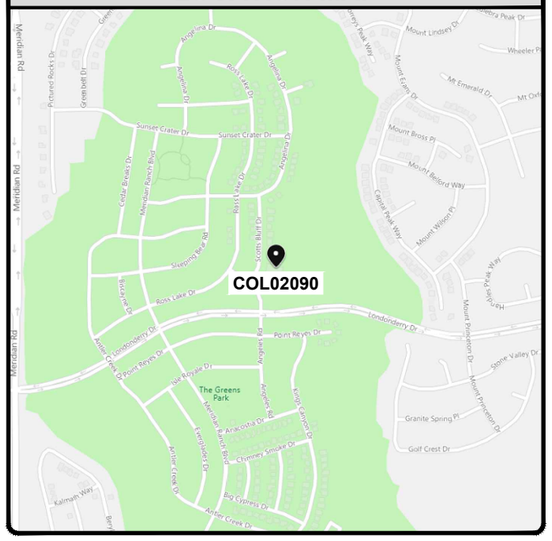
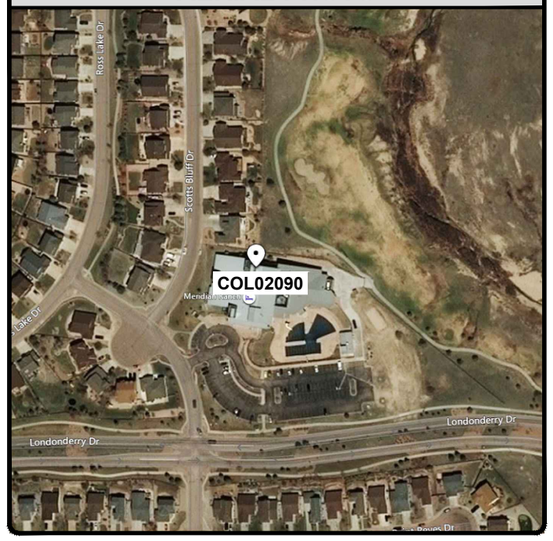
The proposed new equipment seems to be wall-mounted rather than rooftop-mounted, as such please include a detail / description of the color to verify that the proposed additions will be painted the same color as the building per requirements.

SITE NAME:	**MERIDIAN & REX RD**
FA# / SITE ID:	**10099189 / COL02090**
PROJECT TYPE:	**LTE 3C / 5G NR**
PACE :	**MRUTH041341 / MRUTH041409**
PTN :	**3755A0VBB9 / 3755A0VD9Z**

LOCATION MAP



AERIAL PHOTO



PROJECT INFORMATION

STRUCTURE TYPE:	COLLOCATION 40'-0" ROOFTOP
LATITUDE (NAD 83):	38.9802778°
LONGITUDE (NAD 83):	-104.5992203°
SITE LOCATION:	COL02090-MERIDIAN AND REX RD 10301 ANGELES ROAD PEYTON, CO 80831
GROUND ELEVATION:	7117' AMSL
MARKET:	RMR
JURISDICTION:	EL PASO COUNTY
COUNTY:	EL PASO
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.

DRAWING INDEX

SHEET	SHEET DESCRIPTION	REV
T1	TITLE SHEET	0
GN1	GENERAL NOTES	0
A1	EXISTING SITE PLAN	0
A2	EQUIPMENT PLANS	0
A3	ELEVATIONS	0
A4	ANTENNA PLANS & SCHEDULE	0
A5-A7	EQUIPMENT SPECIFICATIONS	0
E1	ONE-LINE DIAGRAM & PANEL SCHEDULE	0
G1-G2	GROUNDING DETAILS	0

SITE REFERENCE PHOTO

DRIVING DIRECTIONS

FROM AT&T MOBILITY:
DEPART AT&T MOBILITY ON INVERNESS DR W (EAST). TURN RIGHT (WEST) ONTO E COUNTY LINE RD. TAKE RAMP (RIGHT) ONTO I-25 [US-87]. AT EXIT 153, TURN RIGHT ONTO RAMP. ROAD NAME CHANGES TO INTERQUEST PKWY. KEEP STRAIGHT ONTO CO-83 [INTERQUEST PKWY]. TURN RIGHT (SOUTH-EAST) ONTO CO-21 [N POWERS BLVD]. KEEP RIGHT ONTO RAMP. KEEP LEFT TO STAY ON RAMP. KEEP STRAIGHT ONTO LOCAL ROAD(S). TURN LEFT (EAST) ONTO E WOODMEN RD. TURN LEFT (NORTH) ONTO MERIDIAN RD. TURN RIGHT (EAST) ONTO LONDONDERRY DR. TURN LEFT (NORTH) ONTO ANGELES RD. TURN RIGHT (NORTH-EAST) ONTO SCOTTS BLUFF DR. TURN RIGHT (EAST) ONTO LOCAL ROAD(S). ARRIVE AT SITE ON RIGHT.

ONE CALL

COLORADO 811
KNOW WHAT'S BELOW, CALL BEFORE YOU DIG.

CALL COLORADO 811
3 WORKING DAYS BEFORE YOU DIG
811 OR 1-800-922-1987

PROJECT TEAM

ENGINEER/ARCHITECT:
TELAMON CLS
319 CHAPANOKE RD
SUITE 118
RALEIGH, NC 27603
PM: COLE MOSSMAN
PHONE: 970-819-0335

CUSTOMER:
AT&T MOBILITY
161 INVERNESS DR W
ENGLEWOOD , CO 80112
CONTACT: BETHANY WILSON
PHONE: 970-589-7323
EMAIL: BW925A@ATT.COM

STRUCTURE OWNER:
MERIDIAN SERVICE METROPOLITAN DISTRICT
8390 E CRESCENT PKWY, SUITE 500
GREENWOOD VILLAGE, CO 80111

SITE ACQUISITION:
SMARTLINK, LLC
JASON HADLEY
801-380-0262

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING APPLICABLE CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

LOCAL CODE:	PPRBC 2017
BUILDING/DWELLING CODE:	IBC 2015
STRUCTURAL CODE:	IBC 2015
MECHANICAL CODE:	IMC 2015
ELECTRICAL CODE:	NEC 2017
FIRE & LIFE SAFETY CODE:	IFC 2015

DO NOT SCALE DRAWINGS

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

SCOPE OF WORK

ROOFTOP SCOPE:
1. REMOVE (3) POWERWAVE P65-15-XLH-RR ANTENNAS (1 PER SECTOR)
2. REMOVE (3) COMMSCOPE SBNHH-1D65C ANTENNAS (1 PER SECTOR)
3. REMOVE (3) ALCATEL-LUCENT RRH2X40W_7L (1 PER SECTOR)
4. REMOVE (3) RAYCAP DC2 (1 PER SECTOR)
5. REMOVE (1) RAYCAP FC12
6. INSTALL (6) COMMSCOPE NNH4-65C-R6-V3 ANTENNAS (2 PER SECTOR), RE: 1/A5
7. INSTALL (3) AIRSCALE RRH 4T4R B5 160W AHCA (1 PER SECTOR), RE: 2/A5
8. INSTALL (3) AIRSCALE TRI RRH 4T4R B12/14/29 370W AHLBBA (1 PER SECTOR), RE: 3/A5
9. INSTALL (3) RAYCAP DC9-48-60-24-PC16-EV SURGE SUPPRESSOR (1 PER SECTOR), RE: 1/A6
10. INSTALL (4) #8 DC POWER TRUNKS AND (2) 24 PAIR FIBER TRUNK EACH SECTOR

GROUND SCOPE:
11. INSTALL (6) -48V VERTIV NETSURE RECTIFIERS IN EXISTING DC POWER PLANT
12. INSTALL (6) VERTIV POWER EXTEND CONVERTERS FOR AHLBBA RRHS, RE: 1/A7
13. INSTALL (3) VERTIV POWER EXTEND CONVERTERS FOR AHCA RRHS, RE: 1/A7
14. INSTALL NEW FLEX21 CABINET W/ 5G FSM4 WITH (1) ASIK AND (1) ABIL, RE: 2/A6
15. INSTALL (2) ABIA IN EXISTING FSM4
16. INSTALL (1) RAYCAP DC12-48-60-0-25E, RE: 2/A7

RFDS INFORMATION

RFDS ID:	3681872
RFDS VERSION:	2.00
RFDS DATE:	06/22/2020

at&t

smartlink
400 SOUTH COLORADO BOULEVARD, SUITE 820
DENVER, CO 80246
OFFICE: (888)-828-5465

telamon CLS
319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625
CLS PROJECT ID: CLS PROJECT ID

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/20	PRELIMINARY ISSUE	JT
B	08/10/20	CLIENT COMMENTS	JT
0	08/21/20	FOR CONSTRUCTION	CM

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

COLORADO LICENSED
RYAN T. GUERRERO
48360
08/21/2020
PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
FA # / SITE ID:
10099189 / COL02090
10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T1

D:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID

T:\SMARTLINK\64925 - SMARTLINK AT&T RMV\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – GENERAL CONTRACTOR
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY
   OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSIONS OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, QUANTITIES AND DIMENSIONS BEFORE STARTING ANY WORK. NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND TI CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR.
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FOR THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
13. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
14. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC 13 EDITION SPECIFICATIONS.
15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741–000–3APS–A00Z–00002, "GENERAL CONSTRUCTION SERVICES".
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUT DOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
19. ALL ANTENNA PIPES SHALL BE SCHEDULE 80.
20. LIMITS OF LIABILITY – ITEMS REFERENCED ARE OWNER/CLIENT DICTATED ITEMS, OR SUPPLIED ITEMS WHICH ARE REPRODUCED WITHOUT ALTERATION AS DIRECTED BY OWNER/CLIENT, AND OWNER/CLIENT ASSUMES ANY AND ALL LIABILITY FOR USE OF, CONSEQUENCES OF, OR INTERPRETATION OF SAID ITEM, SPECIFICATION, OR DIRECTIVE; AND AGREES TO INDEMNIFY AND HOLD ENGINEER COMPLETELY HARMLESS.
21. PROFESSIONAL SEAL – DETAILS, SPECIFICATION(S), OR ITEMS REFERENCED, ARE NOT PART OF THE PROFESSIONAL DESIGN PERFORMED BY LICENSEE AND THE PROFESSIONAL SEAL DOES NOT APPLY.

