



ATC ASSET #: 30300

SITE NAME: ATC_FALCON_LMU

SITE NUMBER: DN04035A

FILE NAME: 30300_DN04035A_L700_FCD_REV 0_08142018

LOCATION: 4490 EAST BLANEY RD, PEYTON, CO 80831 38.89496, -104.59754

260' SELF SUPPORT TOWER L700

Approved

By: Len Kendall Date: 12/03/2018



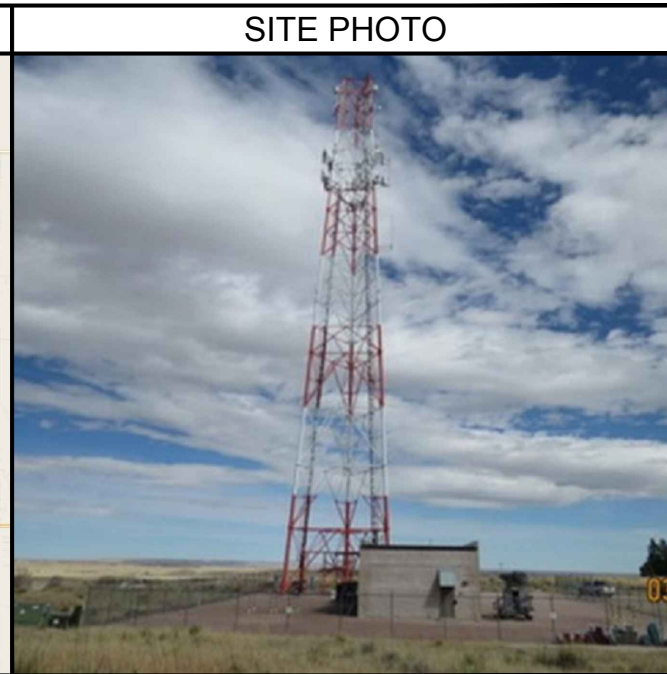
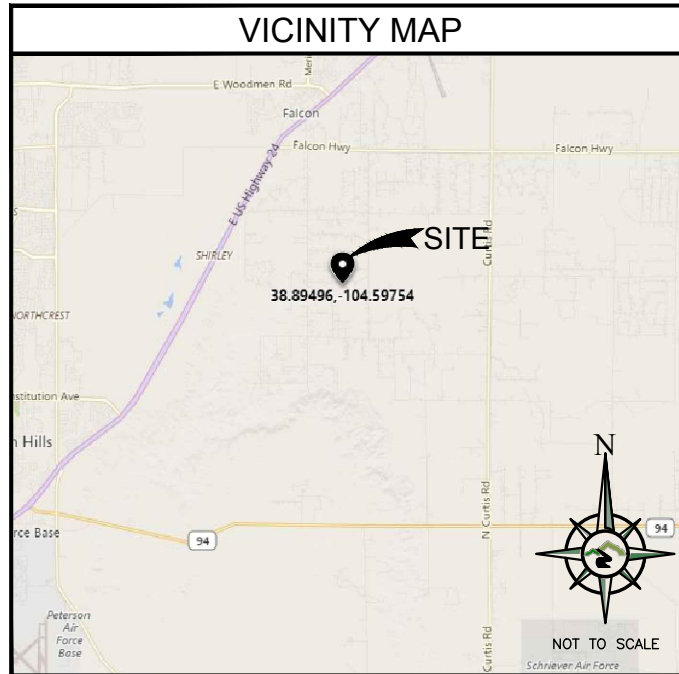
El Paso County Planning & Community Development



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM

SITE INFORMATION	
TOWER MANAGER:	AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801
SITE ADDRESS:	4490 EAST BLANEY RD PEYTON, CO 80831
COUNTY:	EL PASO
LATITUDE:	38.89496°
LONGITUDE:	-104.59754°
GROUND ELEVATION:	6786' AMSL
OCCUPANCY TYPE:	UNMANNED
ZONING JURISDICTION:	EL PASO COUNTY
ZONING CODE:	A-35
PARCEL NUMBER:	4330000001
POWER PROVIDER:	MOUNTAIN VIEW ELECTRIC
TELCO PROVIDER:	EL PASO COUNTY TELEPHONE CO



DRAWING INDEX		
SHEET NO.	DESCRIPTION	REV
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
GN-2	GENERAL NOTES	0
C-1	SITE PLAN	0
C-1.1	EQUIPMENT PLAN	0
C-2	ELEVATIONS	0
C-3	ANTENNA PLANS	0
C-3.1	RFDS	0
C-4	EQUIPMENT DETAILS	0
C-5	EQUIPMENT DETAILS	0
G-1	GROUNDING PLANS	0
G-2	GROUNDING DETAILS	0

CONTACT INFORMATION	
A&E SERVICES:	POWDER RIVER ENGINEERING SERVICES, LLC. 408 S. EAGLE ROAD, SUITE 200 EAGLE, ID 83616 CONTACT: BRIAN HUME PHONE: 208.938.8844 EMAIL: brian.hume@powderriverdev.com
SITE ACQUISITION:	POWDER RIVER DEVELOPMENT SERVICES, LLC. 408 S. EAGLE ROAD, SUITE 200 EAGLE, ID 83616 CONTACT: JANET KELLER PHONE: 208.963.4016 EMAIL: janet.keller@powderriverdev.com
APPLICANT:	T-MOBILE CENTRAL LLC 18400 E. 22ND AVE. AURORA, CO 80011 CONTACT: MATHEW JOHNSON PHONE: EMAIL: mathew.johnson@t-mobile.com
TOWER CONTACT:	AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 CONTACT: DOUGLAS KEARNEY PHONE: 714.875.6972 EMAIL: douglas.kearney@americantower.com

DRIVING DIRECTIONS

DIRECTIONS FROM DENVER INTERNATIONAL AIRPORT:

DEPART AIRPORT / TURN LEFT ONTO JACKSON GAP ST / TAKE RAMP RIGHT FOR PENA BLVD / AT EXIT PENA BLVD TAKE RAMP LEFT FOR I-70 W / AT EXIT 282 TAKE RAMP RIGHT FOR I-225 S / AT EXIT 1A TAKE RAMP LEFT FOR I-25 S / AT EXIT 153 TAKE RAMP RIGHT / KEEP STRAIGHT ONTO CO-83 N / TURN RIGHT ONTO CO-21 S / AT EXIT 149 TAKE RAMP RIGHT / TURN LEFT ONTO E WOODMEN RD / KEEP RIGHT TOWARD US-24 / BEAR RIGHT ONTO US-24 / TURN LEFT ONTO MERIDIAN RD / TURN LEFT ONTO SAND PL UNPAVED RD / ARRIVE ON LEFT.

APPLICABLE CODES

BUILDING CODE 2015 IBC W/STATE AMENDMENTS
ELECTRICAL CODE 2014 NEC

SCOPE OF WORK

AT ANTENNA LEVEL, REMOVE (6) ANTENNAS AND (1) LOW CAP HYBRID CABLE AND INSTALL (9) ANTENNAS, (3) AHLOA AND (1) HIGH CAP HYBRID CABLE.

AT GROUND LEVEL, REMOVE (2) FSMF, (3) FBBC AND (3) FRLB AND ADD (1) COVP AND (2) AIRSCALE MODULES PER RFDS.



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION

T-MOBILE #: DN04035A

ATC #: 30300

**4490 EAST BLANEY RD
PEYTON, CO
80831**

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T-1

GENERAL NOTES

- GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE THEY MAY CONFLICT WITH DETAILS AND NOTES ON OTHER SHEETS. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE ENGINEER.
- WORK SHALL CONFORM TO THE REQUIREMENTS, AS AMENDED TO DATE, OF THE LATEST EDITION OF THE BUILDING CODE AND ALL OTHER LOCAL, STATE AND FEDERAL REGULATIONS.
- OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK INVOLVED.
- ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, THEY SHALL BE REPORTED TO THE ENGINEER SO THAT THE PROPER REVISION MAY BE MADE. MODIFICATIONS OF CONSTRUCTION DETAILS SHALL NOT BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
- THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING BUT NOT LIMITED TO BRACING, TEMPORARY SUPPORTS AND SHORING. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. ANY SUPPORT SERVICES PERFORMED BY THE ENGINEER DURING THE CONSTRUCTION SHALL BE DISTINGUISHED FROM CONSTRUCTION AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ENGINEER, WHETHER OF MATERIAL OR WORK, ARE FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DOCUMENTS, BUT DO NOT GUARANTEE CONTRACTORS PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION. NEITHER THE OWNER NOR ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
- SAFETY: CONFORM TO ALL APPLICABLE OSHA CONSTRUCTION SAFETY REGULATIONS FOR ALL WORK PERFORMED DURING CONSTRUCTION. JOB SITE SAFETY IS STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THE ENGINEER OR OWNER.
- ANY PROPRIETARY COMPONENTS, MOUNTS, MATERIALS, CHEMICAL, EPOXY AND WEDGE ANCHORS, AND SHOT PINS SHALL BE EXACTLY AS CALLED FOR IN THESE DRAWINGS. ANY DEVIATIONS SHALL BE APPROVED OR DISAPPROVED BY THE ENGINEER AT THE EXPENSE OF THE ENTITY REQUESTING THE SUBSTITUTION PRIOR TO THE INSTALLATION.
- THE CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE ALL ITEMS DEFINED IN THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: THE CONTRACT, SPECIFICATIONS AND CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR COORDINATION AND ASSEMBLY OF ALL PARTS OF THE CONSTRUCTION DEPICTED HEREIN. THE CONTRACTOR SHALL PERFORM ANY CONSTRUCTABILITY REVIEW OR COORDINATION DRAWINGS NECESSARY TO IDENTIFY CONSTRUCTABILITY PROBLEMS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL VISIT THE JOB SITE TO REVIEW THE SCOPE OF WORK AND EXISTING JOB SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL SERVICE AND OVERALL COORDINATION. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, CONFLICTS OR OMISSIONS, ETC., SHALL BE REPORTED TO THE CARRIER CONSTRUCTION SUPERVISOR BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW AND EXISTING STRUCTURES, LANDSCAPING OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE TENANT, BUILDING OWNER OR OWNER'S REPRESENTATIVE AT THE EXPENSE OF THE CONTRACTOR.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, WHETHER SHOWN HEREON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER, POWER AND TOILET FACILITIES AS REQUIRED BY THE GOVERNING AGENCY.
- THE CONTRACTOR AND ALL SUBORDINATE CONTRACTORS SHALL COMPLY WITH ALL LOCAL AND STATE AND FEDERAL REGULATIONS.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS, LICENSES AND INSPECTIONS NECESSARY FOR PERFORMANCE OF THE WORK AND INCLUDE THOSE IN THE COST OF THE WORK TO CARRIER.
- CHECK ACCURACY OF ALL DIMENSIONS IN THE FIELD. UNLESS SPECIFICALLY NOTED, DO NOT FABRICATE ANY MATERIALS OFF SITE, NOR PERFORM ANY CONSTRUCTION ACTIVITIES UNTIL THE ACCURACY OF DRAWING DIMENSIONS HAVE BEEN VERIFIED AGAINST ACTUAL FIELD DIMENSIONS. IN ALL CASES WHERE A CONFLICT MAY OCCUR, SUCH AS BETWEEN ITEMS COVERED IN SPECIFICATIONS AND NOTES ON THE DRAWINGS OR BETWEEN GENERAL NOTES AND SPECIFIC PLANS OR DETAILS, THE ENGINEER SHALL BE NOTIFIED, AND HE/SHE WILL INTERPRET THE INTENT OF THE CONTRACT DOCUMENTS PRIOR TO THE INSTALLATION OF THAT PORTION OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR OF ANY CONFLICTS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS OR FIELD CONDITIONS PRIOR TO EXECUTING THE WORK IN QUESTION.
- THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR IF DETAILS ARE CONSIDERED UNSOUND, UNSAFE, NOT WATERPROOF, OR NOT WITHIN CUSTOMARY TRADE PRACTICE. IF WORK IS PERFORMED, IT WILL BE ASSUMED THAT THERE IS NO OBJECTION TO THE DETAIL. DETAILS ARE INTENDED TO SHOW THE END RESULT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB

