



PROJECT: DO MACRO UPGRADE
SCOPE: 800 & 2.5 SITE ADDITION
SITE NAME: MT. PITTSBURGE
SITE NUMBER: DE06AL036
SITE ADDRESS: 15743 PHANTOM CANYON VIEW
 COLORADO SPRINGS, CO, 81926
COUNTY: EL PASO COUNTY
SITE TYPE: EXISTING 55'-0" SELF SUPPORT TOWER
MARKET: COLORADO
LATITUDE: 38.612531
LONGITUDE: -104.935092



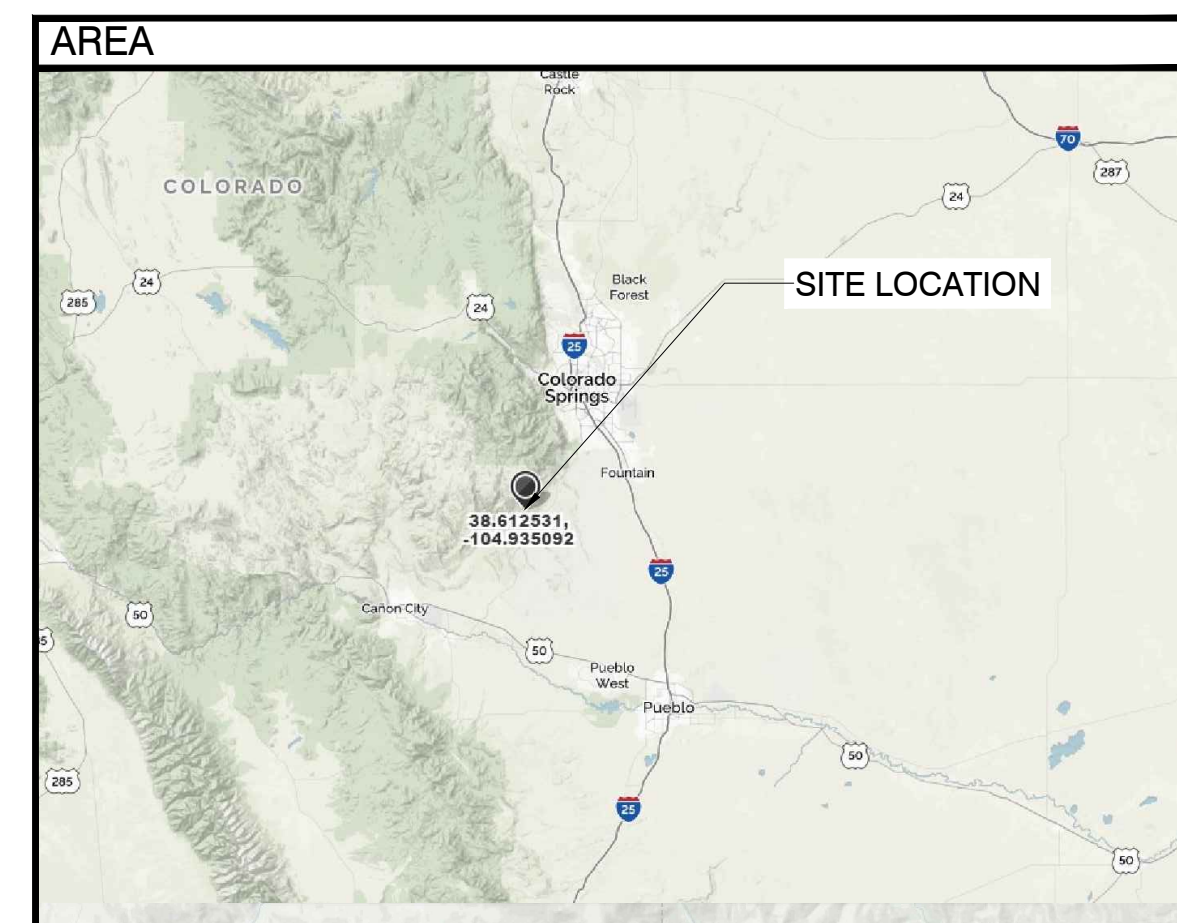
SITE NUMBER:	DE06AL036
DRAWN BY:	NAH
CHECKED BY:	KF

REV	DATE	DESCRIPTION	BY
A	9/27/2017	ISSUED FOR REVIEW	NAH
B	12/12/2017	ISSUED FOR REVIEW	JMS
C	12/20/2017	ISSUED FOR REVIEW	JMS
D	12/28/2017	ISSUED FOR REVIEW	JMS
E	01/02/2018	ISSUED FOR REVIEW	JMS
0	04/24/18	ISSUED FOR FINALS	CGS

CODE	
JURISDICTION:	EL PASO COUNTY
GOVERNING CODES:	2011 IBC, 2011 IFC, 2011 IMC, 2011 IECC, 2017 NEC
ALL BUILDING CODES LISTED ABOVE SHALL INCLUDE AMENDMENTS BY THE GOVERNING JURISDICTION	

PROJECT DESCRIPTION	
SCOPE OF WORK :	SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY:
<ul style="list-style-type: none"> REMOVE (4) EXISTING PANEL ANTENNAS INSTALL (3) NEW PANEL ANTENNAS INSTALL (6) NEW RRU'S RELOCATE (3) 1900 RRU'S TO TOWER INSTALL NEW 800 & 2.5 BBU KIT IN MMBS INSTALL NEW BATTERY STRING IN BBU INSTALL (40) NEW JUMPER CABLES 	

CLIENT
SPRINT 333 INVERNESS DRIVE SOUTH, ENGLEWOOD, CO 80112 PROJ. MGR: DANIELLE HUXTABLE PHONE: (720) 420-6915 CONST. MGR: TIM LEUCH PHONE: (305) 505-9415
PROPERTY/TOWER OWNER
ALAMOSA PROPERTIES, L.P. PO BOX 64840 LUBBOCK, TX 79464



GENERAL NOTES	
1.	THIS WIRELESS TELECOMMUNICATIONS FACILITY WILL MEET THE HEALTH AND SAFETY STANDARDS FOR ELECTROMAGNETIC FIELD EMISSIONS AS ESTABLISHED BY THE FEDERAL COMMUNICATIONS COMMISSION OR ANY SUCCESSOR THEREOF, AND ANY OTHER FEDERAL OR STATE AGENCY.
2.	THIS WIRELESS TELECOMMUNICATIONS FACILITY WILL MEET THE REGULATIONS OF THE FEDERAL COMMUNICATIONS COMMISSION REGARDING PHYSICAL AND ELECTROMAGNETIC INTERFERENCE.
3.	LIGHTING OR SIGNS WILL BE PROVIDED ONLY AS REQUIRED BY FEDERAL OR STATE AGENCIES.
4.	DEVELOPMENT AND CONSTRUCTION OF THIS PROJECT WILL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES.
5.	EXISTING PARKING IS NOT AFFECTED BY THIS PROJECT.
6.	THIS PROJECT DOES NOT INCLUDE WATER OR SEWER.

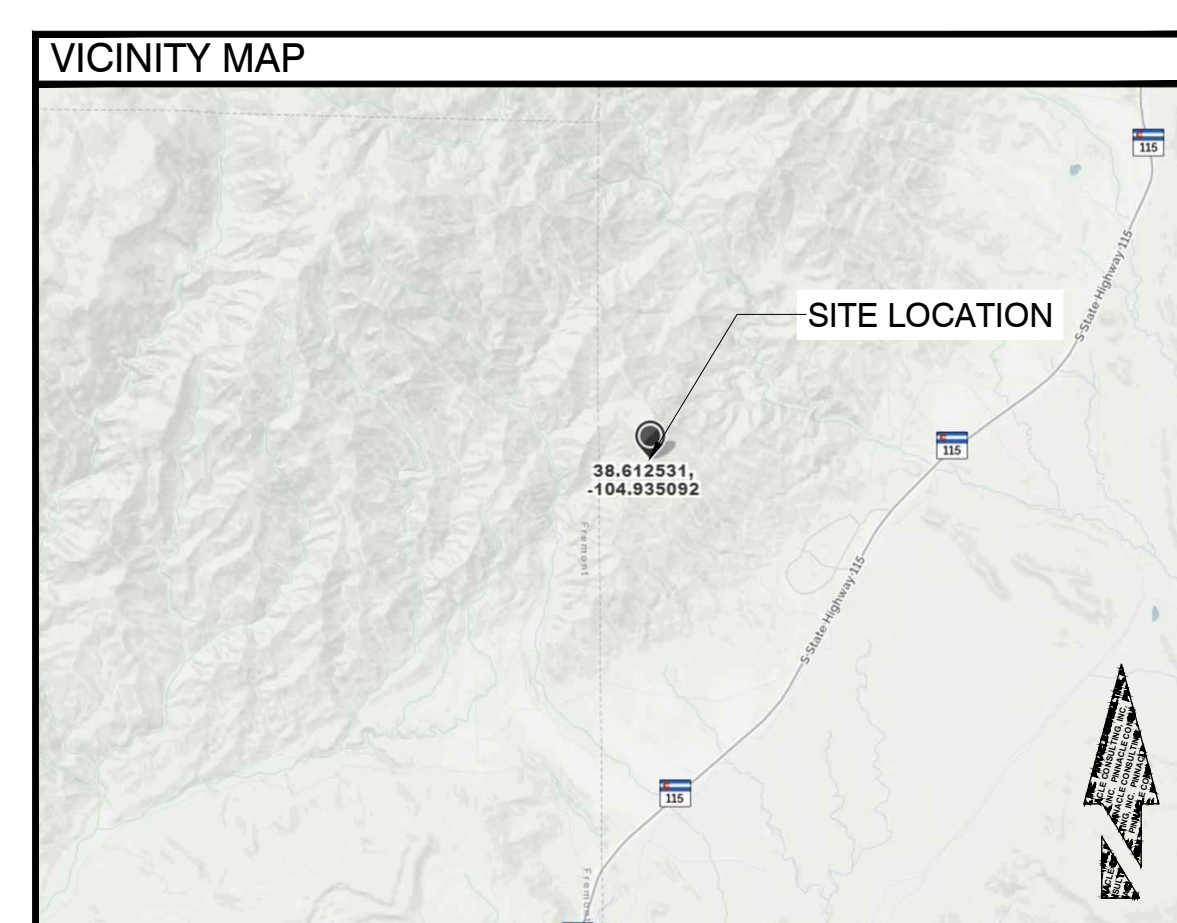
SITE DIRECTIONS	
DEPART SPRINT OFFICE LOCATED AT 333 INVERNESS DRIVE SOUTH. HEAD SOUTH ON I-25. FOLLOW I-25 S TO CO-115 S. CONTINUE ON CO-115 S TO PHANTOM CANYON VIEW. END AT SITE.	