ELECTRICIAL INSTALLATION NOTES

1. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
2. SUBCONTRACTORS SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS WHERE PERMITTED SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES. USE LOW PROFILES TIE WRAPS.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (12 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR 2 AWG SOLID TINNED COPPED CABLE, UNLESS OTHERWISE SPECIFIED.
13. POWER WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (12 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT ON LESS THAN 75°C (90°C IF AVAILABLE).
15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
18. ELECTRICAL METALLIC TUBING (EMT) OR ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
23. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 34 (OR BETTER) OUTDOORS.
26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 34 (OR BETTER) OUTDOORS.
27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ). THE SITE–SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 91) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25471–000–3PS–EG00–0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER INDOORS BTS; 2 AWG STRANDED COPPER FOR OUTDOORS BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL, SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON–METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
13. ALL TOWER GROUND SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FOR 8 FEET TO 10 FEET.
14. ALL GROUND WIRE TO RRUS SHALL BE #2 GREEN STRANDED.
15. ALL OUTDOOR LUGS SHALL USE BLACK HEAT SHRINK AND INDOOR LUGS SHALL USE CLEAR HEAT SHRINK.
16. ALL OUTDOOR LUGS TO BE LONG BARREL 2 HOLE WITHOUT INSPECTION HOLES AND INDOOR LUGS TO HAVE INSPECTION HOLES.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	MAX	MAXIMUM
AMSL	ABOVE MEAN SEA LEVEL	MFR	MANUFACTURER
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BAR
BLDG	BUILDING	MIN	MINIMUM
DWG	DRAWING	N.T.S.	NOT TO SCALE
FT	FOOT	(P)	PROPOSED
EMT	ELECTRICAL METALLIC TUBING	PPC	POWER PROTECTION CABINET
ELEV	ELEVATION	RBS	RADIO BASE STATION
EQUIP	EQUIPMENT	IN	INCH(ES)
(E)	EXISTING	INT	INTERIOR
EXT	EXTERIOR	LB(S) OR #	POUND(S)
FND	FOUNDATION	SF	SQUARE FOOT
F	FIBER	TYP	TYPICAL
GALV	GALVANIZED	W/	WITH
GPS	GLOBAL POSITIONING SYSTEM	XFMR	TRANSFORMER
GND	GROUND		
LTE	LONG TERM EVOLUTION		

at&t

smartlink
400 SOUTH COLORADO BOULEVARD, SUITE 820
DENVER, CO 80246
OFFICE: (888)–828–5465

telamon CLS
319 CHAPANOKE RD, SUITE 118
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PH: (405)348–5460 FAX: (405)341–4625
CLS PROJECT ID: CLS PROJECT ID

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0	08/21/20	FOR CONSTRUCTION	CM

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

COLORADO LICENSED
RYAN T. GUERRERO
48360
08/21/2020
PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
FA # / SITE ID:
10099189 / COL02090

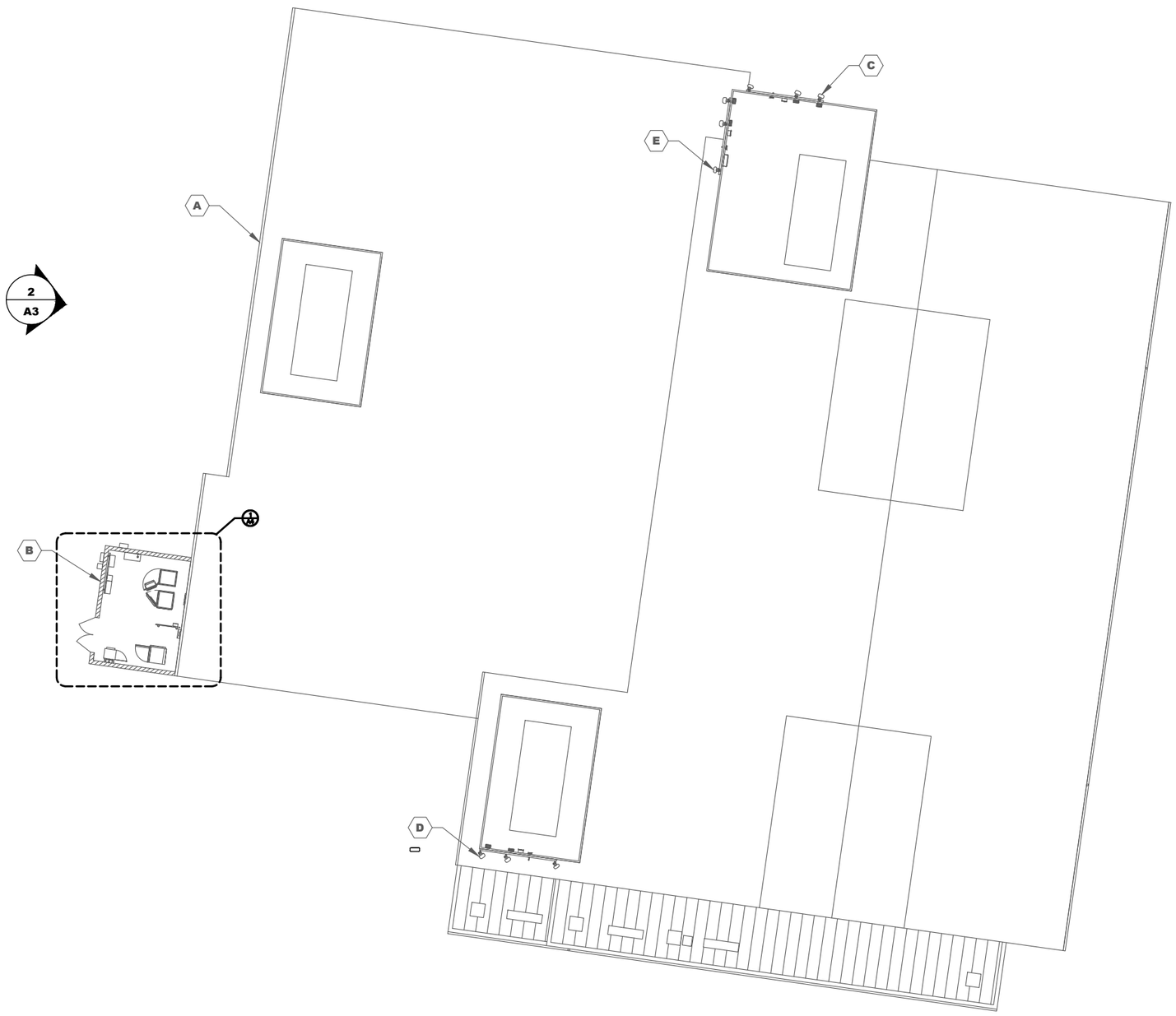
10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN1

(#) EXISTING EQUIPMENT KEYNOTES:

A. 40'-0" ROOFTOP
B. AT&T EQUIPMENT ENCLOSURE
C. ALPHA SECTOR ANTENNAS
D. BETA SECTOR ANTENNAS
E. GAMMA SECTOR ANTENNAS



1 EXISTING SITE PLAN

SCALE: 8' 4' 0 8' 3/32"=1'-0" (FULL SIZE) 3/64"=1'-0" (11x17)

TRUE NORTH
RE: GN20/GN1

T:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID

at&t

smartlink
400 SOUTH COLORADO BOULEVARD, SUITE 820
DENVER, CO 80246
OFFICE: (888)-828-5465

telamon CLS
319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625
CLS PROJECT ID: CLS PROJECT ID

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/20	PRELIMINARY ISSUE	JT
B	08/10/20	CLIENT COMMENTS	JT
0	08/21/20	FOR CONSTRUCTION	CM

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

COLORADO LICENSED
RYAN T. GUERRERO
48360
08/21/2020
PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
FA # / SITE ID:
10099189 / COL02090

10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
EXISTING SITE PLAN

SHEET NUMBER
A1

EXISTING EQUIPMENT KEYNOTES:

A. AT&T 19'-1" X 14'-2" EQUIPMENT ENCLOSURE
B. EMERSON POWER PLANT
C. EMERSON BATTERY CABINET
D. PURCELL CABINET MOUNTED BELOW LTE CABINET
E. DC12 SURGE SUPPRESSOR MOUNTED TO H-FRAME
F. UMTS CABINET
G. LTE CABINET
H. PULL BOX
I. MANUAL TRANSFER SWITCH
J. AC PANEL
K. TELCO BOX
L. DISCONNECT
M. FIBER BOX MOUNTED TO WALL
N. GPS ANTENNA MOUNTED TO WALL (TYP.)
O. CABLE TRAY MOUNTED TO WALL
P. DIPLEXER MOUNTED TO WALL (6 TOTAL)
Q. (12) 7/8" COAX, (2) #8AWG POWER, (1) FIBER TRUNK