- CONDITIONS, AND SHALL BE INCLUDED AS PART OF THE WORK.
- EXISTING ELEVATIONS AND LOCATIONS TO BE JOINED SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. IF THEY DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR SO THAT MODIFICATIONS CAN BE MADE BEFORE PROCEEDING WITH THE WORK.
- ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING THEIR EXACT MEANING, THE ENGINEER SHALL BE CONTACTED FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR OTHER SUPPORT NOT OTHERWISE SHOWN HEREIN. ALL SUSPENDED MECHANICAL EQUIPMENT TO BE SWAY OR Laterally BRACED.
- GOVERNING AGENCY-APPROVED PLANS SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT SAME INFORMATION. AT ALL TIMES THESE ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.
- DESIGN DRAWINGS ARE DIAGRAMMATIC ONLY AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION CONDITIONS WILL PERMIT. ANY ERROR, OMISSION, OR DESIGN DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE CARRIER CONSTRUCTION SUPERVISOR FOR CLARIFICATION OR CORRECTION BEFORE CONSTRUCTION.
- AS-BUILT REQUIREMENTS: DO NOT USE RECORD DOCUMENTS FOR CONSTRUCTION PURPOSES. PROTECT RECORD DOCUMENTS FROM DETERIORATION AND LOSS IN A SECURE, FIRE-RESISTANT LOCATION. PROVIDE ACCESS TO RECORD DOCUMENTS FOR THE CARRIER CONSTRUCTION SUPERVISOR'S REFERENCE DURING NORMAL WORKING HOURS. MAINTAIN A CLEAN, UNDAMAGED SET OF BLUE OR BLACK LINE PRINTS OF CONTRACT DRAWINGS AND SHOP DRAWINGS. MARK THE SET TO SHOW THE ACTUAL INSTALLATION WHERE THE INSTALLATION VARIES SUBSTANTIALLY FROM THE WORK AS ORIGINALLY SHOWN. MARK WHICH DRAWINGS ARE MOST CAPABLE OF SHOWING CONDITIONS FULLY AND ACCURATELY. WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE CONTRACT DRAWINGS. GIVE ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE. MARK RECORD SETS WITH RED ERASABLE PENCIL. USE OTHER COLORS TO DISTINGUISH BETWEEN VARIATIONS IN SEPARATE CATEGORIES OF THE WORK. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER BUT WAS NOT SHOWN ON THE CONTRACT DRAWINGS, DETAILS OR SHOP DRAWINGS. NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE. NOTE RELATED RECORD DRAWING INFORMATION AND PRODUCT DATA. UPON COMPLETION OF THE WORK, SUBMIT ONE (1) COMPLETE SET OF RECORD DOCUMENTS TO THE CARRIER CONSTRUCTION SUPERVISOR FOR THE OWNER'S RECORDS.
- A CLOSEOUT BOOK CONTAINING THE FOLLOWING, SHALL BE PROVIDED BY THE CONTRACTOR, AS APPLICABLE:
 - AS BUILT DESIGN DRAWINGS
 - SWEEP TEST RESULTS
 - RESISTIVELY TEST
 - PHOTO DOCUMENTATION OF:
 - UNDERGROUND CONDUITS AND GROUND RING
 - ANTENNA, COAX, JUMPER ATTACHMENTS AND GROUND KIT ATTACHMENTS
 - ANTENNA DOWN TILT MEASUREMENT USING AN INCLINOMETER ON THE BACK PLANE OF THE ANTENNA
 - GROUND BAR ATTACHMENTS
 - SIGNED OFF PERMIT CARDS
 - CERTIFICATE OF OCCUPANCY
 - RETURN OF KEYS AND/OR ACCESS AUTHORIZATION
 - ORIGINAL BUILDING PERMIT

SITE WORK NOTES

- SCOPE: CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUB GRADE PREPARATION, FINISH GRADING AND SECURITY FENCE, AS REQUIRED BY CONSTRUCTION DRAWINGS AND DETAIL DRAWINGS.
- REFERENCES:
 - DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR THE STATE IN WHICH THE PROJECT IS LOCATED.
 - ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
 - OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
 - AASHTO (AMERICAN ASSOCIATION OF STATE TRANSPORTATION OFFICIALS)
- INSPECTION AND TESTING:
 - FIELD TESTING OF EARTHWORK, AGGREGATE BASE COURSE, COMPATION AND CONCRETE TESTING SHALL BE PERFORMED BY THE CONTRACTOR'S INDEPENDENT TESTING LAB.
 - ALL WORK SHALL BE INSPECTED AND RELEASED BY THE CARRIER CONSTRUCTION SUPERVISOR 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 CONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF THE WORK INACCESSIBLE OR DIFFICULT TO INSPECT.
- SITE MAINTENANCE AND PROTECTION:
 - PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF THE WORK UNTIL COMPLETION OF THE CONTRACT.
 - CONTACT THE ONE-CALL UTILITY LOCATION SERVICE PRIOR TO ANY EXCAVATING ACTIVITIES TO HAVE LOCATIONS OF UNDERGROUND UTILITIES VERIFIED.
 - AVOID DAMAGE TO THE SITE INCLUDING EXISTING FACILITIES, STRUCTURES, TREES AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING ITEMS THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
 - KEEP SITE FREE OF ALL PONDING WATER.
 - CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, CITY, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT

- ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS AND CHECK DAMS.
- PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT LIFE AND PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
- 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 WELL DRAINED AT ALL TIMES.
- ENSURE POSITIVE DRAINAGE DURING AND AFTER COMPLETION OF CONSTRUCTION.
- PERFORM ALL SURVEY, LAYOUT, STAKING AND MARKING TO ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
- CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE AND ONLY THE IMMEDIATE SURROUNDINGS NECESSARY TO COMPLETE THE WORK. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED AND GRUBBED.
- REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING IS NOT PERMITTED.
- PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS, AND ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, CULVERT, STREAM CROSSING OR OTHER ITEM NOT SHOWN THAT MIGHT AFFECT OR INTERFERE WITH THE NEW CONSTRUCTION. NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
- SEPARATE AND STOCKPILE ALL EXCAVATED MATERIALS SUITABLE FOR BACK FILL. ALL EXCESS EXCAVATED, AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF IN AN AREA DESIGNATED BY THE CARRIER CONSTRUCTION SUPERVISOR. (UNSUITABLE MATERIAL MAY BE REQUIRED TO BE REMOVED FROM THE SITE.)

SECURITY FENCE NOTES

- PROVIDE AND INSTALL THE GALVANIZED FENCE WITH ASSOCIATED POSTS, RAILS, BRACES, FABRIC, TERMINAL POST, GATES, DROP BAR AND BARBED WIRE. USE APPLICABLE PROVISIONS OF ASTM FOR MATERIALS.
- FABRIC SHALL BE HEAVY GALVANIZED CHAIN LINK FENCE, CONFORMING TO ASTM A392 2-INCH MESH 9 GAUGE WIRE (0.148 INCHES IN DIAMETER) WITH THE TOP AND BOTTOM SELVAGES TWISTED AND BARBED.
- POSTS:
 - LINE POST FOR FABRIC UP TO 8 FEET HIGH SHALL BE 2-3/8 INCH O.D.
 - BEND CORNER, PULL POST AND GATE POST SHALL BE 2-7/8 INCH O.D. ALL POSTS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE IN ACCORDANCE WITH ALL APPLICABLE ASTM STANDARDS FOR FENCES OVER 8 FEET HIGH, SIZE POST ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- TOP RAILS SHALL CONFORM TO 1-1/4 INCH (1.66-INCH O.D.), SCHEDULE 40 GALVANIZED STEEL PIPE IN ACCORDANCE WITH ASTM4 A12D.
- TENSION WIRE SHALL BE 7-GAUGE U.S. STEEL WIRE GALVANIZED IN ACCORDANCE WITH ASTM A116, COATING CLASS III.
- BRACE BANDS, TENSION BANDS AND TENSION BARS SHALL BE FABRICATED OF 1/8 INCH BY 7/8 INCH GALVANIZED STEEL WITH GALVANIZED STEEL CARRIAGE BOLTS AND NUTS IN ACCORDANCE WITH ASTM4 A123. TENSION BARS SHALL BE 1/4 INCH BY 3/4 INCH GALVANIZED STEEL BAR IN ACCORDANCE WITH ASTM A153.
- FABRIC TIES SHALL BE CLASS I GALVANIZED STEEL WIRE NO LESS THAN 9-GAUGE.
- POST TOPS SHALL BE PRESSED STEEL OR MALLEABLE IRON AND SHALL BE GALVANIZED PER ASTM A15J.
- BARBED WIRE SHALL CONSIST OF DOUBLE STRANDED 12-1/2 GAUGE WIRE ASTM A121, CLASS 3 WITH 4-POINT BARBS SPACED 5 INCHES APART. THE TOP 1 FOOT OF THE FENCE SHALL CONSIST OF 3 STRANDS OF BARBED WIRE ATTACHED TO 45-DEGREE ANGLE, HEAVY-PRESSED ARMS CAPABLE OF WITHSTANDING WITHOUT FAILURE 250 POUNDS DOWNWARD PULL AT THE OUTERMOST END OF THE ARM.
- GATE MATERIALS, SUCH AS FABRIC, BOLTS, NUTS, TENSION BARS AND BARBED WIRE SHALL BE CONSISTENT WITH FENCE MATERIALS.
- THE BOTTOM OF THE FENCE SHALL BE 2 INCHES BELOW THE TOP OF THE COMPOUND GRAVEL IF THE SITE CROSSES FEATURES SUCH AS DRAINAGE DITCHES, ETC., THE FENCE SHALL SPAN THE DEPRESSION. CLOSE THE SPACE BELOW THE BOTTOM OF THE FENCE WITH EXTRA FENCE FABRIC OR BARBED WIRE AS DIRECTED BY THE CARRIER CONSTRUCTION SUPERVISOR. PRIOR TO PLACING COMPONENTS SUCH AS FABRIC, RAILS, TENSION WIRE AND GATES, ENSURE THAT THE CONCRETE POST FOUNDATION HAS REACHED AT LEAST 75% OF ITS DESIGN STRENGTH OR HAS CURED A MINIMUM OF 7 DAYS AFTER SETTING THE POST.
- FURNISH GATES WITH NECESSARY FITTINGS AND HARDWARE. HINGES SHALL ALLOW SWING GATES TO SWING 180 DEGREES. PLUNGER BARS SHALL HAVE TOP, BOTTOM AND MIDDLE LOCKING POINTS WITH THE MIDDLE POINT ARRANGED FOR PADLOCKING. GATES SHALL HAVE KEEPERS ON EACH LEAF THAT ENGAGE AUTOMATICALLY WHEN THE GATE IS SWUNG OPEN. REPAIR GALVANIZED COATING DAMAGED IN THE FIELD WITH METHODS AND TECHNIQUES AS RECOMMENDED BY THE MANUFACTURER.