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RF ENGINEER
NEERAJ BERI NEERAJ.BERI@SPRINT.COM

SITE ACQUISITION
PINNACLE CONSULTING, INC 3 INVERNESS DRIVE, EAST #200 ENGLEWOOD, CO 80112 CONTACT: BRENDAN THOMSON PHONE: (720) 460-2090

A&E CONSULTANT
PINNACLE CONSULTING, INC 3 INVERNESS DRIVE, EAST #200 ENGLEWOOD, CO 80112 CONTACT: KEVIN MILLER PHONE: (720) 296-6180



SIGNATURE BLOCK		
APPROVAL	SIGNATURE	DATE
SITE ACQ. MGR.		
CONSTRUCTION MGR.		
A&E MGR.		
PLANNING CONS.		
RF MGR.		
RF ENGINEER		
PROPERTY OWNER		

MT. PITTSBURGE
 15743 PHANTOM CANYON VIEW
 COLORADO SPRINGS, CO, 81926
 EL PASO COUNTY

SHEET TITLE
PROJECT INFORMATION

SHEET NUMBER
T-1

SECTION 09 900 - PAINTING
QUALITY ASSURANCE:

1. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCES INSTALLERS, DELIVER, HANDLE AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. COMPLY WITH ALL ENVIRONMENTAL REGULATIONS FOR VOLATILE ORGANIC COMPOUNDS.

MATERIALS:

1. MANUFACTURERS: BENJAMIN MOORE, ICI DEVOE COATINGS, PPG, SHERWIN WILLIAMS OR APPROVED EQUAL. PROVIDE PREMIUM GRADE, PROFESSIONAL-QUALITY PRODUCTS FOR COATING SYSTEMS.

PAINT SCHEDULE:

1. EXTERIOR ANTENNAE AND ANTENNA MOUNTING HARDWARE: ONE COAT OF PRIMER AND TWO FINISH COATS. PAINT FOR ANTENNAE SHALL BE NON-METALLIC BASED AND CONTAIN NO METALLIC PARTICLES. PROVIDE COLORS AND PATTERNS AS REQUIRED TO MASK APPEARANCE OF ANTENNAE ON ADJACENT BUILDING SURFACES AND AS ACCEPTABLE TO THE OWNER. REFER TO MANUFACTURER'S INSTRUCTIONS WHENEVER POSSIBLE.
2. ROOF TOP CONSTRUCTION: TOUCH UP - PREPARE SURFACES TO BE REPAIRED. FOLLOW INDUSTRY STANDARDS AND REQUIREMENTS OF OWNER TO MATCH EXISTING COATING AND FINISH.

PAINTING APPLICATION:

1. INSPECT SURFACES, REPORT UNSATISFACTORY CONDITIONS IN WRITING; BEGINNING WORK MEANS ACCEPTANCE OF SUBSTRATE.
2. COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR PREPARATION, PRIMING AND COATING WORK. COORDINATE WITH WORK OF OTHER SECTIONS.
3. MATCH APPROVED MOCK-UPS FOR COLOR, TEXTURE, AND PATTERN. RE-COAT OR REMOVE AND REPLACE WORK WHICH DOES NOT MATCH OR SHOWS LOSS OF ADHESION.
4. CLEAN UP, TOUCH UP AND PROTECT WORK.

TOUCHUP PAINTING:

1. GALVANIZING DAMAGE AND ALL BOLTS AND NUTS SHALL BE TOUCHED UP AFTER TOWER ERECTION WITH "GALVANOX", "DRY GALV", OR "ZINC-IT".
2. FIELD TOUCHUP PAINT SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. ALL METAL COMPONENTS SHALL BE HANDLED WITH CARE TO PREVENT DAMAGE TO THE COMPONENTS, THEIR PRESERVATIVE TREATMENT, OR THEIR PROTECTIVE COATINGS.

SECTION 26 100 - BASIC ELECTRICAL REQUIREMENTS

SUMMARY:

THIS SECTION SPECIFIES BASIC ELECTRICAL REQUIREMENTS FOR SYSTEMS AND COMPONENTS.

QUALITY ASSURANCE:

- A. ALL EQUIPMENT FURNISHED UNDER DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.
- B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.
- C. MATERIALS AND EQUIPMENT: ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS

SUPPORTING DEVICES:

- A. ALL EQUIPMENT FURNISHED UNDER DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.
- B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.
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SUPPORTING DEVICES:

- A. MANUFACTURED STRUCTURAL SUPPORT MATERIALS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:

1. ALLIED TUBE AND CONDUIT
2. B-LINE SYSTEM
3. UNISTRUT DIVERSIFIED PRODUCTS
4. THOMAS & BETTS

- B. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:

1. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE
2. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.
3. FASTEN BY MEANS OF WOOD SCREWS ON WOOD.
4. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.

5. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.

6. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL.

7. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.

8. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.

9. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS. SUPPORTING DEVICES:

- A. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.
- B. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.
- C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
- D. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.
- E. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:

- A. UPDATE AND PROVIDE TYPED CIRCUIT BREAKER SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF AC PANEL BOARDS WITH ANY CHANGES MADE TO THE AC SYSTEM.
- B. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANELBOARD.

SECTION 26 200 - ELECTRICAL MATERIALS AND EQUIPMENT

CONDUIT:

- A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS AND FOR ENCASED RUNS IN CONCRETE. RIGID CONDUIT AND FITTINGS SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS C80.1, FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. FITTINGS SHALL BE THREADED - SET SCREW OR COMPRESSION FITTINGS WILL NOT BE ACCEPTABLE. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND.
- B. UNDERGROUND CONDUIT IN CONCRETE SHALL BE POLYVINYLCHLORIDE (PVC) SUITABLE FOR DIRECT BURIAL AS APPLICABLE. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.
- C. TRANSITIONS BETWEEN PVC AND RIGID (RGS) SHALL BE MADE WITH PVC COATED METALLIC LONG SWEEP RADIUS ELBOWS.
- D. EMT OR RIGID GALVANIZED STEEL CONDUIT MAY BE USED IN FINISHED SPACES CONCEALED IN WALLS AND CEILINGS. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-563, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR APPROVED EQUAL. FITTINGS SHALL BE METALLIC COMPRESSION. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE.
- E. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO EQUIPMENT. FITTINGS SHALL BE METALLIC GLAND TYPE COMPRESSION FITTINGS, MAINTAINING THE INTEGRITY OF CONDUIT SYSTEM. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6- FEET. LFMC SHALL BE PROTECTED AND SUPPORTED AS REQUIRE BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE OR UNIVERSAL METAL HOSE, OR APPROVED EQUAL.
- F. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH (21MM).

HUBS AND BOXES:

- A. AT ENTRANCES TO CABINETS OR OTHER EQUIPMENT NOT HAVING INTEGRAL THREADED HUBS PROVIDE METALLIC THREADED HUBS OF THE SIZE AND CONFIGURATION REQUIRED. HUB SHALL INCLUDE LOCKNUT AND NEOPRENE O-RING SEAL. PROVIDE IMPACT RESISTANT 105 DEGREE C PLASTIC BUSHINGS TO PROTECT CABLE INSULATION.
- B. CABLE TERMINATION FITTINGS FOR CONDUIT
 1. CABLE TERMINATORS FOR RGS CONDUITS SHALL BE TYPE CRC BY O-Z/GEDNEY OR EQUAL BY ROX TEC.
 2. CABLE TERMINATORS FOR LFMC SHALL BE ETCO - CL2075; OR MADE FOR THE PURPOSE PRODUCTS BY ROXTEC.
- C. EXTERIOR PULL BOXES AND PULL BOXES IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE-HINDS WAB SERIES OR EQUAL.
- D. CONDUIT OUTLET BODIES SHALL BE PLATED CAST ALLOY WITH SIMILAR GASKETED COVERS. OUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE-HINDS FORM 8 OR EQUAL.

- E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COOPER, ADALET, APPLETON, O-Z GEDNEY, RACO, OR APPROVED EQUAL.

SUPPLEMENTAL GROUNDING SYSTEM

- A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM TO THE EXTENT INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS. PROVIDE STRANDED OR SOLID BARE OR INSULATED CONDUCTORS EXCEPTED AS OTHERWISE NOTED.
- B. SUPPLEMENTAL GROUNDING SYSTEM: ALL CONNECTIONS TO BE MADE WITH CAD WELDS, EXCEPT AT EQUIPMENT USE LUGS OR OTHER AVAILABLE GROUNDING MEANS AS REQUIRED BY MANUFACTURER; AT GROUND BARS USE TWO HOLE SPADES WITH NO OX.
- C. STOLEN GROUND-BARS: IN THE EVENT OF STOLEN GROUND BARS, CONTACT SPRINT CM FOR REPLACEMENT INSTRUCTION USING THREADED ROD KITS.

EXISTING STRUCTURE:

- A. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

CONDUIT AND CONDUCTOR INSTALLATION:

- A. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE. MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- B. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE.

ENGINEERS NOTES

1. IF A DISCREPANCY ARISES BETWEEN THE DRAWINGS AND FIELD CONDITIONS, OR WHERE A DETAIL IS DOUBTFUL OF INTERPRETATION, OR AN UNANTICIPATED FIELD CONDITION IS ENCOUNTERED, THE ENGINEER SHALL BE CALLED IMMEDIATELY FOR PROCEDURE TO BE FOLLOWED. SUCH INSTRUCTIONS SHALL BE CONFIRMED IN WRITING AND DISTRIBUTED TO ALL AFFECTED PARTIES.
2. THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SAFETY PRECAUTIONS, OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DRAWING AND/OR DOCUMENTS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER LAYOUT OF IMPROVEMENTS BASED UPON SETBACKS/ PROPERTY LINE LOCATION. DIMENSIONAL RELATIONSHIPS TO EQUIPMENT ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
4. CONTRACTOR TO MAINTAIN ALL DRAINAGE PATHS FREE FROM ANY OBSTRUCTIONS (I.E. DEBRIS AND SILT).
5. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM EQUIPMENT.
6. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR AND ENGINEER OF RECORD.
7. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 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

