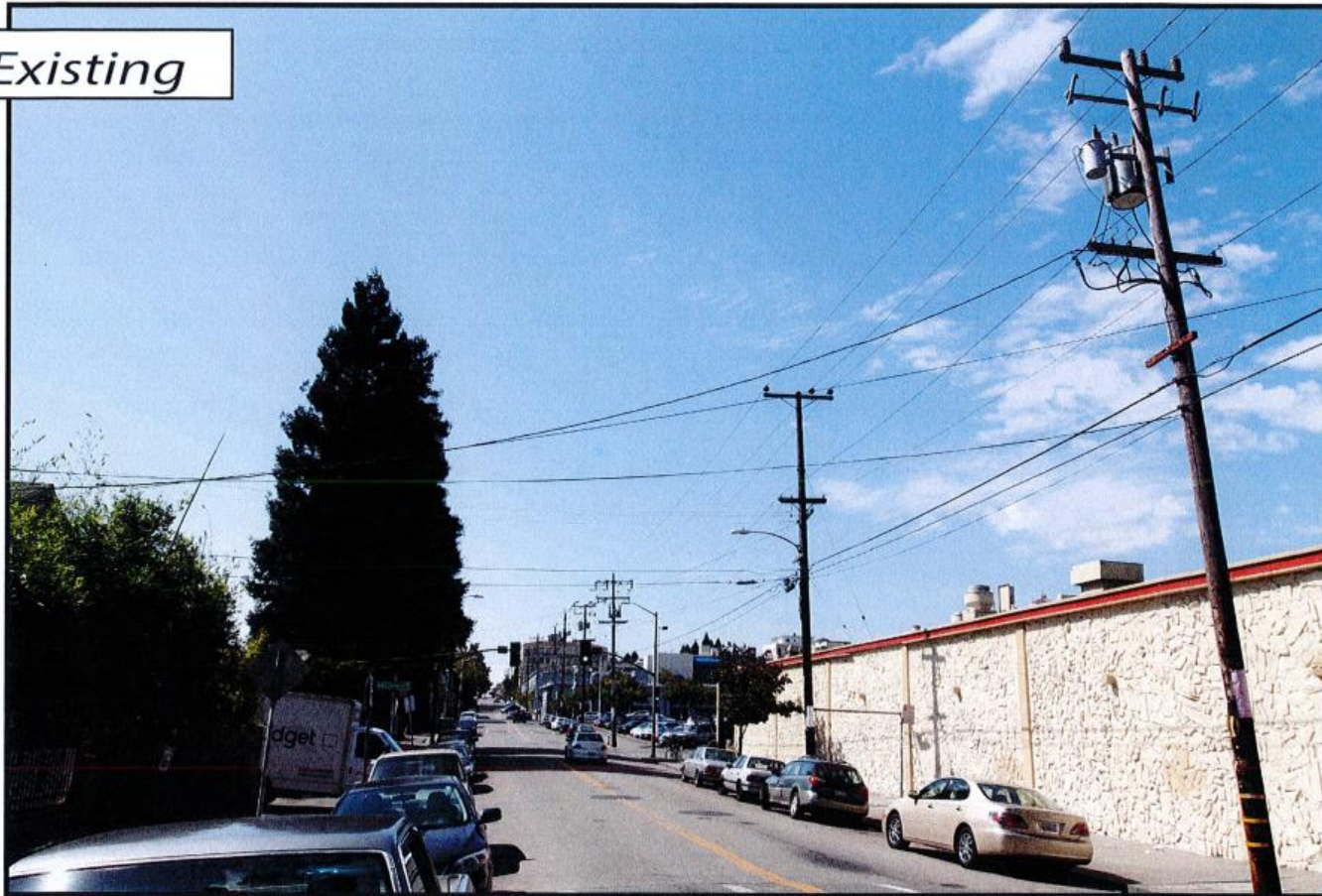
view from 29th Street looking northeast at site
CRAN-RSFR-SFOK6-024
276 29th Street, Oakland, CA
Photosims Produced on 10-30-2017