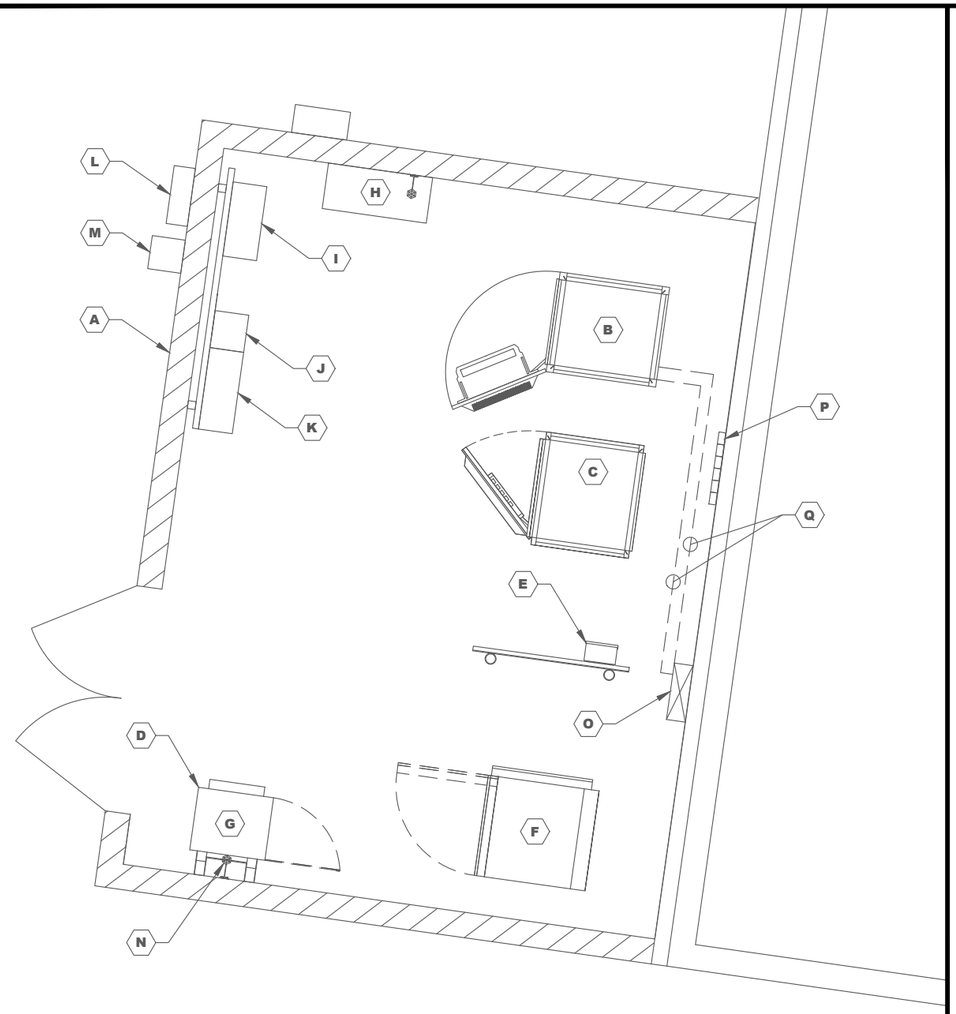
SOW KEYNOTES:

ROOFTOP SCOPE:

1. REMOVE (3) POWERWAVE P65-15-XLH-RR ANTENNAS (1 PER SECTOR)
2. REMOVE (3) COMMSCOPE SBNHH-1D65C ANTENNAS (1 PER SECTOR)
3. REMOVE (3) ALCATEL-LUCENT RRH2X40W_7L (1 PER SECTOR)
4. REMOVE (3) RAYCAP DC2 (1 PER SECTOR)
5. REMOVE (1) RAYCAP FC12
6. INSTALL (6) COMMSCOPE NNH4-65C-R6-V3 ANTENNAS (2 PER SECTOR), RE: 1/A5
7. INSTALL (3) AIRSCALE RRH 4T4R B5 160W AHCA (1 PER SECTOR), RE: 2/A5
8. INSTALL (3) AIRSCALE TRI RRH 4T4R B12/14/29 370W AHLBBA (1 PER SECTOR), RE: 3/A5
9. INSTALL (3) RAYCAP DC9-48-60-24-PC16-EV SURGE SUPPRESSOR (1 PER SECTOR), RE: 1/A6
10. INSTALL (4) #8 DC POWER TRUNKS AND (2) 24 PAIR FIBER TRUNK EACH SECTOR

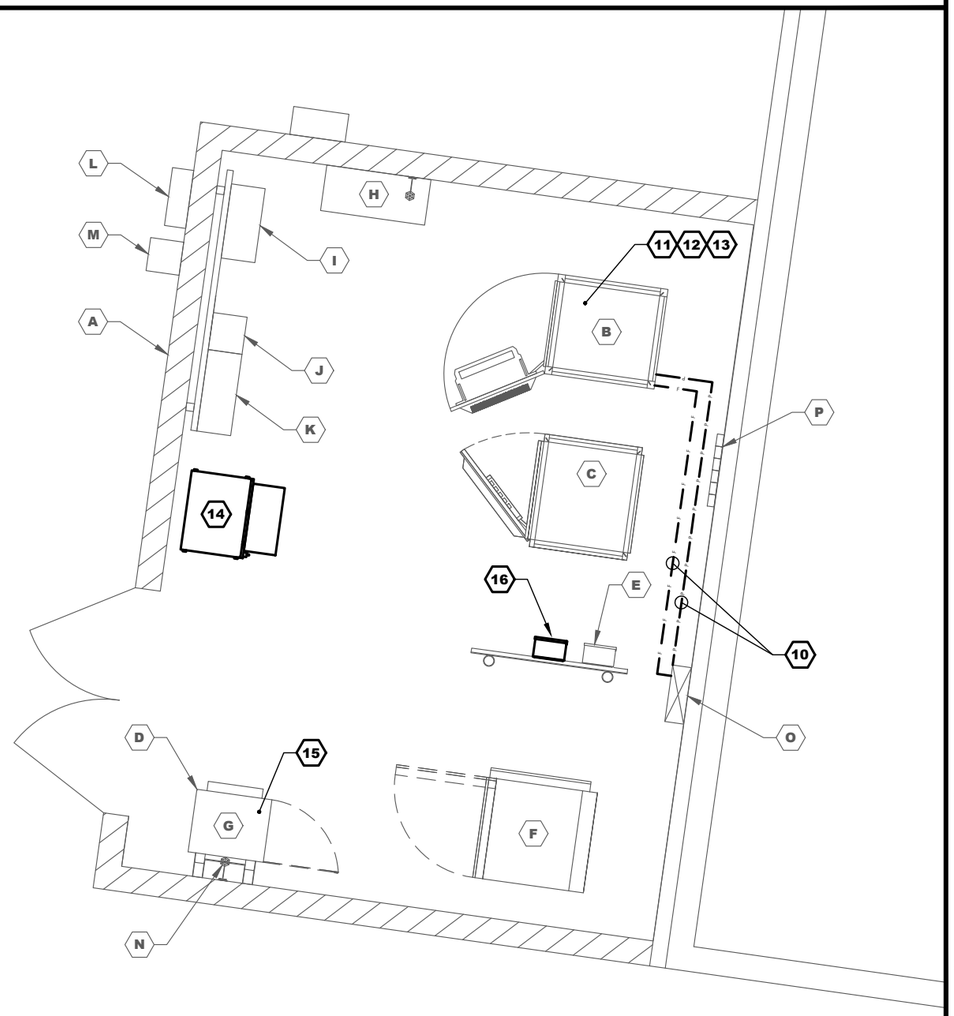
GROUND SCOPE:

11. INSTALL (6) -48V VERTIV NETSURE RECTIFIERS IN EXISTING DC POWER PLANT
12. INSTALL (6) VERTIV POWER EXTEND CONVERTERS FOR AHLBBA RRHS, RE: 1/A7
13. INSTALL (3) VERTIV POWER EXTEND CONVERTERS FOR AHCA RRHS, RE: 1/A7
14. INSTALL NEW FLEX21 CABINET W/ 5G FSM4 WITH (1) ASIK AND (1) ABIL, RE: 2/A6
15. INSTALL (2) ABIA IN EXISTING FSM4
16. INSTALL (1) RAYCAP DC12-48-60-0-25E, RE: 2/A7



TRUE NORTH
RE: GN20/GN1

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



TRUE NORTH
RE: GN20/GN1

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

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smartlink
400 SOUTH COLORADO BOULEVARD, SUITE 820
DENVER, CO 80246
OFFICE: (888)-828-5465

telamon CLS
319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
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CLS PROJECT ID: CLS PROJECT ID

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COLORADO LICENSED
RYAN T. GUERRERO
48360
08/21/2020
PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
FA # / SITE ID:
10099189 / COL02090
10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
EQUIPMENT PLANS

SHEET NUMBER
A2

T:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID

LOADING NOTES:

OTHER CARRIERS EQUIPMENT MAY BE OMITTED FOR CLARITY

(#) EXISTING EQUIPMENT KEYNOTES:

A. 40'-0" BUILDING
B. POWERWAVE P65-15-XLH-RR (1 PER SECTOR, 3 SECTORS TOTAL)
C. ALCATEL-LUCENT B25 RRH4X30-4R (1 PER SECTOR, 3 SECTORS TOTAL)
D. POWERWAVE TT19-0BBP111-001 TMA (1 PER SECTOR, 3 SECTORS TOTAL)

STRUCTURE NOTES:

40'-0" ROOFTOP IS SHOWN FOR ILLUSTRATION ONLY AND FOR LOCATION OF APPURTENANCE(S).

REFER TO 40'-0" ROOFTOP SURVEY FOR ALL EXISTING 40'-0" ROOFTOP COMPONENTS TO INCLUDE ANTENNAS, LIGHTS, LIGHTNING ROD & 40'-0" ROOFTOP HEIGHT.

CONTRACTOR(S) TO COMPLY WITH ALL FCC AND FAA REGULATIONS ON THIS PROJECT. COAX ROUTING MUST BE PER STRUCTURAL ANALYSIS.

PRIOR TO CONSTRUCTION:
CONTRACTOR SHALL VERIFY THAT A 40'-0" ROOFTOP AND MOUNT STRUCTURAL ANALYSIS, DEPICTING THE LOADING SHOWN, HAS BEEN PERFORMED AND SHOWS A "PASS" OR AN "ACCEPTABLE" RATING. UNDER NO CIRCUMSTANCE WHAT SO EVER SHALL THE PROPOSED EQUIPMENT BE INSTALLED WITHOUT SAID STRUCTURAL ANALYSIS. IF SAID STRUCTURAL ANALYSIS REQUIRES THAT THE 40'-0" ROOFTOP AND/OR MOUNT [illegible] MODIFICATIONS TO INSTALLA EQUIPMENT.

MOUNT ANAL
DONE BY TE
#64925-10
30, 2020.

1 EXISTING ELEVATION (WEST)

SCALE: 8' 4' 0 8' 3/32"=1'-0" (FULL SIZE) 3/64"=1'-0" (11x17)

RE: GN20/GN1

This equipment seems to be wall-mounted rather than rooftop-mounted, as such please include a detail / description of the color to verify that the proposed additions will be painted the same color as the building per requirements.