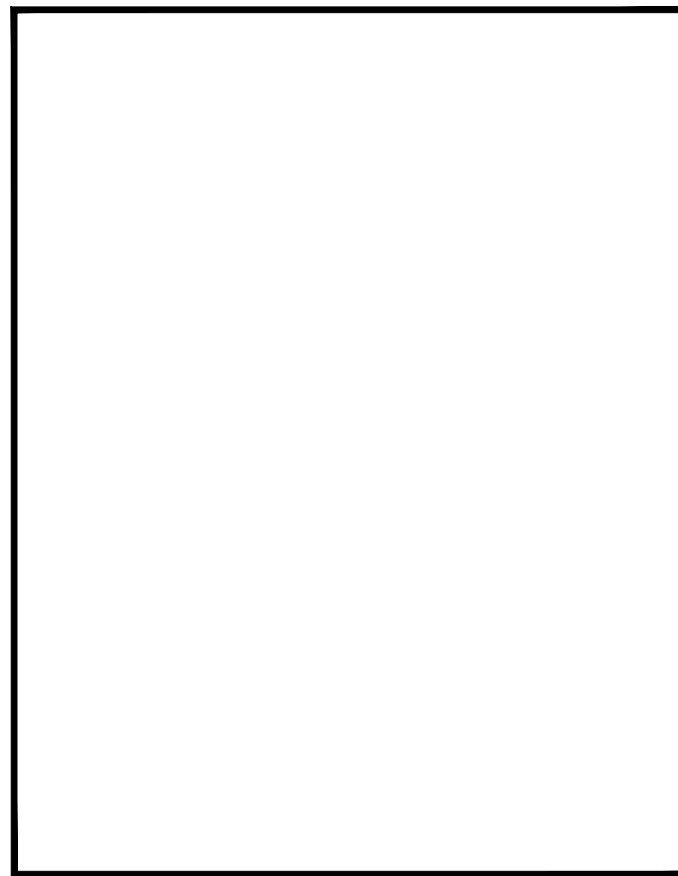
UTILITY NOTES

1. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT BLUESTAKE AT LEAST TWO FULL WORKING DAYS (48 HOURS) PRIOR TO BEGINNING OF ANY EXCAVATING.
2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL STRUCTURES, UNDERGROUND PIPELINES, ELECTRIC AND TELEPHONE CONDUITS, EITHER SHOWN OR NOT SHOWN ON THE PLANS PRIOR TO ANY CONSTRUCTION, AND TO OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO THESE FACILITIES. THE ENGINEERING AND/OR DEVELOPER WILL NOT GUARANTEE ANY ELEVATIONS OR LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS.
3. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL UTILITY CONNECTIONS.



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SPRINT SPECIFICATIONS

SHEET NUMBER
SP-2

PREPARED FOR:



CONSULTING FIRM



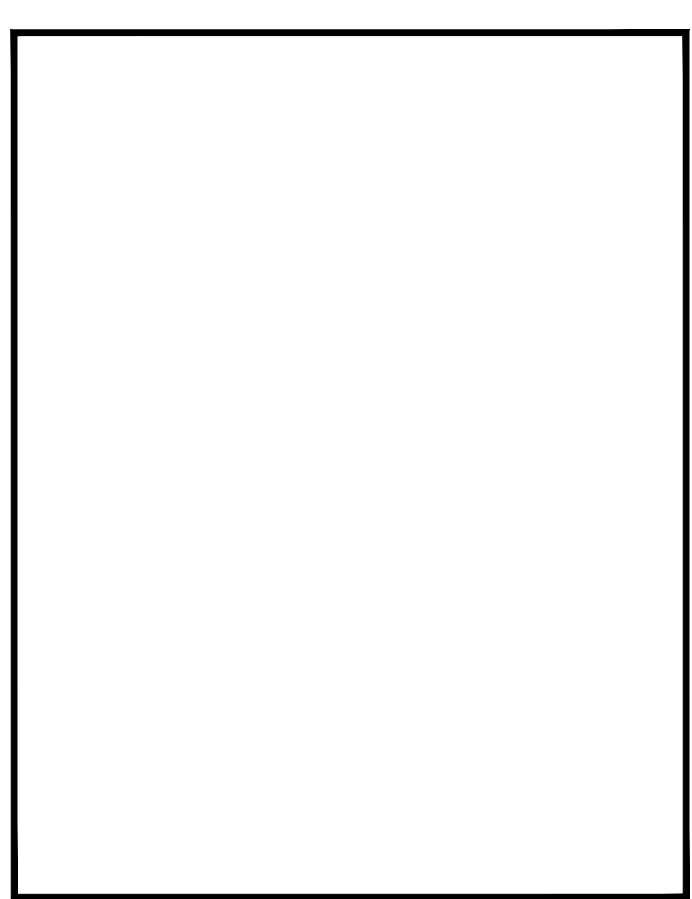
3 INVERNESS DRIVE E STE 200
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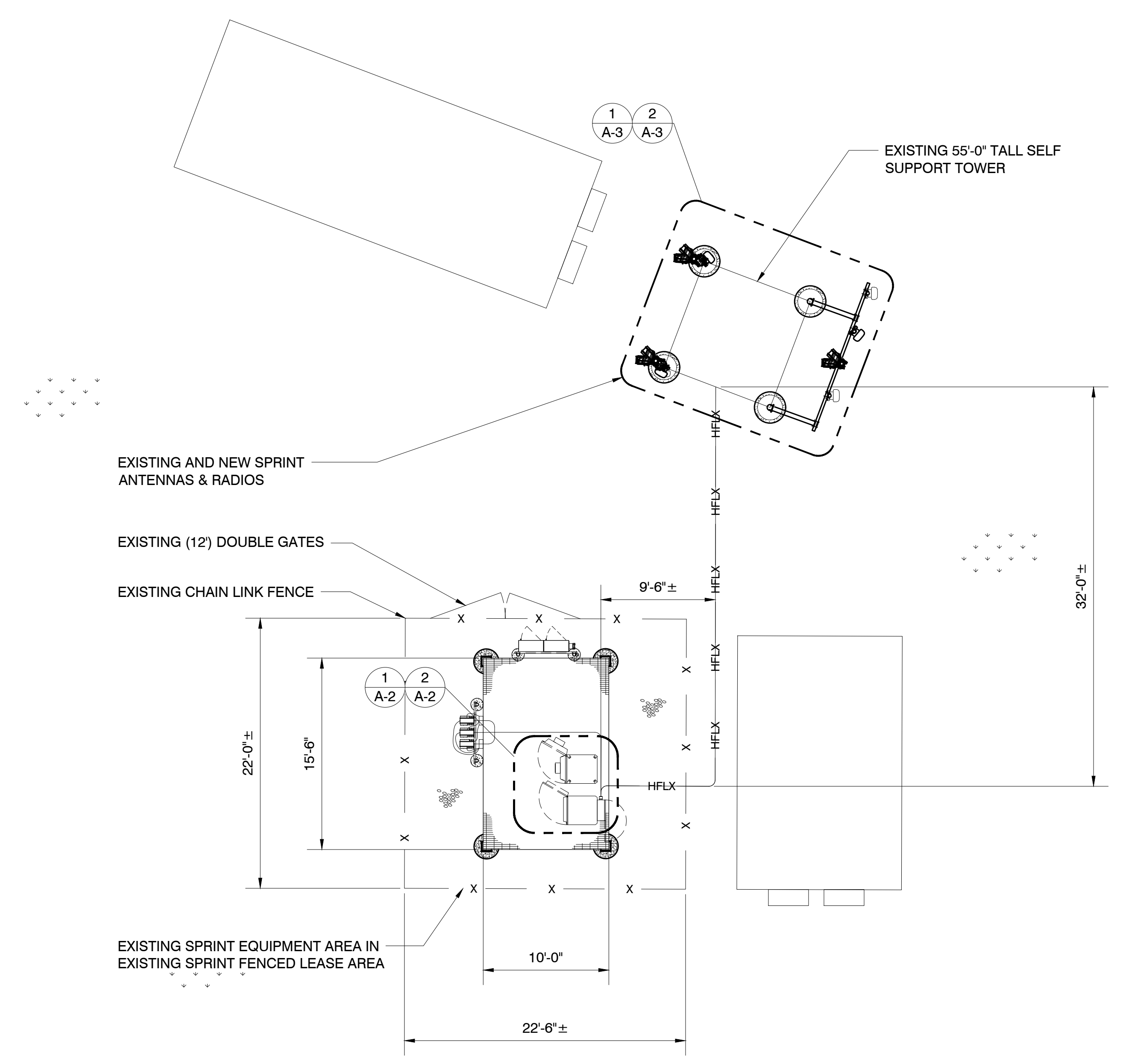
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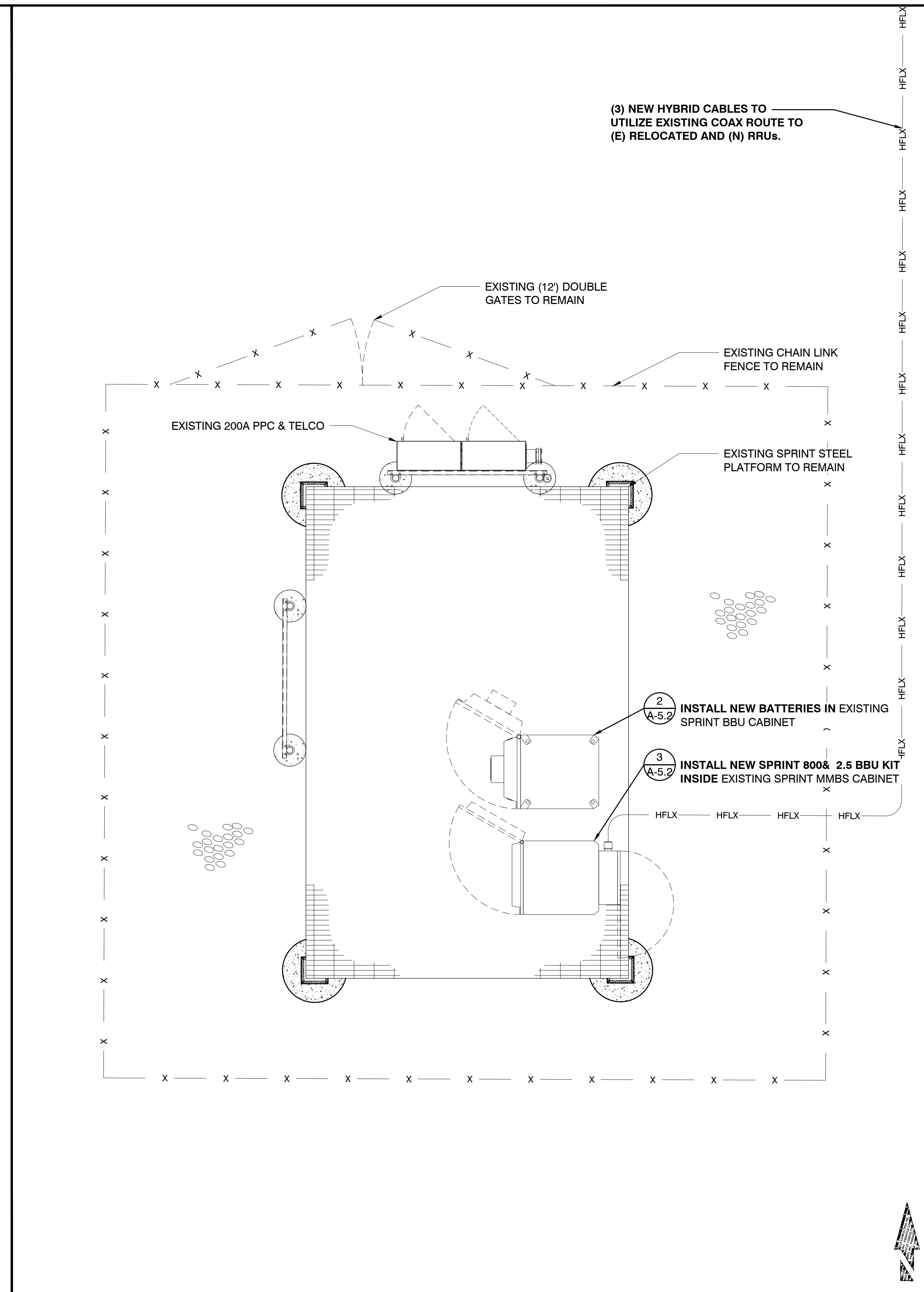
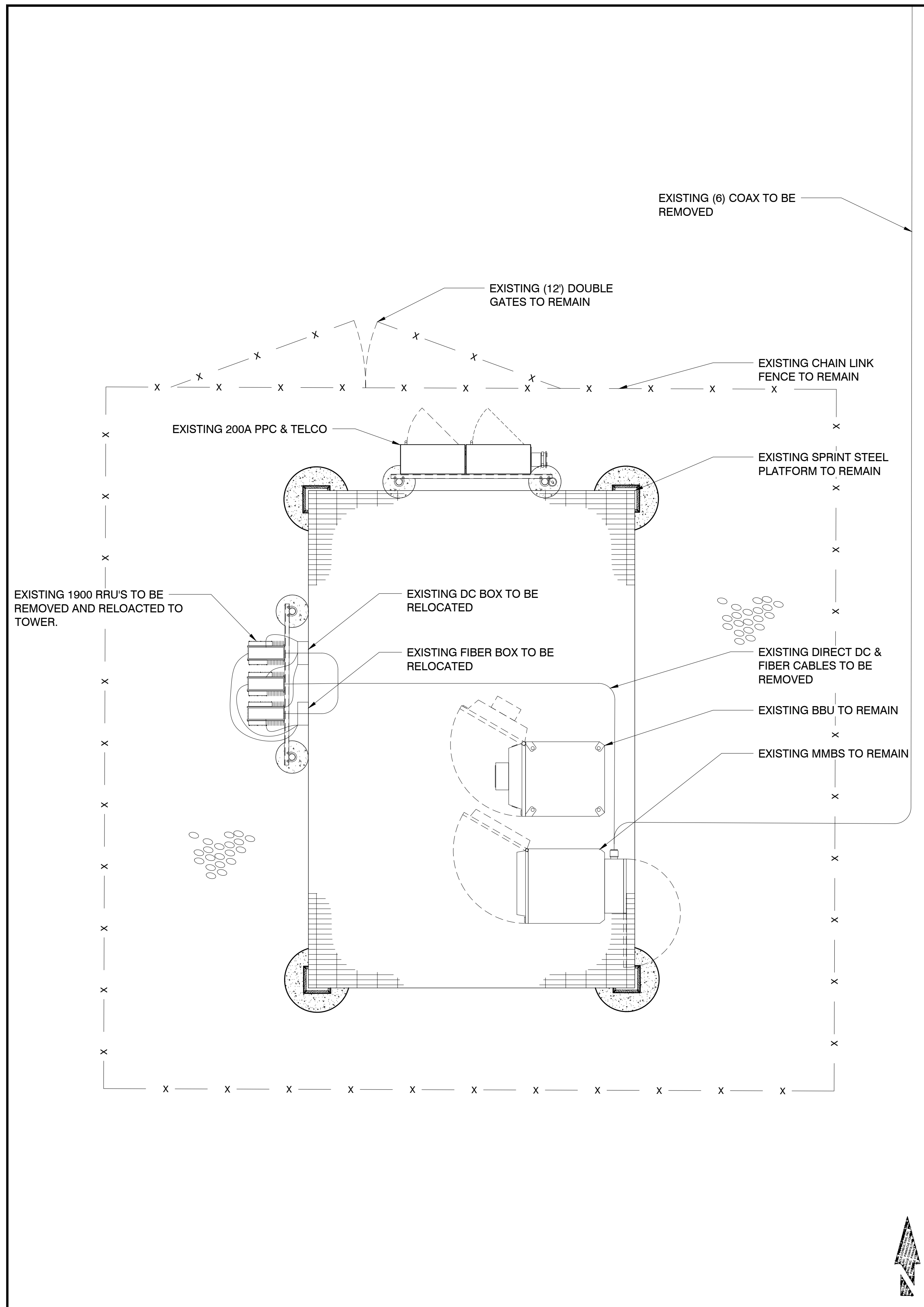