Proposed AT&T
Installation

Attachment D

Existing



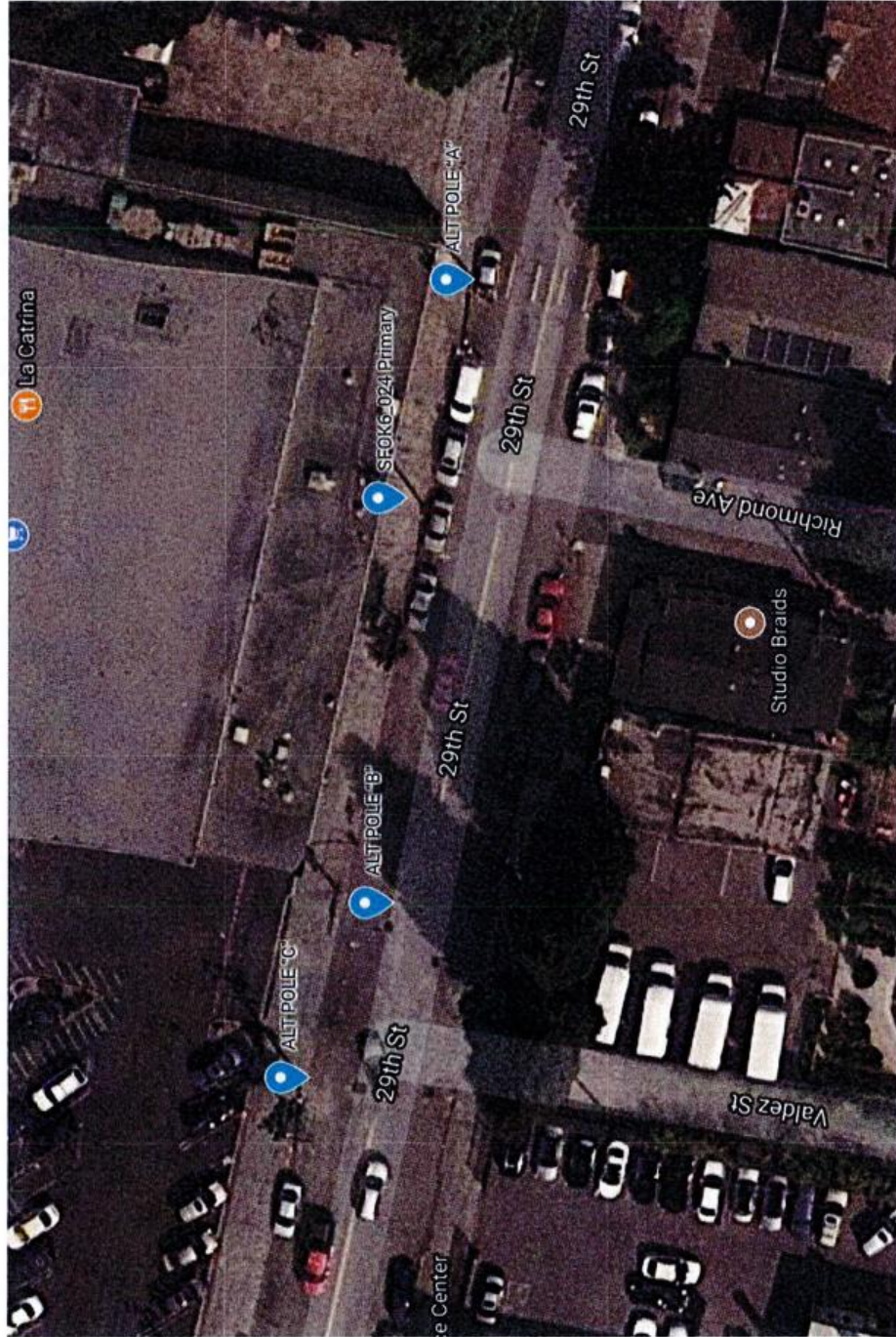
Proposed



view from 29th Street looking west at site

ALTERNATIVE SITE ANALYSIS SF0K6_024

Attachment E

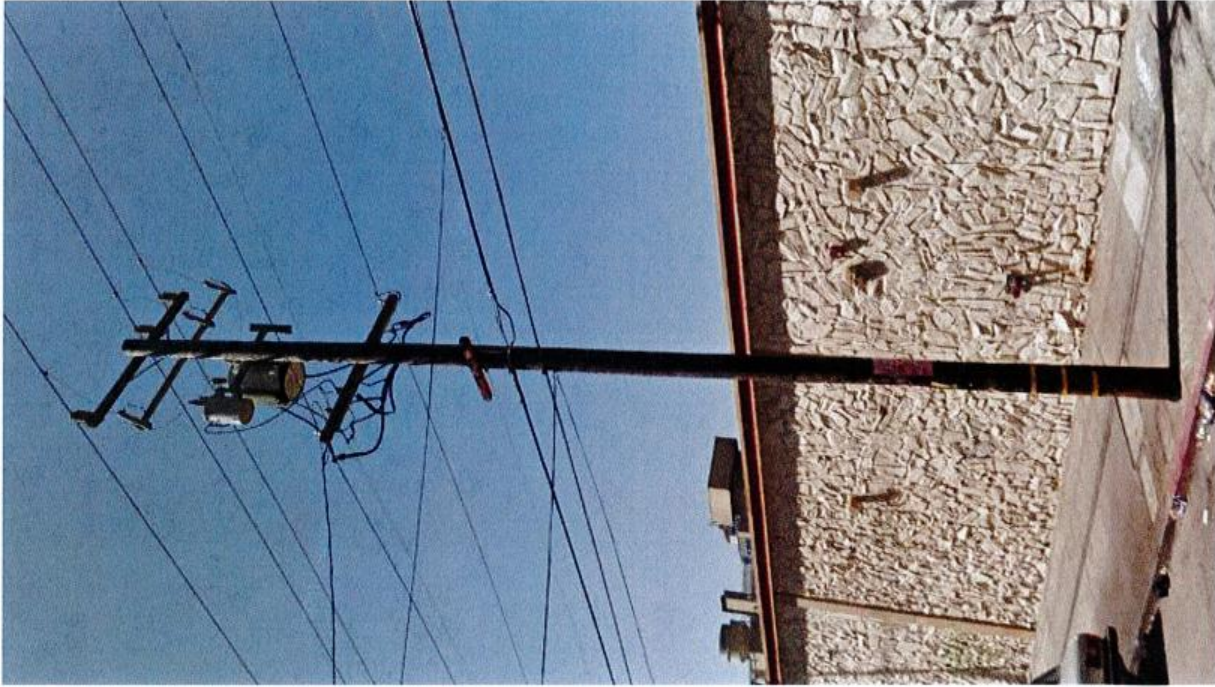




AT&T PROPOSED LOCATION

**SFOK6_024
273 29th St., Oakland, CA 94611
APN: 9-702-1-1
37.8172500, -122.2614700**

The project is located in an area with both existing residential & commercial structures. AT&T considered alternate utility poles immediately adjacent but none were desirable from a service coverage need, CPUC standards, PG&E