

GENERAL CONSTRUCTION NOTES:

GENERAL CONSTRUCTION

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
 GENERAL CONTRACTOR: T.B.D.
 CONTRACTOR: T.B.D.
 OWNER: AT&T
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
16. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
17. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
21. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.

22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER AND RF. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
31. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
32. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING". IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
39. NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
40. ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

ANTENNA MOUNTING

41. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
42. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
43. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
44. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
45. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.

46. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
47. ALL UNUSED PORTS ON ANY ANTENNA SHALL BE COVERED WITH CONCEALOR CAP WITH PROPER WEATHER PROOFING OR BE TERMINATED WITH A 50 Ω LOAD.
48. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5° AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5° AS DEFINED BY THE RFDS. REFER TO ND-00246.
49. JUMPERS WHERE REQUIRED MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.
50. CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH AT&T COMPONENT
51. TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION (IF REQUIRED).

TORQUE REQUIREMENTS

52. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
53. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
 - A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
 - B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.
54. ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
55. ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
56. ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
57. ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 - 29.8 NM).
58. ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 - 2.3 NM).


FIBER & POWER CABLE MOUNTING


59. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (6) SIX FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
60. THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION; WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES. A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.
61. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

AT&T Site ID:
 UTL03109
 4311 WEST 1200 SOUTH
 WEST WEBER, UT 84404

Tower Owner:

 2055 SOUTH STEARMAN DRIVE
 CHANDLER, AZ 85286

PREPARED FOR

 161 Inverness Drive West 2nd floor
 Englewood, Colorado 80112

A&E:

 2227 W. PECOS ROAD, SUITE 4
 CHANDLER AZ 85224

AT&T SITE NO: UTL03109
 BU NO: 829171
 DRAWN BY: JD
 CHECKED BY: CM

REV	DATE	DESCRIPTION
A	8/20/19	PRELIMINARY CDS

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GENERAL CONSTRUCTION NOTES CONTINUED:

COAXIAL CABLE NOTES

- 62. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
- 63. CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.
- 64. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION. REFER TO "ANTENNA SYSTEM LABELING STANDARD" ND-00027 LATEST VERSION.
- 65. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
- 66. CONTRACTOR SHALL WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE WEATHERPROOFING SHALL BE COMPLETED IN STRICT ACCORDANCE WITH AT&T STANDARDS..

GENERAL CABLE AND EQUIPMENT NOTES

- 70. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.
- 71. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.
- 72. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- 73. ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED. SELF BONDING TAPE AND PLASTIC ENCLOSURES ALSO PERMITTED PER ATT-002-290-041 SECTION 7.
- 74. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
 - A. TEMPERATURE SHALL BE ABOVE 50° F.
 - B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
 - C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
 - D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS.
- 76. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.
- 77. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANTENNA AND THE COAX CONFIGURATION IS THE CORRECT MAKE AND MODELS, PRIOR TO INSTALLATION.
- 78. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S SPECIFICATION & RECOMMENDATIONS.
- 79. ANTENNA CONTRACTOR SHALL FURNISH AND INSTALL A 12'-0" T-BOOM SECTOR ANTENNA MOUNT, IF APPLICABLE, INCLUDING ALL HARDWARE.

DRAWING ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	LF	LINEAR FEET
AGL	ABOVE GRADE LEVEL	MAX	MAXIMUM
AWG	AMERICAN WIRE GAUGE	MECH	MECHANICAL
AC	AIR CONDITIONING	MFR	MANUFACTURER
APPROX	APPROXIMATELY	MGR	MANAGER
AZ	AZIMUTH	MIN	MINIMUM
BLDG	BUILDING	MISC	MISCELLANEOUS
CM	CONSTRUCTION MANAGER	MTL	METAL
CAB	CABINET	MW	MICROWAVE
CL	CENTERLINE	NEC	NATIONAL ELECTRICAL CODE
CLG	CEILING	NIC	NOT IN CONTRACT
CLR	CLEAR	NTS	NOT TO SCALE
CO	COPPER	N/A	NOT APPLICABLE
CONC	CONCRETE	OC	ON CENTER
COND	CONDUIT	OD	OUTSIDE DIAMETER
CONST	CONSTRUCTION	OP	OVERHEAD POWER
CONT	CONTINUOUS	OT	OVERHEAD FIBER
D/C	DRAFTER/CHECKER	OPP	OPPOSITE
DEMO	DEMOLISH	PL	PROPERTY LINE
DIA OR Ø	DIAMETER	PLYWD	PLYWOOD
DIM	DIMENSION	PM	PROJECT MANAGER
DN	DOWN	PROJ	PROJECT
DTL	DETAIL	PROP	PROPERTY
DWG	DRAWING	PT	PRESSURE TREATED
EA	EACH	RF	RADIO-FREQUENCY
ELECT	ELECTRICAL	RO	ROUGH OPENING
ELEV	ELEVATION	ROW	RIGHT OF WAY
EQ	EQUAL	RRU	REMOTE RADIO UNIT
EQUIP	EQUIPMENT	REQ	REQUIRED
EXT	EXTERIOR	SBTC	SOLID BARE TINNED COPPER
FIN	FINISH	SF	SQUARE FEET
FLR	FLOOR	SHT	SHEET
FRP	FIBERGLASS REINFORCED POLYMER	SPEC	SPECIFICATION
FT	FOOT, FEET	SQ	SQUARE
GA	GAUGE	SS	STAINLESS STEEL
GALV	GALVANIZED	STL	STEEL
GC	GENERAL CONTRACTOR	STRUCT	STRUCTURE, STRUCTURAL
GLB	GLULAM BEAM	TOC	TOP OF CONCRETE
GWB	GYPSUM WALL BOARD	TOM	TOP OF MASONRY
GR	GRADE	THRU	THROUGH
GRND	GROUND	TYP	TYPICAL
HVAC	HEATING/VENTING/AIR CONDITIONING	UBC	UNIFORM BUILDING CODE
HORIZ	HORIZONTAL	UG	UNDERGROUND
HT	HEIGHT	UNO	UNLESS NOTED OTHERWISE
IBC	INTERNATIONAL BUILDING CODE	UP	UNDERGROUND POWER
ID	INSIDE DIAMETER	UF	UNDERGROUND FIBER
IN	INCH	VIF	VERIFY IN FIELD
INSUL	INSULATION	VERT	VERTICAL
INT	INTERIOR	WP	WATERPROOF
JBOX	JUNCTION BOX	W/	WITH
LB(S) OR #	POUND(S)	W/O	WITHOUT

LEGEND

- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION
- CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
- TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
- EXOTHERMIC WITH INSPECTION SLEEVE
- GROUNDING BAR
- GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE
- SINGLE POLE SWITCH
- DUPLEX RECEPTACLE
- DUPLEX GFCI RECEPTACLE
- FLUORESCENT LIGHTING FIXTURE
- SMOKE DETECTION (DC)
- EMERGENCY LIGHTING (DC)
- SECURITY LIGHT W/PHOTOCELL
- CHAIN LINK FENCE
- WOOD/WROUGHT IRON FENCE
- WALL STRUCTURE
- LEASE AREA
- PROPERTY LINE (PL)
- SETBACKS
- ICE BRIDGE
- CABLE TRAY
- WATER LINE
- UNDERGROUND POWER
- UNDERGROUND TELCO
- OVERHEAD POWER
- OVERHEAD TELCO
- UNDERGROUND TELCO/POWER
- ABOVE GROUND POWER
- ABOVE GROUND TELCO
- ABOVE GROUND TELCO/POWER

AT&T Site ID:
UTL03109
4311 WEST 1200 SOUTH
WEST WEBER, UT 84404

Tower Owner:
 CROWN CASTLE
2055 SOUTH STEARMAN DRIVE
CHANDLER, AZ 85286

PREPARED FOR
 at&t Mobility
161 Inverness Drive West 2nd floor
Englewood, Colorado 80112

A&E:
 TELCYTE
INFRASTRUCTURE SERVICES
2227 W. PECOS ROAD, SUITE 4,
CHANDLER AZ 85224

AT&T SITE NO: UTL03109
BU NO: 829171
DRAWN BY: JD
CHECKED BY: CM

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GENERAL SITE WORK & DRAINAGE NOTES:

PART 1 - GENERAL

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

1.1 REFERENCES:

- A. DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-CURRENT EDITION).
- B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS).
- C. OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION).

1.2 INSPECTION AND TESTING:

- A. FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS SHALL BE PERFORMED BY SUBCONTRACTORS INDEPENDENT TESTING LAB. THIS WORK TO BE COORDINATED BY THE SUBCONTRACTOR.
- B. ALL WORK SHALL BE INSPECTED AND RELEASED BY THE GENERAL CONTRACTOR WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK WITH SPECIFIC CONCERN TO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND/OR CALLED FOR ON THE DRAWINGS. IT IS THE SUBCONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF WORK INACCESSIBLE OR DIFFICULT TO INSPECT.

1.3 SITE MAINTENANCE AND PROTECTION:

- A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE SUBCONTRACT.
- B. AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
- C. KEEP SITE FREE OF ALL PONDING WATER.
- D. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT AND EPA REQUIREMENTS.
- E. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
- F. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE ENGINEER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.
 - 1. PROVIDE A MINIMUM 48-HOUR NOTICE TO THE ENGINEER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.

PART 2 - PRODUCTS

- 2.1 SUITABLE BACKFILL: ASTM D2321 (CLASS I, II, III OR IVA) FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.2 NON-POROUS GRANULAR EMBANKMENT AND BACKFILL: ASTM D2321 (CLASS III, IVA OR IVB) COARSE AGGREGATE. FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.3 POROUS GRANULAR EMBANKMENT AND BACKFILL: ASTM D2321 (CLASS IA, IB OR II) COARSE AGGREGATE FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.4 SELECT STRUCTURAL FILL: GRANULAR FILL MATERIAL MEETING THE REQUIREMENTS OF ASTM E850-95. FOR USE AROUND AND UNDER STRUCTURES WHERE STRUCTURAL FILL MATERIAL ARE REQUIRED.
- 2.5 GRANULAR BEDDING AND TRENCH BACKFILL: WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SE OR SW-SM).
- 2.6 COARSE AGGREGATE FOR ACCESS ROAD SUBBASE COURSE SHALL CONFORM TO ASTM D2940.
- 2.7 UNSUITABLE MATERIAL: HIGH AND MODERATELY PLASTIC SILTS AND CLAYS (LL>45), MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSION, AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICAL THESE WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.
- 2.8 GEOTEXTILE FABRIC: MIRAFI 500X OR ENGINEERED APPROVED EQUAL.

2.9 PLASTIC MARKING TAPE: SHALL BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM SPECIFICALLY MANUFACTURED FOR MARKING AND LOCATING UNDERGROUND UTILITIES, 6 INCHES WIDE WITH A MINIMUM THICKNESS OF 0.004 INCH. TAPE SHALL HAVE MINIMUM STRENGTH OF 1500 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL CONDUCTORS, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN BURIED UP TO 3 FEET DEEP. THE METALLIC CORE OF THE TAPE SHALL BE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION. TAPE COLOR SHALL BE RED FOR ELECTRIC UTILITIES AND ORANGE FOR TELECOMMUNICATION UTILITIES.

PART 3 - EXECUTION

3.1 GENERAL:

- A. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ANY TIME.
- B. BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
- C. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED.
 - 1. REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS, AND OTHER DEBRIS, BRUSH, AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE, RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OF 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
 - 2. REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS.
 - 3. EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH SUITABLE FILL.
- D. REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.
- E. PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, OR OTHER ITEM NOT SHOWN THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
- F. SEPARATE AND STOCK PILE ALL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.

3.2 BACKFILL:

- A. AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE.
 - 1. PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND UNSUITABLE MATERIALS.
 - 2. BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACTED. WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED.
 - 3. WHENEVER THE DENSITY TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM COMPACTION REQUIREMENTS.

- B. THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.3 TRENCH EXCAVATION:

- A. UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.
- B. EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.
- C. WHEN SOFT YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, BACKFILL AT THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL.

3.4 TRENCH BACKFILL:

- A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.
- B. NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING.
- C. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.
- D. PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS.
- E. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING.
- F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
- G. COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.5 AGGREGATE ACCESS ROAD:

- A. CLEAR, GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. SCARIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL. ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS SHALL BE CORRECTED.
- B. THE ENTIRE SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE MODIFIED PROCTOR TEST, ASTM D 1557.
- C. AFTER PREPARATION OF THE SUBGRADE IS COMPLETE THE GEOTEXTILE FABRIC (MIRAFI 500X) SHALL BE INSTALLED TO THE LIMITS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY ALONG THE ROADWAY. THE FABRIC SHALL NOT BE DRAGGED ACROSS THE SUBGRADE. PLACE THE ENTIRE ROLL IN A SINGLE OPERATION, ROLLING OUT AS SMOOTHLY AS POSSIBLE.
 - 1. OVERLAPS PARALLEL TO THE ROADWAY WILL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS BEYOND THE ROADWAY SURFACE WIDTH (I.E. WITHIN THE SHOULDER WIDTH) ONLY. NO LONGITUDINAL OVERLAPS SHALL BE LOCATED BETWEEN THE CENTERLINE AND THE SHOULDER. PARALLEL OVERLAPS SHALL BE A MINIMUM OF 3 FEET WIDE.
 - 2. TRANSVERSE (PERPENDICULAR TO THE ROADWAY) OVERLAPS AT THE END OF A ROLL SHALL OVERLAP IN THE DIRECTION OF THE AGGREGATE PLACEMENT (PREVIOUS ROLL ON TOP) AND SHALL HAVE A MINIMUM LENGTH OF 3 FEET.
 - 3. ALL OVERLAPS SHALL BE PINNED WITH STAPLES OR NAILS A MINIMUM OF 10 INCHES LONG TO INSURE POSITIONING DURING PLACEMENT OF AGGREGATE. PIN LONGITUDINAL SEAMS AT 25 FOOT CENTERS AND TRANSVERSE SEAMS EVERY 5 FEET.
- D. THE AGGREGATE BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN LAYERS NOT MORE THAN 4 INCH (COMPACTED) THICKNESS. AGGREGATE TO BE PLACED ON GEOTEXTILE FABRIC SHALL BE END-DUMPED ON THE FABRIC FROM THE FREE END OF THE FABRIC OR OVER PREVIOUSLY PLACED AGGREGATE. THE FIRST LIFT SHALL BE BLADED DOWN TO A THICKNESS OF 8 INCHES PRIOR TO COMPACTION. AT NO TIME SHALL EQUIPMENT, EITHER TRANSPORTING THE AGGREGATE OR GRADING THE AGGREGATE, BE PERMITTED ON THE ROADWAY WITH LESS THAN 4 INCHES OF MATERIAL COVERING THE FABRIC.
- E. THE AGGREGATE SHALL BE IMMEDIATELY COMPACTED TO NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE MODIFIED PROCTOR TEST, ASTM D 1557 WITH A TAMPING ROLLER, OR WITH A PNEUMATIC-TIRED ROLLER, OR WITH A VIBRATORY MACHINE OR ANY COMBINATION OF THE ABOVE. THE TOP LAYER SHALL BE GIVEN A FINAL ROLLING WITH A THREE-WHEEL OR TANDEM ROLLER.


3.6 FINISH GRADING:


- A. PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.
- B. UTILIZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.
- C. ACHIEVE FINISHED GRADE BY PLACING A MINIMUM OF 4 INCHES OF 1/2" - 3/4" CRUSHED STONE ON TOP SOIL STABILIZER FABRIC.
- D. REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

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Tower Owner:

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CHANDLER, AZ 85286

PREPARED FOR

161 Inverness Drive West 2nd floor
Englewood, Colorado 80112

A&E:

2227 W. PECOS ROAD, SUITE 4,
CHANDLER AZ 85224

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SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
GN-3

GENERAL CONCRETE WORK NOTES:

PART 1 - GENERAL

1.1 SCOPE:

- A. FORM WORK, REINFORCING STEEL, ACCESSORIES, CAST-IN PLACE CONCRETE, FINISHING, CURING AND TESTING FOR STRUCTURAL CONCRETE FOUNDATIONS.

1.2 REFERENCES:

- A. ACI (AMERICAN CONCRETE INSTITUTE)
1. ACI 301 SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS.
2. ACI 304 RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE.
3. ACI 305 RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING.
4. ACI 306 RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING.
5. ACI 308 STANDARD PRACTICE FOR CURING CONCRETING.
6. ACI 309 STANDARD PRACTICE FOR CONSOLIDATION OF CONCRETE.
7. ACI 318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
8. ACI 347 RECOMMENDED PRACTICE FOR CONCRETE FORMWORK.
B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS). THE APPLICABLE STANDARDS OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS ARE LISTED IN THE ACI STANDARDS AND ARE A PART OF THIS SPECIFICATION.

PART 2 - PRODUCTS

2.1 REINFORCING MATERIALS:

- A. REINFORCING BARS: ASTM A615, GRADE 60, PROPOSED DEFORMED BILLET-STEEL BARS, PLAIN FINISH.
B. FURNISH CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS AS REQUIRED FOR SUPPORT OF REINFORCING STEEL AND WIRE FABRIC.