MT. PITTSBURGE
15743 PHANTOM CANYON VIEW
COLORADO SPRINGS, CO, 81926
EL PASO COUNTY

SHEET TITLE
SITE PLAN

SHEET NUMBER
A-1





EXISTING EQUIPMENT PLAN

24"x36" SCALE: 1/2" = 1'-0"
11"x17" SCALE: 1/4" = 1'-0"

1

NEW EQUIPMENT PLAN

24"x36" SCALE: 1/2" = 1'-0"
11"x17" SCALE: 1/4" = 1'-0"

2

PREPARED FOR:

CONSULTING FIRM

3 INVERNESS DRIVE E STE 200
ENGLEWOOD, CO 80112

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SHEET TITLE

EQUIPMENT PLANS

SHEET NUMBER

A-2

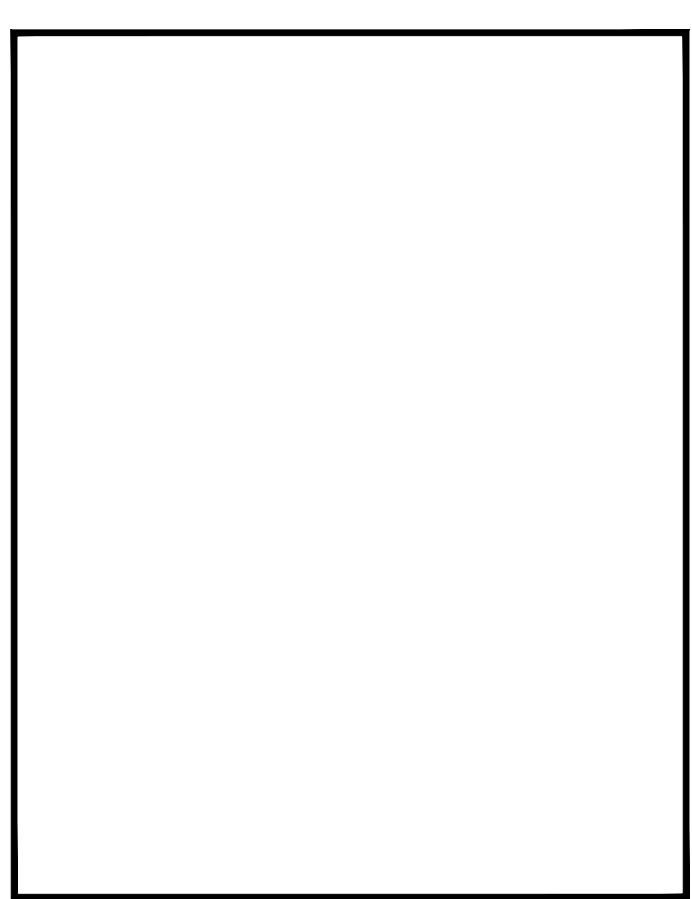
AZIMUTHS FOR REFERENCE ONLY. REFER TO CURRENT RFDS FOR ANTENNA AND AZIMUTH SPECIFICATIONS.



CONSULTING FIRM
PINNACLE
 CONSULTING, INC.
 Construction - Project Management - Site Development
 3 INVERNESS DRIVE E STE 200
 ENGLEWOOD, CO 80112