(#) SOW KEYN

ROOFTOP S
1. REMOVE
SECTOR
2. REMOV
SECTOR
3. REMOV
SECTOR)
4. REMOVE (3) RAYCAP DC2 (1 PER SECTOR)
5. REMOVE (1) RAYCAP FC12
6. INSTALL (6) COMMSCOPE NNH4-65C-R6-V3 ANTENNAS (2 PER SECTOR), RE: 1/A5
7. INSTALL (3) AIRSCALE RRH 4T4R B5 160W AHCA (1 PER SECTOR), RE: 2/A5
8. INSTALL (3) AIRSCALE TRI RRH 4T4R B12/14/29 370W AHLBBA (1 PER SECTOR), RE: 3/A5
9. INSTALL (3) RAYCAP DC9-48-60-24-PC16-EV SURGE SUPPRESSOR (1 PER SECTOR), RE: 1/A6
10. INSTALL (4) #8 DC POWER TRUNKS AND (2) 24 PAIR FIBER TRUNK EACH SECTOR

GROUND SCOPE:
11. INSTALL (6) -48V VERTIV NETSURE RECTIFIERS IN EXISTING DC POWER PLANT
12. INSTALL (6) VERTIV POWER EXTEND CONVERTERS FOR AHLBBA RRHS, RE: 1/A7
13. INSTALL (3) VERTIV POWER EXTEND CONVERTERS FOR AHCA RRHS, RE: 1/A7
14. INSTALL NEW FLEX21 CABINET W/ 5G FSM4 WITH (1) ASIK AND (1) ABIL, RE: 2/A6
15. INSTALL (2) ABIA IN EXISTING FSM4
16. INSTALL (1) RAYCAP DC12-48-60-0-25E, RE: 2/A7

2 PROPOSED ELEVATION (WEST)

SCALE: 8' 4' 0 8' 3/32"=1'-0" (FULL SIZE) 3/64"=1'-0" (11x17)

RE: GN20/GN1

at&t

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telamon CLS
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CLS PROJECT ID: CLS PROJECT ID

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RYAN T. GUERRERO
48360
08/21/2020
PROFESSIONAL ENGINEER

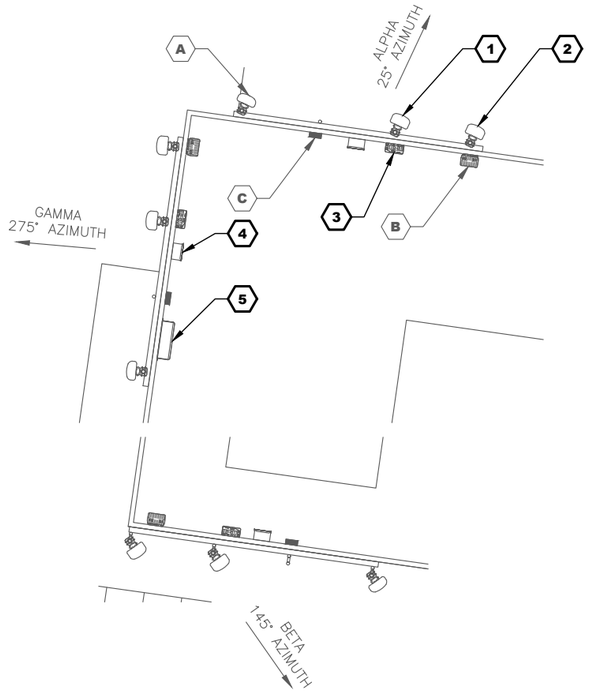
PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
FA # / SITE ID:
10099189 / COL02090

10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A3



1 EXISTING ANTENNA PLAN

SCALE: 4' 3' 2' 1' 0 4' — 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

TRUE NORTH
RE: GN20/GN1

(#) EXISTING EQUIPMENT KEYNOTES:

A. POWERWAVE P65-15-XLH-RR (1 PER SECTOR, 3 SECTORS TOTAL)
B. ALCATEL-LUCENT B25 RRH4X30-4R (1 PER SECTOR, 3 SECTORS TOTAL)
C. POWERWAVE TT19-0BBP111-001 TMA (1 PER SECTOR, 3 SECTORS TOTAL)

(#) **SOW KEYNOTES:**

ROOFTOP SCOPE:

1. REMOVE (3) POWERWAVE P65-15-XLH-RR ANTENNAS (1 PER SECTOR)
2. REMOVE (3) COMMSCOPE SBNHH-1D65C ANTENNAS (1 PER SECTOR)
3. REMOVE (3) ALCATEL-LUCENT RRH2X40W_7L (1 PER SECTOR)
4. REMOVE (3) RAYCAP DC2 (1 PER SECTOR)
5. REMOVE (1) RAYCAP FC12
6. INSTALL (6) COMMSCOPE NNH4-65C-R6-V3 ANTENNAS (2 PER SECTOR), RE: 1/A5
7. INSTALL (3) AIRSCALE RRH 4T4R B5 160W AHCA (1 PER SECTOR), RE: 2/A5
8. INSTALL (3) AIRSCALE TRI RRH 4T4R B12/14/29 370W AHLBBA (1 PER SECTOR), RE: 3/A5
9. INSTALL (3) RAYCAP DC9-48-60-24-PC16-EV SURGE SUPPRESSOR (1 PER SECTOR), RE: 1/A6
10. INSTALL (4) #8 DC POWER TRUNKS AND (2) 24 PAIR FIBER TRUNK EACH SECTOR

GROUND SCOPE:

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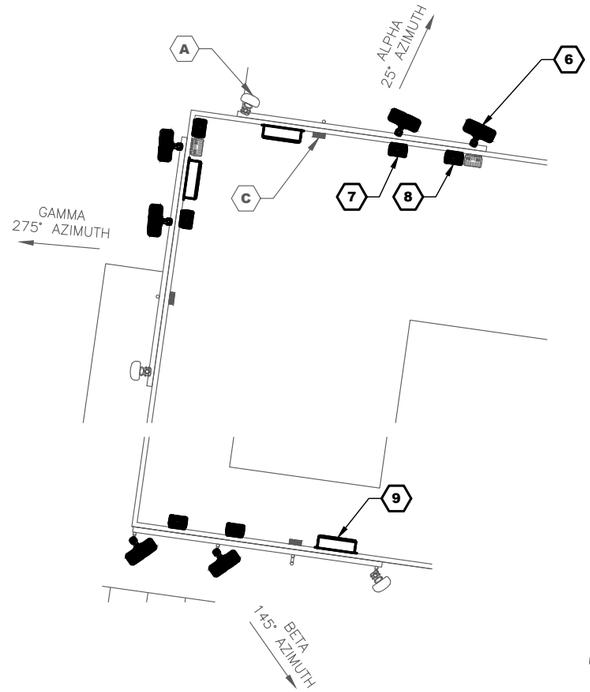
16. INSTALL (1) RAYCAP DC12-48-60-0-25E, RE: 2/A7



2 PROPOSED ANTENNA PLAN

SCALE: 4' 3' 2' 1' 0 4' — 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

TRUE NORTH
RE: GN20/GN1

ANTENNA EQUIPMENT & CABLE SCHEDULE
(**BOLD**) DENOTES PROPOSED OR RECONFIGURED EQUIPMENT)
(E) = EXISTING **(R) = RELOCATED (P) = PROPOSED**

ANTENNA MARK	SECTOR	RAD CENTER	AZIMUTH	ANTENNAS	TMAS	SURGE PROTECTION	RRUS	COAX/CABLE	TECHNOLOGY	CABLE LENGTH
A1	ALPHA	32'-0"	25°	(E) POWERWAVE P65-15-XLH-RR	(E) (1) POWERWAVE TT19-08BP111-001	**(P) (1) RAYCAP DC9-48-60-24-PC16-EV**	--	(E) (12) 7/8" COAX (E) (2) #8AWG POWER (E) (1) FIBER TRUNK **(P) (2) 24-PAIR FIBER TRUNK** **(P) (4) #8AWG DC POWER TRUNKS**	UMTS 850/1900	±60'-0"
A2	ALPHA	--	--	--	--	--	--		--	
A3	**ALPHA**	**28'-0"**	**25°**	**(P) COMMSCOPE NNH4-65C-R6-V3**	--	--	**(P) (1) AIRSCALE RRH 4T4R B5 160W AHCA**		**LTE 850/5G 850**	
A4	**ALPHA**	**28'-0"**	**25°**	**(P) COMMSCOPE NNH4-65C-R6-V3**	--	--	**(P) (1) AIRSCALE TRI RRH 4T4R B12/14/29 370 AHLBBA** (E) (1) ALCATEL-LUCENT RRH4X30-4R		**LTE 700** LTE 1900	
B1	BETA	32'-0"	145°	(E) POWERWAVE P65-15-XLH-RR	(E) (1) POWERWAVE TT19-08BP111-001	**(P) (1) RAYCAP DC9-48-60-24-PC16-EV**	--		UMTS 850/1900	
B2	BETA	--	--	--	--	--	--		--	
B3	**BETA**	**28'-0"**	**145°**	**(P) COMMSCOPE NNH4-65C-R6-V3**	--	--	**(P) (1) AIRSCALE RRH 4T4R B5 160W AHCA**		**LTE 850/5G 850**	
B4	**BETA**	**28'-0"**	**145°**	**(P) COMMSCOPE NNH4-65C-R6-V3**	--	--	**(P) (1) AIRSCALE TRI RRH 4T4R B12/14/29 370 AHLBBA** (E) (1) ALCATEL-LUCENT RRH4X30-4R		**LTE 700** LTE 1900	
G1	GAMMA	32'-0"	275°	(E) POWERWAVE P65-15-XLH-RR	(E) (1) POWERWAVE TT19-08BP111-001	**(P) (1) RAYCAP DC9-48-60-24-PC16-EV**	--		UMTS 850/1900	
G2	GAMMA	--	--	--	--	--	--		--	
G3	**GAMMA**	**28'-0"**	**275°**	**(P) COMMSCOPE NNH4-65C-R6-V3**	--	--	**(P) (1) AIRSCALE RRH 4T4R B5 160W AHCA**		**LTE 850/5G 850**	
G4	**GAMMA**	**28'-0"**	**275°**	**(P) COMMSCOPE NNH4-65C-R6-V3**	--	--	**(P) (1) AIRSCALE TRI RRH 4T4R B12/14/29 370 AHLBBA** (E) (1) ALCATEL-LUCENT RRH4X30-4R		**LTE 700** LTE 1900	

3 FINAL EQUIPMENT SCHEDULE

SCALE: N.T.S.