2.2 CONCRETE MATERIALS:

- A. PORTLAND CEMENT SHALL BE TYPE II, CONFORMING TO ASTM C-150.
B. AGGREGATE SHALL CONFORM TO ASTM C-33.
1. FINE AGGREGATE SHALL BE UNIFORMLY GRADED, CLEAN SHARP, WASHED NATURAL, OR CRUSHED SAND, FREE FROM ORGANIC IMPURITIES.
2. COARSE AGGREGATE SHALL BE NATURAL WASHED GRAVEL OR WASHED CRUSHED ROCK HAVING HARD, STRONG, DURABLE PIECES, FREE FROM ADHERENT COATINGS.
3. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4 INCH IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C-33 GRADATION SIZE NO. 67.
C. WATER USED IN CONCRETE MIX SHALL BE POTABLE, CLEAN, AND FREE FROM OILS, ACIDS, SALTS, CHLORIDES, ALKALI, SUGAR, VEGETABLE, OR OTHER INJURIOUS SUBSTANCES.
D. THE CONCRETE SHALL CONTAIN AN AIR-ENTRAINING ADMIXTURE COMPLYING WITH THE REQUIREMENTS OF ASTM C-260 AND ACI 212. 1R AND A WATER- REDUCING ADMIXTURE COMPLYING WITH THE REQUIREMENTS OF ASTM C-494 AND ACI 212. 1R. ADMIXTURES SHALL BE PURCHASED AND BATCHED IN LIQUID SOLUTION. THE USE OF CALCIUM CHLORIDE OR AN ADMIXTURE CONTAINING CALCIUM CHLORIDE IS PROHIBITED. ADMIXTURES SHALL BE OF THE SAME MANUFACTURER TO ASSURE COMPATIBILITY. ACCEPTABLE MANUFACTURERS ARE:

- 1. W.R. GRACE
2. SIKA CORP.
3. MASTER BUILDERS
4. EUCLID CHEMICAL CO.

- E. CURING COMPOUND SHALL CONFORM TO ASTM C309, TYPE I, ID, CLASS A AND B AND ASTM C171 AS APPLICABLE.

2.3 CONCRETE MIX:

- A. PROPORTION CONCRETE MIX IN ACCORDANCE WITH REQUIREMENTS OF ACI 301. THE STRENGTH OF CONCRETE SHALL BE AS INDICATED ON THE DRAWINGS. WHERE STRENGTH IS NOT CLEARLY INDICATED, CONCRETE OF MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. SHALL BE USED.
B. THE CONCRETE MIX SHALL BE DESIGNED FOR A MAXIMUM SLUMP OF THREE INCHES AT THE POINT OF DISCHARGE. MIXES OF THE STIFFEST CONSISTENCY THAT CAN BE EFFICIENTLY PLACED SHALL BE USED.
C. ALL CONCRETE SHALL HAVE (3) TO FIVE (5) PERCENT ENTRAINED AIR.
D. ALL STRUCTURAL CONCRETE SHALL CONTAIN A WATER-REDUCING AGENT.

PART 3 - EXECUTION

3.1 GENERAL:

- A. CONSTRUCT AND ERECT THE FORM WORK IN ACCORDANCE WITH ACI 301 AND ACI 347.
B. COLD-WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 306.
C. HOT-WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 305.

3.2 INSERTS, EMBEDDED COMPONENTS AND OPENINGS:

- A. CONTRACTOR SHALL CHECK ALL CIVIL, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, ANCHOR BOLTS, INSERTS AND OTHER ITEMS TO BE BUILT INTO THE CONCRETE WORK.
B. COORDINATE THE WORK OF OTHER SECTION IN FORMING AND SETTING OPENINGS. RECESSES, SLOTS, CHASES, ANCHORS, INSERTS AND OTHER ITEMS TO BE EMBEDDED.
C. EMBEDDED ITEMS SHALL BE SET ACCURATELY IN LOCATION, ALIGNMENT, ELEVATION AND PLUMBNESS, LOCATE AND MEASURE FROM ESTABLISHED SURVEYED REFERENCE BENCHMARKS.
D. EMBEDDED ITEMS SHALL BE ANCHORED INTO PLACE IN A MANNER TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT AND CONSOLIDATION. COMPONENTS FORMING A PART OF A COMPLETE ASSEMBLY SHALL BE ALIGNED BEFORE ANCHORING INTO PLACE. PROVIDE TEMPORARY BRACING, ANCHORAGE, AND TEMPLATES AS REQUIRED TO MAINTAIN THE SETTING AND ALIGNMENT.

3.3 REINFORCEMENT PLACEMENT:

- A. PLACE REINFORCEMENT ACCORDING TO CHECKED AND RELEASED DRAWINGS AND IN ACCORDANCE WITH ACI 301 AND ACI 318.
B. ACCURATELY POSITION, SUPPORT AND SECURE REINFORCEMENT AGAINST DISPLACEMENT FROM FORM WORK CONSTRUCTION OR CONCRETE PLACEMENT AND CONSOLIDATION. SUPPORT REINFORCING ON METAL CHAIRS, RUNNERS, BOLSTERS, SPACERS AND HANGERS.
C. SPLICES OF REINFORCING BARS SHALL BE CLASS B UNLESS SHOWN OTHERWISE ON THE DRAWINGS. SPLICES SHALL BE STAGGERED. FULL DEVELOPMENT LENGTH SHALL BE PROVIDED ACROSS JOINTS.
D. LOCATE REINFORCING TO PROVIDE CONCRETE COVER AND SPACING SHOWN ON THE DRAWINGS. MINIMUM COVER SHALL BE AS REQUIRED BY ACI 318.
E. WELDING OF AND TO ANY REINFORCING MATERIALS INCLUDING TACK WELDING OF CROSSING BARS IS STRICTLY PROHIBITED.

3.4 CONCRETE PLACEMENT:

- A. PRIOR TO PLACING CONCRETE, THE FORMS AND REINFORCEMENT SHALL BE THOROUGHLY INSPECTED; ALL TEMPORARY BRACING, TIES AND CLEATS REMOVED; ALL OPENINGS FOR UTILITIES PROPERLY BOXED; ALL FORMS PROPERLY SECURED IN THEIR CORRECT POSITION AND MADE TIGHT. ALL REINFORCEMENT AND EMBEDDED ITEMS SHALL BE SECURED IN THEIR PROPER LOCATIONS. ALL OLD AND DRY CONCRETE AND DIRT SHALL BE CLEANED OFF AND ALL STANDING WATER AND OTHER FOREIGN MATERIAL REMOVED.
B. PLACING CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301 AND ACI 304 AND SHALL BE CARRIED OUT AT SUCH A RATE THAT THE CONCRETE PREVIOUSLY PLACED IS STILL PLASTIC AND INTEGRATED WITH THE FRESHLY PLACED CONCRETE. CONCRETING ONCE STARTED, SHALL BE CARRIED ON AS A CONTINUOUS OPERATION UNTIL THE SECTION IS COMPLETED. NO COLD JOINTS SHALL BE ALLOWED.
C. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED AND COMPACTED BY VIBRATION SPACING, RODDING, OR FORKING DURING THE OPERATION OF PLACING AND DEPOSITING IN ACCORDANCE WITH ACI 309. THE CONCRETE SHALL BE THOROUGHLY WORKED AROUND REINFORCEMENT, EMBEDDED ITEMS, AND INTO THE CORNER OF THE FORMS SO AS TO ELIMINATE ALL AIR AND STONE POCKETS.

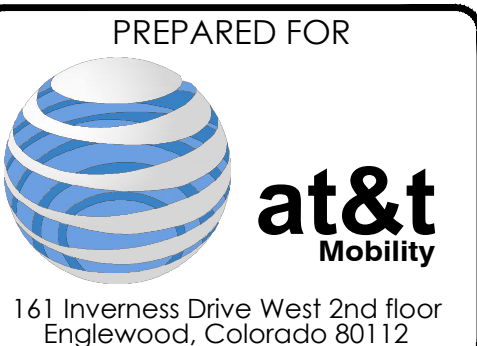
3.5 FINISHING:

- A. FINISHING OF THE FLOOR SLABS SHALL BE IN ACCORDANCE WITH ACI 302.1 SECTION 7.2 WITH A MINIMUM OF THREE TROWELINGS. THE SLAB FINISH TOLERANCE AS MEASURED IN ACCORDANCE WITH ASTM E 1155 SHALL HAVE AN OVERALL TEST NUMBER FOR FLATNESS, FF= 20 AND FOR LEVEL. FL=15. THE MINIMUM LOCAL NUMBER FOR FLATNESS, FF= 15 AND FOR LEVEL FL=10.
B. SURFACE OF FLOOR SLAB SHALL RECEIVE TWO COATS OF CLEAR SEALER/HARDNER.
C. ABOVE GRADE WALL SURFACES SHALL HAVE A SMOOTH FORM FINISH AS DEFINED IN CHAPTER 10 OF ACI 301.

3.6 CURING:

- A. FRESHLY DEPOSITED CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING AND EXCESSIVELY HOT AND COLD TEMPERATURES AND SHALL BE MAINTAINED WITH MINIMUM MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD OF TIME NECESSARY FOR THE HYDRATION OF THE CEMENT AND PROPER HARDENING OF THE CONCRETE.
B. CONCRETE SHALL BE KEPT CONTINUOUSLY MOIST AT LEAST OVERNIGHT, IMMEDIATELY FOLLOWING THE INITIAL CURING. BEFORE THE CONCRETE HAS DRIED. ADDITIONAL CURING SHALL BE ACCOMPLISHED BY ONE OF THE FOLLOWING MATERIALS OR METHODS:
1. PONDING OR CONTINUOUS SPRINKLING.
2. ABSORPTIVE MAT OR FABRIC KEPT CONTINUOUSLY WET.
3. NON-ABSORPTIVE FILM (POLYETHYLENE) OVER PREVIOUSLY SPRINKLED SURFACE.
4. SAND OR OTHER COVERING KEPT CONTINUOUSLY WET.
5. CONTINUOUS STEAM (NOT EXCEEDING 150 F) OR VAPOR MIST BATH.
6. SPRAYED- ON CURING COMPOUND APPLIED IN TWO COATS, SPRAYED IN PERPENDICULAR DIRECTION
C. THE FINAL CURING SHALL CONTINUE UNTIL THE CUMULATIVE NUMBER OF DAYS OR FRACTION THEREOF, NOT NECESSARILY CONSECUTIVE, DURING WHICH TEMPERATURE OF THE AIR IN CONTACT WITH CONCRETE IS ABOVE 50F HAS TOTALED SEVEN (7) DAYS. CONCRETE SHALL NOT BE PERMITTED TO FREEZE DURING THE CURING PERIOD. RAPID DRYING AT THE END OF THE CURING PERIOD SHALL BE PREVENTED.

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SHEET TITLE:
GENERAL
NOTES

SHEET NUMBER:
GN-4

GENERAL STEEL WORK NOTES:

PART 1 - GENERAL

1.1 SCOPE:

- A. PROVIDE FABRICATION AND ERECTION OF STRUCTURAL STEEL AND OTHER ITEMS AS SHOWN ON THE DRAWINGS OR REQUIRED BY OTHER SECTIONS OF THESE SPECIFICATIONS.

1.2 REFERENCES:

- A. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN (ASD).
- B. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
 ASTM A36: STRUCTURAL STEEL
 ASTM A53: PIPE, STEEL BLACK AND HOT DIPPED, ZINC-COATED WELDED AND SEAMLESS.
 ASTM A108: STEEL BARS, CARBON, COLD FINISHED, STANDARD QUALITY.
 ASTM A123: ZINC (HOT-DIPPED GALVANIZED) COATING ON IRON AND STEEL PRODUCTS.
 ASTM A307: CARBON STEEL BOLTS AND STUDS, 60,000 P.S.I. TENSILE STRENGTH.
 ASTM A325: HIGH-STRENGTH BOLT FOR STRUCTURAL STEEL JOINTS.
 ASTM A490: HEAT-TREATED, STRUCTURAL STEEL BOLTS, 150 (KSI) (1035MPA) TENSILE STRENGTH.
 ASTM A500: COLD-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES.
 ASTM A563: CARBON AND ALLOY STEEL NUTS.
 ASTM B695: COATINGS OF ZINC MECHANICALLY DEPOSITED ON IRON AND STEEL.
 ASTM F436: HARDENED STEEL WASHERS.
 ASTM F959: COMPRESSIBLE-WASHER-TYPE DIRECT TENSION INDICATOR FOR USE WITH STRUCTURAL FASTENERS.
- C. AMERICAN WELDING SOCIETY (AWS):
 AWS A5.1: COVERED CARBON STEEL ARC WELDING ELECTRODES.
 AWS A5.5: LOW ALLOY STEEL COVERED ARC WELDING ELECTRODES.
 AWS D1.1: STRUCTURAL WELDING CODE - STEEL.
- D. RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC): "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS OR ASTM A490 BOLTS." AS ENDORSED BY AISC.
- E. STEEL STRUCTURES PAINTING COUNCIL (SSPC):
 SSPC-SP3: POWER TOOL CLEANING.
 SSPC-PAINT 11: RED IRON OXIDE, ZINC CHROME, RAW LINSEED OIL OR ALKYD PAINT.

1.3 SUBMITTALS:

- A. SUBMIT THE FOLLOWING FOR APPROVAL:
 1. FABRICATION AND ERECTION DRAWINGS SHOWING ALL DETAILS, CONNECTIONS, MATERIAL DESIGNATIONS, AND ALL TOP STEEL ELEVATIONS.
 B. WELDERS SHALL BE QUALIFIED AS PRESCRIBED IN AWS D1.1.

PART 2 - PRODUCTS

2.1 STRUCTURAL STEEL:

- A. SHAPES, PLATES AND BARS SHALL CONFIRM TO ASTM A36.
- B. STRUCTURAL TUBING SHALL CONFIRM TO ASTM A500, GRADE B. STEEL PIPE SHALL CONFIRM TO ASTM A53, TYPE E OR S, GRADE B.

2.2 ANCHOR BOLTS:

- A. ANCHOR BOLTS SHALL CONFIRM TO ASTM A307 WITH HEAVY HEXAGONAL NUTS.

2.3 BOLTS:

- A. COMMON (MACHINE) BOLTS SHALL CONFIRM TO ASTM A307 GRADE A AND NUTS TO ASTM A563. ONE COMMON BOLT ASSEMBLY SHALL CONSIST OF A BOLT, A HEAVY HEX NUT AND A HARDENED WASHER.
- B. HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM A325; ONE HIGH STRENGTH BOLT ASSEMBLY SHALL CONSIST OF A HEAVY HEX STRUCTURAL BOLT, A HEAVY HEX NUT, A HARDENED WASHER CONFORMING TO ASTM F436. THE HARDENED WASHER SHALL BE INSTALLED AGAINST THE ELEMENT TURNED IN TIGHTENING. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS.

2.4 WELDING ELECTRODES:

- A. WELDING ELECTRODES SHALL COMPLY WITH AWS D1.1 USING A5.1 OR A5.5 E70XX AND SHALL BE COMPATIBLE WITH THE WELDING PROCESS SELECTED.

2.5 PRIMER:

- A. PRIMER SHALL BE RED OXIDE-CHROMATE PRIMER COMPLYING WITH SSPC PAINT SPECIFICATION NO. 11.

PART 3 - EXECUTION

3.1 FABRICATION:

A. SHOP FABRICATE AND ASSEMBLY MATERIALS AS SPECIFIED HEREIN.

- 1. FABRICATE ITEMS OF STRUCTURAL STEEL IN ACCORDANCE WITH THE AISC-ASD SPECIFICATION, AND AS INDICATED ON THE APPROVED SHOP DRAWINGS.
- 2. ALL EXPOSED STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED PER ASTM.
- 3. PROPERLY MARK AND MATCH-MARK MATERIALS FOR FIELD ASSEMBLY AND FOR IDENTIFICATION AS TO LOCATION FOR WHICH INTENDED.
- 4. FABRICATE AND DELIVER IN A SEQUENCE WHICH WILL EXPEDITE ERECTION AND MINIMIZE FIELD HANDLING OF MATERIALS.
- 5. WHERE FINISHING IS REQUIRED, COMPLETE THE ASSEMBLY, INCLUDING THE WELDING OF UNITS, BEFORE START OF FINISHING OPERATIONS.
- 6. PROVIDE FINISH SURFACE OF MEMBERS EXPOSED IN THE FINAL STRUCTURE FREE FROM MARKINGS, BURNS, AND OTHER DEFECTS.

B. PROVIDE CONNECTIONS AS SPECIFIED HEREIN:

- 1. PROVIDE BOLTS AND WASHERS OF TYPES AND SIZE REQUIRED FOR COMPLETION OF FIELD ERECTION. USE 3/4 INCH DIAMETER A325 BOLTS UNLESS NOTED OTHERWISE.
- 2. INSTALL HIGH STRENGTH THREADED FASTENERS IN ACCORDANCE WITH RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS."
- 3. WELDED CONSTRUCTION SHALL COMPLY WITH AWS D1.1 FOR PROCEDURES, APPEARANCE, QUALITY OF WELD, AND METHODS USED IN CORRECTING WELDED WORK.
- 4. THE FABRICATOR SHALL FURNISH AND INSTALL ERECTION CLIPS FOR FIT-UP OF WELDED CONNECTIONS.
- 5. DOUBLE ANGLE MEMBERS SHALL HAVE WELDED FILLERS SPACED IN ACCORDANCE WITH CHAPTER E4 OF THE AISC-ASD SPECIFICATION.
- 6. GUSSET AND STIFFENER PLATES SHALL BE 3/8 INCH THICK MINIMUM.