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION

T-MOBILE #: DN04035A

ATC #: 30300

**4490 EAST BLANEY RD
PEYTON, CO
80831**

SHEET TITLE:
**GENERAL
NOTES**

SHEET NUMBER:
GN-1

ELECTRICAL NOTES

1. THESE NOTES DESCRIBE THE MINIMUM REQUIREMENT FOR INSTALLATION OF ALL ELECTRICAL SYSTEMS. SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. THE PUBLICATIONS LISTED BELOW FORM PART OF THESE NOTES. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION, UNLESS NOTED OTHERWISE. EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN, OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS:
 - A. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
 - B. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS)
 - C. NEC (NATIONAL ELECTRICAL CODE), LATEST EDITION
 - D. NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
 - E. NFPA 70 (NATIONAL FIRE PROTECTION ASSOCIATION)
 - F. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION), INCLUDING ALL APPLICABLE AMENDMENTS
 - G. UL (UNDERWRITERS LABORATORIES)
 - H. APPLICABLE LOCAL CODES AND ORDINANCES
3. THE CONTRACTOR SHALL INSTALL UNDERGROUND ELECTRICAL AND TELEPHONE CONDUITS AND CABLE AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS.
4. WHEN FINISHED, WORK SHALL BE IN A COMPLETE AND UNDAMAGED STATE, AS REQUIRED IN THE CONTRACT DOCUMENTS.
5. ITEMS SHALL BE NEW AND SHALL BE INSTALLED ONLY IF IN FIRST-CLASS CONDITION.
6. SUBSTITUTIONS FOR MATERIAL WILL BE PERMITTED ONLY BY WRITTEN APPROVAL OF THE CARRIER CONSTRUCTION SUPERVISOR AND BY THE ENGINEER.
7. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL EXCEPT AS SPECIFIED IN THE CONTRACT DOCUMENTS. ALL MATERIAL SHALL BE APPROVED AND LISTED BY OR BEAR THE UL LABEL, AND WILL COMPLY WITH ANSI, IEEE AND NEMA STANDARDS WHERE APPLICABLE.
8. CONDUITS:
 - A. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, SIZED AS SHOWN ON THE CONSTRUCTION DRAWINGS.
 - B. ALL EXTERIOR ABOVEGROUND CONDUIT SHALL BE PER LOCAL CODE REQUIREMENTS.
 - C. ALL INTERIOR CONDUIT SHALL BE EMT WITH COMPRESSION-TYPE FITTINGS.
 - D. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR OUTDOOR LOCATIONS WHERE FLEXIBLE CONNECTION IS REQUIRED.
9. CABLES CONDUCTORS FOR GENERAL WIRING SHALL BE NEC STANDARD ANNEALED COPPER WIRE WITH NEC 600-VOLT INSULATION.
 - A. #8 AND LARGER-STRANDED TYPE, THHN OR THWN.
 - B. #10 AND SMALLER-SOLID TYPE THHN OR THWN.
 - C. CONDUCTORS IN CONDUIT IN OR ADJACENT TO HIGH HEAT SOURCE SHALL BE TYPE XHHW.
 - D. CONDUCTORS IN CONDUITS ABOVE ROOF, ON TOP OF ROOF OR INSIDE BUILT-UP ROOFING MATERIAL SHALL BE TYPE XHHW
10. CONVENIENCE OUTLET, UNLESS NOTED OTHERWISE, SURFACE-MOUNTED OUTLETS FOR EXTERIOR LOCATIONS SHALL BE FERALLOY, CAD/ZINC ELECTROPLATED WITH THREADED HUBS OR CONDUIT ENTRANCES DRILLED AND TAPPED. ALL COVERS SHALL BE SELF-CLOSING AND GASKETED. SURFACE MOUNTED OUTLETS FOR INTERIOR LOCATIONS SHALL BE GALVANIZED, PRESSED STEEL WITH COVER PLATE, SIERRA PLASTIC STYLE, IVORY COLOR.
11. COAXIAL CABLE SUPPORTS 1. ALL WAVE GUIDE SUPPORTS SHALL BE MANUFACTURED TO MEET ALL COAX MINIMUM BENDING REQUIREMENTS. SUPPORTS SHALL BE PROVIDED EVERY 3'-0" ON CENTER.
12. BEFORE LAYING OUT WORK, EXERCISE PROPER PRECAUTION TO VERIFY EACH MEASUREMENT.
13. USE EXTREME CAUTION BEFORE EXCAVATING IN EXISTING AREAS TO LOCATE EXISTING UNDERGROUND SERVICES.
14. A VISUAL CHECK OF ELECTRICAL AND TELEPHONE CABLES, CONDUITS AND OTHER ITEMS SHALL BE MADE BY A CARRIER CONSTRUCTION SUPERVISOR BEFORE THESE ITEMS ARE PERMANENTLY INSTALLED.
15. THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR 24 HOURS PRIOR TO TRENCH BACK FILL.
16. TRENCHING, BACK FILLING, BEDDING AND COMPACTING SHALL COMPLY WITH SITE WORK SPECIFICATIONS.
17. DIG TRENCHES TO THE REQUIRED DEPTH AS SHOWN ON THE DRAWINGS WITHOUT POCKETS OR DIPS. REMOVE LARGE STONES FROM THE BOTTOM OF THE TRENCH AND FIRMLY TAMP LOOSE FILL IN THE BOTTOM BEFORE CONDUIT IS LAID.
18. INSTALL UNDERGROUND CONDUIT WITH A MINIMUM 3-INCH TO 100-FOOT SLOPE OR TO A SLOPE SHOWN ON THE DRAWINGS.
19. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, TERMINATE AND CAP ALL STUB-UPS 12 INCHES ABOVE FINISHED GRADE ELEVATION.
20. WHEREVER CONDUITS CROSS UNDER ROADWAYS, USE GALVANIZED RIGID STEEL CONDUITS IN ALL CASES, EXTENDING 5 FEET BEYOND THE EDGE OF THE ROAD BED. MINIMUM DEPTH FOR CONDUIT SHALL BE 4 FEET BELOW ROADWAY GRADE.
21. MARK UNDERGROUND CONDUITS WITH A 6-INCH WIDE RED POLYETHYLENE TAPE BURIED 6 INCHES UNDER THE SURFACE DIRECTLY OVER THE CONDUITS. MARK THE TAPE THUS: CAUTION-BURIED ELECTRICAL CABLE.
22. FOR SEALING CONDUITS, USE ONLY NON-THERMOPLASTIC COMPOUNDS SUCH AS J.M. DUXSEAL, OR AN CARRIER-APPROVED SUBSTITUTE. THE COMPOUND SHALL HAVE NO EFFECT ON RUBBER OR RUBBER-LIKE INSULATIONS, LEAD, ALUMINUM OR FERROUS ALLOYS; IT SHALL BE INSOLUBLE IN WATER AND WITHSTAND MAXIMUM TEMPERATURE RANGES OF THE LOCALITY.
23. COAXIAL - REFER TO ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.
24. ANTENNA - REFER TO ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.
25. LNA/MHA - REFER TO ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.

GROUNDING NOTES

1. THIS SPECIFICATION PRESCRIBES THE REQUIREMENTS FOR FURNISHING, INSTALLATION AND TESTING OF THE GROUNDING CABLE, CONNECTORS AND ASSOCIATED COMPONENTS AS INDICATED ON THE DRAWINGS.
2. APPLICATIONS OF ELECTRICAL GROUNDING AND BONDING WORK SPECIFIED IN THIS SPECIFICATION INCLUDE THE FOLLOWING:
 - A. FENCE AND GATE POSTS
 - B. ELECTRICAL POWER SYSTEMS
 - C. GROUNDING ELECTRODES
 - D. GROUND BUS BAR
 - E. SERVICE EQUIPMENT
 - F. ENCLOSURES
 - G. MONOPOLE / LATTICE TOWER
 - H. ICE BRIDGE
3. REFERENCES: THE PUBLICATIONS LISTED BELOW FORM PART OF THESE DRAWINGS. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THESE DRAWINGS ARE ISSUED FOR CONSTRUCTION, UNLESS NOTED OTHERWISE. EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN, OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THESE DRAWINGS SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS.
 - A. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
 - B. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS)
 - C. NEC (NATIONAL ELECTRICAL CODE), LATEST EDITION
 - D. NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
 - E. NESC (NATIONAL ELECTRICAL SAFETY CODE), LATEST EDITION
 - F. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
 - G. UL (UNDERWRITERS' LABORATORIES)
 - H. APPLICABLE LOCAL CODES AND ORDINANCES
4. MATERIALS: EXCEPT AS OTHERWISE INDICATED, PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEMS INDICATED; WITH ASSEMBLY OF MATERIAL, INCLUDING, BUT NOT LIMITED TO, GROUNDING ELECTRODES, BONDING JUMPER AND ADDITIONAL ACCESSORIES NEEDED FOR A COMPLETE INSTALLATION. WHERE MORE THAN ONE TYPE OF COMPONENT PRODUCT MEETS INDICATED REQUIREMENTS, SELECTION IS INSTALLER'S OPTION. WHERE MATERIALS OR COMPONENTS ARE NOT INDICATED, PROVIDE PRODUCTS WHICH COMPLY WITH NEC, UL, AND IEEE REQUIREMENTS AND WITH ESTABLISHED INDUSTRY STANDARDS FOR THOSE APPLICATIONS INDICATED.
 - A. GROUNDING:
 - I. THE EQUIPMENT SHALL BE GROUNDED AS FOLLOWS, AS SHOWN ON THE DRAWINGS AND IN COMPLIANCE WITH NEC ARTICLE 250 AND STATE AND LOCAL CODES.
 - II. GROUND RODS AND QUANTITY SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL PERFORM A GROUND-RESISTANCE-TO-EARTH TEST. SHOULD THE INSTALLATION HAVE A RESISTANCE OF 5 OHMS OR MORE, CONTRACTOR SHALL INSTALL MORE GROUND RODS AS NECESSARY SO THAT THE OVERALL GROUND-TO-EARTH RESISTANCE IS LESS THAN 5 OHMS.
 - III. INSTALL ELECTRICAL GROUNDING AND BONDING SYSTEMS AS INDICATED, IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, NEC'S "STANDARD OF INSTALLATION," AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PRODUCTS COMPLY WITH REQUIREMENTS.
 - IV. COORDINATE WITH OTHER ELECTRICAL WORK AS NECESSARY TO INTERFACE INSTALLATION OF ELECTRICAL GROUNDING AND BONDING SYSTEMS.
 - V. INSTALL GROUND CONDUCTORS A MINIMUM OF 36 INCHES BELOW FINISHED GRADE WHICH ENIRCLE THE TOWER AND EQUIPMENT, AND ARE CONNECTED TO EACH DRIVEN GROUND ROD. GROUND TRENCH SHALL BE AT LEAST 24 INCHES AWAY FROM FOUNDATIONS.
 - VI. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUE FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUEING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUE SPECIFIED IN UL 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.
 - VII. APPLY CORROSION-RESISTANT FINISH (NO-OX OR CARRIER-APPROVED EQUIVALENT) TO FIELD-CONNECTIONS, AT COPPER GROUND BARS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATING HAVE BEEN DESTROYED, OR ARE SUBJECTED TO CORROSIVE AND/OR OXIDATION PROCESS.
 - VIII. ON EXISTING LATTICE TOWERS, WATER TOWERS AND ROOF TOPS, WHEN A NEW GROUNDING SYSTEM IS INSTALLED, THE CONTRACTOR SHALL TIE THE NEW GROUND SYSTEM TO THE EXISTING WATER TOWER, LATTICE TOWER STRUCTURAL STEEL OR BUILDING STRUCTURAL STEEL AS THE CASE MAY BE AT A MINIMUM OF ONE LOCATION SO THAT THEY ARE AT THE SAME VOLTAGE POTENTIAL.
 - IX. ALL TOWER AND TOP GROUND WIRES SHALL BE SUPPORTED EVERY TWO FEET MAXIMUM.
 - B. GROUND RODS:
 - I. GROUND RODS SHALL BE 5/8" DIAMETER WITH 8'-0" EMBEDMENT MIN., COPPER CLAD DRIVEN ROD(S).
 - II. GROUND ROD(S) SHALL BE LOCATED AT THE PERIMETER OF EQUIPMENT AS TO CREATE A GROUND RING AS SHOWN ON THE DRAWINGS.
 - III. GROUND ROD(S) SHALL BE SPACED AT A MINIMUM OF 8'-0" AND A MAXIMUM SPACING OF 10'-0" ON CENTER.
 - IV. GROUND RODS SHALL BE BURIED BELOW THE FROSTLINE. AT NO TIME SHALL THIS DEPTH BE LESS THAN 18" BELOW FINISHED GRADE.
 - V. GROUND RODS WHICH CANNOT BE DRIVEN STRAIGHT DOWN THE ENTIRE 10'-0", SHALL BE DRIVEN AT AN ANGLE NOT GREATER THAN 45 DEGREES (NEC 250-83 AND 250-84).
 - VI. GROUND ROD LOCATIONS SHALL BE NOTED ON THE AS-BUILT DRAWING

- VII. PROVIDE GROUND TEST WELLS SHOWN ON THE CONSTRUCTION DRAWINGS.
- C. GROUND CONDUCTOR:
 - I. ALL DIRECT BURIED GROUND CONDUCTORS SHALL BE TINNED SOLID (#2 AWG) WIRE. BURIED GROUND CONDUCTOR SHALL BE INSTALLED AT MINIMUM DEPTH OF 36" BELOW GRADE.
 - II. ALL SUB GRADE GROUND CONNECTIONS SHALL BE MADE USING EXOTHERMIC WELD PROCESS. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE SPLICES, TEES AND ALL GROUND ROD CONNECTIONS. MOLD, WELD KITS, ETC., SHALL BE MANUFACTURED BY CADWELD AND SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS.
 - III. GROUND CONDUCTORS SHALL BE ROUTED IN THE SHORTEST AND C STRAIGHTEST DISTANCES POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES. CONDUCTORS SHALL BE INSTALLED AS FOLLOWS:
 - IV. ALL GROUND CONDUCTORS SHALL FOLLOW A CONTINUOUS DOWNWARD PATTERN TO THE GROUND SOURCE. (NEVER RUN GROUND CONDUCTOR IN AN UPWARD DIRECTION.)
 - V. CONDUCTORS SHALL BE INSTALLED WITH A MINIMUM OF 12-INCH MINIMUM BENDING RADIUS.
 - VI. WHEN THE MINIMUM BENDING RADIUS CANNOT BE ACHIEVED, GROUND CABLES SHALL BE ROUTED AT 90-DEGREE BENDS WITH THE USE OF EXOTHERMIC CONNECTIONS AT 90 DEGREES, WITH THE INTENT IS TO ELIMINATE THE CABLE BEND RADIUS AND REPLACE THE RADIUS WITH AN EXOTHERMIC CONNECTION.
5. PREPARATION:
 - A. ALL SURFACES TO WHICH GROUND CONNECTIONS WILL BE MADE SHALL BE FREE OF PAINT, GALVANIZING DIRECT CORROSION, ETC.
 - B. ALL METAL SURFACES EXPOSED ON GROUNDING SHALL BE EITHER COLD GALVANIZE, OR PAINTED TO MATCH ORIGINAL SURFACE.
6. EXAMINE AREAS AND CONDITIONS UNDER WHICH ELECTRICAL GROUNDING AND BONDING CONNECTIONS ARE TO BE MADE AND NOTIFY CARRIER CONSTRUCTION SUPERVISOR AND ENGINEER OF RECORD IN WRITING OF CONDITIONS DETRIMENTAL TO PROPER COMPLETION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. THE CONTRACTOR SHALL NOTIFY THE CARRIER CONSTRUCTION SUPERVISOR A MINIMUM OF 24 HOURS PRIOR TO TRENCH BACK FILL. ALL WORK DONE BELOW FINISHED GRADE SHALL BE INSPECTED BY THE CONSTRUCTION SUPERVISOR DURING THAT PERIOD.
7. GROUND TESTING:
 - A. THE CONTRACTOR SHALL TEST THE GROUND ELECTRODE ROD RESISTANCE IN ACCORDANCE WITH THE METHODS OF MEASUREMENT DEFINED IN THE FALL OF POTENTIAL METHOD.
 - B. TEST INSTRUMENTS SHALL OPERATE AT A FREQUENCY OTHER THAN 60 HERTZ AND SHALL CONTAIN STRAY CURRENT AND DC FILTERS, FAULT CURRENT PROTECTION AND HAVE SENSITIVITY TO OPERATE A LOW SIGNAL STRENGTH.
 - C. PRIOR TO TESTING, THE CONTRACTOR SHALL DE-ENERGIZE ALL POWER SOURCES, DISCONNECT THE ELECTRODE CONDUCTOR FROM THE GROUND ROD, WEAR HIGH VOLTAGE RUBBER SAFETY GLOVES.
 - D. GROUND TESTS ARE TO BE PERFORMED BY QUALIFIED PERSONS FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE EQUIPMENT AND THE HAZARDS INVOLVED.
 - E. AN INDEPENDENT, APPROVED OUTSIDE FIRM SHALL PERFORM THE GROUND TEST AS OUTLINED. ALL TEST RESULTS SHALL BE FORWARDED TO THE CARRIER CONSTRUCTION SUPERVISOR FOR APPROVAL.