RE: GN20/GN1

at&t

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CLS PROJECT ID: CLS PROJECT ID

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RYAN T. GUERRERO
48360
08/21/2020
PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
FA # / SITE ID:
10099189 / COL02090
10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
ANTENNA PLANS & SCHEDULE

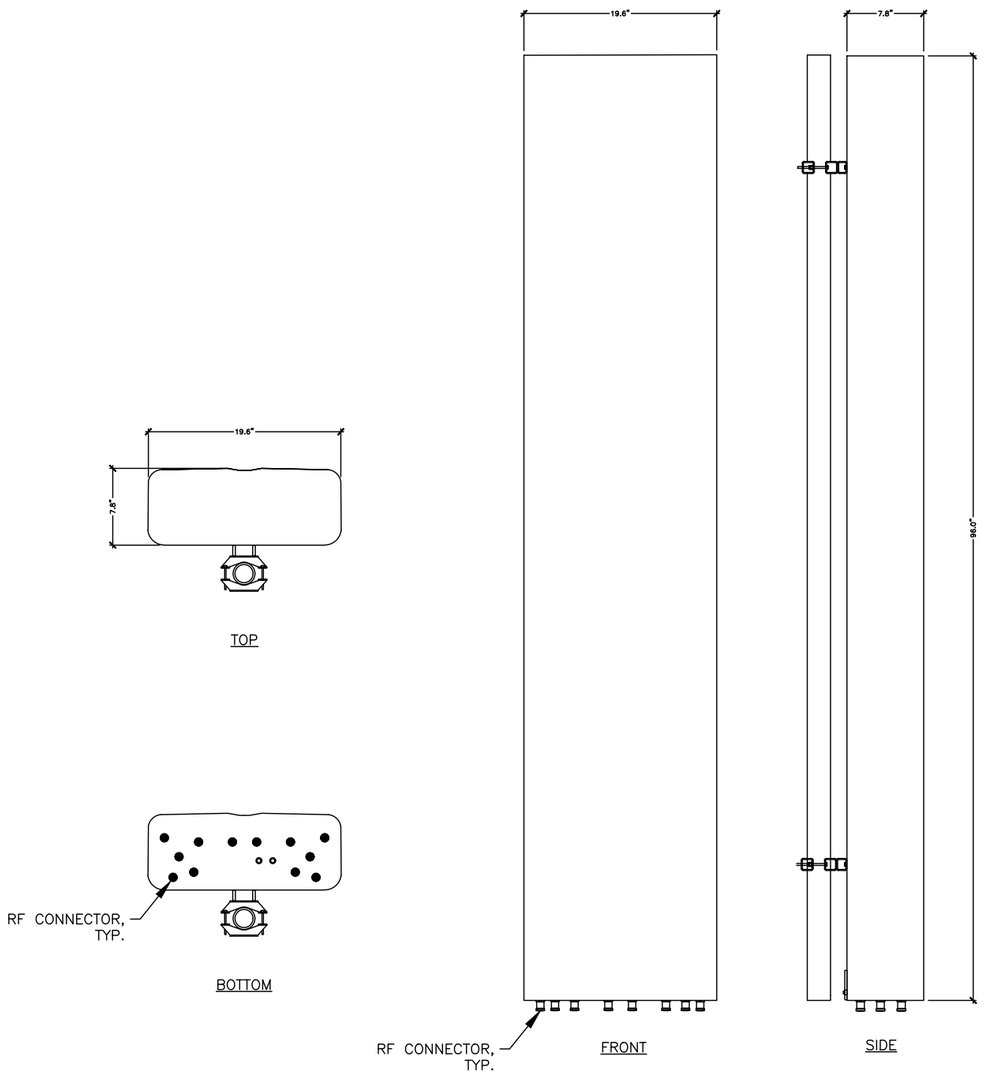
SHEET NUMBER
A4

T:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID

NOTE:
ANTENNA INFORMATION
PULLED FROM PRELIMINARY
PRODUCT DATA SHEET

COMMSCOPE NNH4-65C-R6

MANUFACTURER:	COMMSCOPE
MODEL:	NNH4-65C-R6
DIMENSIONS: (HxWxD)	96.0" X 19.6" X 7.8"
WEIGHT:	102.1 LBS
FREQUENCY:	REFER TO RF DATA SHEET



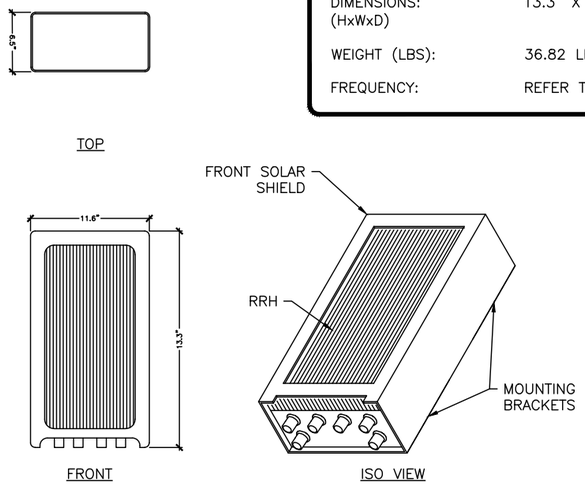
1 ANTENNA SPECIFICATIONS
SCALE: N.T.S.

RE: GN20/GN1

NOTE:
RRUS CAN ONLY BE PAINTED
ON SOLAR SHIELD.

AIRSCALE RRH 4T4R B5 160W

MANUFACTURER:	NOKIA
MODEL:	AIRSCALE RRH 4T4R B5 160W AHCA
DIMENSIONS: (HxWxD)	13.3" X 11.6" X 6.5"
WEIGHT (LBS):	36.82 LBS
FREQUENCY:	REFER TO RF DATA SHEET



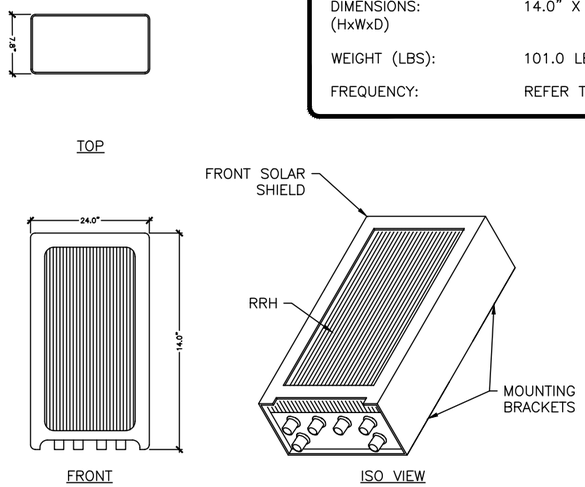
2 RADIO SPECIFICATIONS
SCALE: N.T.S.

RE: GN20/GN1

NOTE:
RRUS CAN ONLY BE PAINTED
ON SOLAR SHIELD.

AIRSCALE TRI RRH

MANUFACTURER:	NOKIA
MODEL:	AIRSCALE TRI RRH 4T4R B12/B14/29 370W AHLBBA
DIMENSIONS: (HxWxD)	14.0" X 24.0" X 7.8"
WEIGHT (LBS):	101.0 LBS
FREQUENCY:	REFER TO RF DATA SHEET



3 RADIO SPECIFICATIONS
SCALE: N.T.S.

RE: GN20/GN1

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RYAN T. GUERRERO
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SHEET TITLE
EQUIPMENT SPECIFICATIONS

SHEET NUMBER
A5

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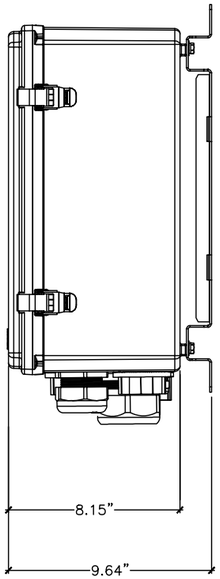
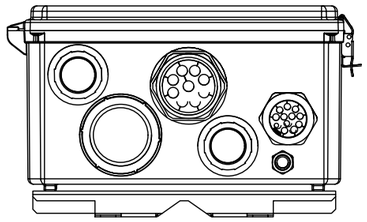
DC9-48-60-24-PC16-EV CABINET

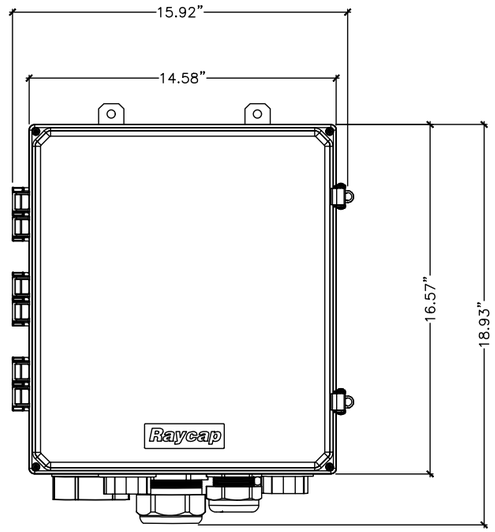
MANUFACTURER: PURCELL

MODEL: DC9-48-60-24-PC16-EV

DIMENSIONS: 16.57" X 14.58" X 8.15"
H X W X D (IN)







1 SURGE PROTECTION SPECIFICATIONS

SCALE: N.T.S.

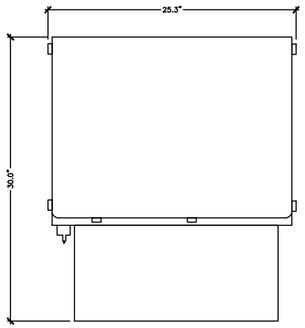
RE: GN20/GN1

PURCELL FLX21-2520 CABINET

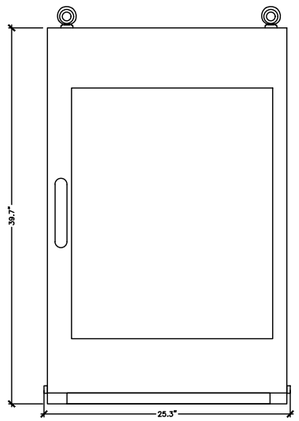
MANUFACTURER: PURCELL

MODEL: FLX21-2520
DIMENSIONS: 39.7" X 25.3" X 30"
H X W X D (IN)

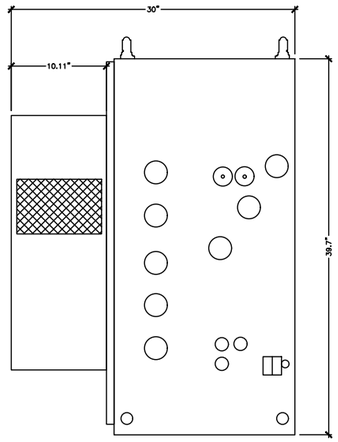
WEIGHT (LBS): 140.0 LBS



TOP VIEW



FRONT VIEW



SIDE VIEW

2 EQUIPMENT ENCLOSURE SPECIFICATIONS

SCALE: N.T.S.