3.2 PRIMING:

- A. STRUCTURAL STEEL SHALL BE PRIMED AS SPECIFIED HEREIN, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
- B. STRUCTURAL STEEL SURFACE PREPARATION SHALL CONFIRM TO SSPC-SP3, "POWER TOOL CLEANING."
- C. SURFACE PREPARATION AND PRIMER SHALL BE IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE AS INCLUDED IN THE ASD MANUAL OF STEEL CONSTRUCTION.
- D. MATERIALS SHALL REMAIN CLOSED UNTIL REQUIRED FOR USE, MANUFACTURER'S POT-LIFE REQUIREMENTS SHALL BE STRICTLY ADHERED TO.
- E. PRIMER SHALL BE APPLIED TO DRY, CLEAN, PREPARED SURFACE AND UNDER FAVORABLE CONDITIONS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER PRIMING SHALL NOT BE DONE WHEN AMBIENT TEMPERATURE IS LESS THAN 50 DEGREE F. THE RELATIVE HUMIDITY IS MORE THAN 90 PERCENT, OR THE SURFACE TEMPERATURE IS LESS THAN 5 DEGREE F ABOVE THE DEW POINT.
- F. GENERALLY ALL PRIMER SHALL BE SPRAY APPLIED. BRUSH OR ROLLER APPLICATION SHALL BE RESTRICTED TO TOUCHUP AND TO AREAS NOT ACCESSIBLE BY SPRAY GUN.
- G. PRIMER SHALL BE UNIFORMLY APPLIED WITHOUT RUNS, SAGS, SOLVENT BLISTERS, DRY SPRAY OR OTHER BLEMISHES. ALL BLEMISHES AND OTHER IRREGULARITIES SHALL BE REPAIRED OR REMOVED AND THE AREA RE-COATED. SPECIAL ATTENTION SHALL BE PAID TO CREVICES, WELD LINES, BOLT HEADS, CORNERS, EDGES, ETC., TO OBTAIN THE REQUIRED NOMINAL FILM THICKNESS.
- H. THE DRY FILM THICKNESS OF THE PRIMER SHALL BE 2.0 MILS.
- I. IF THE PRIMER IS DAMAGED BY WELDING OR PHYSICAL ABUSE, THE AREA SHALL BE TOUCHED UP AND REPAIRED. THE TOUCHUP PAINT SHALL BE COMPATIBLE WITH THE APPLIES PRIMER WITH MINIMUM DRY FILM THICKNESS OF 1.5 MILS.

3.3 INSTALLATION:

- A. INSTALLATION OF STRUCTURAL STEEL SHALL COMPLY WITH AISC "CODE OF STANDARD PRACTICE."
- B. STRUCTURAL FIELD WELDING SHALL BE DONE BY THE ELECTRIC SUBMERGED OR SHIELDED METAL ARC PROCESS. WELDED CONSTRUCTION SHALL COMPLY WITH AWS D1.1.

- C. PROVIDE ANCHOR BOLTS AND OTHER CONNECTORS REQUIRED FOR SECURING STRUCTURAL STEEL TO ELEVATOR SHAFT WALLS AND OTHER IN-PLACE WORK. PROVIDE TEMPLATES AND OTHER DEVICES NECESSARY FOR PRESETTING BOLTS AND ANCHORS TO ACCURATE LOCATIONS.

D. SPLICE MEMBERS ONLY WHERE INDICATED ON THE DRAWINGS.

- E. ANY GAS CUTTING TORCHES HAVE TO BE APPROVED IN WRITING BY THE PROJECT STRUCTURAL ENGINEER.

- F. PROVIDE TEMPORARY SHORING BRACING WITH CONNECTIONS OF SUFFICIENT STRENGTH TO BEAR IMPOSED LOADS. REMOVE TEMPORARY CONNECTIONS AND MEMBERS WHEN PERMANENT MEMBERS ARE IN PLACE AND THE FINAL CONNECTIONS HAVE BEEN MADE.

- G. ALIGN AND ADJUST MEMBERS, AND OTHER SURFACES WHICH WILL BE IN THE PERMANENT CONTACT, BEFORE ASSEMBLY.

- H. HIGH-STRENGTH BOLTS AS A MINIMUM, SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN THE LATEST AISC SPECIFICATION. ALL HIGH-STRENGTH BOLTS SPECIFIED ON THE DESIGN DRAWINGS TO BE USED IN PRETENSIONED OR SLIP-CRITICAL JOINTS SHALL BE TIGHTENED TO A BOLT TENSION NOT LESS THAN THAT GIVEN IN AISC TABLE J3.1. INSTALLATION SHALL BE BY ANY OF THE FOLLOWING METHODS: TURN-OF NUT METHOD, A DIRECT-TENSION-INDICATOR, TWIST-OFF-TYPE TENSION-CONTROL BOLT, CALIBRATED WRENCH, OR ALTERNATIVE DESIGN BOLT.

STRUCTURAL NOTES

1.0 GENERAL CONDITIONS

1.1 DESIGN AND CONSTRUCTION OF ALL WORK SHALL CONFORM TO THE IBC 2006 EDITION AND ALL OTHER APPLICABLE STATE CODES, ORDINANCES, AND REGULATIONS. IN CASE OF CONFLICT BETWEEN THE CODES, STANDARDS, AND REGULATIONS. SPECIFICATIONS, GENERAL NOTES AND/OR MANUFACTURER'S REQUIREMENTS. USE THE MOST STRINGENT PROVISION.

1.2 IT IS THE EXPRESS INTENT OF THE PARTIES INVOLVED IN THIS PROJECT THAT THE CONTRACTOR OR SUBCONTRACTOR OR INDEPENDENT CONTRACTOR OR THEIR RESPECTIVE EMPLOYEES SHALL EXCULPATE THE ARCHITECT, THE ENGINEER, THE CONSTRUCTION MANAGER, THE OWNER, AND THEIR AGENTS, FROM ANY LIABILITY WHATSOEVER AND HOLD THEM HARMLESS AGAINST LOSS, DAMAGES, LIABILITY OR ANY EXPENSE ARISING IN ANY MATTER FROM THE WRONGFUL OR NEGLIGENT ACT, OR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FAILURE TO CONFORM TO THE STATE SCAFFOLDING ACT IN CONNECTION WITH THE WORK.

1.3 DO NOT SCALE DRAWINGS.

1.4 VERIFY ALL EQUIPMENT MOUNTING DIMENSIONS PER MANUFACTURER DRAWINGS.

1.5 SUBMIT ONE SEPIA AND TWO PRINTS OF ALL STRUCTURAL SHOP DRAWINGS. MARKED UP SEPIA SHALL BE RETURNED.

1.6 DESIGN LOADS ARE:

WIND SPEED	115 MPH 3 SEC EXP C	
SNOW LOAD	300 PSF	
SEISMIC ZONE	SBC & UBC - 4 AND IBC - E	
SHELTER WEIGHT:	WITHOUT EQUIPMENT	5,500lbs
	WITH EQUIPMENT	7,500lbs

2.0 STEEL

2.1 MEET OR EXCEED THE FOLLOWING CODES & STANDARDS (LATEST EDITION) EXCEPT AS NOTED:

- A. STRUCTURAL STEEL...AISC SPECIFICATION & CODE OF STANDARD PRACTICE
- SHAPES AND PLATES...ASTM A572
- PLATES BENT OR COLD FORMED...ASTM A 283, GRADE C
- PIPES...ASTM A 53, GRADE B
- STRUCTURAL SHEETS, HOT ROLLED...ASTM A 510
- COLD FORMED STEEL TUBING...ASTM A 500 GRADE B
- BOLTS, NUTS & WASHERS FOR ANCHOR BOLTS AND SECONDARY CONNECTIONS...ASTM A307
- ALL STEEL SHALL BE HOT-DIPPED GALVANIZED.

B. WELDS...AWS E 70XX
 EXCEPTION IS TAKEN TO AISC CODE OF STANDARD PRACTICE PARAGRAPH 4.2.1 REGARDING OWNERS AND FABRICATOR'S RESPONSIBILITY FOR CONNECTION DESIGN AND DETAILING IS THE CONTRACTORS RESPONSIBILITY. ENGINEER'S REVIEW OF SHOP DRAWINGS IS FOR GENERAL CONSIDERATIONS ONLY AND DOES NOT CONSTITUTE AN ACCEPTANCE OF THESE RESPONSIBILITIES BY THE OWNER AND/OR ENGINEER.

3.0 FIBER REINFORCED PLASTIC

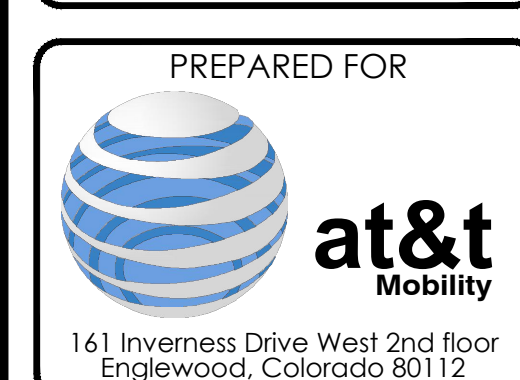
3.1 ALL FRP MATERIAL SHALL BE EXTREN SERIES 500 OR EQUIV.

3.2 ALL ADHESIVE SHALL BE PLEXUS METHACRYLATE ADHESIVE OR EQUIV.

3.3 ALL FRP CONNECTIONS SHALL BE FULL BONDED EACH SIDE WITH 3 /8" PLATE AND MINIMUM (2) 3/8" PAN HEAD FRP SCREWS PER MEMBER.

3.4 ALL PANELS SHALL BE FULL BONDED W/ 3/8" PAN HEAD FRP SCREWS AT 12" O.C.

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REV	DATE	DESCRIPTION
A	8/20/19	PRELIMINARY CDS

Licensior:

 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

Issued For:
8/20/19
PRELIMINARY CD'S

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
GN-5

GENERAL ELECTRICAL NOTES:

PART 1 - GENERAL

1.1 GENERAL CONDITIONS:

A. CONTRACTOR SHALL INSPECT THE EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.

B. THE CONTRACTOR SHALL OBTAIN PERMITS, LICENSES, MAKE ALL DEPOSITS, AND PAY ALL FEES REQUIRED FOR THE CONSTRUCTION PERFORMANCE FOR THE WORK UNDER THIS SECTION.

C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWING SHALL NOT BE SCALED TO DETERMINE DIMENSIONS.

1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES.

A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES. CONDUIT BENDS SHALL BE THE RADIUS BEND FOR THE TRADE SIZE OF CONDUIT IN COMPLIANCE WITH THE LATEST EDITIONS OF NEC.

1.3 REFERENCES:

A. THE PUBLICATIONS LISTED BELOW ARE PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE. THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS OTHERWISE NOTED. EXCEPT AS MODIFIED BY THE REQUIREMENT SPECIFIED HEREIN OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISION OF THESE PUBLICATIONS.

- 1. ANSII/IEEE (AMERICAN NATIONAL STANDARDS INSTITUTE)
2. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
3. ICE (INSULATED CABLE ENGINEERS ASSOCIATION)
4. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
5. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
6. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
7. UL (UNDERWRITERS LABORATORIES, INC.)
8. AT&T GROUNDING AND BONDING STANDARDS TP-76416

1.4 SCOPE OF WORK:

A. WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL, AND ASSOCIATED SERVICES REQUIRED TO COMPLETE REQUIRED CONSTRUCTION AND BE OPERATIONAL.

B. ALL ELECTRICAL EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY TESTED, ADJUSTED, AND ALIGNED BY THE CONTRACTOR.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING, DRAINING, TRENCHES, BACKFILLING, AND REMOVAL OF EXCESS DIRT.

D. THE CONTRACTOR SHALL FURNISH TO THE OWNER WITH CERTIFICATES OF A FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION.

E. THE CONTRACTOR SHALL PREPARE A COMPLETE SET OF AS-BUILT DRAWINGS, DOCUMENT ALL WIRING EQUIPMENT CONDITIONS, AND CHANGES WHILE COMPLETING THIS CONTRACT. THE AS-BUILT DRAWINGS SHALL BE SUBMITTED AT COMPLETION OF THE PROJECT.

PART 2 - PRODUCTS

2.1 GENERAL:

A. ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED, NEW, AND FREE FROM DEFECTS.

B. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED.

C. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

D. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 10,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PER THE GOVERNING JURISDICTION.

2.2 MATERIALS AND EQUIPMENT:

A. CONDUIT:

- 1. RIGID METAL CONDUIT (RMC) SHALL BE HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LACQUERED INSIDE IN ADDITION TO GALVANIZING.
2. LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED.
3. CONDUIT CLAMPS, STRAPS AND SUPPORTS SHALL BE STEEL OR MALLEABLE IRON. ALL FITTINGS SHALL BE COMPRESSION AND CONCRETE TIGHT TYPE. GROUNDING BUSHINGS WITH INSULATED THROATS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.
4. NONMETALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC. INSTALL USING SOLVENT-CEMENT-TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER.

B. CONDUCTORS AND CABLE:

- 1. CONDUCTORS AND CABLE SHALL BE FLAME-RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC, SINGLE CONDUCTOR, COPPER, TYPE THHN/THWN-2, 600 VOLT, SIZE AS INDICATED, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR USED.
2. #10 AWG AND SMALLER CONDUCTOR SHALL BE SOLID OR STRANDED AND #8 AWG AND LARGER CONDUCTORS SHALL BE STRANDED.
3. SOLDERLESS, COMPRESSION-TYPE CONNECTORS SHALL BE USED FOR TERMINATION OF ALL STRANDED CONDUCTORS.
4. STRAIN-RELIEF SUPPORTS GRIPS SHALL BE HUBBELL, KELLEMS OR APPROVED EQUAL. CABLES SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC AND CABLE MANUFACTURER'S RECOMMENDATIONS. ALL CONDUCTORS SHALL BE TAGGED AT BOTH ENDS OF THE CONDUCTOR, AT ALL PULL

5. BOXES, J-BOXES, EQUIPMENT AND CABINETS AND SHALL BE IDENTIFIED WITH APPROVED PLASTIC TAGS (ACTION CRAFT, BRADY, OR APPROVED EQUAL).

C. DISCONNECT SWITCHES:

- 1. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD-FRONT, QUICK-MAKE, QUICK-BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCK WITH COVER IN CLOSED POSITION, RATING AS INDICATED, UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE-D OR ENGINEERED APPROVED EQUAL.

D. CHEMICAL ELECTROLYTIC GROUNDING SYSTEM:

- 1. INSTALL CHEMICAL GROUNDING AS REQUIRED. THE SYSTEM SHALL BE ELECTROLYTIC MAINTENANCE FREE ELECTRODE CONSISTING OF RODS WITH A MINIMUM #2 AWG CU EXOTHERMALLY WELDED PIGTAIL, PROTECTIVE BOXES, AND BACKFILL MATERIAL. MANUFACTURER SHALL BE LYNCOLE XIT GROUNDING ROD TYPES K2-(*)CS OR K2L-(*)CS (*) LENGTH AS REQUIRED.
2. GROUND ACCESS BOX SHALL BE A POLYPLASTIC BOX FOR NON-TRAFFIC APPLICATIONS, INCLUDING BOLT DOWN FLUSH COVER WITH "BREATHER" HOLES, XIT MODEL #XB-22. ALL DISCONNECT SWITCHES AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS ID NUMBERING, AND THE ELECTRICAL POWER SOURCE.
3. BACKFILL MATERIAL SHALL BE LYNCONITE AND LYNCOLE GROUNDING GRAVEL.

E. SYSTEM GROUNDING:

- 1. ALL GROUNDING COMPONENTS SHALL BE TINNED AND GROUNDING CONDUCTOR SHALL BE #2 AWG BARE, SOLID, TINNED, COPPER. ABOVE GRADE GROUNDING CONDUCTORS SHALL BE INSULATED WHERE NOTED.
2. GROUNDING BUSES SHALL BE BARE, TINNED, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION. STANDARD BUS BARS MGB, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD. ALL GROUNDING BUSES SHALL BE IDENTIFIED WITH MINIMUM 3/4" LETTERS BY WAY OF STENCILING OR DESIGNATION PLATE.
3. CONNECTORS SHALL BE HIGH-CONDUCTIVITY, HEAVY DUTY, LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED. USE TWO-HOLE COMPRESSION LUGS WITH CLEAR HEAT SHRINK FOR MECHANICAL CONNECTIONS. USE TWO-HOLE COMPRESSION LUGS WITH INSPECTION WINDOW AND CLEAR HEAT SHRINK.
4. EXOTHERMIC WELDED CONNECTIONS SHALL BE PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.
5. GROUND RODS SHALL BE ERICO #615800, COPPER-CLAD STEEL WITH HIGH-STRENGTH STEEL CORE AND ELECTROLYTIC-GRADE COPPER OUTER SHEATH, MOLTEN WELDED TO CORE, 5/8"x10'-0". ALL GROUNDING RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES.
6. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS IN COMPLIANCE WITH THE AT&T SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES, DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.

F. OTHER MATERIALS:

- 1. THE CONTRACTOR SHALL PROVIDE OTHER MATERIALS, THOUGH NOT SPECIFICALLY DESCRIBED, WHICH ARE REQUIRED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.
2. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.

G. PANELS AND LOAD CENTERS:

- 1. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

PART 3 - EXECUTION

3.1 GENERAL:

- A. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
B. B. EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT OR WATER, AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS.

3.2 LABOR AND WORKMANSHIP:

A. ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE INSTALLED BY EXPERIENCED WIREMEN, IN A NEAT AND WORKMAN-LIKE MANNER.

B. ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED, ALIGNED AND TESTED BY THE CONTRACTOR AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.

C. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVE ALL LABELS AND ANY DEBRIS, CRATING OR CARTONS AND LEAVE THE INSTALLATION FINISHED AND READY FOR OPERATION.

3.3 COORDINATION:

A. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER-FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNNECESSARY DELAYS IN THE TOTAL WORK.