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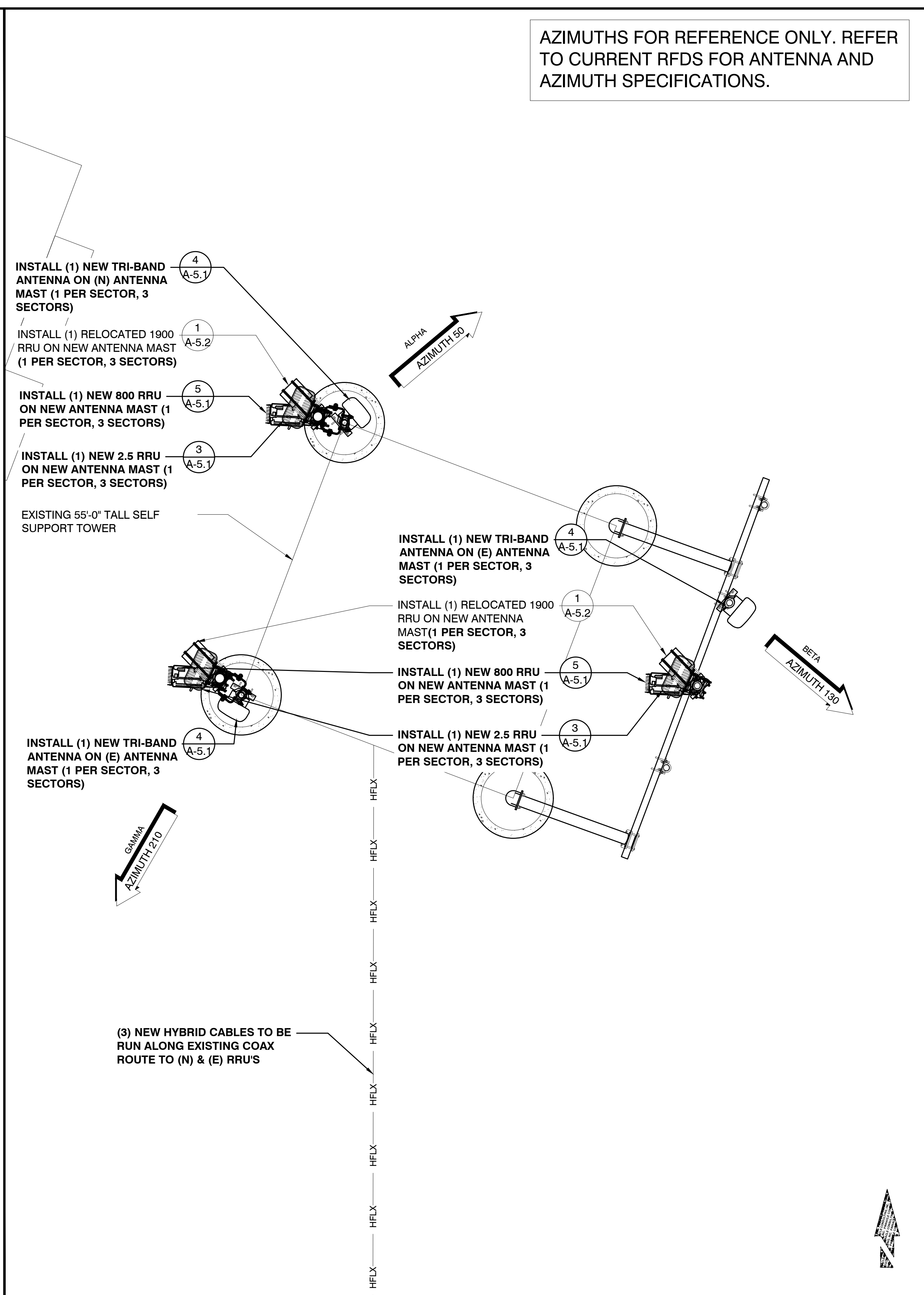
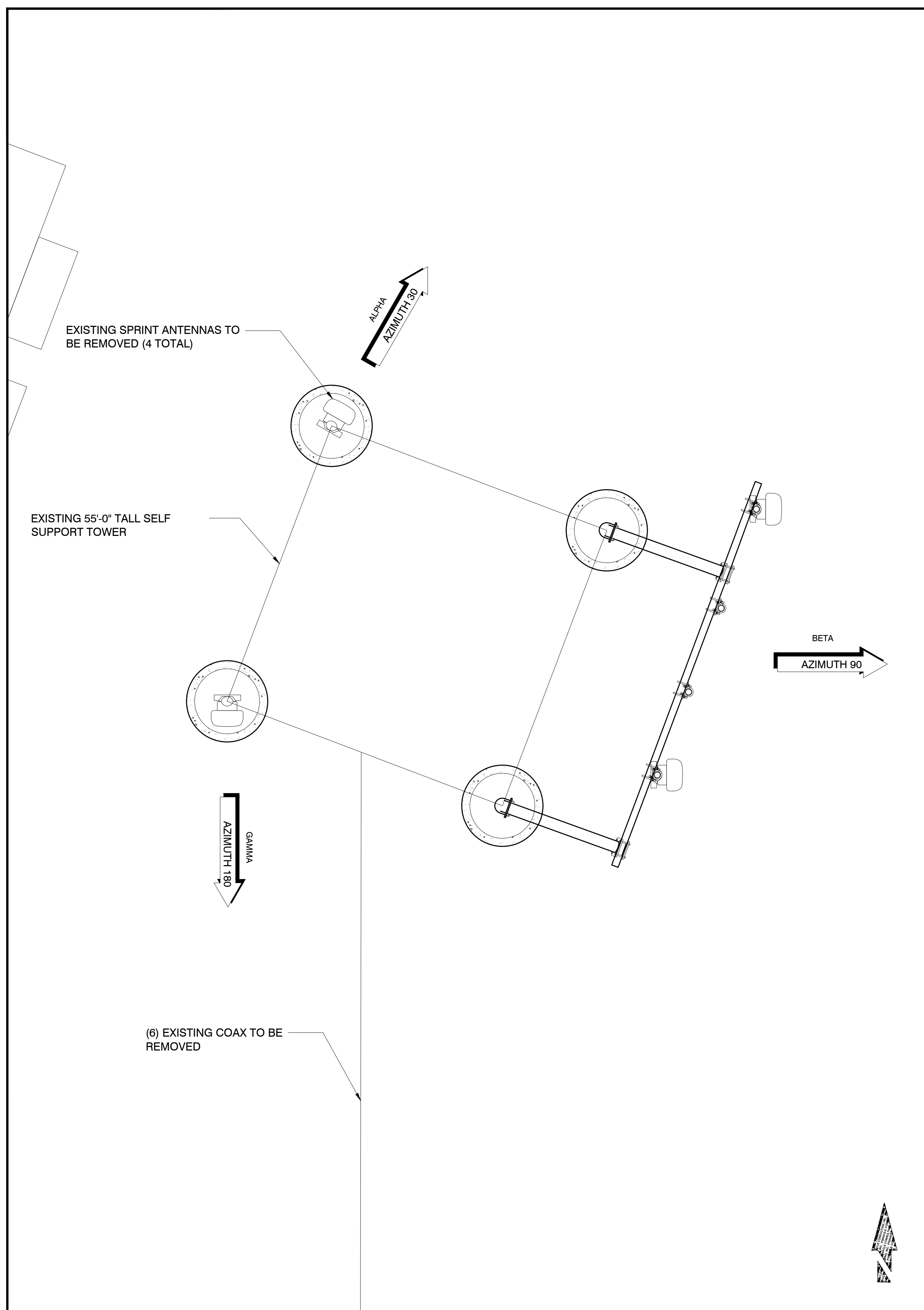
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SHEET TITLE
EXISTING AND NEW ANTENNA PLANS

SHEET NUMBER
A-3



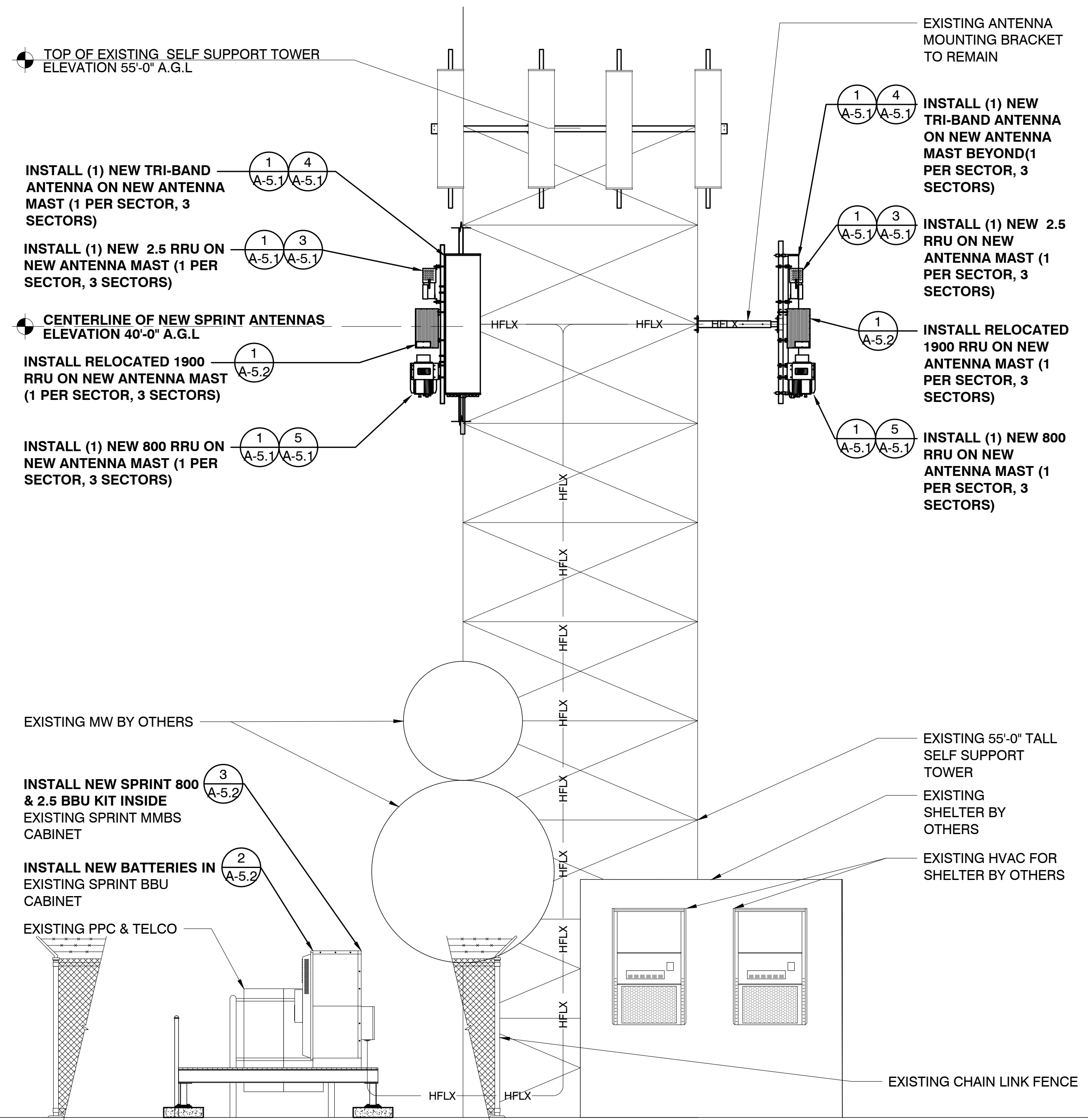
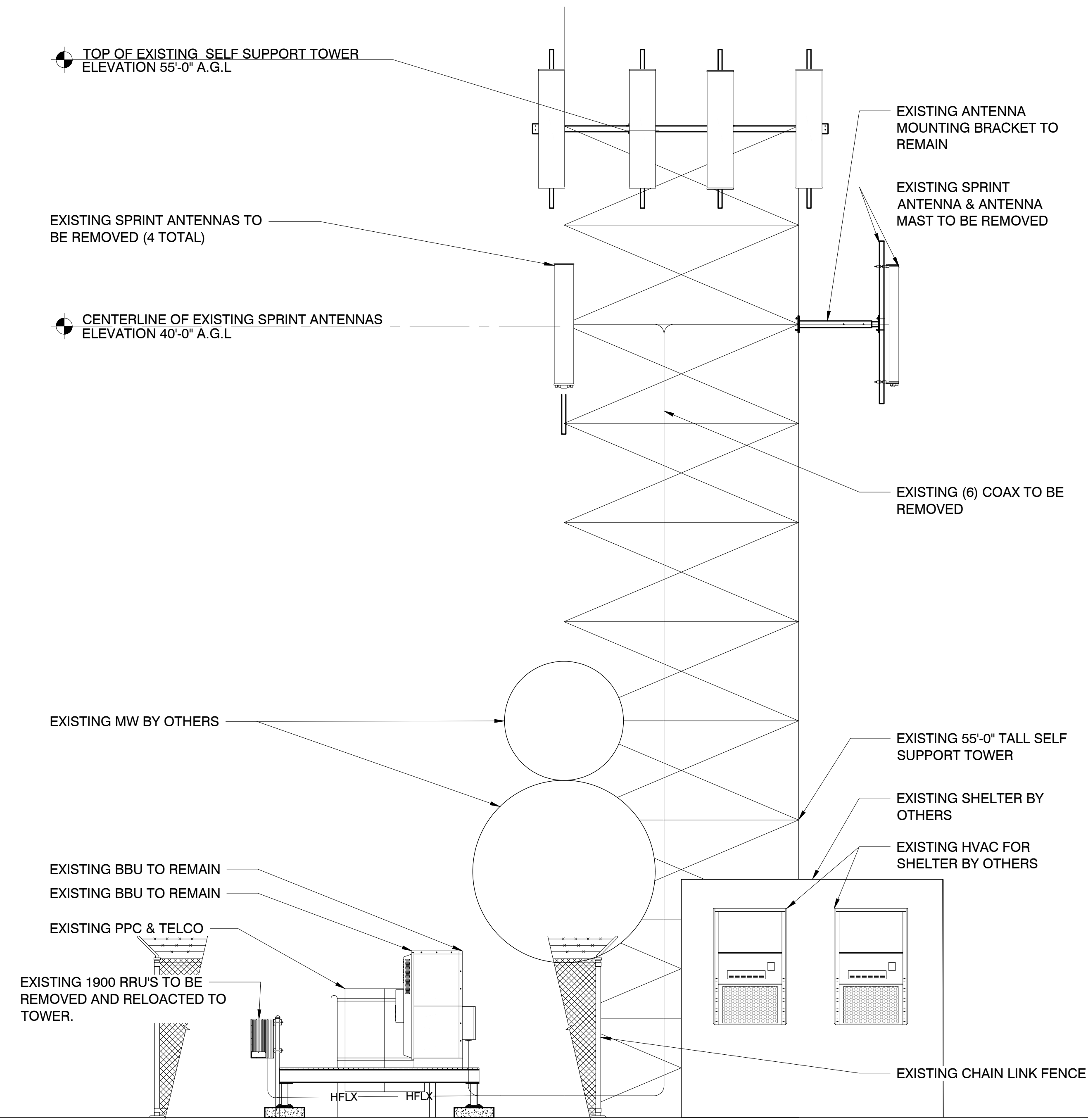
EXISTING ANTENNA PLAN
 24"x36" SCALE: 1/2" = 1'-0"
 11"x17" SCALE: 1/4" = 1'-0"
1