T-Mobile



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION

T-MOBILE #: DN04035A

ATC #: 30300

4490 EAST BLANEY RD
PEYTON, CO
80831

SHEET TITLE:

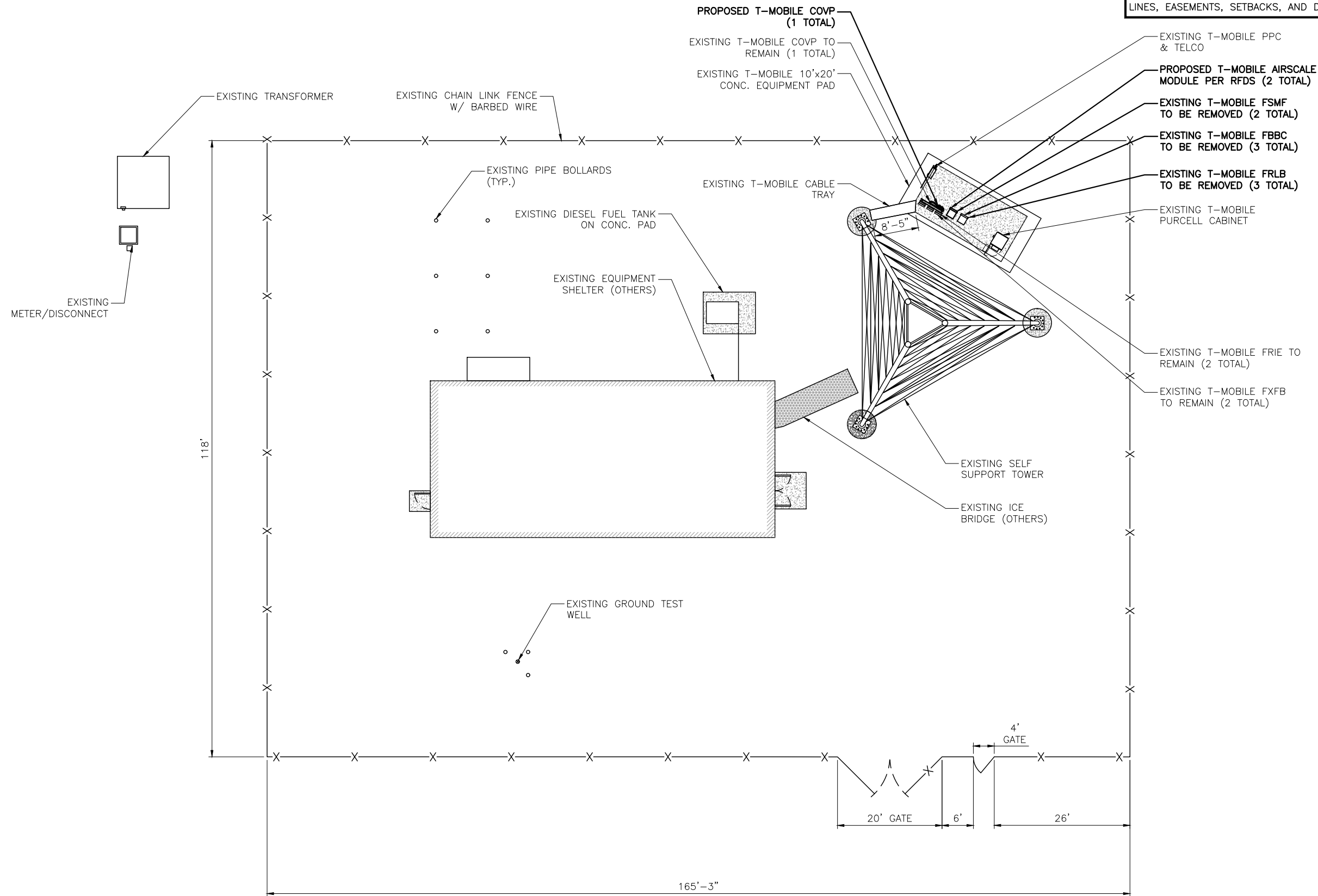
GENERAL
NOTES

SHEET NUMBER:

GN-2

DISCLAIMER:

THESE DRAWINGS WERE PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. ALL PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION. POWDER RIVER DEVELOPMENT SERVICES, LLC. DOES NOT GUARANTEE THE ACCURACY OF SAID PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN.



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM

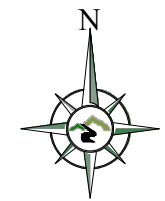


THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION
T-MOBILE #: DN04035A
ATC #: 30300
4490 EAST BLANEY RD
PEYTON, CO
80831

SHEET TITLE:
SITE PLAN

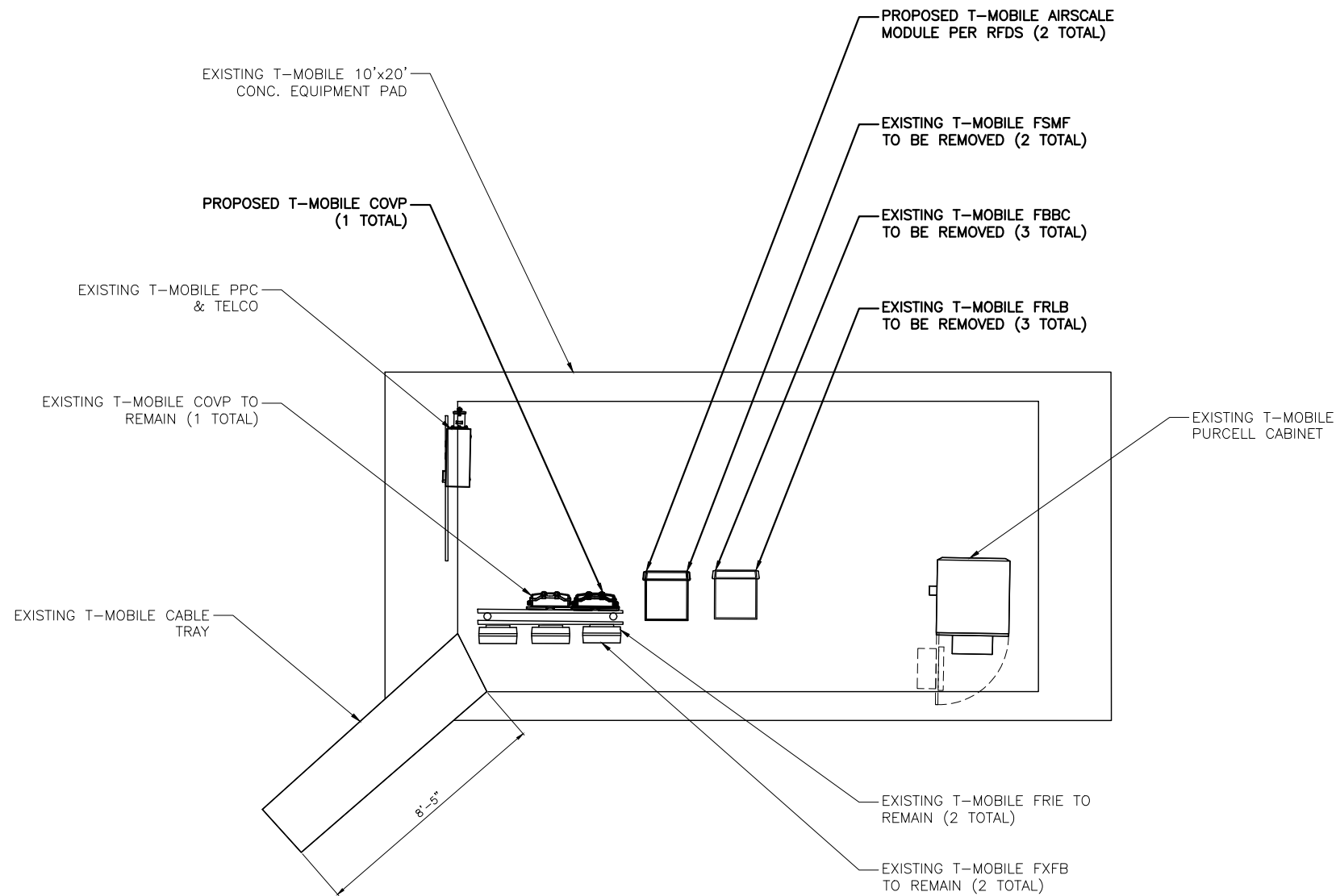
SHEET NUMBER:
C-1



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

DISCLAIMER:

THESE DRAWINGS WERE PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. ALL PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION. POWDER RIVER DEVELOPMENT SERVICES, LLC, DOES NOT GUARANTEE THE ACCURACY OF SAID PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN.



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION

T-MOBILE #: DN04035A

ATC #: 30300

**4490 EAST BLANEY RD
PEYTON, CO
80831**

SHEET TITLE:
EQUIPMENT PLAN

SHEET NUMBER:
C-1.1

- T.O. EXISTING LIGHTNING ROD
EL. 265'-0" (AGL)
- T.O. EXISTING SELF SUPPORT TOWER
EL. 260'-0" (AGL)
- ϕ OF EXISTING ANTENNAS (OTHERS)
EL. 255'-0" (AGL)
- ϕ OF EXISTING MICROWAVE (OTHERS)
EL. 250'-0" (AGL)

- ϕ OF EXISTING ANTENNAS (OTHERS)
EL. 235'-0" (AGL)

- ϕ OF EXISTING ANTENNAS (OTHERS)
EL. 216'-0" (AGL)

- ϕ OF EXISTING ANTENNAS & MICROWAVE (OTHERS)
EL. 206'-0" (AGL)

- ϕ OF EXISTING T-MOBILE ANTENNAS & MW
EL. 192'-0" (AGL)

- ϕ OF EXISTING ANTENNAS (OTHERS)
EL. 172'-0" (AGL)

EXISTING T-MOBILE APPURTENANCE LIST:

- (3) ANTENNA T-ARM MOUNTS
- (2) MICROWAVES
- (2) ODU
- (6) HEX PORT ANTENNAS
- (3) TMA
- (3) FRIG
- (3) FHFB
- (3) COVP
- (12) DIPLEXERS
- (2) LOW CAP HYBRID CABLE
- (1) HIGH CAP HYBRID CABLE
- (12) COAX CABLES
- (2) MW COAX

EXISTING SELF SUPPORT TOWER

EXISTING T-MOBILE LOW CAP HYBRID CABLE TO BE REMOVED (1 TOTAL)

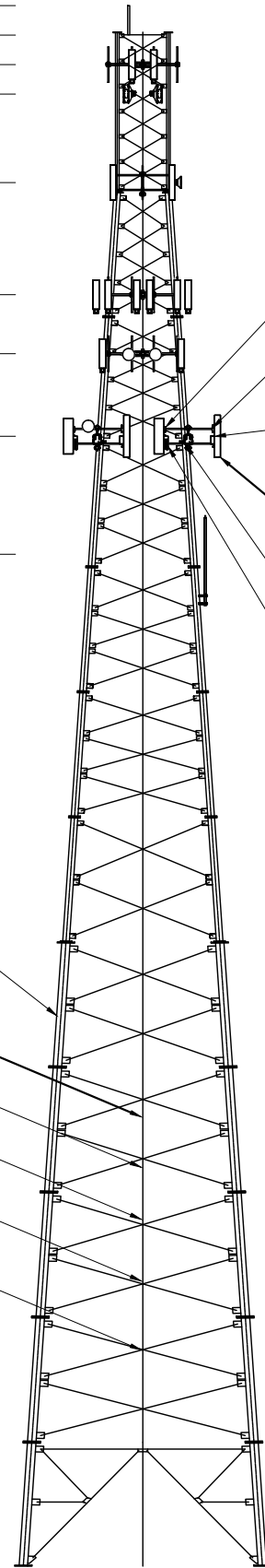
EXISTING T-MOBILE LOW CAP HYBRID CABLE TO REMAIN (1 TOTAL)

EXISTING T-MOBILE HIGH CAP HYBRID CABLE TO REMAIN (1 TOTAL)