3.4 INSTALLATION:

A. CONDUIT:

- 1. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT AS SPECIFIED. NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH TRADE SIZE.
2. PROVIDE RIGID PVC SCHEDULE 80 CONDUITS FOR ALL RISERS, RMC OTHERWISE NOTED. EMT MAY BE INSTALLED FOR EXTERIOR CONDUITS WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
3. INSTALL SCH. 40 PVC CONDUIT WITH A MINIMUM COVER OF 24" UNDER ROADWAYS, PARKING LOTS, STREETS, AND ALLEYS. CONDUIT SHALL HAVE A MINIMUM COVER OF 18" IN ALL OTHER NON-TRAFFIC APPLICATIONS (REFER TO 2011 NEC, TABLE 300.5).
4. USE GALVANIZED FLEXIBLE STEEL CONDUIT WHERE DIRECT CONNECTION TO EQUIPMENT WITH MOVEMENT, VIBRATION, OR FOR EASE OF MAINTENANCE. USE LIQUID TIGHT, FLEXIBLE METAL CONDUIT FOR OUTDOOR APPLICATIONS. INSTALL GALVANIZED FLEXIBLE STEEL CONDUIT AT ALL POINTS OF CONNECTION TO EQUIPMENT MOUNTED ON SUPPORT TO ALLOW FOR EXPANSION AND CONTRACTION.
5. A RUN OF CONDUIT BETWEEN BOXES OR EQUIPMENT SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF THREE QUARTER-BENDS. CONDUIT BEND SHALL BE MADE WITH THE UL LISTED BENDER OR FACTORY 90 DEGREE ELBOWS MAY BE USED.
6. FIELD FABRICATED CONDUITS SHALL BE CUT SQUARE WITH A CONDUIT CUTTING TOOL AND REAMED TO PROVIDE A SMOOTH INSIDE SURFACE.
7. PROVIDE INSULATED GROUNDING BUSHING FOR ALL CONDUITS.
8. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION. TEMPORARY OPENINGS IN THE CONDUIT SYSTEM SHALL BE PLUGGED OR CAPPED TO PREVENT ENTRANCE OF MOISTURE OR FOREIGN MATTER. CONTRACTOR SHALL REPLACE ANY CONDUITS CONTAINING FOREIGN MATERIALS THAT CANNOT BE REMOVED.
9. ALL CONDUITS SHALL BE SWABBED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF CONDUCTORS OR CABLES. CONDUIT SHALL BE FREE OF DIRT AND DEBRIS.
10. INSTALL PULL STRINGS IN ALL CLEAN EMPTY CONDUITS. IDENTIFY PULL STRINGS AT EACH END.
11. INSTALL 2" HIGHLY VISIBLE AND DETECTABLE TAPE 12" ABOVE ALL UNDERGROUND CONDUITS AND CONDUCTORS.
12. CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO INSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.
13. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS TO ALLOW FOR RACEWAYS AND CABLES TO BE ROUTED THROUGH THE BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE EFFECTIVELY SEALED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FIRE STOPS AT FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE, AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

B. CONDUCTORS AND CABLE:

1. ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS:

Table with 2 columns: DESCRIPTION and VOLT SYSTEMS. Rows include PHASE A (BLACK), PHASE B (RED), PHASE C (BLUE), NEUTRAL (WHITE), and GROUNDING (GREEN).

2. SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAY CONDUITS APPROVED FOR THIS PURPOSE.

3. PULLING LUBRICANTS SHALL BE UL APPROVED. CONTRACTOR SHALL USE NYLON OR HEMP ROPE FOR PULLING CONDUCTOR OR CABLES INTO THE CONDUIT.

4. CABLES SHALL BE NEATLY TRAINED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES & EQUIPMENT TO PERMIT MAKING A NEAT ARRANGEMENT. CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OR TERMINALS. CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND MOISTURE. SHARP BENDS OVER CONDUIT BUSHINGS IS PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

C. DISCONNECT SWITCHES:

1. INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB. CONNECT TO WIRING SYSTEM AND GROUNDING SYSTEM AS INDICATED.

D. GROUNDING:

1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, AT&T GROUNDING AND BONDING STANDARDS TP-76416, ND-00135, AND THE NATIONAL ELECTRICAL CODE.

2. PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.

3. ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED. GROUNDING CONDUCTORS SHALL NOT BE LOOPED OR SHARPLY BENT. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES. BUILDINGS AND/OR NEW TOWERS GREATER THAN 75 FEET IN HEIGHT AND WHERE THE MAIN

4. GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUND RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN #2 AWG COPPER. ROOFTOP GROUND RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). SEE STANDARD 6.3.2.2.

5. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING. CONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN-POINTS TO THE EXISTING

6. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE GROUNDING SYSTEM. EXOTHERMIC WELD PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

7. ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.

8. APPLY CORROSION-RESISTANCE FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED.

9. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.

10. BOND ALL INSULATED GROUNDING BUSHINGS WITH A BARE 6 AWG GROUNDING CONDUCTOR TO A GROUND BUS.

11. DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE, USE THE GREATER OF THE TWO DISTANCES.

12. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.

13. THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.

14. DRIVE GROUND RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 6" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.

15. IF COAX ON THE ICE BRIDGE IS MORE THAN 6 FT. FROM THE GROUND BAR AT THE BASE OF THE TOWER, A SECOND GROUND BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE, TO GROUND THE COAX CABLE GROUNDING KITS AND IN-LINE ARRESTORS

16. CONTRACTOR SHALL REPAIR, AND/OR REPLACE, EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE CONTRACTORS EXPENSE.

3.5 ACCEPTANCE TESTING

A. CERTIFIED PERSONNEL USING CERTIFIED EQUIPMENT SHALL PERFORM REQUIRED TESTS AND SUBMIT WRITTEN TEST REPORTS UPON COMPLETION.

B. WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE SPECIFIED REQUIREMENTS, THE NON-COMPLYING ITEMS SHALL BE REMOVED FROM THE PROJECT SITE AND REPLACED WITH ITEMS COMPLYING WITH THE SPECIFIED REQUIREMENTS PROMPTLY AFTER RECEIPT OF NOTICE FOR NON-COMPLIANCE.

C. TEST PROCEDURES:

1. ALL FEEDERS SHALL HAVE INSULATION TESTED AFTER INSTALLATION, BEFORE CONNECTION TO DEVICES. THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS. TESTING SHALL BE FOR ONE MINUTE USING 1000V DC. PROVIDE WRITTEN DOCUMENTATION FOR ALL TEST RESULTS.

2. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.

3. MEASURE AND RECORD VOLTAGES BETWEEN PHASES AND BETWEEN PHASE CONDUCTORS AND NEUTRALS. SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES

4. PERFORM GROUNDING TEST TO MEASURE GROUNDING RESISTANCE OF GROUNDING SYSTEM USING THE IEEE STANDARD 3-POINT "FALL-OF-POTENTIAL" METHOD. PROVIDE PLOTTED TEST VALUES AND LOCATION SKETCH. NOTIFY THE ENGINEER IMMEDIATELY IF MEASURED VALUE IS OVER 5 OHMS.

AT&T Site ID:

UTL03109

4311 WEST 1200 SOUTH WEST WEBER, UT 84404

Tower Owner:



PREPARED FOR



A&E:



AT&T SITE NO: UTL03109

BU NO: 829171

DRAWN BY: JD

CHECKED BY: CM

Table with 3 columns: REV, DATE, DESCRIPTION. Row 1: A, 8/20/19, PRELIMINARY CDS.

Licensor:

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Issued For:

8/20/19

PRELIMINARY CD'S

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

GN-6

1'-8"

1'-3"

Property of AT&T
Authorized Personnel Only

In case of emergency, or prior to performing maintenance on this site, call _____ and reference cell site number _____
FA # _____

at&t

ATT AL APO 1520

- NOTES:
1. PLACE SIGN ON ROOM, SHELTER OR CABINET DOOR.

6 DOOR SIGN
N.T.S.

AT&T ABOVEGROUND FUEL STORAGE SYSTEMS
SIGNS AND LABELING REQUIREMENTS

PROPANE
 PRODUCT IDENTIFICATION
DIESEL
 HAZARD RATINGS:
 9 O'CLOCK - HEALTH
 12 O'CLOCK - FLAMMABILITY
 3 O'CLOCK - INSTABILITY
 6 O'CLOCK - SPECIAL

COMBUSTIBLE

FLAMMABLE

NO SMOKING

SIGNS MUST BE OF DURABLE MATERIAL WITH RED LETTERING ON WHITE BACKGROUND. LETTERS SHALL NOT BE LESS THAN 3 INCHES (762 mm) IN HEIGHT. SIGNS SHALL NOT BE OBSTRUCTED OR REMOVED AND SHALL BE IN ENGLISH AS A PRIMARY LANGUAGE. COMBUSTIBLE SIGN MAY ALSO BE WHITE LETTER ON RED BACKGROUND

- NOTES:
1. PLACE AT DOOR OR TANK.
2. SEE SIGN PLACEMENT TABLE IN A-12 FOR ADDITIONAL INFORMATION

5 FUEL STORAGE SIGN
N.T.S.

NFPA 704 HAZARD IDENTIFICATION
SYSTEM 15" DIAMOND

INFORMATION

Federal Communications
Commission
Tower Registration Number
1 2 3 4 5 6 7

Posted in accordance with Federal Communications
Commission rules on antenna tower registration
47CFR 17.4 (g).

NOTES:
1. 12" x 8" ALUMINUM.
2. REQUIREMENT IS SPECIFIED IN SECTION 4 OF CNTP.
3. POSTED AT BASE OF TOWER AND AT EACH ENTRANCE POINT.
4. SEE SIGN PLACEMENT TABLE IN A-12 FOR ADDITIONAL INFORMATION

4 FCC TOWER REG. (ASRN)
N.T.S.

1'-2"

DANGER

NO
TRESPASSING

10"

NOTES:
1. PLACE SIGN ON GATE OR DOOR AND EACH SIDE OF FENCED COMPOUND.
2. PLACE SIGN ON AT&T COMPOUND ONLY.
4. SEE SIGN PLACEMENT TABLE IN A-12 FOR ADDITIONAL INFORMATION

3 NO TRESPASSING SIGN
N.T.S.

AT&T Site ID:
UTL03109
4311 WEST 1200 SOUTH
WEST WEBER, UT 84404

Tower Owner:

2055 SOUTH STEARMAN DRIVE
CHANDLER, AZ 85286

PREPARED FOR

161 Inverness Drive West 2nd floor
Englewood, Colorado 80112

A&E:

2227 W. PECOS ROAD, SUITE 4
CHANDLER AZ 85224

AT&T SITE NO: UTL03109
BU NO: 829171
DRAWN BY: JD
CHECKED BY: CM

REV	DATE	DESCRIPTION
A	8/20/19	PRELIMINARY CDS

Licenser:

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Issued For:
8/20/19
PRELIMINARY CD'S

SHEET TITLE:
SITE SIGNAGE

SHEET NUMBER:
GN-7

2'-0"

2'-0"

Property of AT&T
Authorized Personnel Only

No Trespassing
Violators will be Prosecuted

In case of emergency, or prior to performing maintenance on this site, call _____ and reference cell site number _____

at&t

- NOTES:
1. ALUMINUM SIGN.
2. PLACE AT MAIN ENTRANCE GATES TO COMPOUND.
3. SEE SIGN PLACEMENT TABLE IN A-12 FOR ADDITIONAL INFORMATION.

INFORMATION

AT&T Mobility operates telecommunications antennas at this location. Remain at least 3 feet away from any antenna and obey all posted signs.

Contact the owner(s) of the antenna(s) before working closer than 3 feet from the antenna(s)

Contact AT&T Mobility at _____ prior to performing any maintenance or repairs near AT&T antennas

This is site# _____

Contact the management office if this door/hatch/gate is found unlocked.

INFORMACION

En esta propiedad se ubican antenas de telecomunicaciones operadas por AT&T Mobility. Favor mantener una distancia de no menos de 3 pies y obedecer todos los avisos.

Comuniquese con el propietario o los propietarios de las antenas antes de trabajar o caminar a una distancia de menos de 3 pies de la antena

Comuniquese con AT&T Mobility antes de realizar cualquier mantenimiento o reparaciones cerca de las antenas de AT&T Mobility.

Esta es la estación base número _____

Favor comunicarse con la oficina de la administración del edificio si esta puerta o compuerta se encuentra sin candado

- INFORMATION SIGN 1:
1. 8" X 12" ALUMINUM.
2. PLACE AT ENTRANCE (GATE, DOOR, HATCHWAY, ETC).
3. POSTED ADJACENT TO CAUTION (YELLOW) SIGN.
4. BUILDING OWNER MAY HAVE LIMITATIONS ON WHERE CAN BE POSTED.
5. SEE SIGN PLACEMENT TABLE IN A-12 FOR ADDITIONAL INFORMATION

1 RADIO FREQUENCY INFORMATION SIGN
N.T.S.

INFORMATION

ACTIVE ANTENNAS ARE MOUNTED

ON THE OUTSIDE FACE OF THIS BUILDING

BEHIND THIS PANEL

ON THIS STRUCTURE

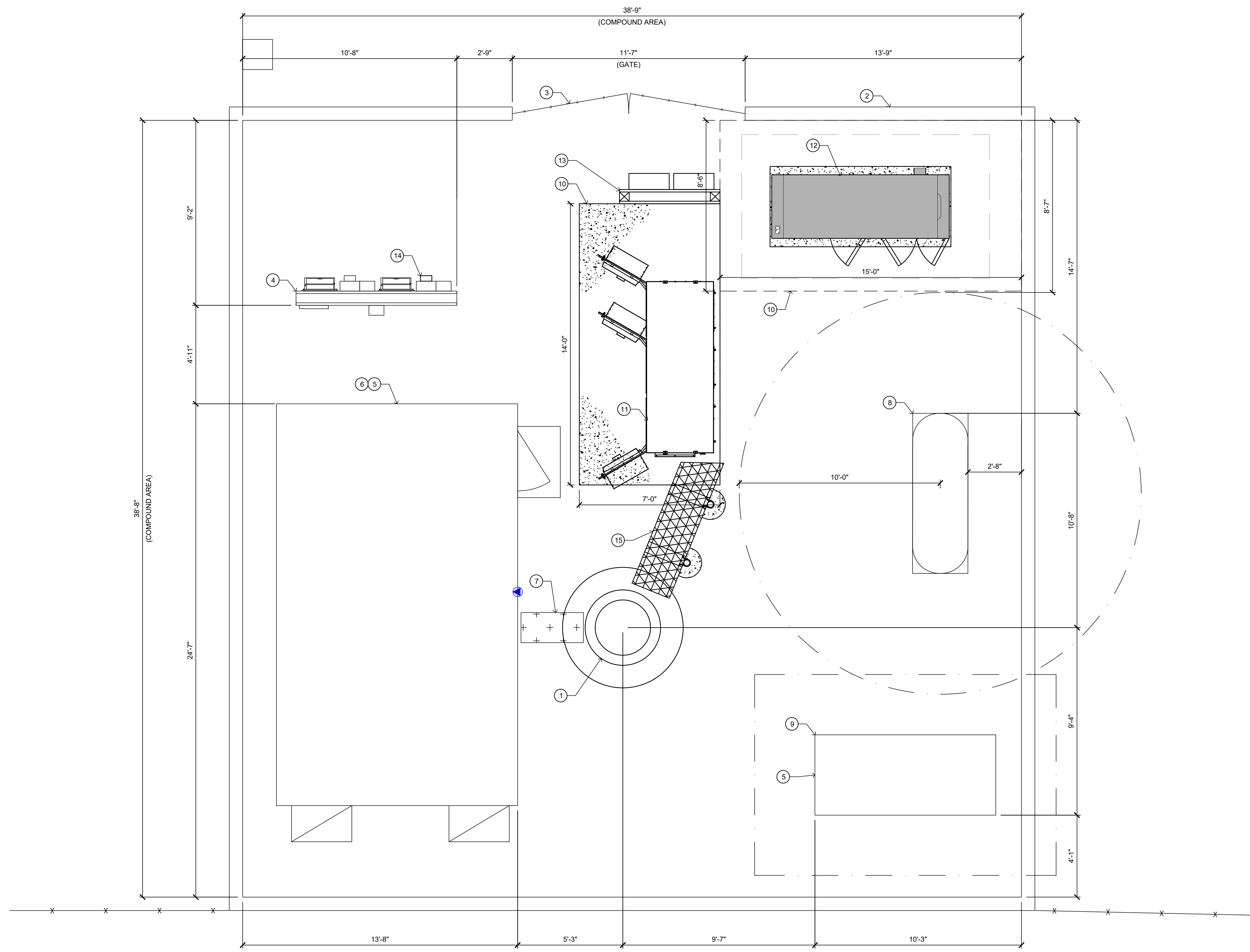
STAY BACK A MINIMUM OF 3 FEET FROM THESE ANTENNAS

Contact AT&T Mobility at _____ and follow their instructions prior to performing any maintenance or repairs closer than 3 feet from the antennas.

This is AT&T Mobility site _____
AT&T Mobility

- INFORMATION SIGN 2:
1. NON-METALLIC (VINYL OR SIMILAR WEATHERPROOF MATERIAL) LABEL WITH AN ADHESIVE BACKING.
2. APPROXIMATELY 5 X 7 INCHES.
- POSTING:
1. ACTIVE ANTENNAS BEHIND A RADIO TRANSPARENT PANEL. A NON-METALLIC VERSION WITH AN ADHESIVE BACKING SHOULD BE AFFIXED TO THE FACE OF THE RADIO TRANSPARENT PANEL CONCEALING THE ANTENNAS.
2. ANTENNAS MOUNTED ON THE OUTSIDE FACE OF A BUILDING. A METALLIC OR NON-METALLIC VERSION SHOULD BE MOUNTED ON THE PARAPETS INSIDE WALL DIRECTLY ABOVE THE ANTENNA.
3. ROOFTOP ANTENNAS MOUNTED ON SUPPORT STRUCTURES. A METALLIC OR NON-METALLIC VERSION (DEPENDING UPON MOUNTING CONDITIONS) SHOULD BE MOUNTED ON THE SUPPORT STRUCTURE, OR VERY NEAR IT, IN SUCH A MANNER THAT THE SIGN IS CLEARLY ASSOCIATED WITH THE STRUCTURE.
4. ANTENNAS THAT ARE STAND-ALONE (E.G., LAMP POSTS, STADIUMS) IN AREAS WHERE THERE IS LITTLE POTENTIAL FOR EXCEEDING THE GENERAL POPULATION/UNCONTROLLED MPE EXCEPT, PERHAPS, VERY CLOSE TO THE ANTENNA. IN THIS CASE, THE INFORMATION SIGN 2 WOULD BE MOUNTED CLOSE TO THE ANTENNA IN ORDER TO ALERT MAINTENANCE WORKERS.
5. SEE SIGN PLACEMENT TABLE FOR ADDITIONAL INFORMATION.