RE: GN20/GN1

at&t

smartlink
400 SOUTH COLORADO BOULEVARD, SUITE 820
DENVER, CO 80246
OFFICE: (888)-828-5465

telamon CLS
319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625
CLS PROJECT ID: CLS PROJECT ID

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/20	PRELIMINARY ISSUE	JT
B	08/10/20	CLIENT COMMENTS	JT
0	08/21/20	FOR CONSTRUCTION	CM

NOT FOR CONSTRUCTION UNLESS
LABELED AS CONSTRUCTION SET

COLORADO LICENSED
RYAN T. GUERRERO
48360
08/21/2020
PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
FA # / SITE ID:
10099189 / COL02090

10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
EQUIPMENT SPECIFICATIONS

SHEET NUMBER
A6

T:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID

eSure™ Power Extend Converter

Description

The eSure™ C48/58-1000 Power Extend Converter is a 1000W, -58 VDC output converter with bullet terminals designed to increase power output to remote radio heads (RRHs) and function as an overcurrent protection device for the RRH circuit.

The compact design of the device fits in the palm of your hand and plugs directly into a DC distribution panel in the same position as a bullet circuit breaker. If needed, up to three units can operate in parallel to meet higher power demand.

The eSure C48/58-1000 is equipped with an enable/disable switch, a bi-color LED indicator and an alarm contact. Test points are provided to monitor the output voltage and an integrated branch circuit rated protection device is included.

The eSure Power Extend Converter maintains RRH operation through end of battery discharge. It is ideal for upgrading legacy DC power plants to support the increasing power requirements of 5G applications.

- Instantly boost power to remote radio heads (RRHs) by plugging this device directly into the existing distribution panel
- Leverage room for revenue generating equipment since additional rack space is not used
- Avoid adding a separate bulk or multi-output converter shelf
- Achieve conversion efficiency greater than 98%
- Use the existing RRH cable
- Ideal for upgrading legacy DC power plants

Ordering Process

Follow the steps below for each DC power system required.

1. Order (1) mounting kit, based on the power system and panel type, for each distribution panel that will be equipped with one or more Power Extend Converters. Choose from the available mounting kits in Ordering Information.
2. Order quantity as required of the Power Extend Converter, NEQ44717 (Vertiv part number 565050).
3. For each set of two (2) or three (3) Power Extend Converters that will be operated in parallel, order one (1) 2-pole or 3-pole lug adapter plate from Ordering Information.

Technical Specifications

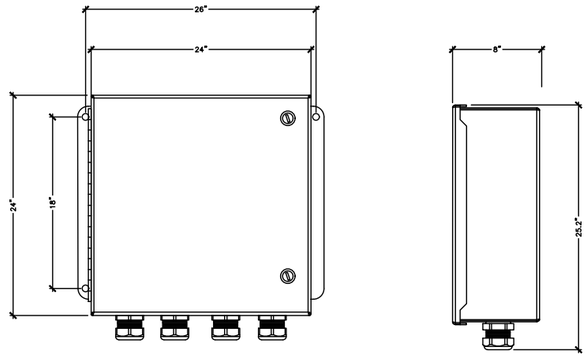
DC Input	
Voltage Range Nominal	-42 VDC to -58 VDC
Maximum Current	24.35 A
DC Output	
Voltage	-58 VDC
Maximum Power	1000 W
Maximum Current	17.2 A @ -58 VDC
Peak Efficiency	98.6%
Control and Monitoring	
Visual Indicator (on front)	A single bi-color LED indicates the operating status of the unit: • Green = Proper operation • Red = Alarm
Alarm Contact (on back)	Compatible with Vertiv bullet distribution panel
Test Points (on front)	Enables output voltage measurement of the unit
Environmental	
Operating	-40°C to +65°C / -40°F to +149°F
Storage	-40°C to +70°C / -40°F to +158°F
Relative Humidity	0 to 93% non-condensing
Altitude	-200 to 10,000 feet
Standards Compliance	
Safety	UL 62368 Recognized
EMC	FCC Part 15, Subpart B, Class B (radiated and conducted)
Mechanics	
Dimensions (H x W x D)	107.2 x 18.5 x 109.7 mm / 4.22 x 0.73 x 4.32 inches
Weight	0.45 kg / 1.0 lbs

1 VERTIV POWER EXTEND CONVERTER
SCALE: N.T.S.
RE: GN20/GN1

RAYCAP DC12-48-60-0-25E

MANUFACTURER:	RAYCAP
MODEL:	DC12-48-60-0-25E
DIMENSIONS: (HxWxD)	24" X 24" X 8"
WEIGHT:	56.3 LBS
FREQUENCY:	REFER TO RF DATA SHEET

NOTE:
EQUIPMENT INFORMATION PULLED FROM PRELIMINARY PRODUCT DATA SHEET



FRONT SIDE

2 SURGE PROTECTION SPECIFICATIONS
SCALE: N.T.S.
RE: GN20/GN1

at&t

smartlink
400 SOUTH COLORADO BOULEVARD, SUITE 820
DENVER, CO 80246
OFFICE: (888)-828-5465

telamon CLS
319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625
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PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
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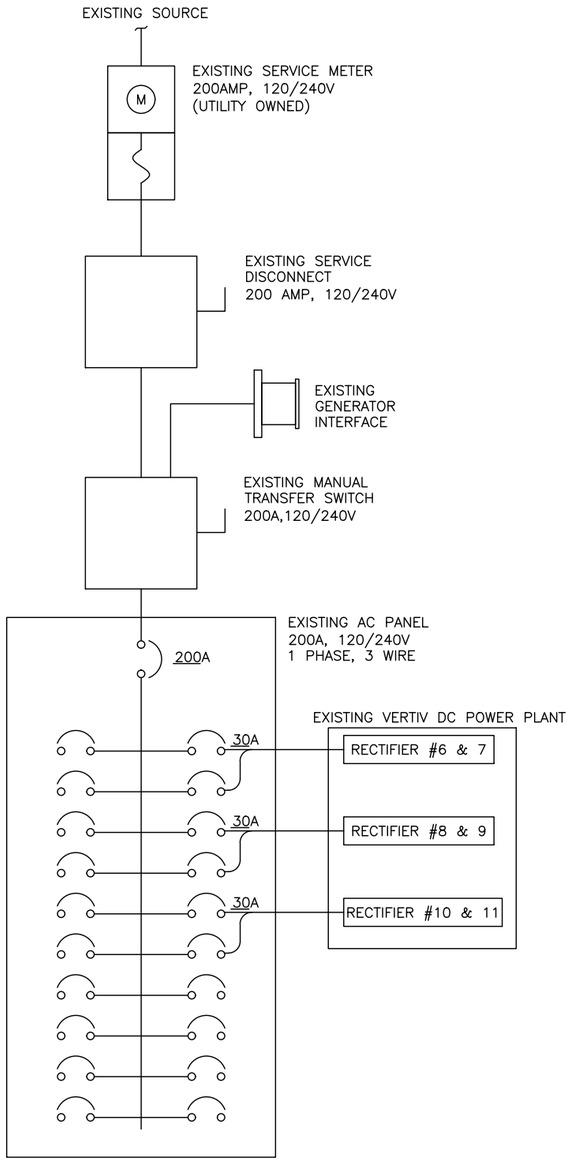
10099189 / COL02090
10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
EQUIPMENT SPECIFICATIONS

SHEET NUMBER
A7

T:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID



1 ONE-LINE DIAGRAM

SCALE: N.T.S.

RE: GN20/GN1

PANEL SCHEDULE - PPC (AC PANEL)

120/240V, 1 Phase, 200A MCB, 3W, NEMA 3R

NOTES	CIR #	DESCRIPTION	BREAKER AMPS	POLES	BREAKER STATUS	SERVICE LOAD (VA)	USAGE FACTOR	PHASE A VA	PHASE B VA	USAGE FACTOR	SERVICE LOAD (VA)	BREAKER STATUS	POLES	BREAKER AMPS	DESCRIPTION	CIR #	NOTES
	1	BLANK					1.0	1.0		1.0	1	ON	2	60	SURGE	2	
	3						1.0		1.0	1.0	1					4	
	5	RECTIFIER #1 & #2	30	2	ON	2100	1.0	2460.0		1.0	360	ON	1	20	TELE PLUG	6	
	7					2100	1.0		2460.0	1.0	360	ON	1	20	RECEPTACLES	8	
	9	**RECTIFIER #6 & #7**	**30**	**2**	**ON**	**2100**	1.0	2600.0		1.0	500	ON	1	20	LIGHTS	10	
	11					**2100**	1.0		2100.0	1.0					BLANK	12	
	13	**RECTIFIER #8 & #9**	**30**	**2**	**ON**	**2100**	1.0	2100.0		1.0					BLANK	14	
	15					**2100**	1.0		2100.0	1.0					BLANK	16	
	17	**RECTIFIER #10 & #11**	**30**	**2**	**ON**	**2100**	1.0	2100.0		1.0					BLANK	18	
	19					**2100**	1.0		2100.0	1.0					BLANK	20	
	21	BLANK					1.0	0.0		1.0					BLANK	22	
	23	BLANK					1.0		0.0	1.0					BLANK	24	
	25	BLANK					1.0	0.0		1.0					BLANK	26	
	27	BLANK					1.0		180.0	1.0	180	ON	1	20	UMTS GFCI	28	
	29	BLANK					1.0	600.0		1.0	600	ON	2	20	UMTS HEATER	30	
	31	BLANK					1.0		600.0	1.0	600					32	
	33	BLANK					1.0	2100.0		1.0	2100	ON	2	30	RECTIFIER #3 & #4	34	
	35	BLANK					1.0		2100.0	1.0	2100					36	
	37	BLANK					1.0	1050.0		1.0	1050	ON	2	30	RECTIFIER #5	38	
	39	BLANK					1.0		1050.0	1.0	1050					40	
								A	B	TOTAL							
								13011.0	12691.0	**25702.0**	**Total Panel Load (VA)**						
										25.7	**Total Panel Load (KVA)**						
										108	**Panel Amps**						

NOTES:

3 PANEL SCHEDULE

SCALE: N.T.S.