NEW ANTENNA PLAN
 24"x36" SCALE: 1/2" = 1'-0"
 11"x17" SCALE: 1/4" = 1'-0"
2

STRUCTURAL NOTES/SPRINT STRUCTURAL SERVICES COMPLIANCE NOTE:
 NO WORK SHALL COMMENCE WITHOUT THE APPROVED STRUCTURAL TOWER/ANTENNA/MOUNT ANALYSIS REPORT (SIGNED AND SEALED) TO BE PROVIDED UNDER SEPARATE COVER. CONTRACTOR PRIOR TO CONSTRUCTION SHALL REVIEW THE APPROVED TOWER/ANTENNA/MOUNT ANALYSIS REPORT SUPPLIED BY SPRINT AND MODIFY IF REQUIRED ALL APPLICABLE MEMBERS AS INDICATED IN CERTIFIED STRUCTURAL REPORT PRIOR TO INSTALLATION ON STRUCTURE.

- ANTENNA NOTES:**
1. THE SIZE, HEIGHT AND DIRECTION OF THE ANTENNA SHALL BE ADJUSTED TO MEET SYSTEM REQUIREMENTS.
 2. CONTRACTOR SHALL VERIFY HEIGHT OF ANTENNA WITH SPRINT REPRESENTATIVE.
 3. ALL ANTENNA AZIMUTHS ARE TO BE TAKEN FROM TRUE NORTH.

RF WARNING SIGNAGE & EMERGENCY SIGNAGE NOTES:
 CONTRACTOR TO CONFIRM THAT THE SITE IS COMPLIANT WITH RF WARNING SIGNAGE & EMERGENCY SIGNAGE AS REQUIRED BY FEDERAL GUIDELINES & AS PER SPRINT GUIDELINES.



CONSULTING FIRM

Construction - Project Management - Site Development

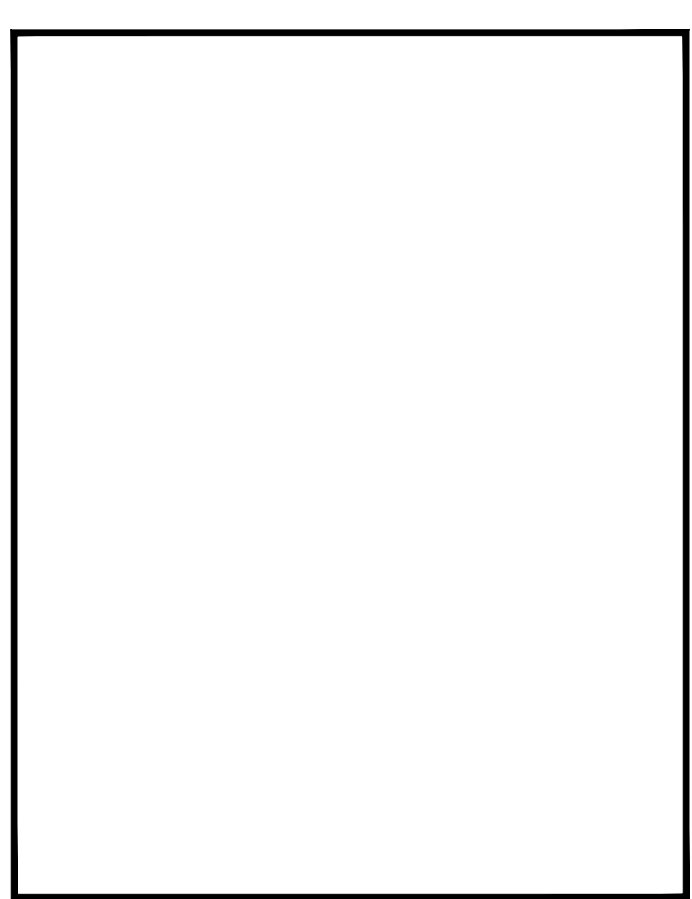
3 INVERNESS DRIVE E STE 200
 ENGLEWOOD, CO 80112

SITE NUMBER: DE06AL036

DRAWN BY: NAH

CHECKED BY: KPF

REV	DATE	DESCRIPTION	BY
A	9/27/2017	ISSUED FOR REVIEW	NAH
B	12/12/2017	ISSUED FOR REVIEW	JMS
C	12/20/2017	ISSUED FOR REVIEW	JMS
D	12/28/2017	ISSUED FOR REVIEW	JMS
E	01/02/2018	ISSUED FOR REVIEW	JMS
0	04/24/18	ISSUED FOR FINALS	CGS



MT. PITTSBURGE

15743 PHANTOM CANYON VIEW
 COLORADO SPRINGS, CO, 81926
 EL PASO COUNTY

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-4.1

EXISTING SOUTH ELEVATION

24"x36" SCALE: 1/4" = 1'-0"
 11"x17" SCALE: 1/8" = 1'-0"

NEW SOUTH ELEVATION

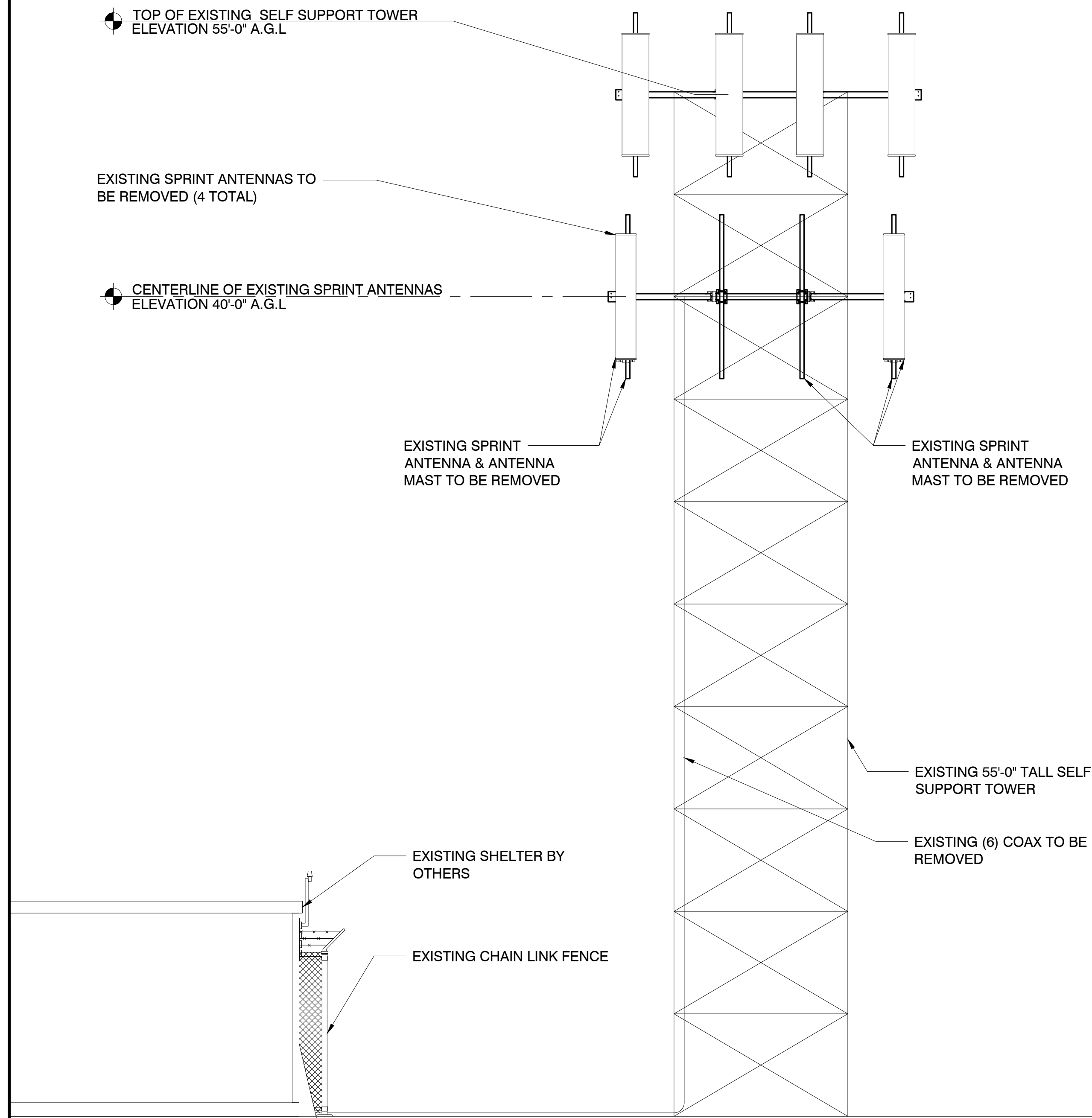
24"x36" SCALE: 1/4" = 1'-0"
 11"x17" SCALE: 1/8" = 1'-0"

2

STRUCTURAL NOTES/SPRINT STRUCTURAL SERVICES COMPLIANCE NOTE:
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- ANTENNA NOTES:**
1. THE SIZE, HEIGHT AND DIRECTION OF THE ANTENNA SHALL BE ADJUSTED TO MEET SYSTEM REQUIREMENTS.
 2. CONTRACTOR SHALL VERIFY HEIGHT OF ANTENNA WITH SPRINT REPRESENTATIVE.
 3. ALL ANTENNA AZIMUTHS ARE TO BE TAKEN FROM TRUE NORTH.