standards, or an aesthetics perspective. The proposed project is in an underserved area.



ALTERNATIVE POLE "A"

**PG&E Wood Utility Pole
273 29th St., Oakland, CA 94611
37.817201, -122.261277**

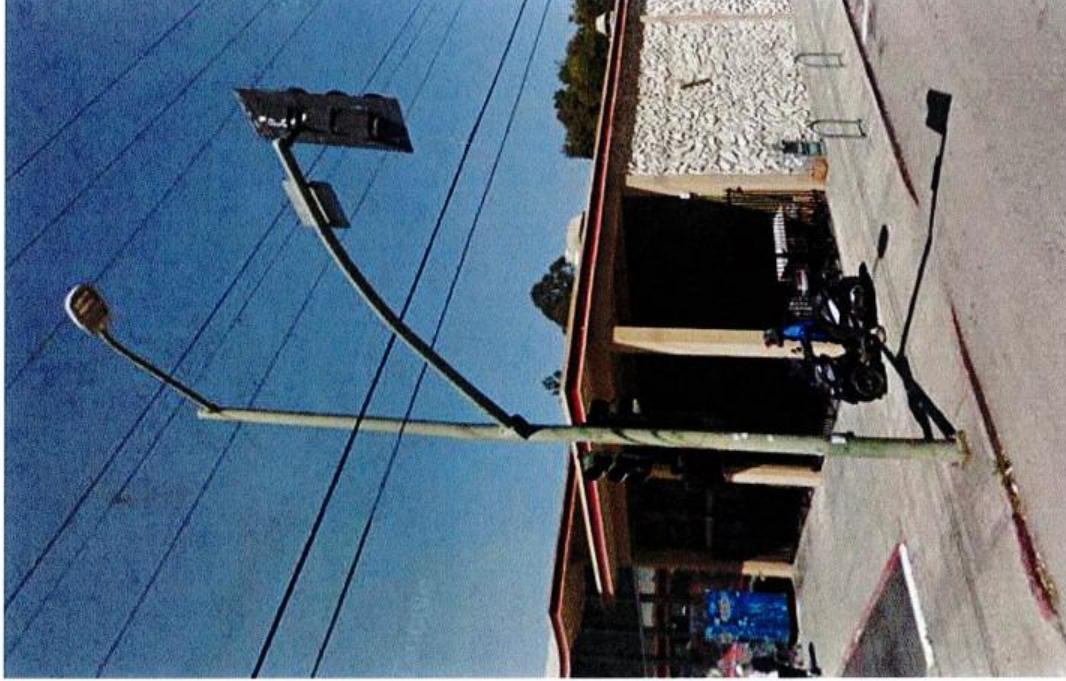
**Findings: Cutouts on primary conductor
lines of PG&E wood utility pole prohibit
attaching small cell equipment**

ALTERNATIVE POLE "B"

PG&E Wood Utility Pole

**Corner of 29th St. & Valdez St., Oakland, CA 94611
37.817259, -122.261828**

Findings: PGE wood utility poles with manual disconnect arms are precluded from attachment.