EXISTING T-MOBILE COAX CABLES TO REMAIN (12 TOTAL)

EXISTING T-MOBILE MW COAX TO REMAIN (2 TOTAL)

• GRADE
EL. 0'-0" (AGL)



EXISTING T-MOBILE DIPLEXER TO REMAIN (4 PER SECTOR, 12 TOTAL)

EXISTING T-MOBILE TMA TO REMAIN (1 PER SECTOR, 3 TOTAL)

EXISTING T-MOBILE FHFB TO REMAIN (1 PER SECTOR, 3 TOTAL)

EXISTING T-MOBILE ANTENNAS TO BE REMOVED (2 PER SECTOR, 6 TOTAL)

EXISTING T-MOBILE COVP TO REMAIN (1 PER SECTOR, 3 TOTAL)

EXISTING T-MOBILE FRIG TO REMAIN (1 PER SECTOR, 3 TOTAL)

- T.O. EXISTING LIGHTNING ROD
EL. 265'-0" (AGL)
- T.O. EXISTING SELF SUPPORT TOWER
EL. 260'-0" (AGL)
- ϕ OF EXISTING ANTENNAS (OTHERS)
EL. 255'-0" (AGL)
- ϕ OF EXISTING MICROWAVE (OTHERS)
EL. 250'-0" (AGL)

- ϕ OF EXISTING ANTENNAS (OTHERS)
EL. 235'-0" (AGL)

- ϕ OF EXISTING ANTENNAS (OTHERS)
EL. 216'-0" (AGL)

- ϕ OF EXISTING ANTENNAS & MICROWAVE (OTHERS)
EL. 206'-0" (AGL)

- ϕ OF EXISTING & PROPOSED T-MOBILE ANTENNAS & MW
EL. 192'-0" (AGL)

- ϕ OF EXISTING ANTENNAS (OTHERS)
EL. 172'-0" (AGL)

FINAL T-MOBILE APPURTENANCE LIST:

- (3) ANTENNA T-ARM MOUNTS
- (2) MICROWAVES
- (2) ODU
- (6) QUAD PORT ANTENNAS
- (3) OCTA PORT ANTENNAS
- (3) TMA
- (3) FRIG
- (3) FHFB
- (3) AHLOA
- (3) COVP
- (12) DIPLEXERS
- (1) LOW CAP HYBRID CABLE
- (1) HIGH CAP HYBRID CABLE
- (1) HIGH CAP HYBRID CABLE
- (12) COAX CABLES
- (2) MW COAX

EXISTING SELF SUPPORT TOWER

PROPOSED T-MOBILE HIGH CAP HYBRID CABLE (1 TOTAL)

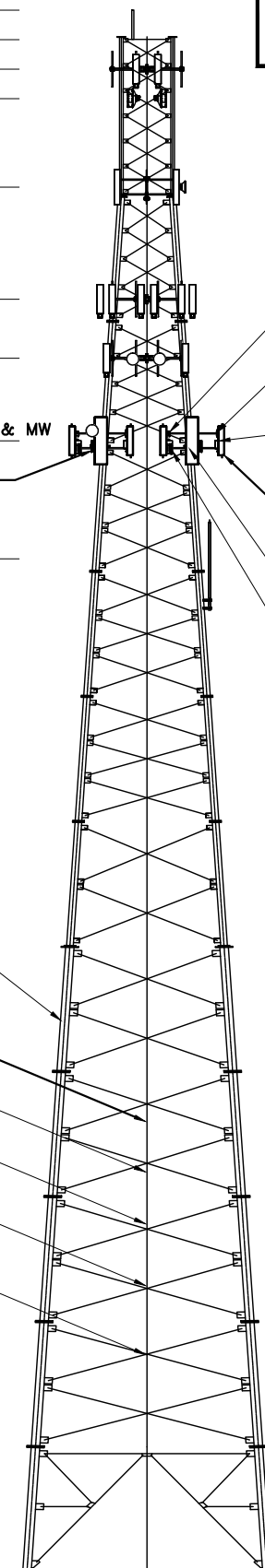
EXISTING T-MOBILE LOW CAP HYBRID CABLE (1 TOTAL)

EXISTING T-MOBILE HIGH CAP HYBRID CABLE (1 TOTAL)

EXISTING T-MOBILE COAX CABLES TO REMAIN (12 TOTAL)

EXISTING T-MOBILE MW COAX (2 TOTAL)

• GRADE
EL. 0'-0" (AGL)



POWDER RIVER ENGINEERING SERVICES HAS NOT PERFORMED STRUCTURAL ANALYSES FOR THE NEW EQUIPMENT MOUNTS, NOR THE SUPPORTING STRUCTURE, AND ASSUMES NO RESPONSIBILITY FOR ITS ABILITY TO SUPPORT THE PROPOSED MODIFICATIONS. PRIOR TO CONSTRUCTION, STRUCTURAL ANALYSIS (BY OTHERS) SHALL BE PERFORMED FOR ALL TOWERS, ROOFTOPS, FLAGPOLES, LIGHT POLES AND ASSOCIATED EQUIPMENT MOUNTS.

EXISTING T-MOBILE DIPLEXER (4 PER SECTOR, 12 TOTAL)

EXISTING T-MOBILE TMA (1 PER SECTOR, 3 TOTAL)

EXISTING T-MOBILE FHFB (1 PER SECTOR, 3 TOTAL)

PROPOSED T-MOBILE ANTENNAS (3 PER SECTOR, 9 TOTAL)

EXISTING T-MOBILE COVP (1 PER SECTOR, 3 TOTAL)

EXISTING T-MOBILE FRIG (1 PER SECTOR, 3 TOTAL)



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION
T-MOBILE #: DN04035A
ATC #: 30300
4490 EAST BLANEY RD
PEYTON, CO
80831

SHEET TITLE:
ELEVATIONS

SHEET NUMBER:
C-2

POWDER RIVER ENGINEERING SERVICES HAS NOT PERFORMED STRUCTURAL ANALYSES FOR THE NEW EQUIPMENT MOUNTS, NOR THE SUPPORTING STRUCTURE, AND ASSUMES NO RESPONSIBILITY FOR ITS ABILITY TO SUPPORT THE PROPOSED MODIFICATIONS. PRIOR TO CONSTRUCTION, STRUCTURAL ANALYSIS (BY OTHERS) SHALL BE PERFORMED FOR ALL TOWERS, ROOFTOPS, FLAGPOLES, LIGHT POLES AND ASSOCIATED EQUIPMENT MOUNTS.

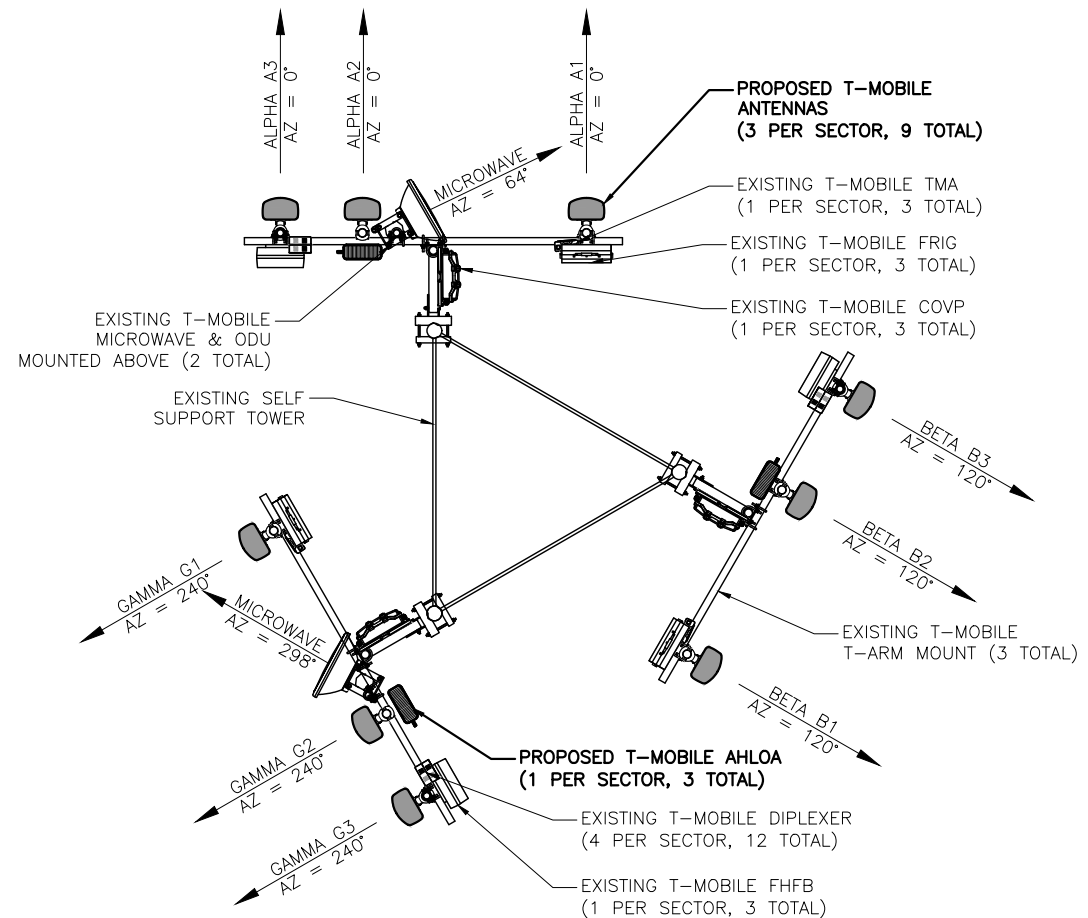
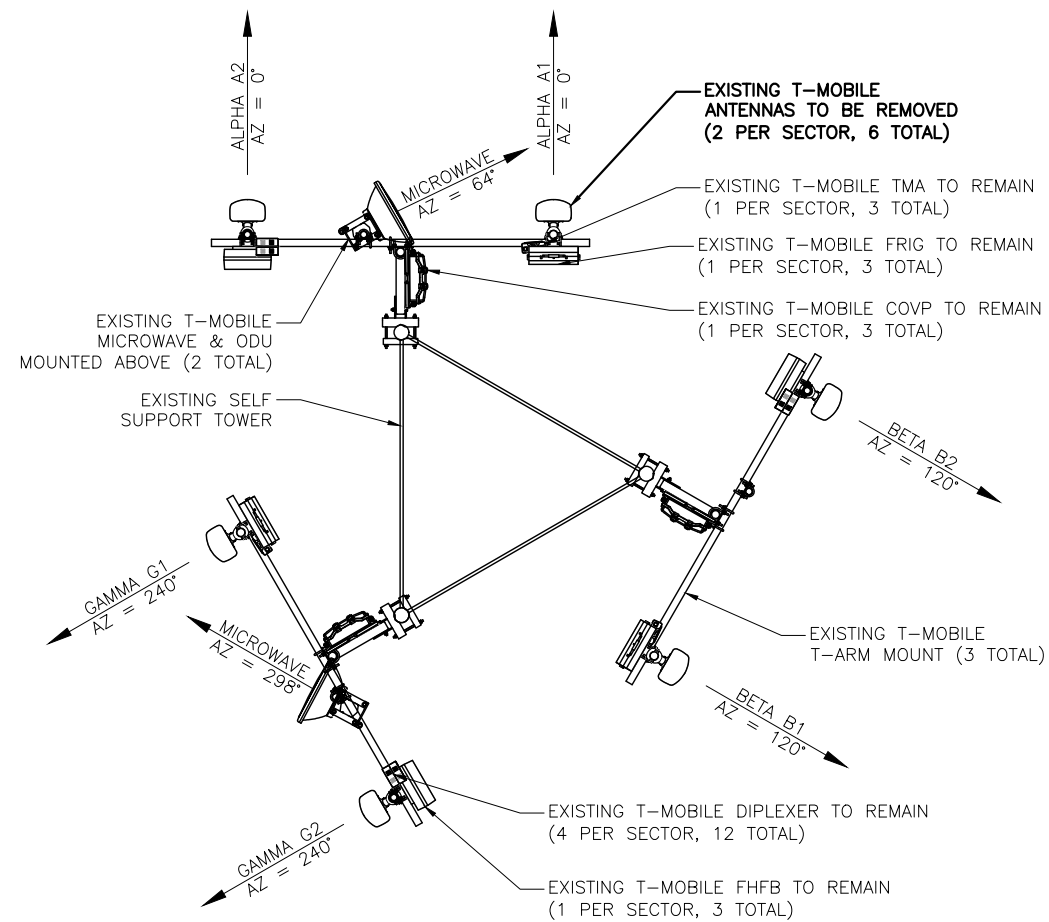
ANTENNA SCHEDULE									
SECTOR	ALPHA (RED)			BETA (GREEN)			GAMMA (BLUE)		
ANTENNA POSITION	A1	A2	A3	B1	B2	B3	G1	G2	G3
ANTENNA TYPE	L1900	L700/G19/U21	L2100	L1900	L700/G19/U21	L2100	L1900	L700/G19/U21	L2100
AZIMUTH	0°	0°	0°	120°	120°	120°	240°	240°	240°
RAD CENTER (AGL)	192'-0"	192'-0"	192'-0"	192'-0"	192'-0"	192'-0"	192'-0"	192'-0"	192'-0"
MODEL	ANDREW HBXX-6517DS-A2M	COMMSCOPE FFHH-65C-R3	ANDREW HBXX-6517DS-A2M	ANDREW HBXX-6517DS-A2M	COMMSCOPE FFHH-65C-R3	ANDREW HBXX-6517DS-A2M	ANDREW HBXX-6517DS-A2M	COMMSCOPE FFHH-65C-R3	ANDREW HBXX-6517DS-A2M
CABLE LENGTH									

T-Mobile



ANTENNA SCHEDULE (PROPOSED)

1



ANTENNA PLAN (EXISTING)

SCALE: N.T.S.