RF WARNING SIGNAGE & EMERGENCY SIGNAGE NOTES:
 CONTRACTOR TO CONFIRM THAT THE SITE IS COMPLIANT WITH RF WARNING SIGNAGE & EMERGENCY SIGNAGE AS REQUIRED BY FEDERAL GUIDELINES & AS PER SPRINT GUIDELINES.

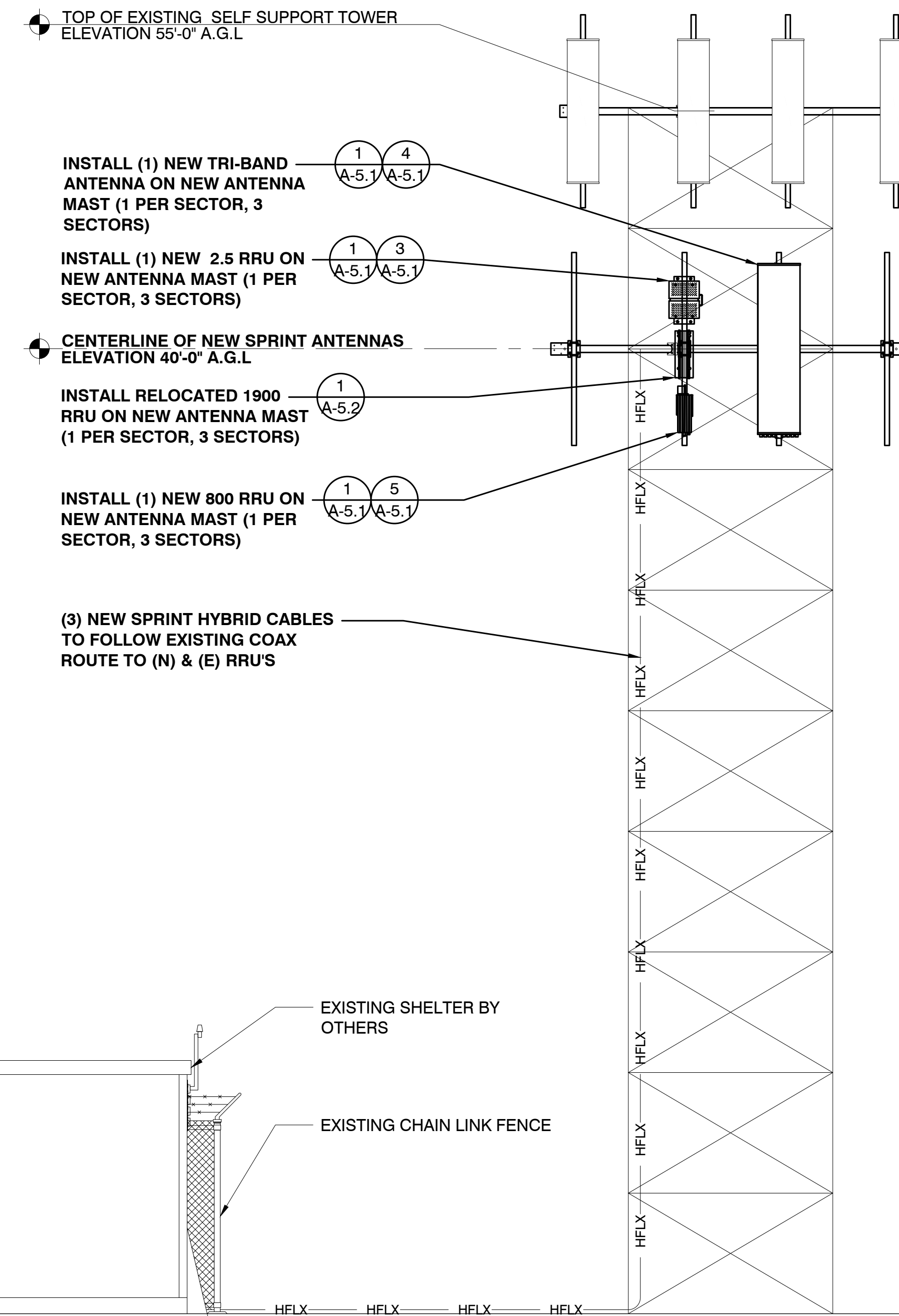


EXISTING EAST ELEVATION

24"x36" SCALE: 1/4" = 1'-0"
 11"x17" SCALE: 1/8" = 1'-0"

1

NEW EAST ELEVATION



24"x36" SCALE: 1/4" = 1'-0"
 11"x17" SCALE: 1/8" = 1'-0"

2

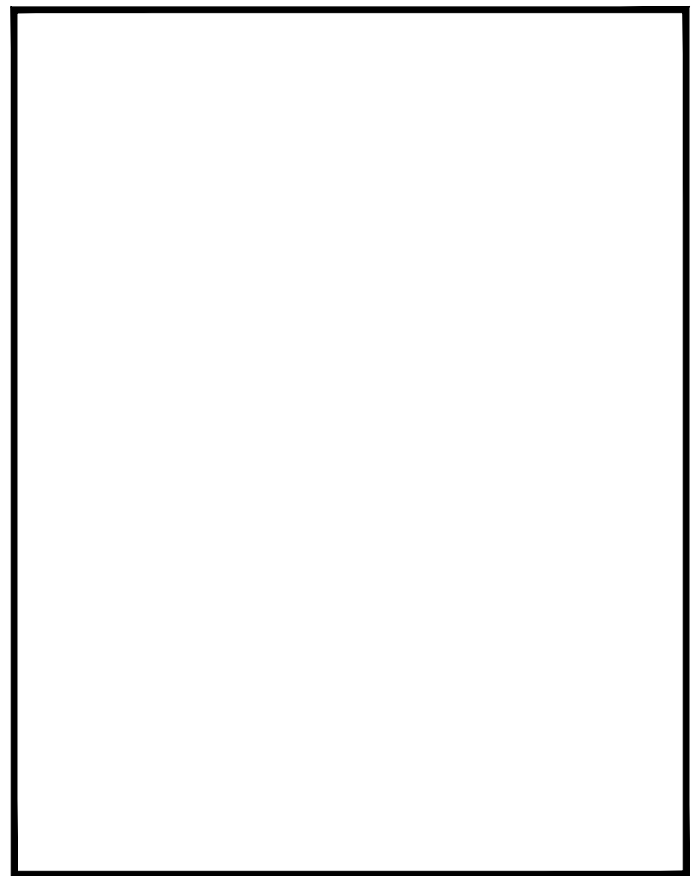
PREPARED FOR:

CONSULTING FIRM

3 INVERNESS DRIVE E STE 200
 ENGLEWOOD, CO 80112

SITE NUMBER:	DE06AL036
DRAWN BY:	NAH
CHECKED BY:	KF

REV	DATE	DESCRIPTION	BY
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E	01/02/2018	ISSUED FOR REVIEW	JMS
0	04/24/18	ISSUED FOR FINALS	CGS