ALTERNATIVE POLE "C"

PG&E Wood Utility Pole

**Corner of 29th St. & Valdez St., Oakland, CA 94611
37.817318, -122.261983**

**Findings: Cutouts on primary conductor
lines of PG&E wood utility pole prohibit
attaching small cell equipment**



ALTERNATIVE DESIGN ANALYSIS

SFOK6_024

APN:

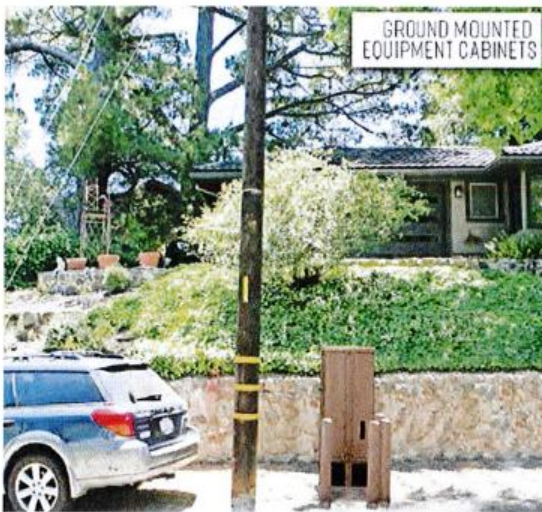
9-702-1-1

LAT/LONG:

37.8172500, -122.2614700

The project is located in an area with existing commercial structures. AT&T considered alternative monopole designs (see below) in this area but none of these designs are as desirable from a planning perspective or from an aesthetics perspective to minimize visual impacts. The proposed project is in an underserved area.

Alternative light pole designs considered



AT&T Mobility • Proposed Small Cell (No. CRAN-RSFR-SF0K6-024)
276 29th Street • Oakland, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of AT&T Mobility, a personal wireless telecommunications carrier, to evaluate its small cell (No. CRAN-RSFR-SF0K6-024) proposed to be sited in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

AT&T proposes to install an omnidirectional cylindrical antenna on a utility pole sited in the public right-of-way at 276 29th Street in Oakland. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5,000–80,000 MHz	5.00 mW/cm ²	1.00 mW/cm ²
BRS (Broadband Radio)	2,600	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.35	0.47
[most restrictive frequency range]	30–300	1.00	0.20

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

General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the



AT&T Mobility • Proposed Small Cell (No. CRAN-RSFR-SF0K6-024)
276 29th Street • Oakland, California

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

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 attached describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by AT&T, including drawings by Meridian Management LLC, dated September 26, 2017, it is proposed to install one KMW Model FLT-OM10H2, 2-foot tall, omnidirectional cylindrical antenna, on top of a utility pole sited in the public right-of-way on the north side of 29th Street in Oakland, opposite the intersection with Richmond Avenue. The antenna would employ 2° downtilt and would be mounted at an effective height of about 51 feet above ground. The maximum effective radiated power in any direction would be 1,360 watts, representing simultaneous operation of 700 watts for AWS and 660 watts for PCS service. There are reported no other wireless telecommunications base stations at this site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed AT&T operation is calculated to be 0.011 mW/cm², which is 0.11% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any nearby building is 2.1% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

Recommended Mitigation Measures

Due to its mounting location and height, the AT&T antenna would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure



AT&T Mobility • Proposed Small Cell (No. CRAN-RSFR-SFOK6-024)
276 29th Street • Oakland, California

guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use, be provided to all authorized personnel who have access to the antenna. No access within 4 feet and at the same height as the AT&T antenna, such as might occur during certain maintenance activities at the top of the pole, should be allowed while the small cell is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that an explanatory sign* be posted at the antenna and/or on the pole below the antenna, readily visible to persons who might need to work within that distance.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by AT&T Mobility at 276 29th Street in Oakland, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2019. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