3

ANTENNA PLAN (PROPOSED)

SCALE: N.T.S.

2

BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION
T-MOBILE #: DN04035A
ATC #: 30300
4490 EAST BLANEY RD
PEYTON, CO
80831

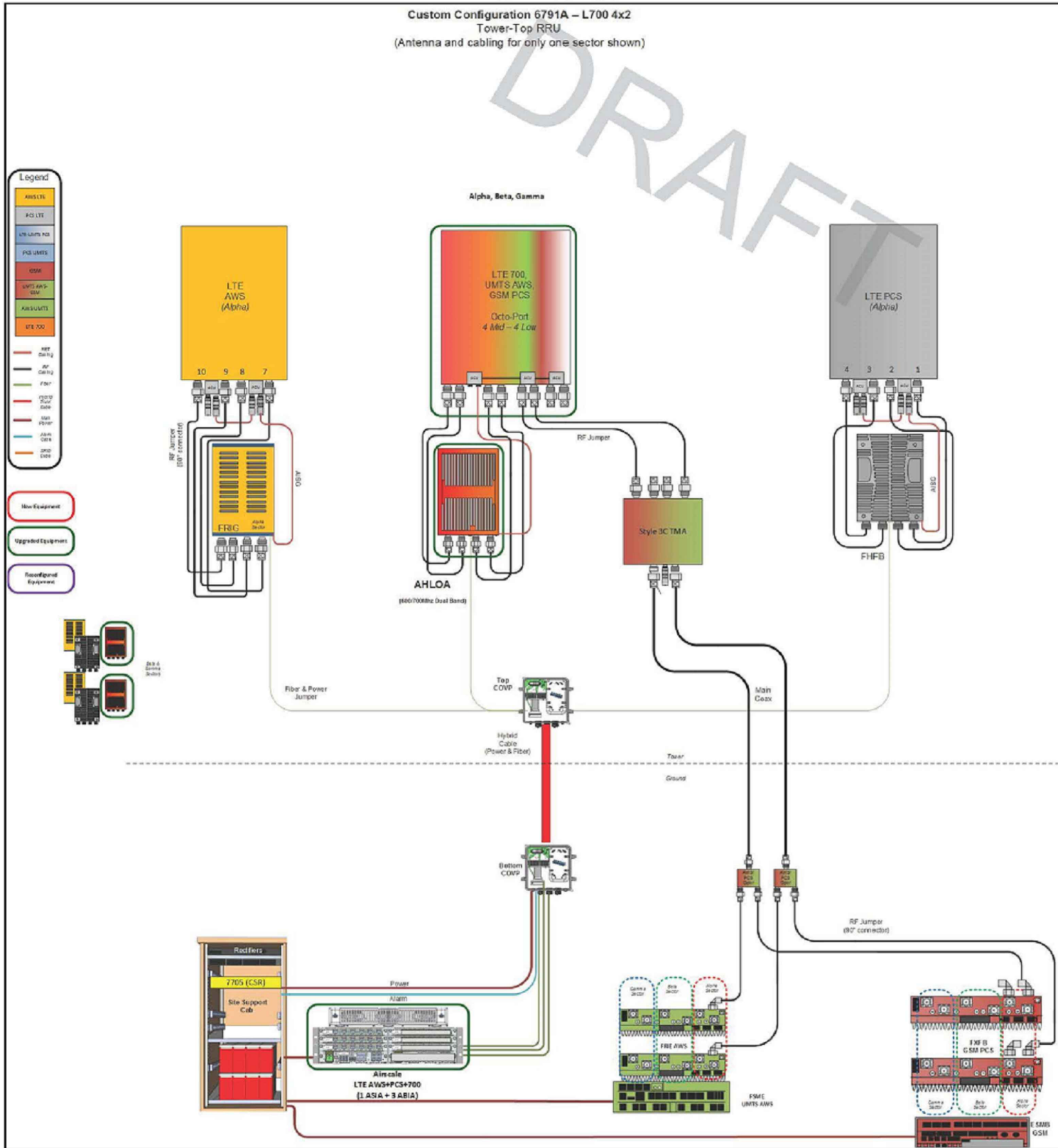
SHEET TITLE:
ANTENNA PLANS

SHEET NUMBER:
C-3

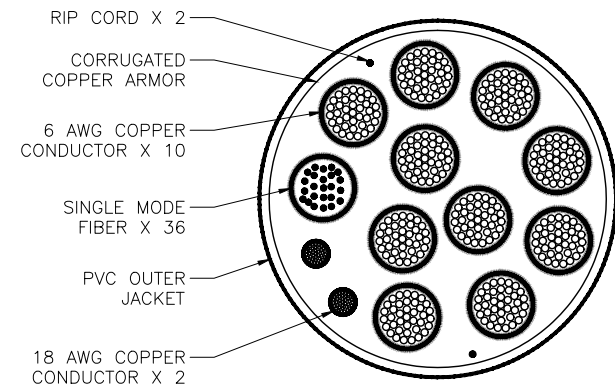
Section 3 - Proposed Template Images

6791A_RUSO_frie.jpg

Custom Configuration 6791A - L700 4x2
Tower-Top RRU
(Antenna and cabling for only one sector shown)



Notes:



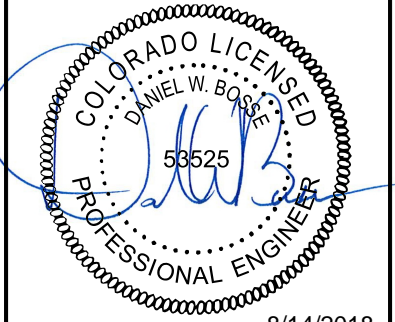
SECTORIZED COLOR IDENTIFICATION	
SECTOR A	RED
SECTOR B	GREEN
SECTOR C	BLUE
SECTOR D	YELLOW
SECTOR E	WHITE
SECTOR F	PURPLE
LMU	BROWN
FIBER IS	GRAY
UNUSED COAX	PINK
MICROWAVE	ORANGE
PWET-1'S	ID w/ LABEL MAKER

CABLE TYPE	NUMBER, SIZE (AWG)	10/C #6 + 2/C #18
	VOLTAGE	600
	OUTER JACKET	PVC
	SHIELDING	CORRUGATED COPPER
	MAX SHIELD RESISTANCE (OHM/FT @ 20° C)	0.0035
	DRAIN	N/A
	RIPCORDER	KEVLAR
	DC CONDUCTOR MATERIAL	COPPER
	DC CONDUCTOR SIZE (AWG)	6
	MAX DC RESISTANCE (OHM/1000FT)	0.411 @ 20° C
	COLOR CODE	BLACK/RED
	ALARM CONDUCTOR MATERIAL	COPPER
	ALARM CONDUCTOR SIZE (AWG)	18
	MAX DC RESISTANCE (OHM/1000FT)	6.7
	COLOR CODE	TBD
	FIBER CABLES	YES
	OUTER DIAMETER (IN) - NOMINAL	1.584
	WEIGHT (LB/FT)	1.614
	MINIMUM BEND RADIUS (IN)	19
	BEND MOMENT (LB/FT)	N/A
	TENSILE STRENGTH (LB)	340
	CRUSH RESISTANCE, FOTP-41 (N/MM)	22
	STRENGTH MEMBER	NO
	OPERATING TEMPERATURE RANGE (LOW)	-40° C
	OPERATING TEMPERATURE RANGE (HIGH)	80° C
FIBER TYPE		LOW WATER PEAK SINGLE MODE LOOSE TUBE
FIBER STANDARD COMPLIANCE		ITU-T REC. G.652.D, G.657.A2 IEC 60793-2-50 TYPE B.1.3 & TYPE B.6 A&B
FIBER COATING DIAMETER (um)		.242 +/- .007 OR .9 +/- .005 MM
FIBER COUNT		36
NUMBER OF FIBER SUBUNITS		1
FIBER COUNT EACH UNIT		36
FIBER OUTER JACKETS		FR JACKET
MAX ATTENUATION, 1310 nm (dB/Km)		LESS THAN/EQUALTO 0.5
MAX ATTENUATION, 1550 nm (dB/Km)		LESS THAN/EQUALTO 0.5



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION
T-MOBILE #: DN04035A
ATC #: 30300
4490 EAST BLANEY RD
PEYTON, CO
80831

SHEET TITLE:
RFDS & CABLE
SPECIFICATIONS

SHEET NUMBER:
C-3.1

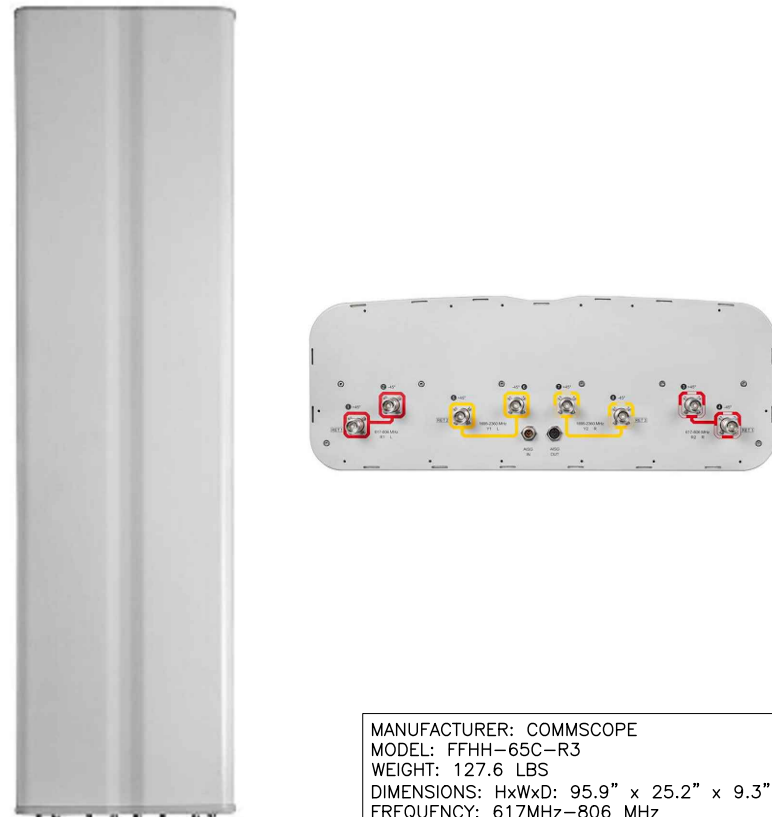
NOKIA



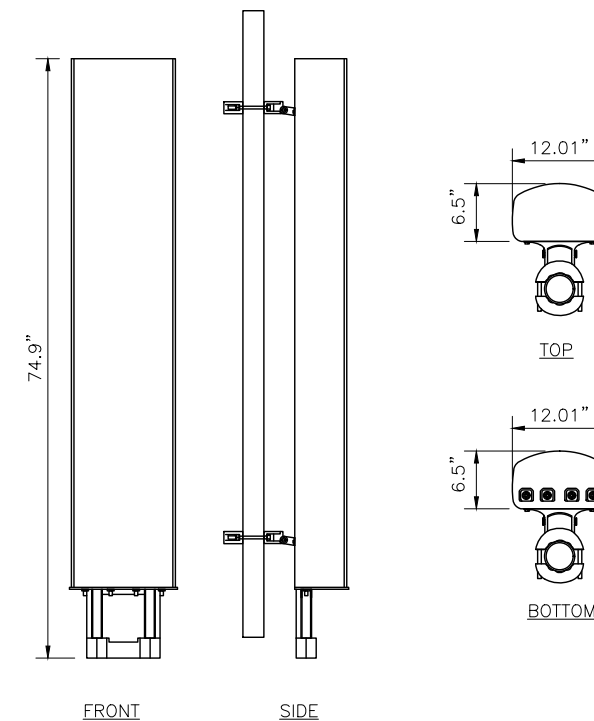
AHLOA: 600MHz/700MHz Radio (4Tx4Rx RRH)

Specification	
Configuration	4T4R Dual Band
Output Power	4x30W
IBW/OBW	Full Band/Full Band
PIM Cancellation	Yes (Multi Band)
Power Sharing	Yes
Weight	83.7 lbs with no covers & brackets
Size	Approx 32.6L
Dimensions	560 mm x 308 mm x 189 mm
Connector	4.3-10+ (4 ports)