2 GATE SIGN
N.T.S.



KEYNOTES

- 1 (E) 119'-0" MONOPOLE
- 2 (E) CMU COMPOUND WALL
- 3 (E) FENCE GATE
- 4 (E) UTILITY H-FRAME BY OTHERS
- 5 (E) EQUIPMENT PAD/SHELTER BY OTHERS
- 6 (E) LEASE AREA BY OTHERS
- 7 (E) CABLE TRAY/BIDGE BY OTHERS
- 8 (E) PROPANE TANK
- 9 (E) GENERATOR (BY OTHERS)
- 10 (P) AT&T 7'-0"x14'-0" PAD LEASE AREA & 8'-7"x15'-0" GENERATOR LEASE AREA
- 11 (P) AT&T WUC CABINET ON 7'-0"x14'-0" CONCRETE PAD (SEE SHEET A2.2 FOR DETAILS)
- 12 (P) 30KW AC DIESEL GENERATOR ON 4'-0"x9'-0" CONCRETE PAD
- 13 (P) UTILITY FRAME W/ HOFFMAN BOX
- 14 (P) METER IN OPEN SOCKET ON (E) UTILITY FRAME
- 15 (P) AT&T 6'-0" ICE BRIDGE

AT&T Site ID:
UTL03109
4311 WEST 1200 SOUTH
WEST WEBER, UT 84404

Tower Owner:
CROWN CASTLE
2055 SOUTH STEARMAN DRIVE
CHANDLER, AZ 85286

PREPARED FOR
at&t Mobility
161 Inverness Drive West 2nd floor
Englewood, Colorado 80112

A&E:
TELCYTE
INFRASTRUCTURE SERVICES
2227 W. PECOS ROAD, SUITE 4,
CHANDLER AZ 85224

AT&T SITE NO: UTL03109
BU NO: 829171
DRAWN BY: JD
CHECKED BY: CM

REV	DATE	DESCRIPTION
A	8/20/19	PRELIMINARY CDS

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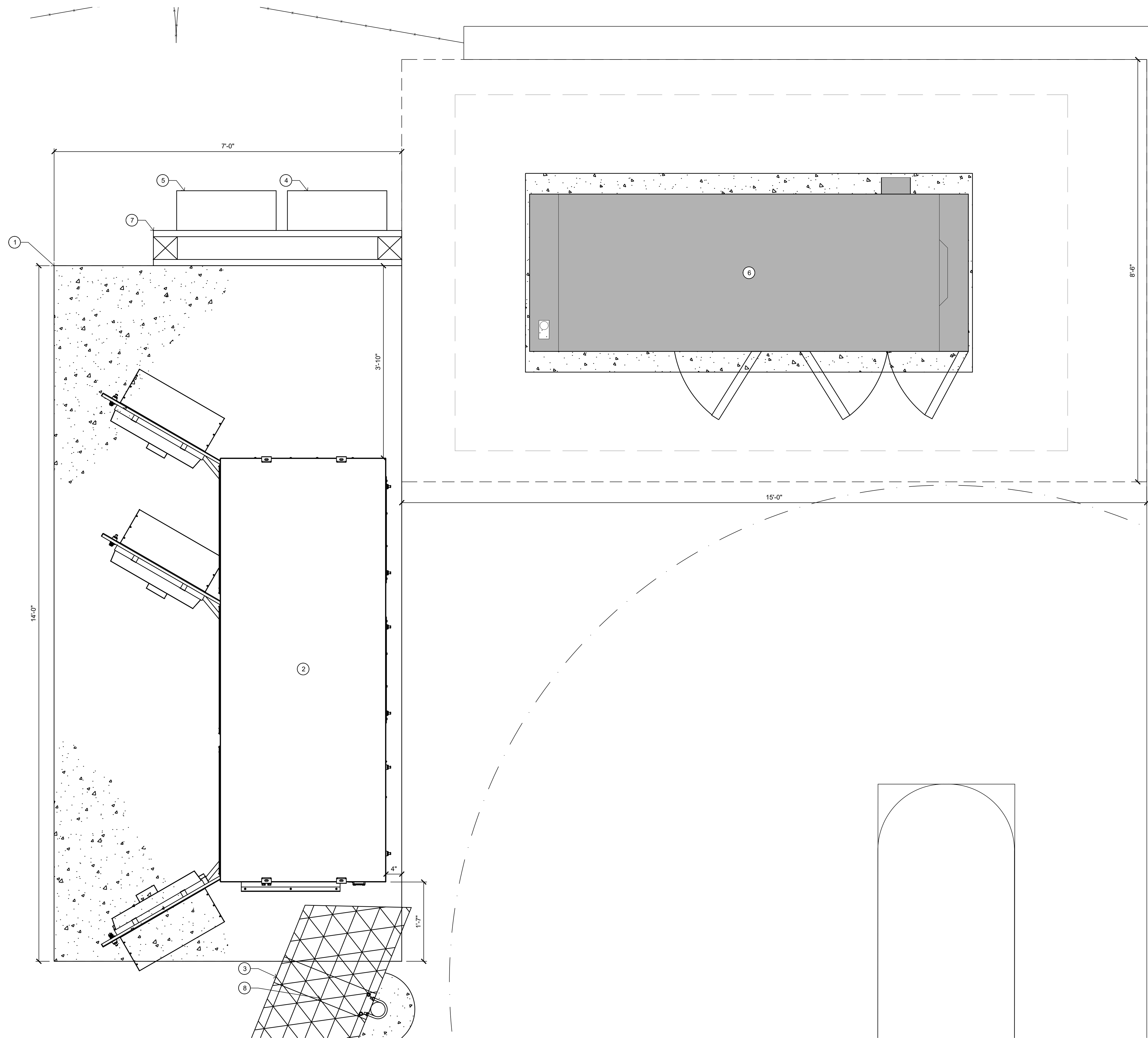
SHEET TITLE:
PROPOSED COMPOUND PLAN

SHEET NUMBER:
A-2.1

1 PROPOSED COMPOUND PLAN
SCALE: 3/8"=1'-0" (FULL SIZE)
3/16"=1'-0" (11x17)



SITE TYPE: MONOPOLE/WIC



- KEYNOTES**
- 1 (P) 7'-0"X14'-0" LEASE AREA
 - 2 (P) AT&T WUC CABINET W/ ASSOCIATED EQUIPMENT
 - 3 (P) 6'-0" ICE BRIDGE
 - 4 (P) (2) DC12s
 - 5 (P) HOFFMAN BOX
 - 6 (P) 30KW AC DIESEL GENERATOR ON 4'-0"X6'-0" CONCRETE PAD
 - 7 (P) UTILITY H-FRAME
 - 8 (P) (6) DC TRUNKS & (3) FIBER TRUNKS


AT&T Site ID:
 UTL03109
 4311 WEST 1200 SOUTH
 WEST WEBER, UT 84404

Tower Owner:

 2055 SOUTH STEARMAN DRIVE
 CHANDLER, AZ 85286

PREPARED FOR

 161 Inverness Drive West 2nd floor
 Englewood, Colorado 80112

A&E:

 2227 W. PECOS ROAD, SUITE 4,
 CHANDLER AZ 85224

AT&T SITE NO: UTL03109
 BU NO: 829171
 DRAWN BY: JD
 CHECKED BY: CM

REV	DATE	DESCRIPTION
A	8/20/19	PRELIMINARY CD'S

Licensors:

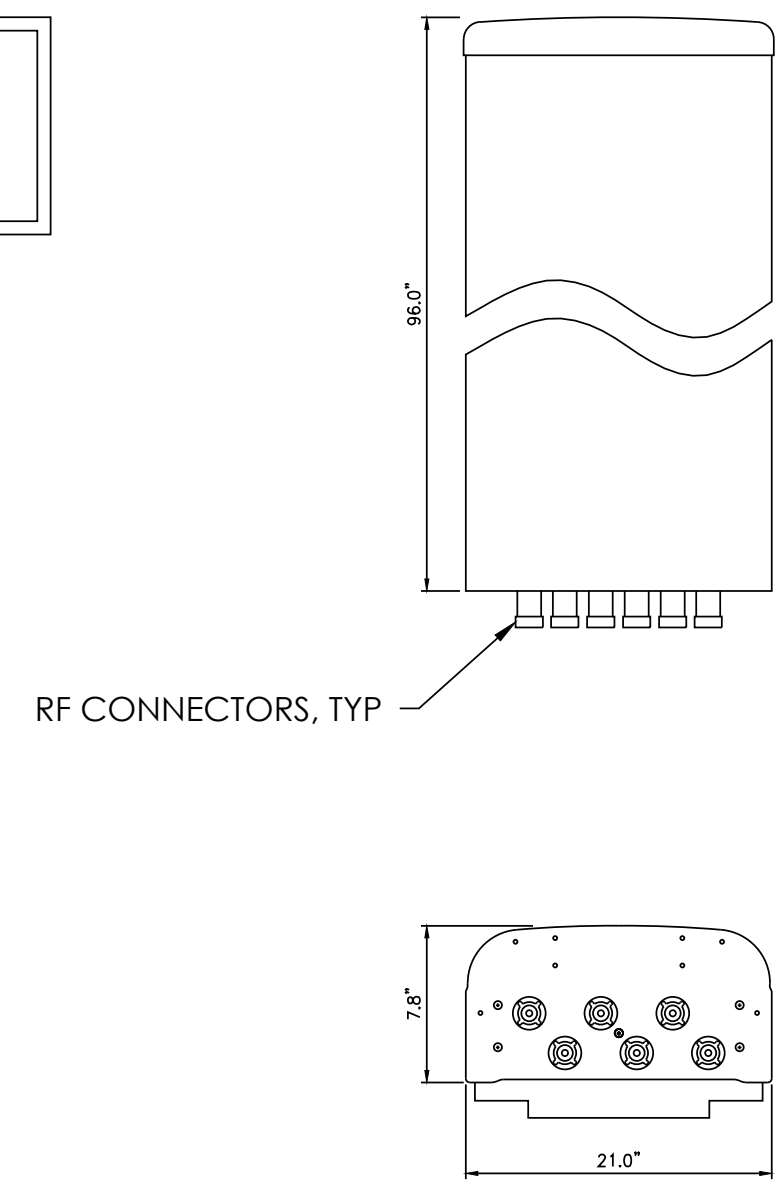
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SHEET TITLE:
INTERIOR WIC LAYOUT

SHEET NUMBER:
A-2.2

LENGTH: 96.0"
 WIDTH: 21.0"
 DEPTH: 7.8"
 WEIGHT: 82.5 lbs.

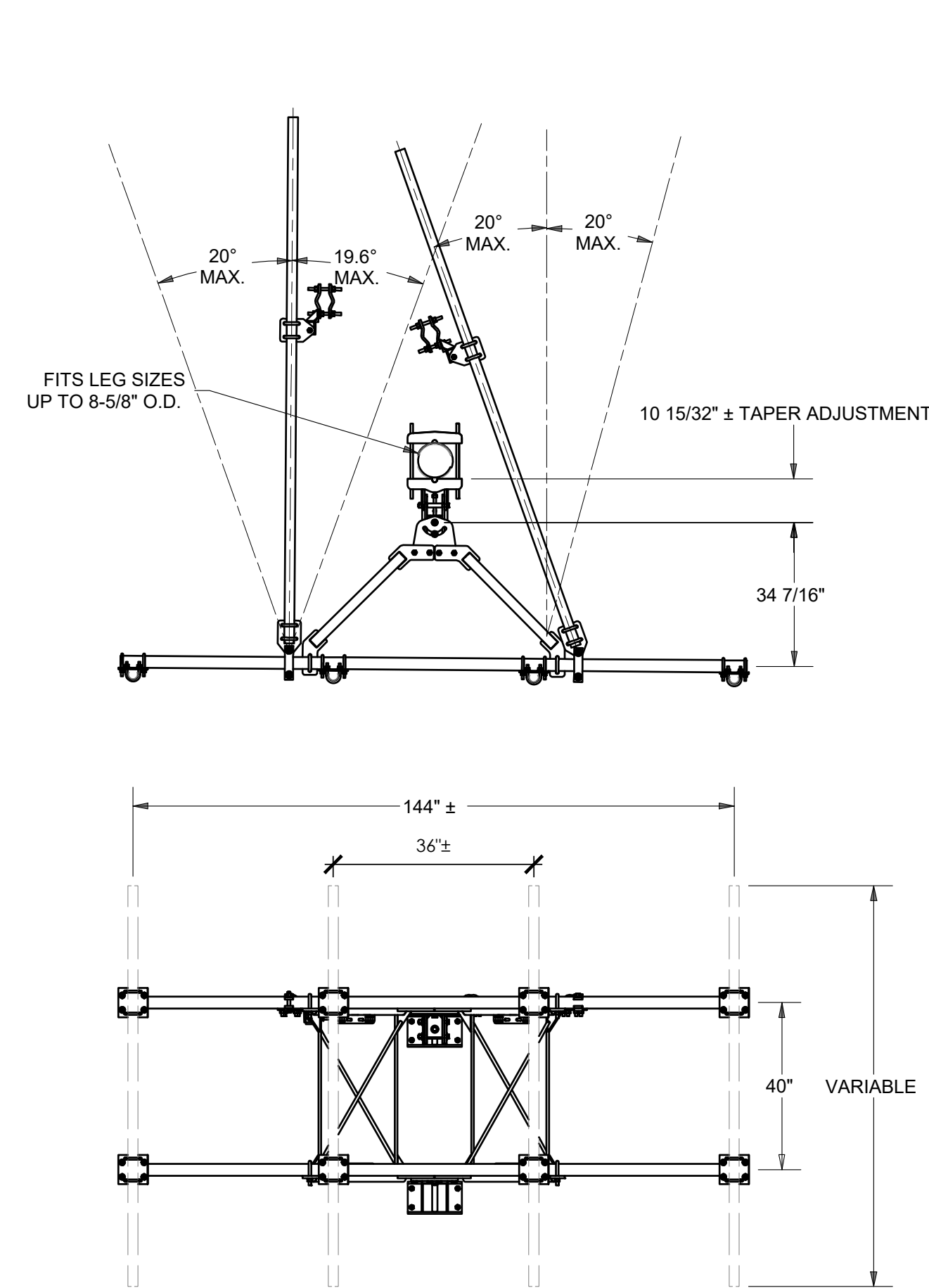


4 CCI - TPA65R-BU8D
 SCALE: NOT TO SCALE

NEW ANTENNA SCHEDULE						
SECTOR	POSITION	TECH	ANTENNA	RRH	AZIMUTH	ANTENNA DIMS (HxWxD)
ALPHA	1	-	-	-	-	-
ALPHA	2	LTE	CCI - TPA65R-BU8D	(1) 700 - 414R 85 AHCA (1) RRH4X25-WC3-4R	70°	96.0'X21.0'X7.8"
ALPHA	3	-	-	-	-	-
ALPHA	4	LTE	CCI - TPA65R-BU8D	(1) RRH 414R 812/14 AHLBA (1) 414R 825/66 AHFB	70°	96.0'X21.0'X7.8"
BETA	1	-	-	-	-	-
BETA	2	LTE	CCI - TPA65R-BU8D	(1) 700 - 414R 85 AHCA (1) RRH4X25-WC3-4R	180°	96.0'X21.0'X7.8"
BETA	3	-	-	-	-	-
BETA	4	LTE	CCI - TPA65R-BU8D	(1) RRH 414R 812/14 AHLBA (1) 414R 825/66 AHFB	180°	96.0'X21.0'X7.8"
GAMMA	1	-	-	-	-	-
GAMMA	2	LTE	CCI - TPA65R-BU8D	(1) 700 - 414R 85 AHCA (1) RRH4X25-WC3-4R	290°	96.0'X21.0'X7.8"
GAMMA	3	-	-	-	-	-
GAMMA	4	LTE	CCI - TPA65R-BU8D	(1) RRH 414R 812/14 AHLBA (1) 414R 825/66 AHFB	290°	96.0'X21.0'X7.8"

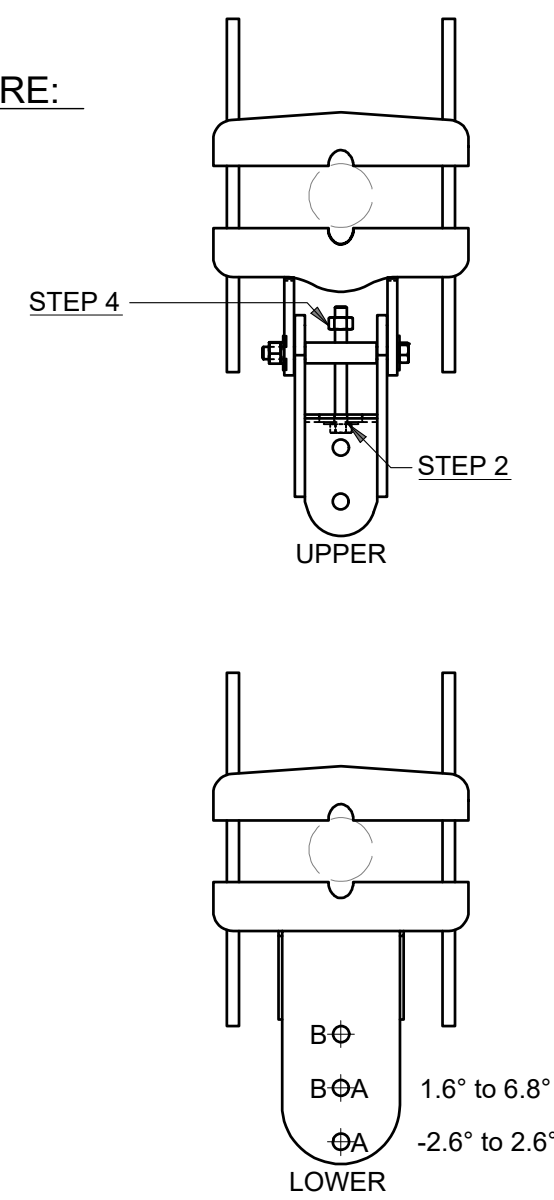
NOTE: CONFIRM THAT GENERAL CONTRACTOR IS USING LATEST VERSION OF RFDS.