RE: GN20/GN1

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S 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.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES.
3. CONTRACTOR TO PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
4. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
5. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
6. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
7. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
8. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
9. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
10. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
11. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
12. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
14. CONTRACTOR MAY INSTALL #6 AWG ON NEW HVAC CIRCUITS 1 & 2 IF ALL TERMINATIONS ARE LISTED AT 75 DEGREES C.

2 NOTES

SCALE: N.T.S.

RE: GN20/GN1

at&t

smartlink
400 SOUTH COLORADO BOULEVARD, SUITE 820
DENVER, CO 80246
OFFICE: (888)-828-5465

telamon CLS
319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625
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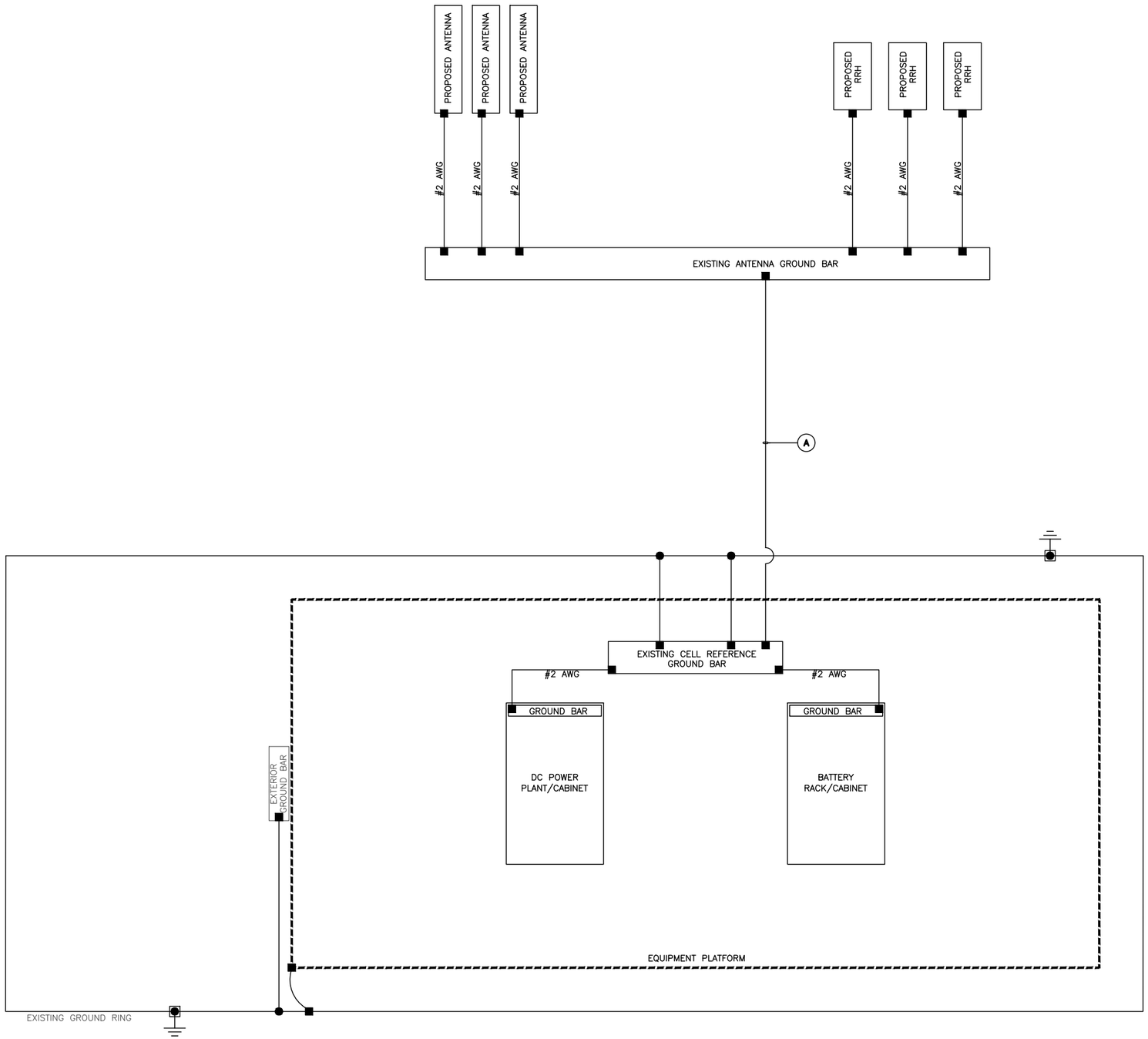
10099189 / COL02090

10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
ONE-LINE DIAGRAM

SHEET NUMBER
E1

T:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID



EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND AT&T GROUNDING AND BONDING REQUIREMENTS (ATT-TP-76416) AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

NOTES

(A) ROOF GROUND RING: WHEN AN ANTENNA TOWER IS MOUNTED ON THE ROOF OF A STRUCTURE, A ROOF RING GROUND SYSTEM IS REQUIRED. THE ROOF RING GROUND SYSTEM SHALL BE FORMED AROUND THE TOWER'S LEGS SIMILAR TO A BURIED TOWER RING GROUND SYSTEM. BONDS SHALL BE EXTENDED TO TOWER LEGS AND OTHER NEARBY METALLIC OBJECTS ON THE ROOF. (ATT-TP-76416 / 7.5.3.1)

(B) DOWN CONDUCTORS: ON BUILDINGS NOT EXCEEDING 75 FEET IN HEIGHT THAT ARE REINFORCED CONCRETE OR OTHER TYPE OF CONSTRUCTION, WHERE CONTINUITY TO EARTH THROUGH BUILDING STEEL IS NOT ASSURED, A MINIMUM OF (2) #2 AWG DOWN CONDUCTORS SHALL BE EXTENDED FROM THE ROOF RING GROUND SYSTEM TO THE EXTERIOR RING GROUND SYSTEM. A DOWN CONDUCTOR SHALL BE ROUTED DOWN EACH CORNER AND CONNECT TO SEVERAL GROUND RODS. IF ALL CORNERS ARE NOT ACCESSIBLE, AT LEAST 2 DOWNLEADS SHALL BE RUN. WHEN STRUCTURAL STEEL SERVES AS DOWN CONDUCTORS BETWEEN A ROOF RING GROUND SYSTEM AND AN EXTERIOR RING GROUND SYSTEM, BONDS BETWEEN BUILDING STEEL AND THE EXTERIOR RING GROUND SYSTEM SHALL BE MADE AT THE STEEL COLUMN USED AS THE DOWNLEAD, WHERE ACCESSIBLE. (ATT-TP-76416 / 7.5.3)

(C) GROUND RING BOND: WHEN STRUCTURAL STEEL IS USED IN PLACE OF DOWN CONDUCTORS, A BOND MUST EXIST BETWEEN THE OPGP AND A STRUCTURAL STEEL MEMBER. THE BOND MAY BE IN THE FORM OF THE OPGP BUS BAR'S MOUNTING STUD, A MINIMUM #2 AWG CONDUCTOR BETWEEN THE OPGP AND STRUCTURAL STEEL, OR A CONNECTION BETWEEN A DRIVEN GROUND ROD SYSTEM THAT IS BONDED TO THE OPGP AND A STRUCTURAL STEEL MEMBER. (ATT-TP-76416 / 7.5.3.4)

(D) STRUCTURAL STEEL BONDS: PERIPHERAL STRUCTURAL STEEL COLUMNS THAT ARE BARE OR ENCASED IN CONCRETE OR MASONRY SHALL BE BONDED TO THE EXTERIOR RING GROUND CONDUCTOR. STRUCTURAL STEEL BEAMS AND TRUSSES SUPPORTING THE ROOF OF A BUILDING ARE GENERALLY SUFFICIENTLY BONDED TO EARTH THROUGH HANGER RODS AND OTHER HARDWARE THAT SUPPORT SUPERSTRUCTURE, CONDUITS, PIPES, DUCTS AND OTHER METALLIC UNITS ABOVE THE RADIO EQUIPMENT AREA. INDIVIDUAL BEAMS NOT OBVIOUSLY GROUNDED IN THIS MANNER OR BY CONTACT WITH GROUNDED STEEL FRAME OR COLUMNS OF THE BUILDING SHALL BE BONDED TO THE PERIPHERAL CONDUCTOR AT BOTH ENDS. (ATT-TP-76416 / 7.14.1.6)

(E) ROOFTOP EQUIPMENT GROUNDS: A TREE GROUNDING SYSTEM IS RECOMMENDED TO BOND OBJECTS ON THE EXTERIOR OF A BUILDING. THIS SYSTEM CONSISTS OF MAIN AND BRANCH CONDUCTORS. A MAIN CONDUCTOR IS CONNECTED TO AN EXTERIOR GROUND CONDUCTOR, AND IS ROUTED TOWARD A GROUP OF UNITS REQUIRING BONDS, TERMINATING ON THE UNIT FARTHEST FROM THE EXTERIOR GROUND SYSTEM. BRANCH CONDUCTORS BOND INDIVIDUAL UNITS TO THE MAIN CONDUCTOR AND SUB-BRANCHES MAY BE EXTENDED FROM BRANCH CONDUCTORS. MAIN CONDUCTORS SHALL BE MINIMUM #2 AWG AND BRANCH CONDUCTORS SHALL BE MINIMUM #6 AWG. BRANCH CONDUCTORS SHOULD BE NO LONGER THAN 15 FEET. WHERE UNITS BONDED TO DIFFERENT MAIN CONDUCTORS ARE WITHIN 7 FEET OF EACH OTHER, THE BRANCH CONDUCTORS OF THE TWO MAIN SYSTEMS SHOULD BE BONDED TOGETHER SO THAT THE LENGTH OF A DIRECT BOND BETWEEN THE UNITS IS NOT GREATER THAN 30 FEET. (ATT-TP-76416 / 7.12.2)