November 15, 2017




William F. Hammett, P.E.
707/996-5200

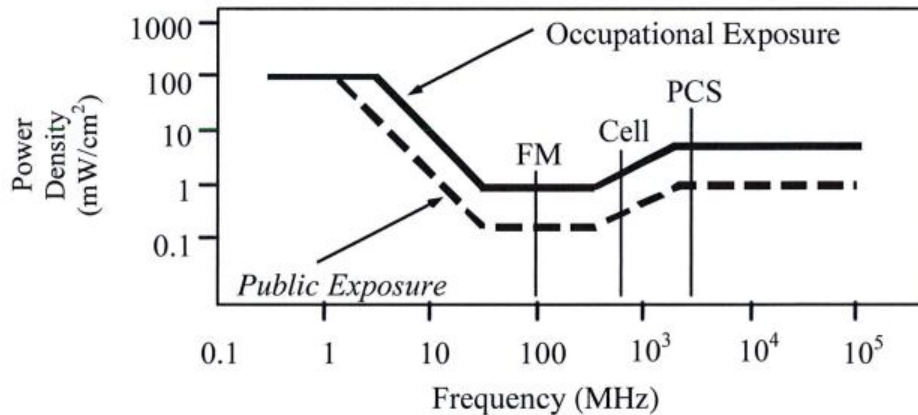
* Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health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

FCC Radio Frequency Protection Guide

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

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

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



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



Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm²,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm²,

where θ_{BW} = half-power beamwidth of the antenna, in degrees, and

P_{net} = net power input to the antenna, in watts,

D = distance from antenna, in meters,

h = aperture height of the antenna, in meters, and

η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm²,

where ERP = total ERP (all polarizations), in kilowatts,

RFF = relative field factor at the direction to the actual point of calculation, and

D = distance from the center of radiation to the point of calculation, in meters.

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

Utility Contact System Search

The Utility Contact System (UCS) is the Communications Division's database for the primary regulatory contact for each telephone corporation operating in California. The Communications Division sends important regulatory notices to the regulatory contact for each telephone corporation via e-mail, so it is important for primary regulatory contacts to update their UCS record if their e-mail address changes.

Telephone corporations may update UCS contact information using the form on the following page: [Carrier Reporting Requirements](#)

A description of the different utility types (granted authorities) are listed on the following page: [Utility Type Descriptions](#)

Search Utility Name

Search Utility Number 3060

Search Clear

Utility Name ▲	Alias (DBA Name)	Utility Number	Street Address	City	State	Zip	Phone Number	Email	Utility Type	CPCN Appri
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	430 BUSH STREET	SAN FRANCISCO	CA	94108	(415) 778-1299	att-regulatory-ca@att.com	CEC	12-21-1995
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	7405 GREENHAVEN DRIVE	SACRAMENTO	CA	95831	(800) 498-1912	west.region.oopsac@awsmail.att.com	CEC	12-21-1995
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	11760 US HIGHWAY ONE, WEST TOWER	NORTH PALM BEACH	FL	33048	770-240-8849		CEC	12-21-1995

Save Search Results as CSV Spreadsheet

Comments & Feedback

CITY OF OAKLAND
Planning and Building Department
Bureau of Planning

201 Grand Hi Ogden Plaza, Suite 2114, Oakland, CA 94612-2011
Phone: 510-238-2011 Fax: 510-238-4730

It is to be noted that the above information is for informational purposes only and should not be used as a basis for any investment decision. The actual results may vary from the above information.

118067



02/16/2018 13:48:12



AT&T OPEN HOUSE



AT&T is improving wireless service in Oakland!

We will soon be proposing state-of-the-art small cell wireless facilities including antennas, attached to existing utility poles and light poles.

Want to learn more?

Please join us for an open house showcasing AT&T's network, designs, permitting and radio frequency engineering.

Tuesday, January 30th, 2018

Open House—Stop by anytime between 6pm–8pm

Light refreshments served

Temescal Oakland Public Library

5205 Telegraph Ave., Oakland, CA 94609

If you have any questions, please feel free to contact:

oaklandoutreach@vinculum.com

(925) 482-8550



AT&T

AT&T OPEN HOUSE

AT&T is improving wireless service in Oakland!

We will soon be proposing state-of-the-art small cell wireless facilities including antennas, attached to existing utility poles and light poles.

Want to learn more?

Please join us for an open house showcasing AT&T's network, designs, permitting and radio frequency engineering.

Monday, January 8th, 2018

Open House—Stop by anytime between 6–8PM

Light refreshments served

Preservation Park - Nile Hall

1233 Preservation Park Way, Oakland, CA 94612

If you have any questions, please feel free to contact:

oaklandoutreach@vinculums.com

(925) 482-8550



AT&T Oakland Small Cell Master Plan Map