2 RF SCHEDULE
 SCALE: NOT TO SCALE

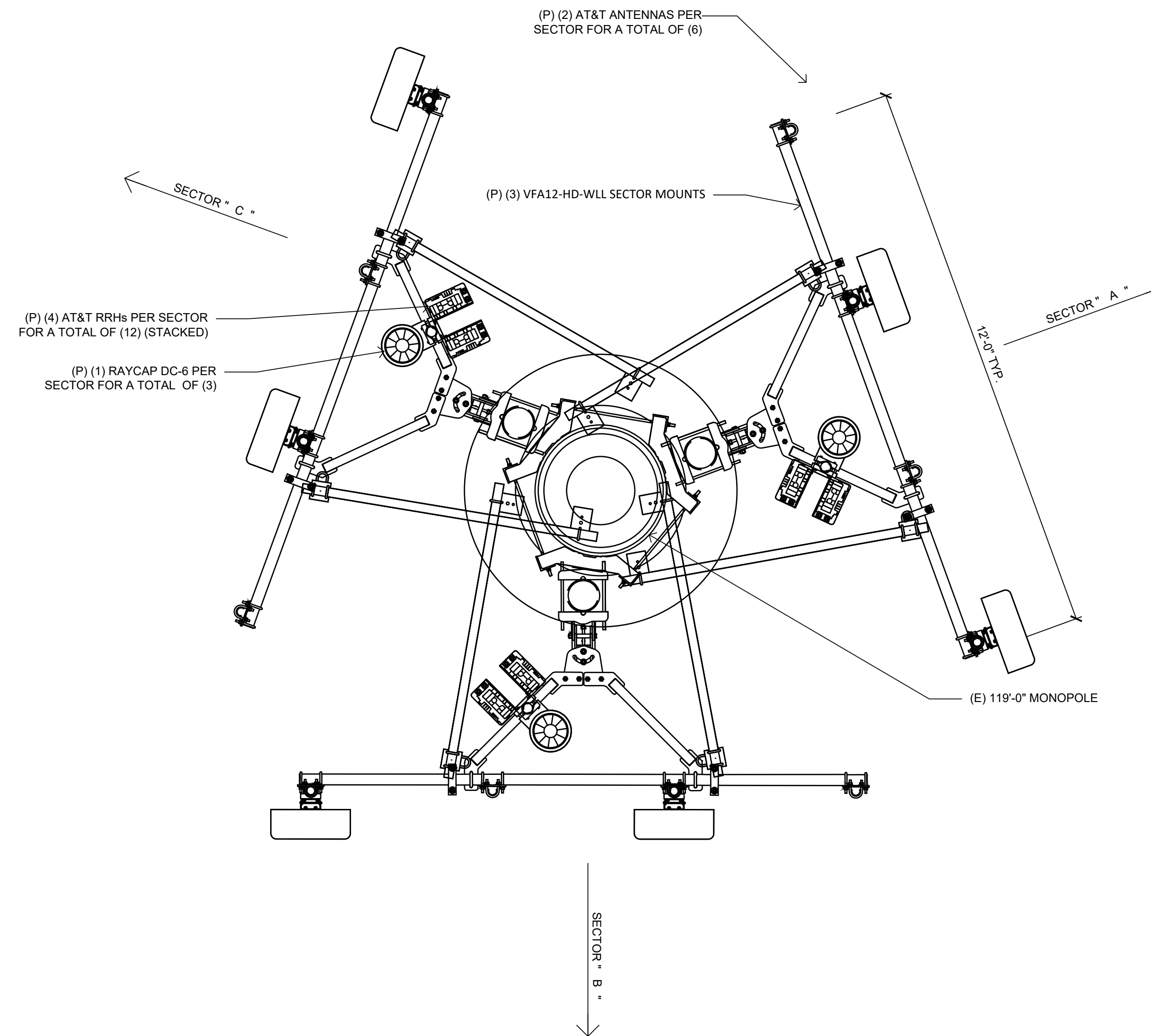


ANGLE CALIBRATING PROCEDURE:

1. MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
 HOLE A = -2.6° TO 2.6°
 HOLE B = 1.6° TO 6.8°
2. USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
3. TORQUE LOCKING BOLTS TO 100 ft.-lbs.
4. ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.



3 SITEPRO1 VFA12-HD-WLL-30120 HEAVY WLL ANTENNA FRAME DETAIL - ANT# 15997
 SCALE: NOT TO SCALE



1 ANTENNA PLAN
 SCALE: 1/2"=1'-0" (FULL SIZE)
 1/4"=1'-0" (11x17)

SITE TYPE: MONOPOLE/WIC

AT&T Site ID:
 UTL03109
 4311 WEST 1200 SOUTH
 WEST WEBER, UT 84404

Tower Owner:

 2055 SOUTH STEARMAN DRIVE
 CHANDLER, AZ 85286

PREPARED FOR

 161 Inverness Drive West 2nd floor
 Englewood, Colorado 80112

A&E:

 2227 W. PECOS ROAD, SUITE 4,
 CHANDLER AZ 85224

AT&T SITE NO: UTL03109
 BU NO: 829171
 DRAWN BY: JD
 CHECKED BY: CM

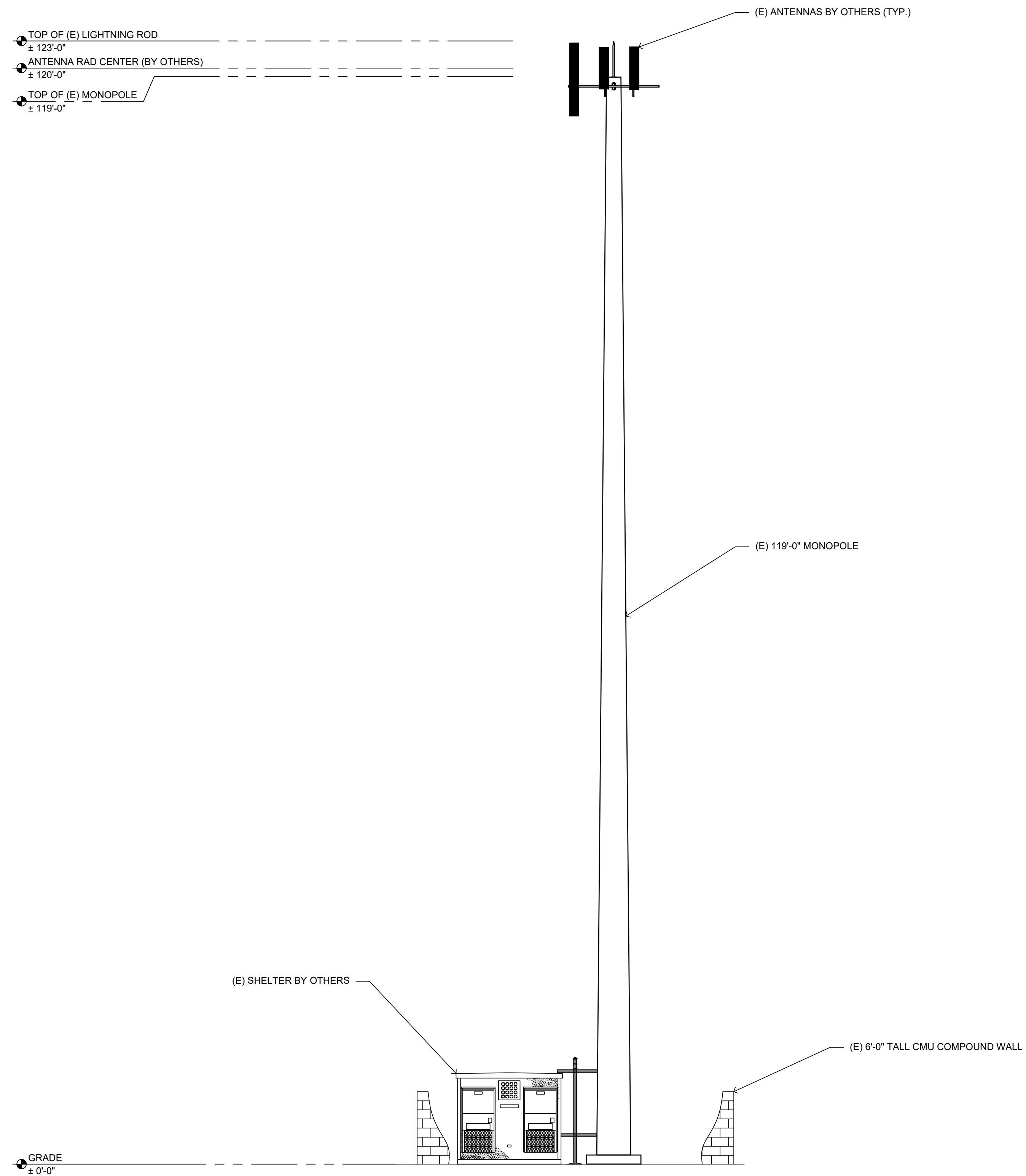
REV	DATE	DESCRIPTION
A	8/20/19	PRELIMINARY CDS

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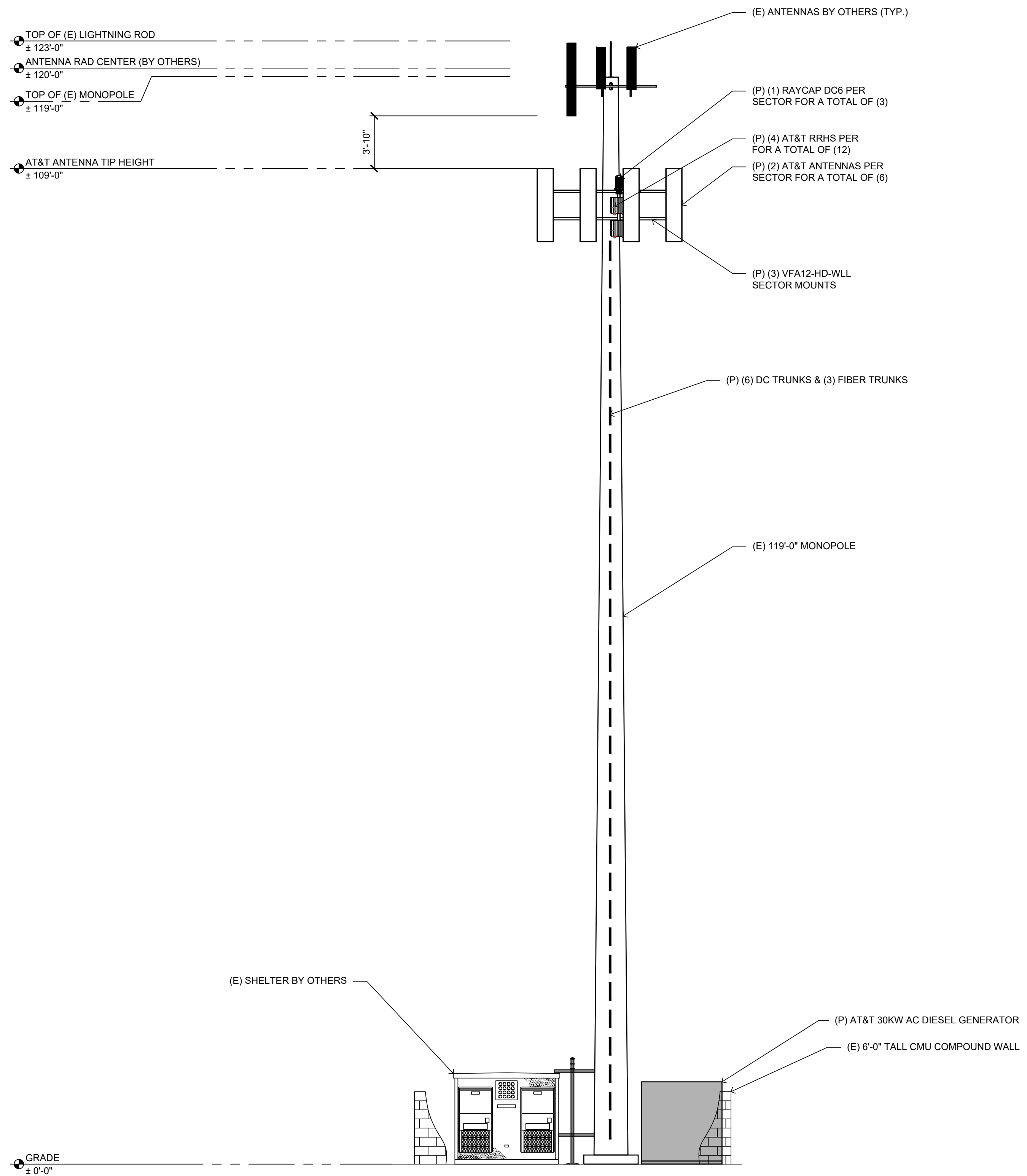
Issued For:
 8/20/19
 PRELIMINARY CD'S

SHEET TITLE:
 ANTENNA PLAN & DETAILS

SHEET NUMBER:
A-3



2 EXISTING SOUTH ELEVATION
SCALE: 3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (11x17)



1 PROPOSED SOUTH ELEVATION
SCALE: 3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (11x17)

SITE TYPE: MONOPOLE/WIC

AT&T Site ID:
UTL03109
4311 WEST 1200 SOUTH
WEST WEBER, UT 84404

Tower Owner:
CROWN CASTLE
2055 SOUTH STEARMAN DRIVE
CHANDLER, AZ 85286

PREPARED FOR
at&t Mobility
161 Inverness Drive West 2nd floor
Englewood, Colorado 80112