(F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS. (ATT-TP-76416/ 7.6.7)

(G) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK. BOND THE FRAME GROUND TO THE "I" SECTION OF THE CELL REFERENCE GROUND BAR OR SUPPLEMENTARY CONDUCTOR. (ATT-TP-76416 6.5.3 AND 7.8)

(H) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING. (ATT-TP-76416/ 7.4.2.6)

(J) OUTDOOR GROUNDING CONDUCTORS: GROUNDING CONDUCTORS INSTALLED OUTDOORS AND RUN ENTIRELY ABOVE GRADE SHALL BE TINNED STRANDED COPPER AND BE SUNLIGHT RESISTANT.

at&t

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COLORADO LICENSED
RYAN T. GUERRERO
48360
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PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD

FA # / SITE ID:
10099189 / COL02090

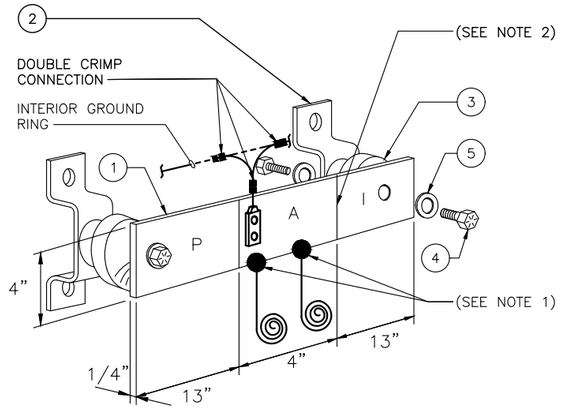
10301 ANGELES ROAD
PEYTON, CO 80831

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G1

T:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\00 - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID

NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C.			
NO	REQUIRED	PART NUMBER	DESCRIPTION
1	1	1/4"x4"x30"	SOLID GROUND BAR
2	2	A-6056	WALL MOUNTING BRACKET
3	2	3061-4	INSULATORS
4	4	3012-1	5/8"-11x1" H.H.C.S.
5	4	3015-8	5/8" LOCKWASHER



EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

SECTION "P" – SURGE PROTECTORS

(EC) CELL REFERENCE GROUND BAR (IF COLLOCATED)
(EC) GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
(EC) TELCO GROUND BAR (#2 AWG)
(EC) COMMERCIAL POWER COMMON NEUTRAL/GROUNDING BOND (3/0)
(EC) FIBER GROUND BAR (#2 AWG)
(EC) POWER ROOM REFERENCE GROUND BAR (#2 AWG)
(AT&T) RECTIFIER FRAMES

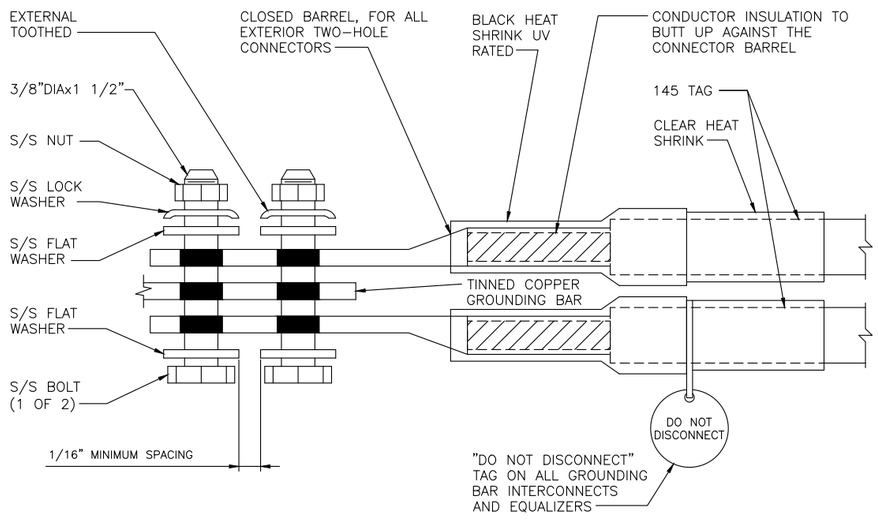
SECTION "I" – ISOLATED GROUNDING ZONE

(AT&T) ALL ISOLATED GROUNDING REFERENCE
(AT&T) GROUND WINDOW BAR

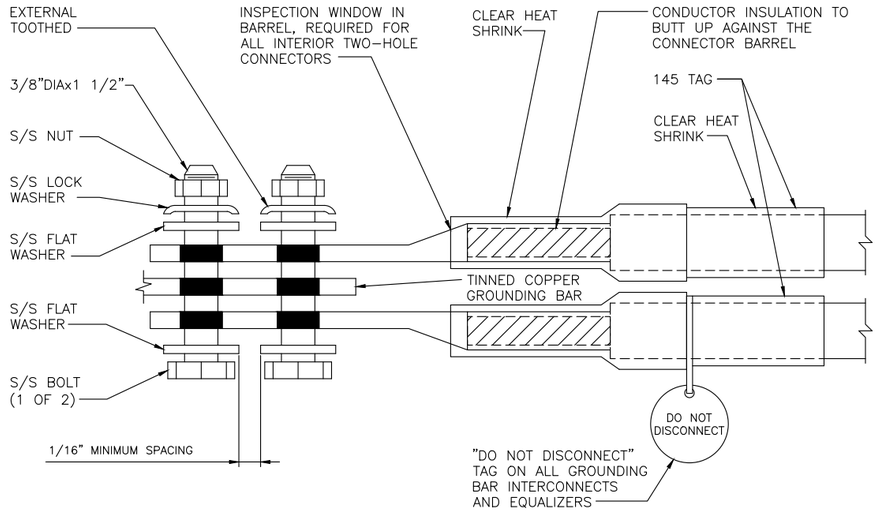
SECTION "A" – SURGE ABSORBERS

(EC) INTERIOR GROUND RING (#2 AWG)
(EC) EXTERNAL EARTH GROUNDING FIELD (BURIED GROUND RING) ((2) #2 AWG)
(EC) METALLIC COLD WATER PIPE (IF AVAILABLE) (1/0 AWG)
(EC) BUILDING STEEL (IF AVAILABLE) (1/0 AWG)

1 GROUND BAR DETAIL
SCALE: N.T.S. RE: GN20/GN1



2 EXTERIOR TWO HOLE LUG DETAIL
SCALE: N.T.S. RE: GN20/GN1



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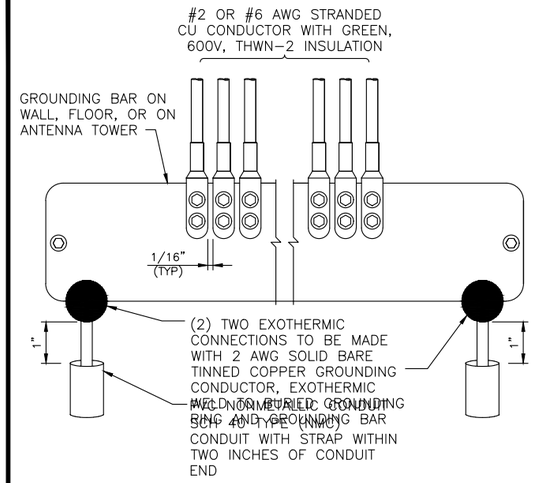


3 GROUND CONDUCTOR DETAIL
SCALE: N.T.S. RE: GN20/GN1

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR. ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL GROUND BARS SHALL BE STAMPED IN TO THE METAL "IF STOLEN DO NOT RECYCLE." THE CONTRACTOR SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "I") WITH 1" HIGH LETTERS.
3. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
5. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
6. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT-SHRINKING TUBE, 600 VOLT INSULATION, ON ALL GROUNDING TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION.
7. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED, PROVIDING 50% SPARE CONNECTION POINTS.
9. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).

5 GROUNDING NOTES
SCALE: N.T.S. RE: GN20/GN1

at&t

smartlink
400 SOUTH COLORADO BOULEVARD, SUITE 820
DENVER, CO 80246
OFFICE: (888)-828-5465

telamon CLS
319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625
CLS PROJECT ID: CLS PROJECT ID

REVISIONS

REV.	DATE	DESCRIPTION	INITIALS
A	07/24/20	PRELIMINARY ISSUE	JT
B	08/10/20	CLIENT COMMENTS	JT
0	08/21/20	FOR CONSTRUCTION	CM

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET

COLORADO LICENSED RYAN T. GUERRERO 48360 08/21/2020 PROFESSIONAL ENGINEER

PE# PE.0048360 EXP: 10/31/2021

MERIDIAN & REX RD
FA # / SITE ID:
10099189 / COL02090
10301 ANGELES ROAD
PEYTON, CO 80831

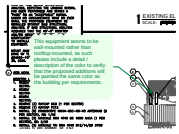
SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G2

T:\SMARTLINK\64925 - SMARTLINK AT&T RMR\10099189 - COL02090 - MERIDIAN AND REX\DO - A&E\64925 - 10099189 - COL02090 - MERIDIAN & REX RD - CDS.DWG - CLS PROJECT ID: CLS PROJECT ID

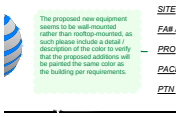
Site Development Plan_V1.pdf Markup Summary

Callout (2)



Subject: Callout
Page Label: [5] 64925 - 10099189 - COL02090 - Meridian & Rex Rd - CDs-A3
Author: Sophie Kiepe
Date: 11/3/2020 9:54:07 AM
Status:
Layer:
Space:

This equipment seems to be wall-mounted rather than rooftop-mounted, as such please include a detail / description of the color to verify that the proposed additions will be painted the same color as the building per requirements.



Subject: Callout
Page Label: [1] 64925 - 10099189 - COL02090 - Meridian & Rex Rd - CDs-T1
Author: Sophie Kiepe
Date: 11/3/2020 9:54:33 AM
Status:
Layer:
Space:

The proposed new equipment seems to be wall-mounted rather than rooftop-mounted, as such please include a detail / description of the color to verify that the proposed additions will be painted the same color as the building per requirements.