- AHLOA**
- Based on Airscale Platform
 - Tower installation only (No Ground installation)
 - License requirement for MIMO Functions and Dual Band
 - Utilizes 4.3-10 RF Connector
 - CPRI fiber front haul
 - Product expected Q2 2018



MANUFACTURER: COMMSCOPE
 MODEL: FFHH-65C-R3
 WEIGHT: 127.6 LBS
 DIMENSIONS: HxWxD: 95.9" x 25.2" x 9.3"
 FREQUENCY: 617MHz-806 MHz
 1695-2360 MHz
 CONNECTION: (8) 4.3-10 FEMALE



MANUFACTURER: ANDREW
 MODEL: HBXX-6517DS-A2M
 WEIGHT W/ MOUNTING HARDWARE: 42.99 LBS
 DIMENSIONS: HxWxD: 74.92"x12.01"x6.5"
 FREQUENCY: 1710MHz-2180MHz
 CONNECTION: (4) 7/16 FEMALE

RADIO INFORMATION SCALE: N.T.S. **5**

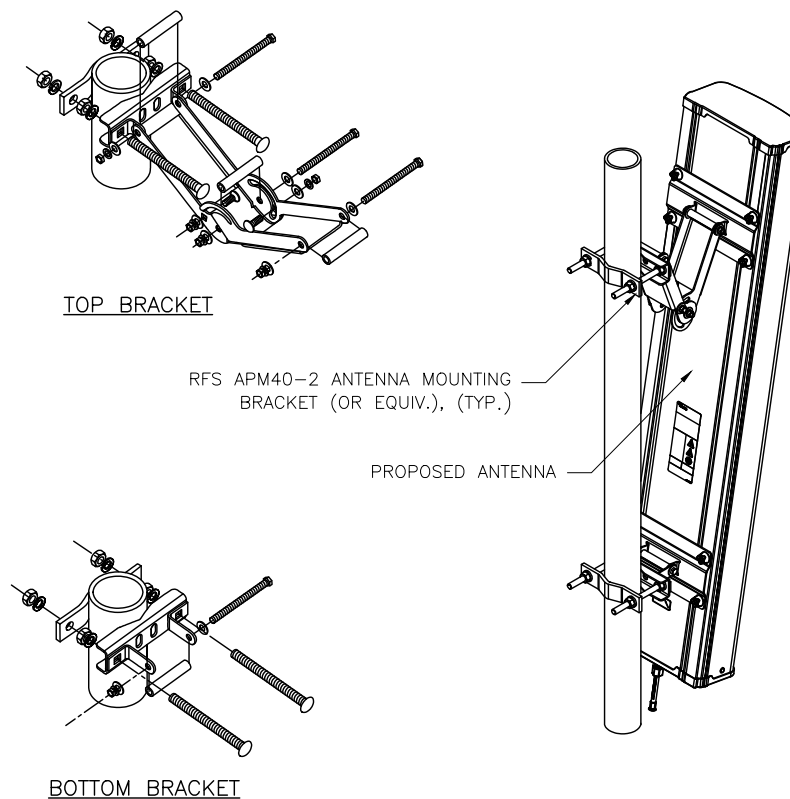
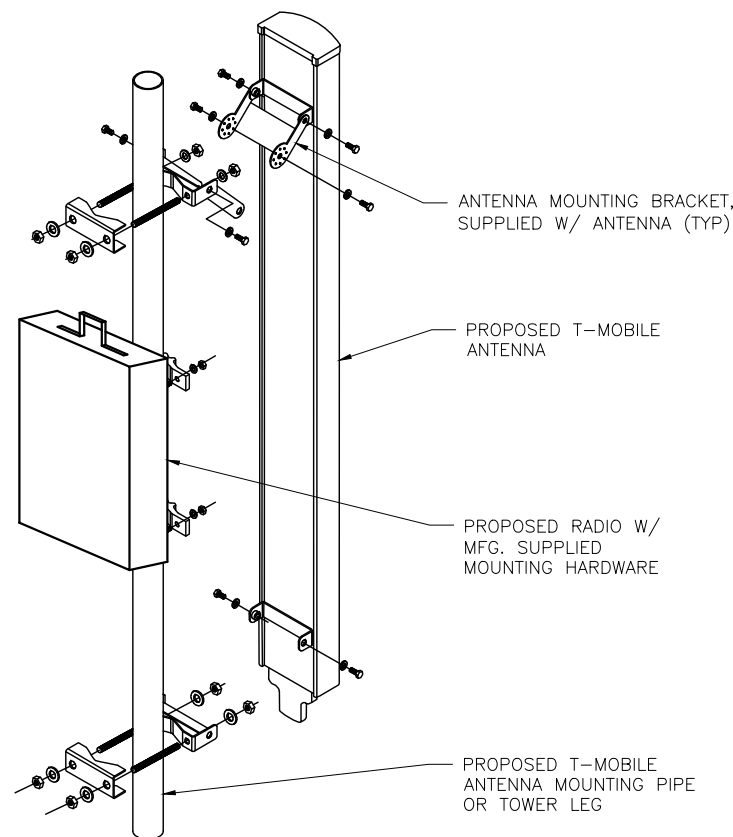
ANTENNA INFORMATION SCALE: N.T.S. **3**

NOT INFORMATION SCALE: N.T.S. **1**

NOT USED **6**

RADIO MOUNTING DETAIL SCALE: N.T.S. **4**

ANTENNA ATTACHMENT SCALE: N.T.S. **2**

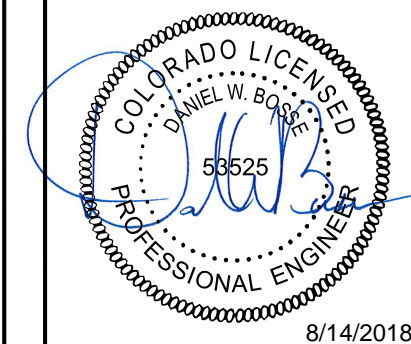


T-Mobile



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION

T-MOBILE #: DN04035A

ATC #: 30300

**4490 EAST BLANEY RD
 PEYTON, CO
 80831**

SHEET TITLE:
**EQUIPMENT
 DETAILS**

SHEET NUMBER:

C-4



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM

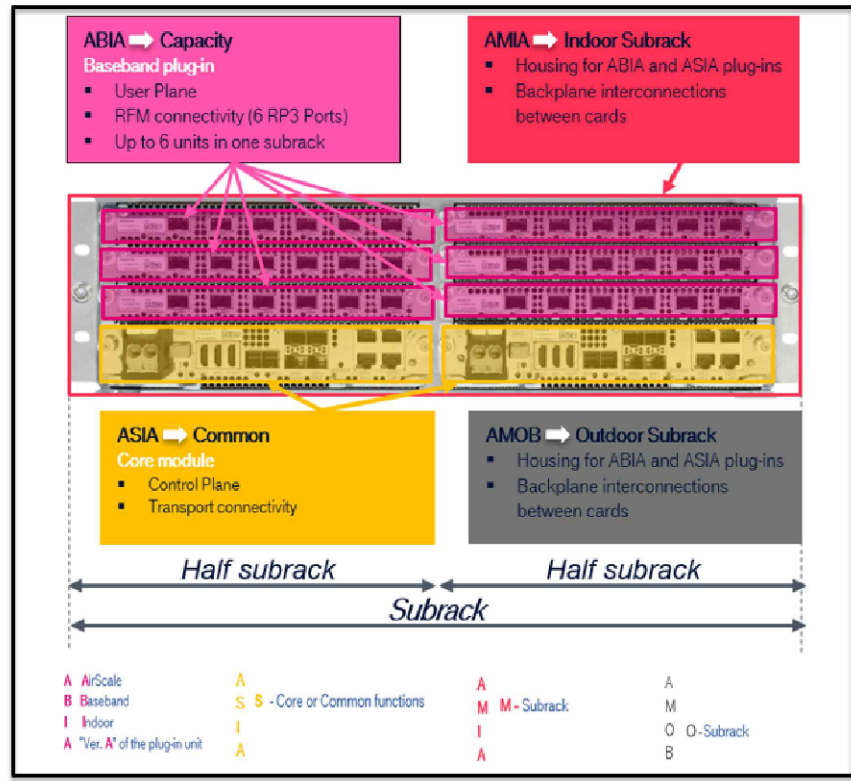


THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION
T-MOBILE #: DN04035A
ATC #: 30300
4490 EAST BLANEY RD
PEYTON, CO
80831

SHEET TITLE:
EQUIPMENT
DETAILS

SHEET NUMBER:
C-5



One Subrack Indoor Maximum configuration :

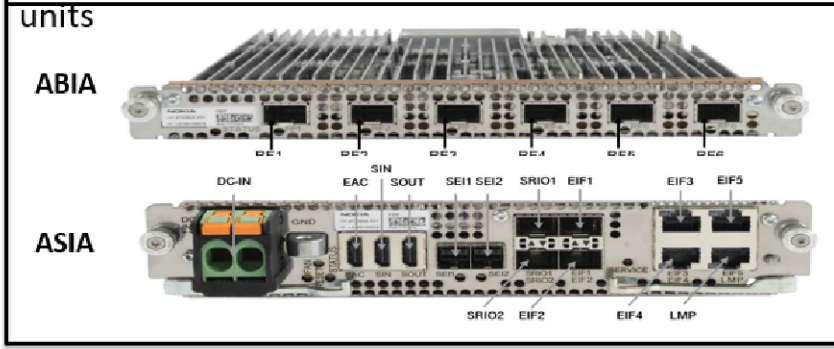
- 6 ABIA +2 ASIA +1 AMIA
- IP20 rating (Indoor)

One Subrack Outdoor Maximum configuration :

- 6 ABIA +2 ASIA +1 AMOB
- IP65 rating

No boots on ASIA and ABIA fiber/power/Ethernet connectors

NOTE: No power connections for Radio Module



NOT USED

3 ASIA / ABIA DETAIL

SCALE: N.T.S. 1

NOT USED

4 NOT USED

2

BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



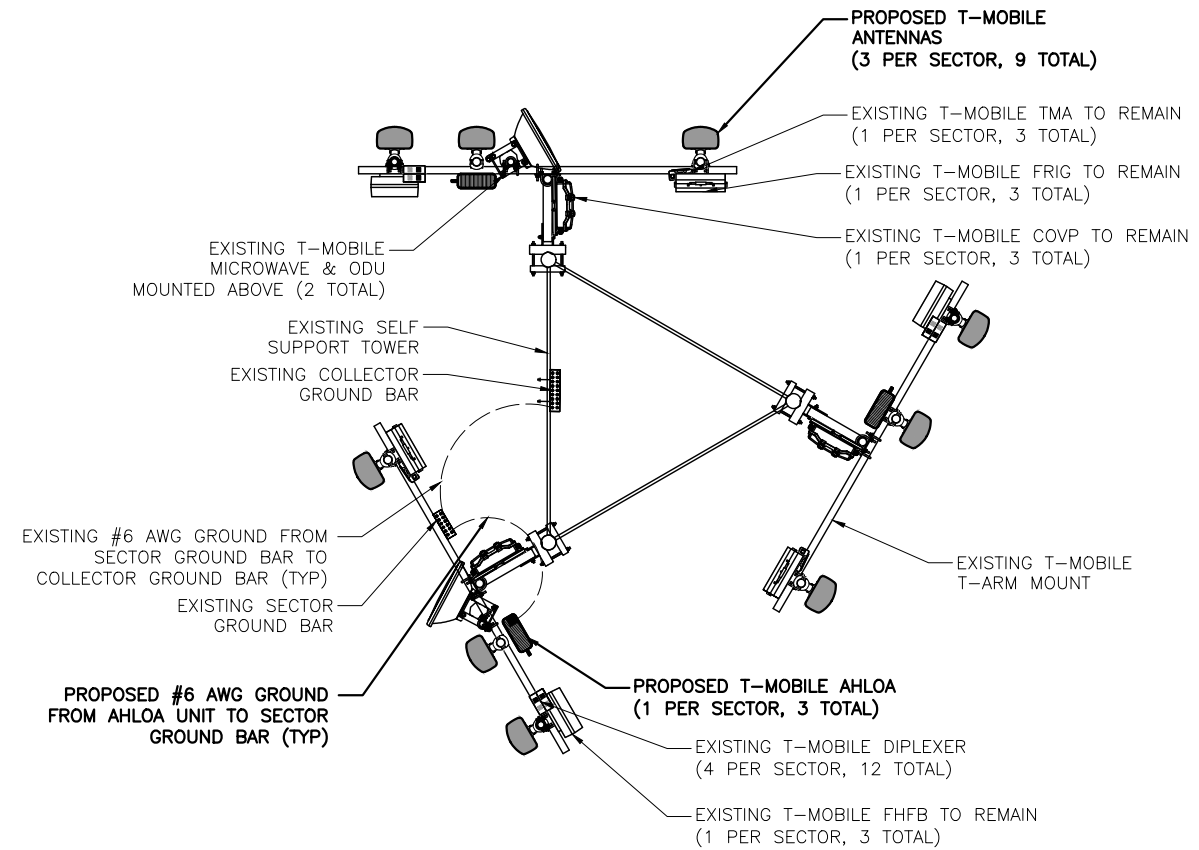
THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION

T-MOBILE #: DN04035A
ATC #: 30300
4490 EAST BLANEY RD
PEYTON, CO
80831

SHEET TITLE:
GROUNDING PLANS

SHEET NUMBER:
G-1



- LEGEND:
- EXISTING GROUND RING
 - ▲ CADWELD CONNECTION (EXOTHERMIC WELD)
 - MECHANICAL CONNECTION



T-Mobile



BUSINESS LICENSE #: N/A

REVISIONS			
REV	DATE	DESCRIPTION	INT
0	08/14/18	100% CONSTRUCTION	RC
A	07/03/18	ISSUED FOR REVIEW 90%	MJM



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

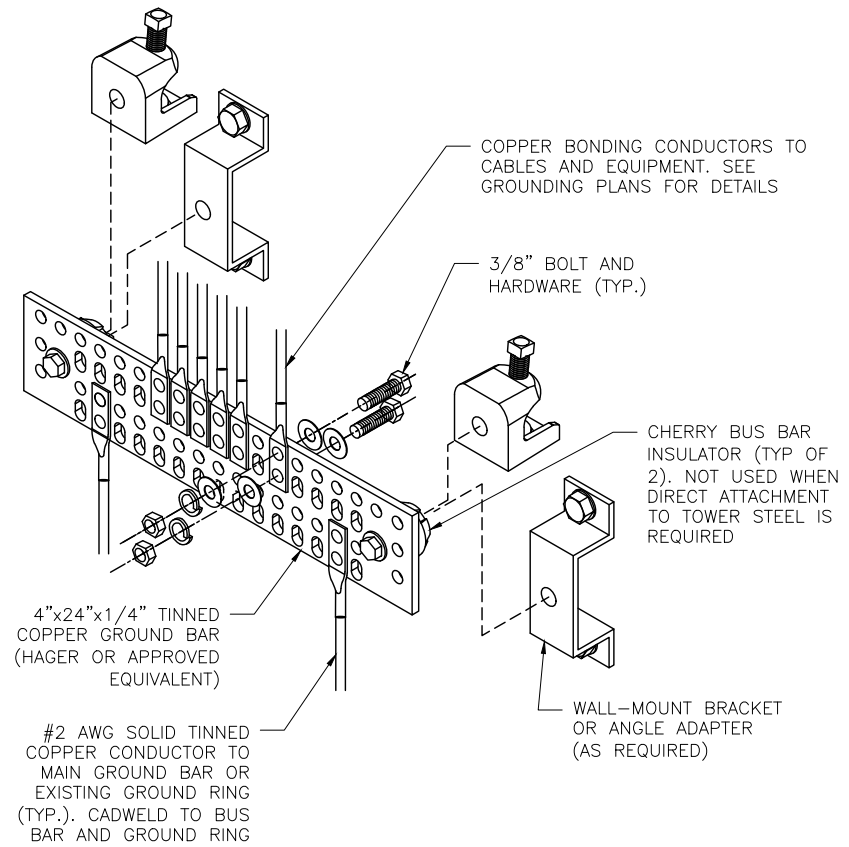
SITE INFORMATION

T-MOBILE #: DN04035A
ATC #: 30300
4490 EAST BLANEY RD
PEYTON, CO
80831

SHEET TITLE:
GROUNDING
DETAILS

SHEET NUMBER:

G-2



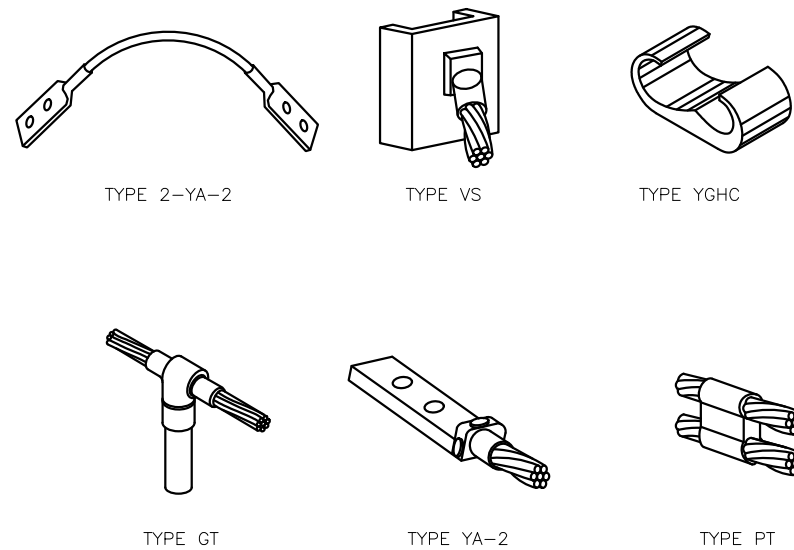
GROUND BAR DETAIL

SCALE: N.T.S.

1

NOTES:

1. CADWELD "TYPES" SHOWN ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC TYPES OF CADWELDS TO BE USED FOR THIS PROJECT.
2. CONFIRM WITH TOWER OWNER THAT THE USE OF CADWELDS IS ACCEPTABLE, PRIOR TO INSTALLATION.



CADWELD CONNECTION TYPES

2

NOT USED

5

NOT USED

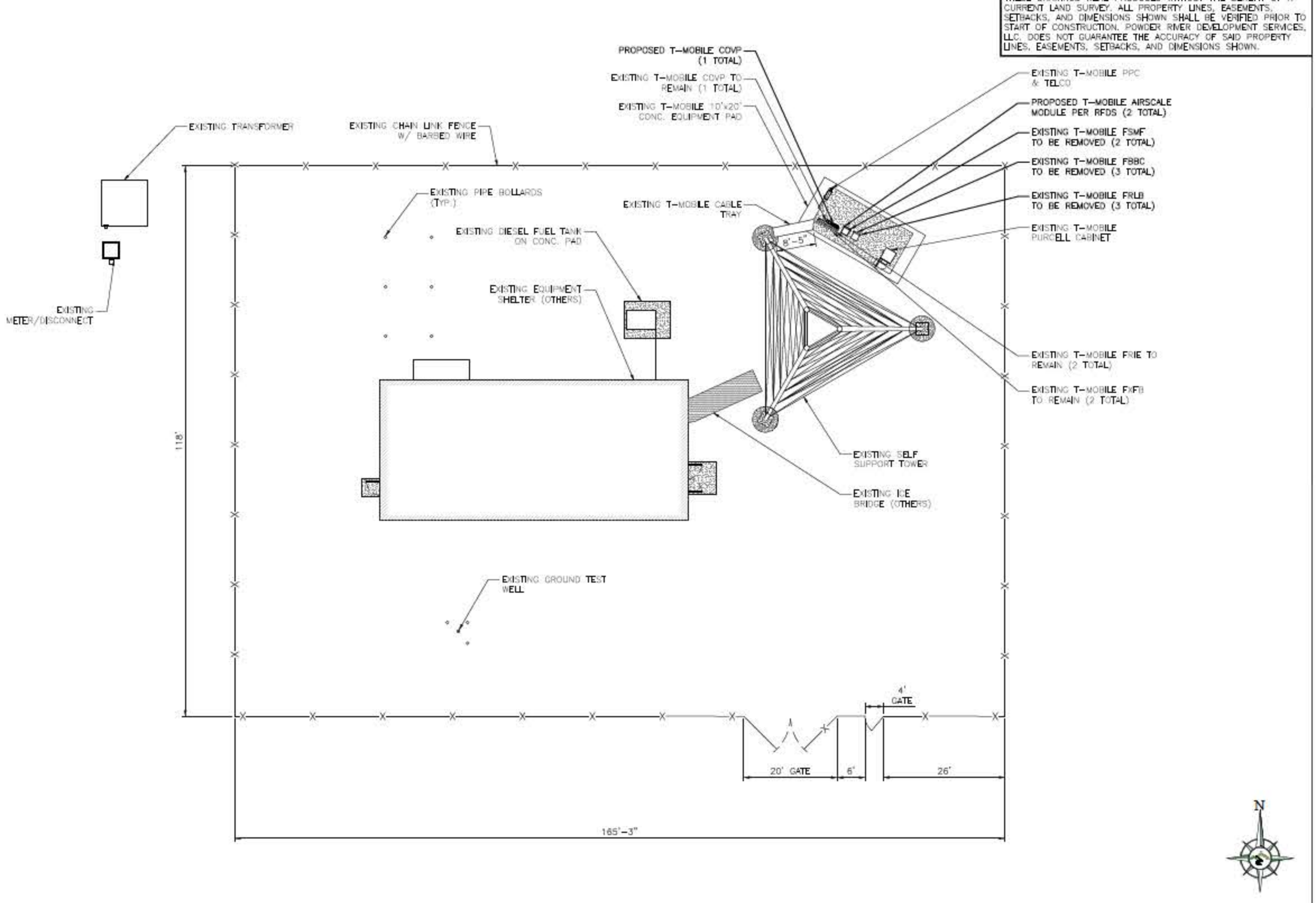
3

NOT USED

6

NOT USED

4



Structural Evaluation	
ATC Site Number & Name	30300, Colorado Springs, CO
Carrier Site Number & Name	DN04035A, DN04035A
Site Location	4490 East Blaney Road Peyton, CO 80831-5701, El Paso County 38.89496111 N / 104.59754722 W
Tower Description	260 ft Self Supported Tower
Basic Wind Speed Code	90 mph (3-Second Gust) ANSI/TIA-222-G / 2009 IBC

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
250.0	250.0	2	Ceragon FibeAir RFU-C	Leg	(12) 0.24" Cat 5 (3) 3/8" Coax	Windfield Enterprises
		2	TTA			
		3	Motorola CAP 36320			
		1	Andrew VHLPX4-11W-6WH			
		1	Andrew VHLPX4-11-6WH/B			
238.0	238.0	7	Trango Access5830	T-Arm	(20) 0.26" Cat 5e (6) 1/2" Coax (1) 1.25" Hybrid (1) 1" conduit	Precision
		6	TTA			
		2	15" x 15" Panel			
		1	2' Dish w/ Radome			
		1	2' HP Dish			
		1	36" x 12" Panel			
216.0	216.0	1	DragonWave Horizon Quantum	Leg	(7) 0.38" Cat 5e (1) 0.26" Cat 5e	Jab Wireless
		1	Cambium Networks PTP 820C			
		4	Cambium Networks PMP 450 Antenna			
		2	Cambium Networks PMP 450 Access Point			
		8	15" x 15" Panel			
213.0	213.0	4	Cambium Networks PMP 450m	Leg	(4) 0.24" Cat 5	
		1	Radio Waves HP3-18			
		1	Radio Waves HP3-11			
206.0	206.0	3	Samsung Power Junction Cylinder	Sector Frame	(4) 0.24" Cat 5 (3) 1 1/4" Hybriflex (1) 1.58" Hybrid	Sprint Nextel
		3	Samsung Fiber Junction Cylinder			
		1	Fastback Networks Intelligent Backhaul Radio 1300 Series			
		1	DragonWave Horizon Compact Plus			
		3	Samsung 2.5GHz 8T8R RRH (2.5LTEV3 10KM)			
		3	Samsung RRH-P4A			
		3	Samsung RRH-C2A			
		2	Andrew VHLP2-11W			
		3	KMW ET-X-WM-18-65-8P			
		3	KMW ET-X-TS-70-15-62-18-iR-RD			

Existing and Reserved Equipment (cont.)

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	Mount					
192.0	192.0	12	Andrew ECC1920-VPUB	Sector Frame	(12) 1 5/8" Coax (2) 0.29" RG-8 (1) 1.58" Hybrid	T-Mobile
		3	Nokia COVP			
		2	Radio/ODU			
		3	Nokia FRIG w/o Solar Shield			
		3	Nokia FHFB			
		1	Andrew VHLP2-11			
		1	Andrew VHLP800-11-2WH			
162.0	162.0	1	Andrew DB616E-BC	Side Arm	(1) 7/8" Coax	US Dept. Of Homeland Security
52.0	52.0	1	Radio Waves HP4-4.7	Leg	(2) 7/8" Coax	

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
192.0	192.0	3	Andrew SBNHH-1D65B	-	-	T-Mobile
		3	Andrew TMZXX-6516-A3M with actuator			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
192.0	192.0	3	Commscope TMAT1921B78-21A	Sector Frame	(1) 1 5/8" Fiber	T-Mobile
		3	Nokia AirScale Dual RRH 4T4R B12/71 240W AHLOA			
		6	Andrew TMBXX-6516-R2M			
		3	Commscope FFHH-65C-R3			

¹ Mount elevation is defined as height above bottom of steel structure to bottom of mount, RAD elevation is defined as center of antenna above grade level (AGL).

Install proposed coax alongside existing T-Mobile coax.

The existing and proposed loads listed in the tables above are compared to the tower's current design capacity or previous structural analysis. The tower should be re-evaluated as future loads are added or if actual loads are found different from those listed in the tables. The subject tower and foundation **are adequate** to support the above stated loads in conformance with specified requirements.

RDB/ANG