A&E:
TELCYTE
INFRASTRUCTURE SERVICES
2227 W. PECOS ROAD, SUITE 4,
CHANDLER AZ 85224

AT&T SITE NO: UTL03109
BU NO: 829171
DRAWN BY: JD
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REV	DATE	DESCRIPTION
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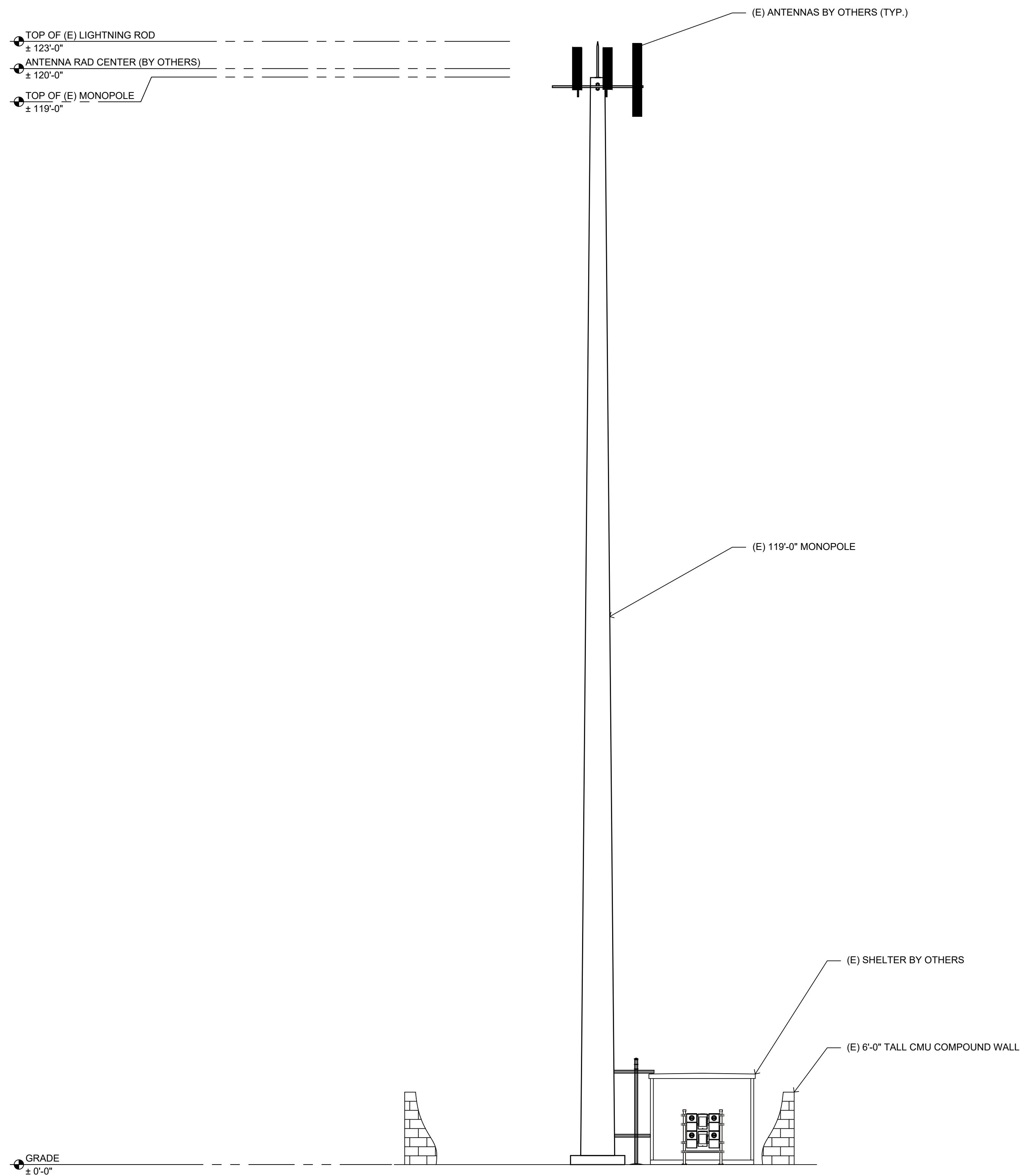
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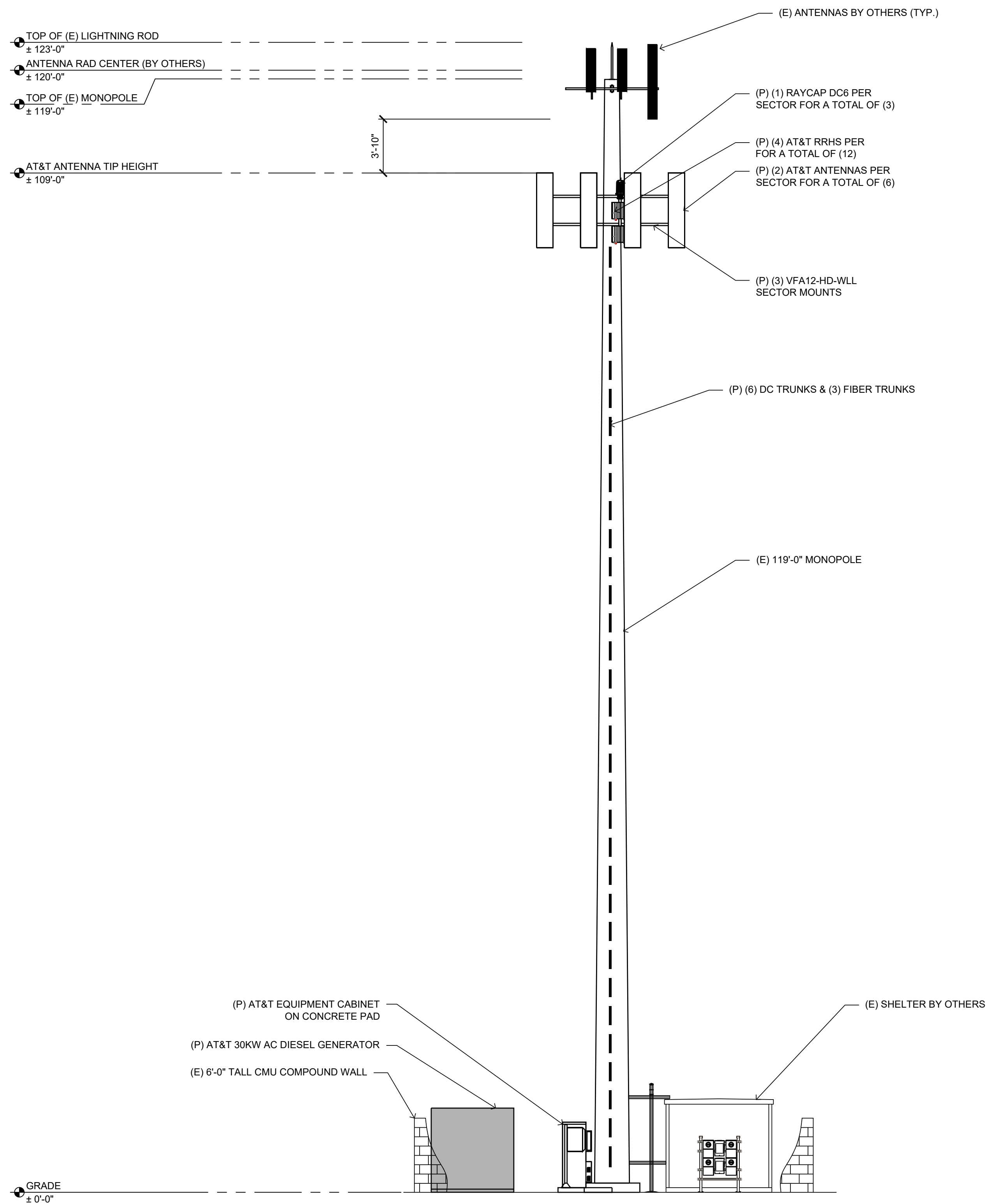
Issued For:
8/20/19
PRELIMINARY CD'S

SHEET TITLE:
PROPOSED
MONOPOLE NORTH -
ELEVATION

SHEET NUMBER:
A-4.1



2 EXISTING NORTH ELEVATION
SCALE: 3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (11x17)



1 PROPOSED NORTH ELEVATION
SCALE: 3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (11x17)

SITE TYPE: MONOPOLE/WIC

AT&T Site ID:
UTL03109
4311 WEST 1200 SOUTH
WEST WEBER, UT 84404

Tower Owner:
CROWN CASTLE
2055 SOUTH STEARMAN DRIVE
CHANDLER, AZ 85286

PREPARED FOR
at&t Mobility
161 Inverness Drive West 2nd floor
Englewood, Colorado 80112

A&E:
TELCOYTE
INFRASTRUCTURE SERVICES
2227 W. PECOS ROAD, SUITE 4,
CHANDLER AZ 85224

AT&T SITE NO: UTL03109
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REV	DATE	DESCRIPTION
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Issued For:
8/20/19
PRELIMINARY CD'S

SHEET TITLE:
PROPOSED
MONOPOLE WEST
ELEVATION

SHEET NUMBER:
A-4.2

KEYNOTES

- 1 (E) 119'-0" MONOPOLE
- 2 (E) FENCE
- 3 (E) FENCE GATE
- 4 (E) UTILITY H-FRAME BY OTHERS
- 5 (E) EQUIPMENT PAD/SHELTER BY OTHERS
- 6 (E) LEASE AREA BY OTHERS
- 7 (E) CABLE TRAY/ICE BRIDGE BY OTHERS
- 8 (E) ICE BRIDGE BY OTHERS TO BE REMOVED
- 9 (E) EQUIPMENT PAD BY OTHERS TO BE REMOVED
- 10 (P) AT&T 7'-0"x14'-0" LEASE AREA
- 11 (P) AT&T 8'-0"x8'-0" WALK IN CABINET ON 9'-0"x9'-0" CONCRETE PAD (SEE SHEET A2.2 FOR DETAILS)
- 12 (P) 30KW AC DIESEL GENERATOR ON 4'-0"x9'-0" CONCRETE PAD
- 13 (P) UTILITY FRAME W/ ELECTRICAL EQUIPMENT
- 14 (P) AT&T 6'-0" ICE BRIDGE
- 15 (P) UNDERGROUND POWER ROUTE FROM POWER SOURCE TO METER (2" CONDUIT)
(POWER SOURCE LOCATION TO BE DETERMINED BY OTHERS) (PENDING UCR)
- 16 (P) UNDERGROUND POWER FROM DISCONNECT TO LOAD CENTER (2" CONDUIT)
(PENDING UCR)
- 17 (P) UNDERGROUND FIBER FROM FIBER SOURCE TO TELCO CAN
(FIBER SOURCE LOCATION TO BE DETERMINED BY OTHERS) (PENDING UCR)
- 18 (P) UNDERGROUND CONDUITS FROM GENERATOR TO WIC (ONE 2" & TWO 1" CONDUIT)
(PENDING UCR)

- 19 ↘
- 16 ↘
- 17 ↘
- 18 ↘

AT&T Site ID:
UTL03109
4311 WEST 1200 SOUTH
WEST WEBER, UT 84404

Tower Owner:

2055 SOUTH STEARMAN DRIVE
CHANDLER, AZ 85286

PREPARED FOR

161 Inverness Drive West 2nd floor
Englewood, Colorado 80112

A&E:

2227 W. PECOS ROAD, SUITE 4,
CHANDLER AZ 85224

AT&T SITE NO: UTL03109
BU NO: 829171
DRAWN BY: JD
CHECKED BY: CM

REV	DATE	DESCRIPTION
A	8/20/19	PRELIMINARY CDS


Licensior:

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Issued For:
8/20/19
PRELIMINARY CD'S

SHEET TITLE:
UTILITY SITE PLAN

SHEET NUMBER:
E-2

1 PROPOSED UTILITY SITE PLAN
SCALE:  3/8"=1'-0" (FULL SIZE)
3/16"=1'-0" (11x17)

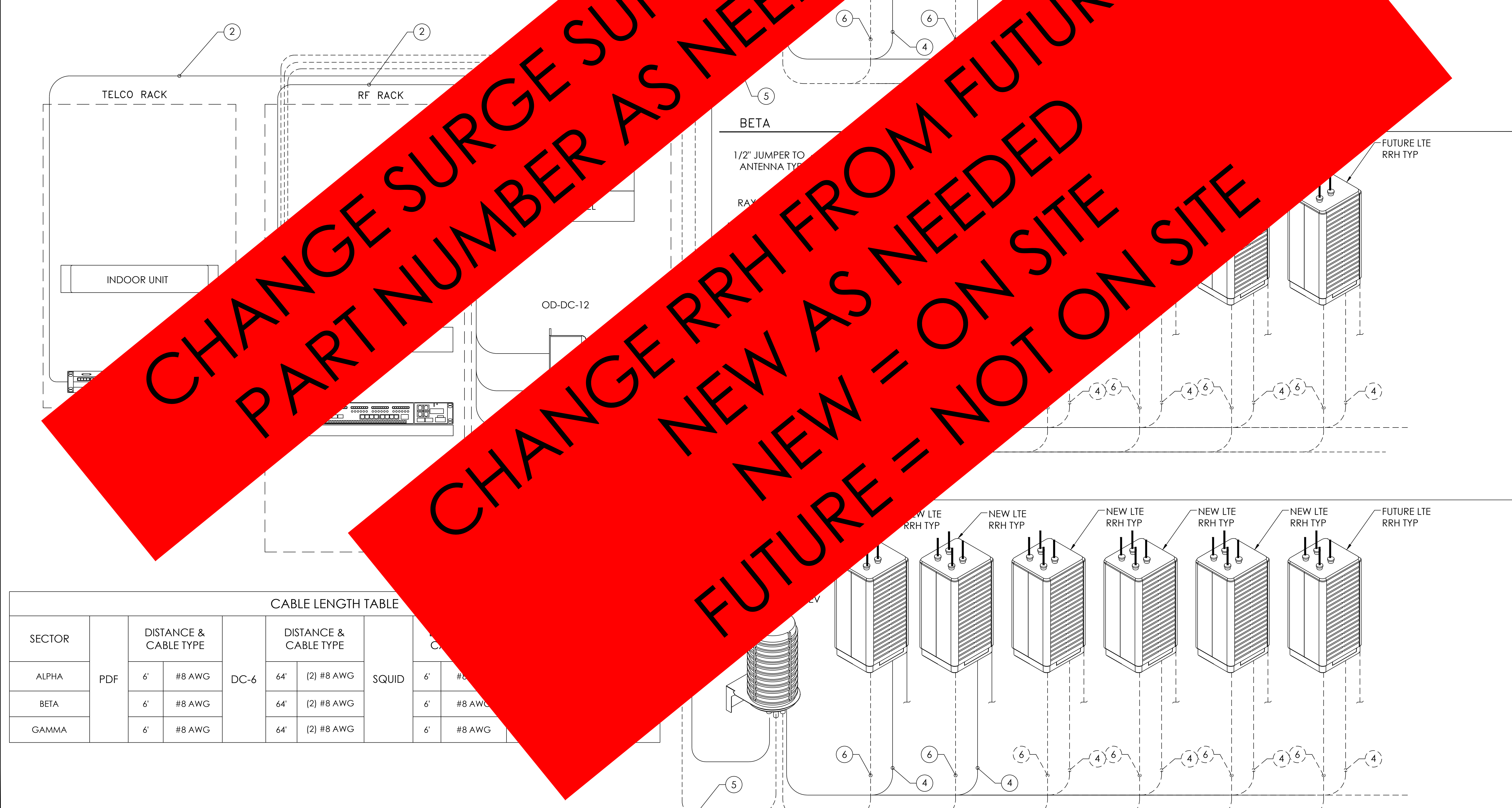


SITE TYPE: MONOPOLE/WIC

CIRCUIT SCHEDULE	
①	-48VDC 50A CIRCUIT (8-AWG)
②	-48VDC 50A CIRCUIT (8-AWG)
③	3 PAIR #8-AWG DC TRUNK CABLE
④	#8-AWG DC JUMPER
⑤	18 PAIR FIBER OPTIC TRUNK CABLE
⑥	FIBER OPTIC JUMPER CABLE

NOTES:

- REFER TO FINAL RFDS FOR RF DESIGN AND PLUMBING.
- REFER TO FINAL RFDS FOR FINAL RADIO HEAD COUNT.
- REFER TO EQUIPMENT LAYOUT FOR RACK LOCATION.
- WIRE LENGTH NOT TO EXCEED 15' FROM SURGE SUPPRESSOR TO RRH.
- RRH & SQUID DESIGN TYPICAL PER SECTOR.
- ROUTE TO THE NEAREST GROUND BAR TYP.
- DAISY CHAIN RRHs ONLY WHEN REQUIRED BY SPECTRUM CONSTRAINTS.



SECTOR	PDF	DISTANCE & CABLE TYPE		DC-6	DISTANCE & CABLE TYPE		SQUID	6'	#8 AWG
		6'	#8 AWG		64'	(2) #8 AWG			
ALPHA		6'	#8 AWG		64'	(2) #8 AWG		6'	#8 AWG
BETA		6'	#8 AWG		64'	(2) #8 AWG		6'	#8 AWG
GAMMA		6'	#8 AWG		64'	(2) #8 AWG		6'	#8 AWG

AT&T Site ID:
UTL03109
4311 WEST 1200 SOUTH
WEST WEBER, UT 84404

Tower Owner:
CROWN CASTLE
2055 SOUTH STEARMAN DRIVE
CHANDLER, AZ 85286

PREPARED FOR
at&t Mobility
161 Inverness Drive West 2nd floor
Englewood, Colorado 80112

A&E:
TELCYTE
INFRASTRUCTURE SERVICES
2227 W. PECOS ROAD, SUITE 4,
CHANDLER AZ 85224

AT&T SITE NO: UTL03109
BU NO: 829171
DRAWN BY: JD
CHECKED BY: CM

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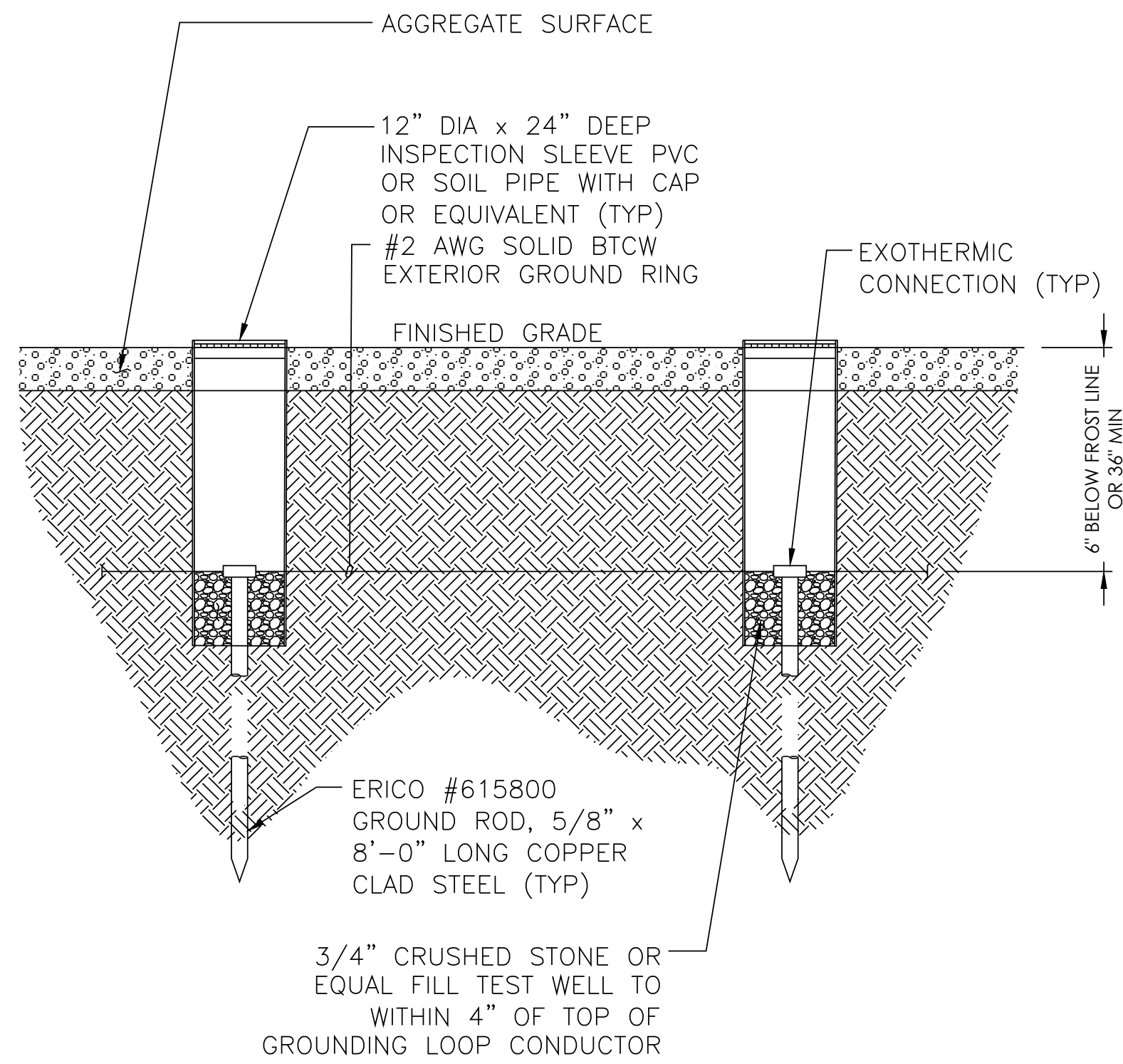
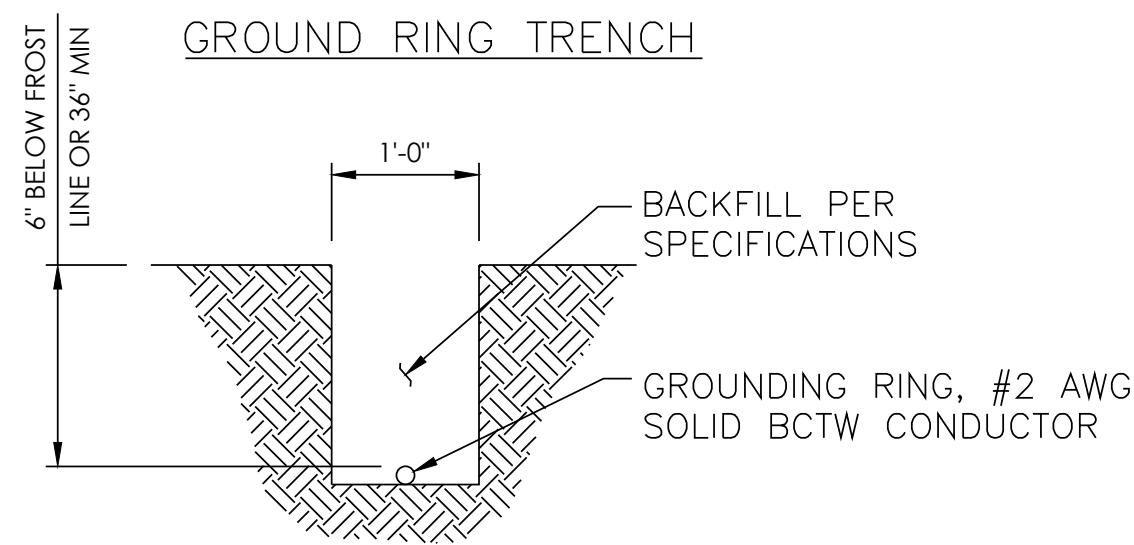
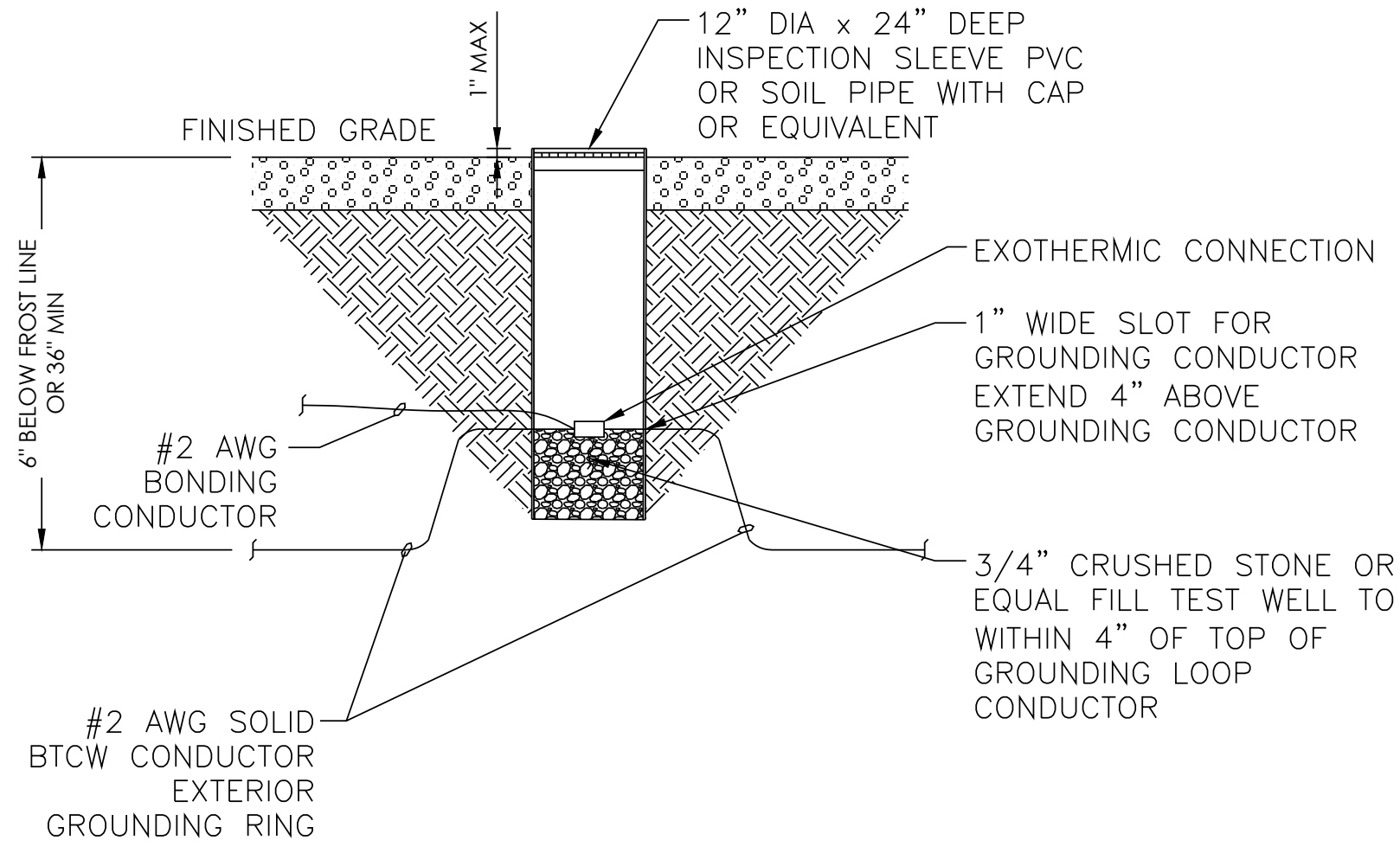
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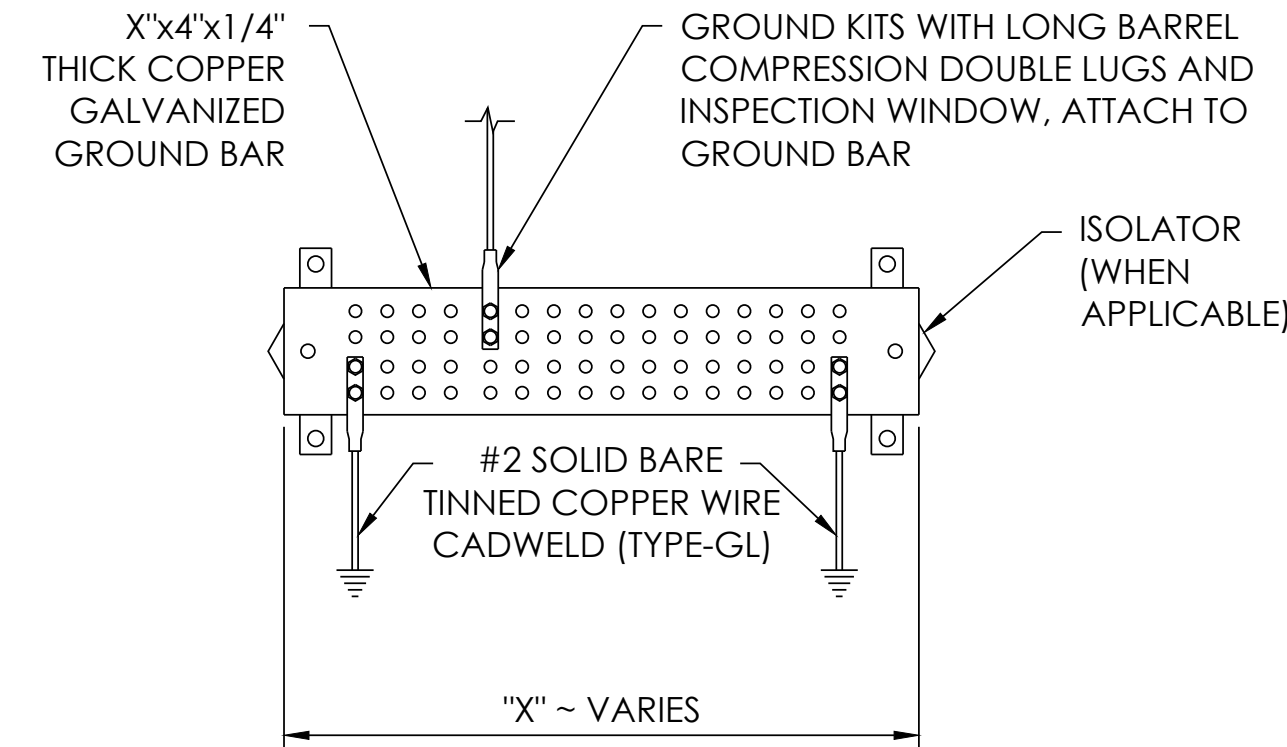
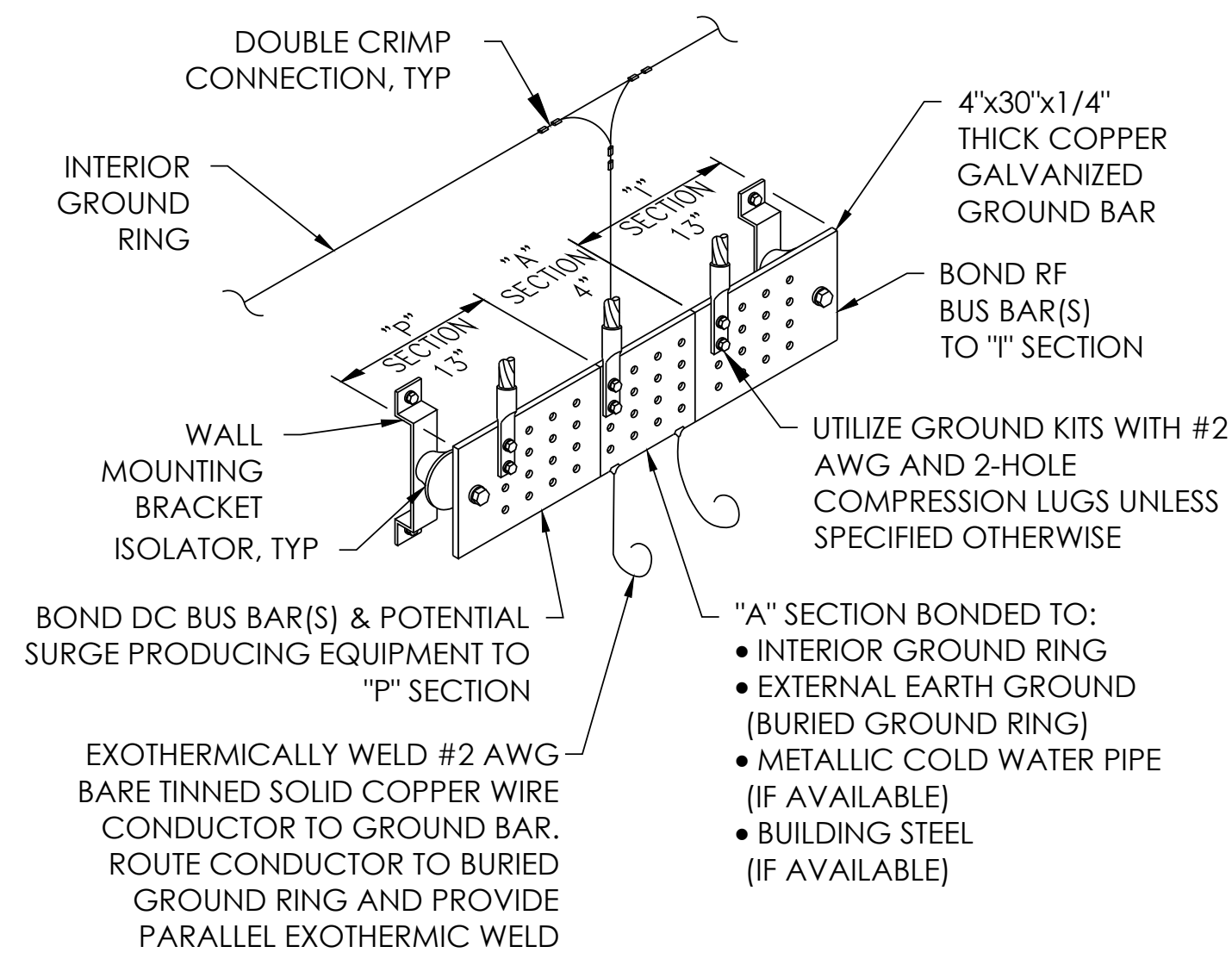
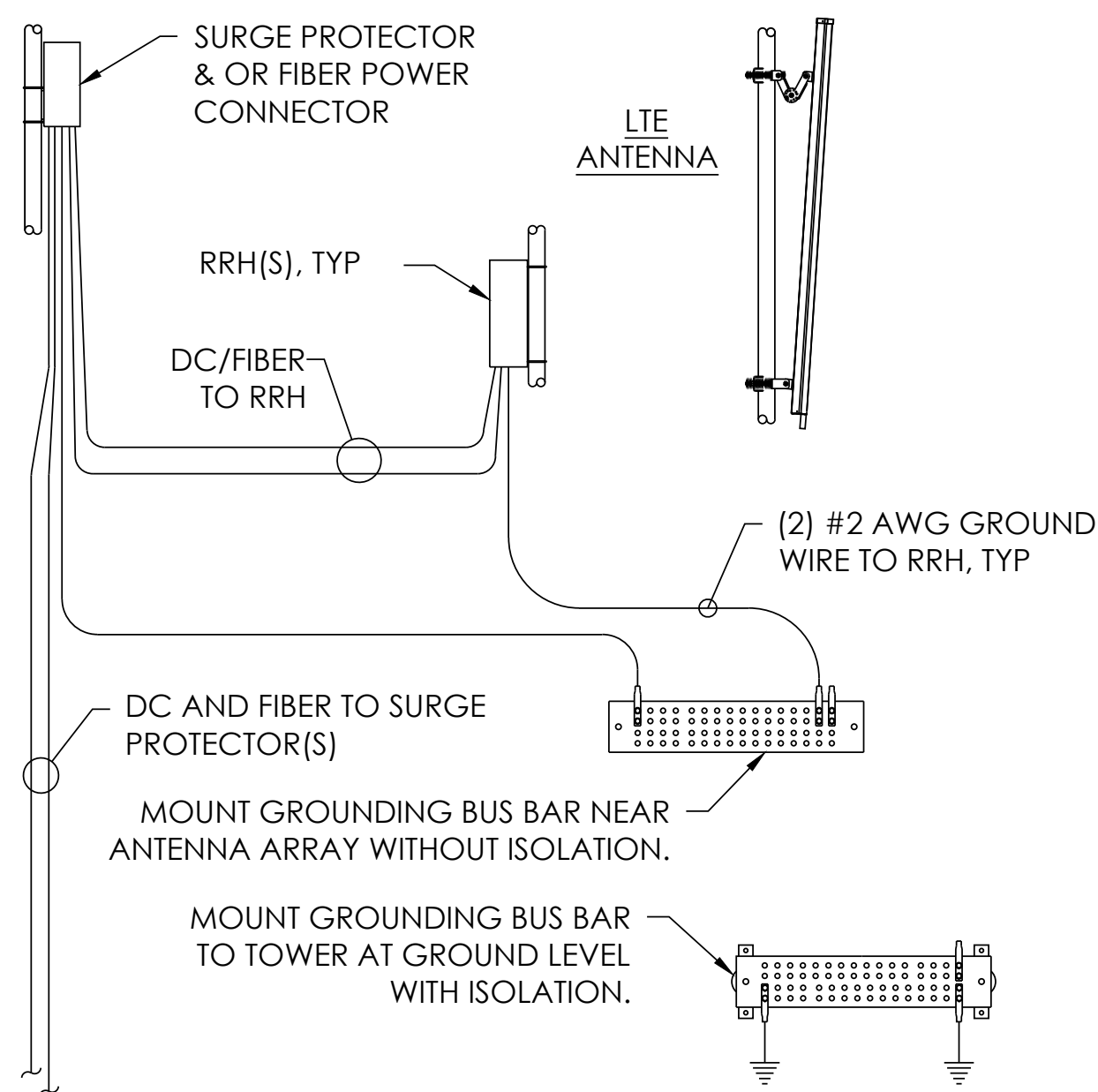
SHEET TITLE:
ELECTRICAL DC & FIBER CABLE DIAGRAM

SHEET NUMBER:
E-5



4 EXOTHERMIC WELD AND GROUND ROD WITH INSPECTION SLEEVE
N.T.S.

3 NOT USED
N.T.S.



NOTE: COAT ALL MECHANICAL CONNECTIONS WITH "NO-OX" OR APPROVED.

2 GROUNDING DETAILS
N.T.S.

1 CAD WELD EXAMPLES
N.T.S.

TYPE TA	TYPE VN	TYPE NC	TYPE SS
TYPE W	TYPE VS	TYPE VB	TYPE PT
TYPE GT	TYPE GY	TYPE GR	TYPE GL

NOTE: CADWELD "TYPES" SHOWN ABOVE ARE EXAMPLES - CONSULT WITH PROJECT MANAGER FOR SPECIFIC TYPES OF CADWELDS TO BE USED.

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4311 WEST 1200 SOUTH
WEST WEBER, UT 84404

Tower Owner:

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161 Inverness Drive West 2nd floor
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SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER:
G-3