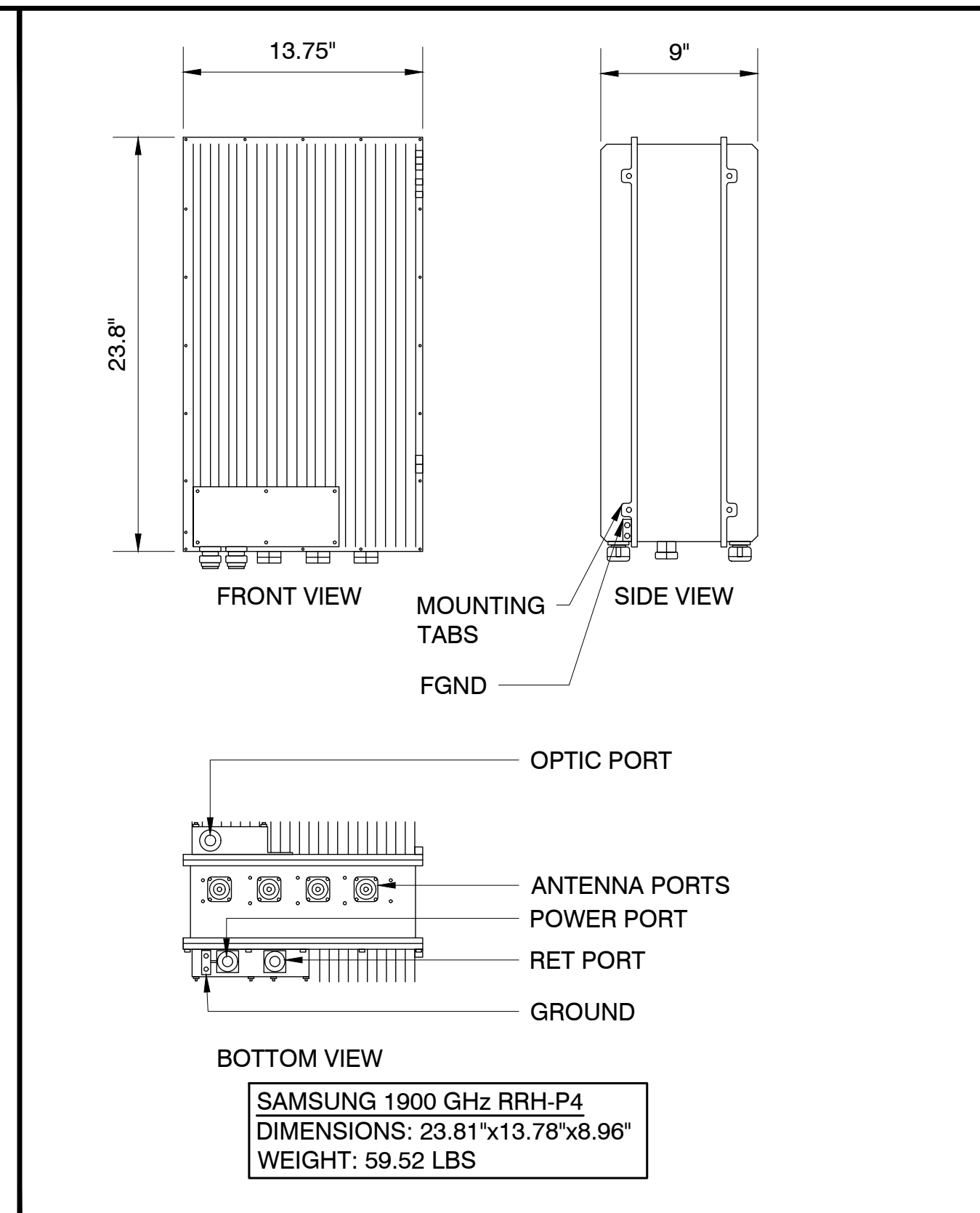
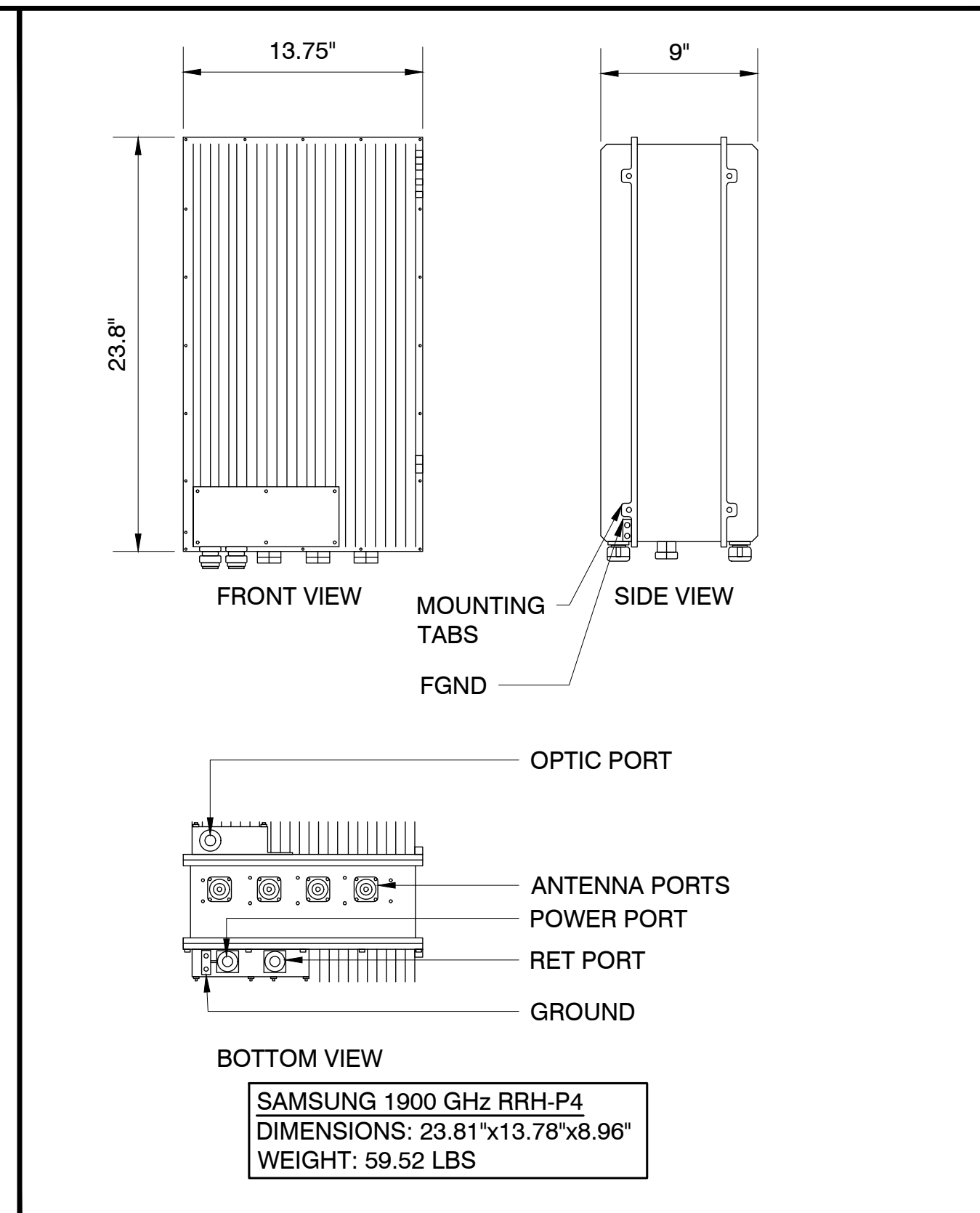
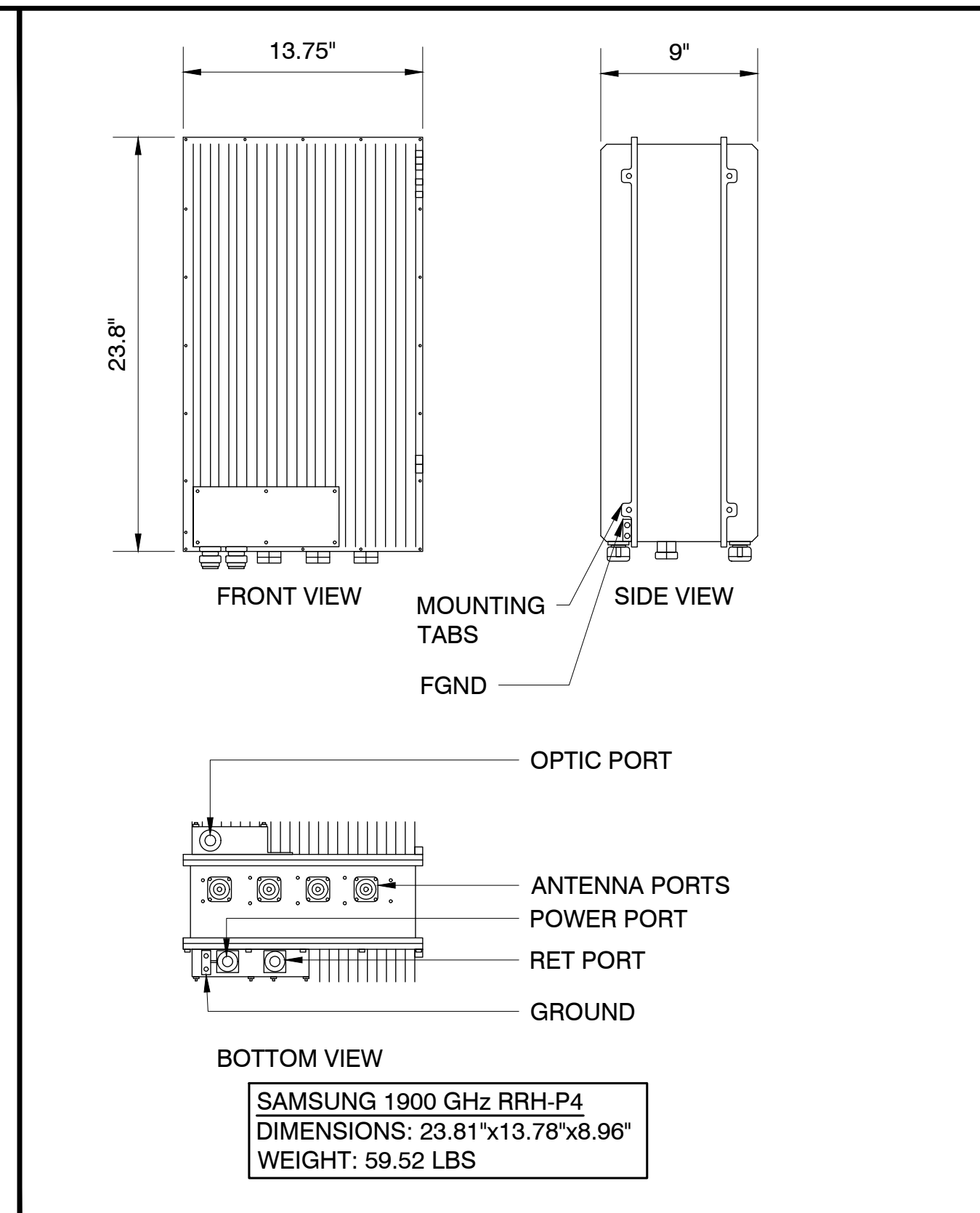
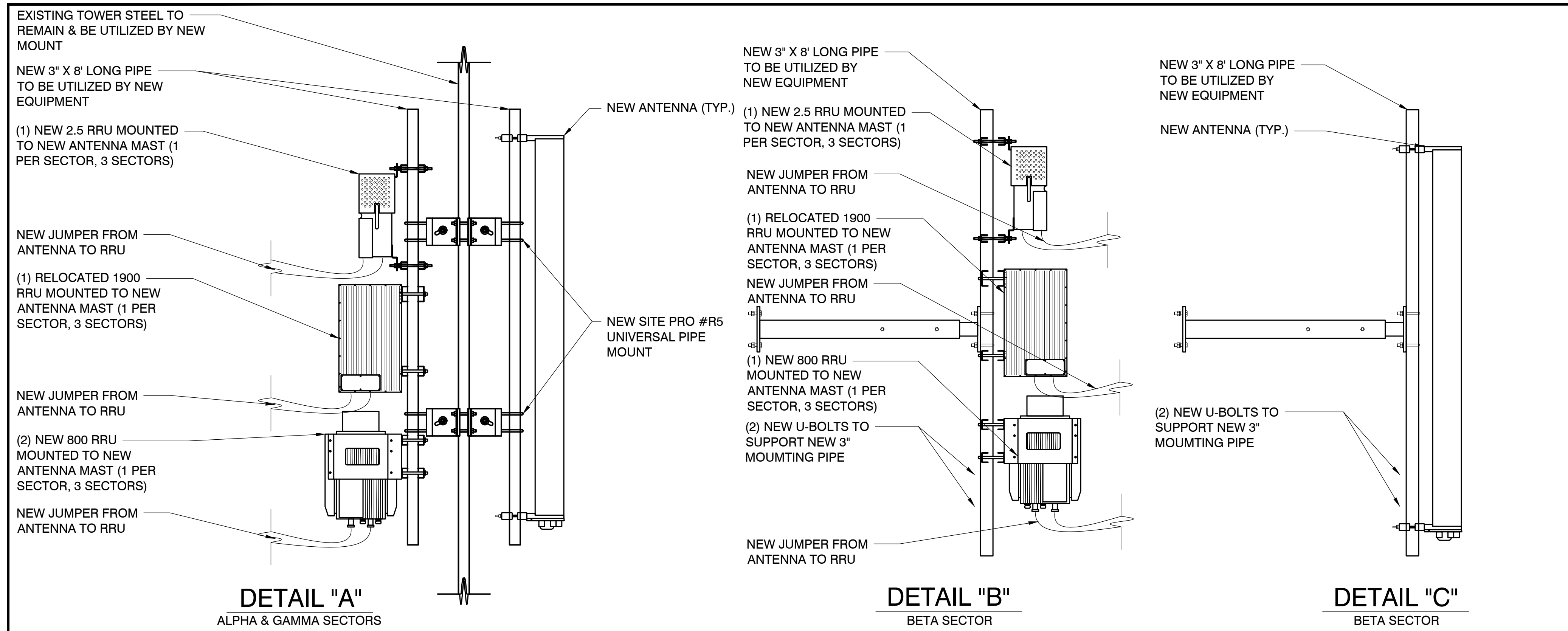


MT. PITTSBURGE

15743 PHANTOM CANYON VIEW
 COLORADO SPRINGS, CO, 81926
 EL PASO COUNTY

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-4.2



PREPARED FOR:

CONSULTING FIRM

Pinnacle
CONSULTING, INC.
Construction - Project Management - Site Development

3 INVERNESS DRIVE E STE 200
ENGLEWOOD, CO 80112

SITE NUMBER: DE06AL036

DRAWN BY: NAH

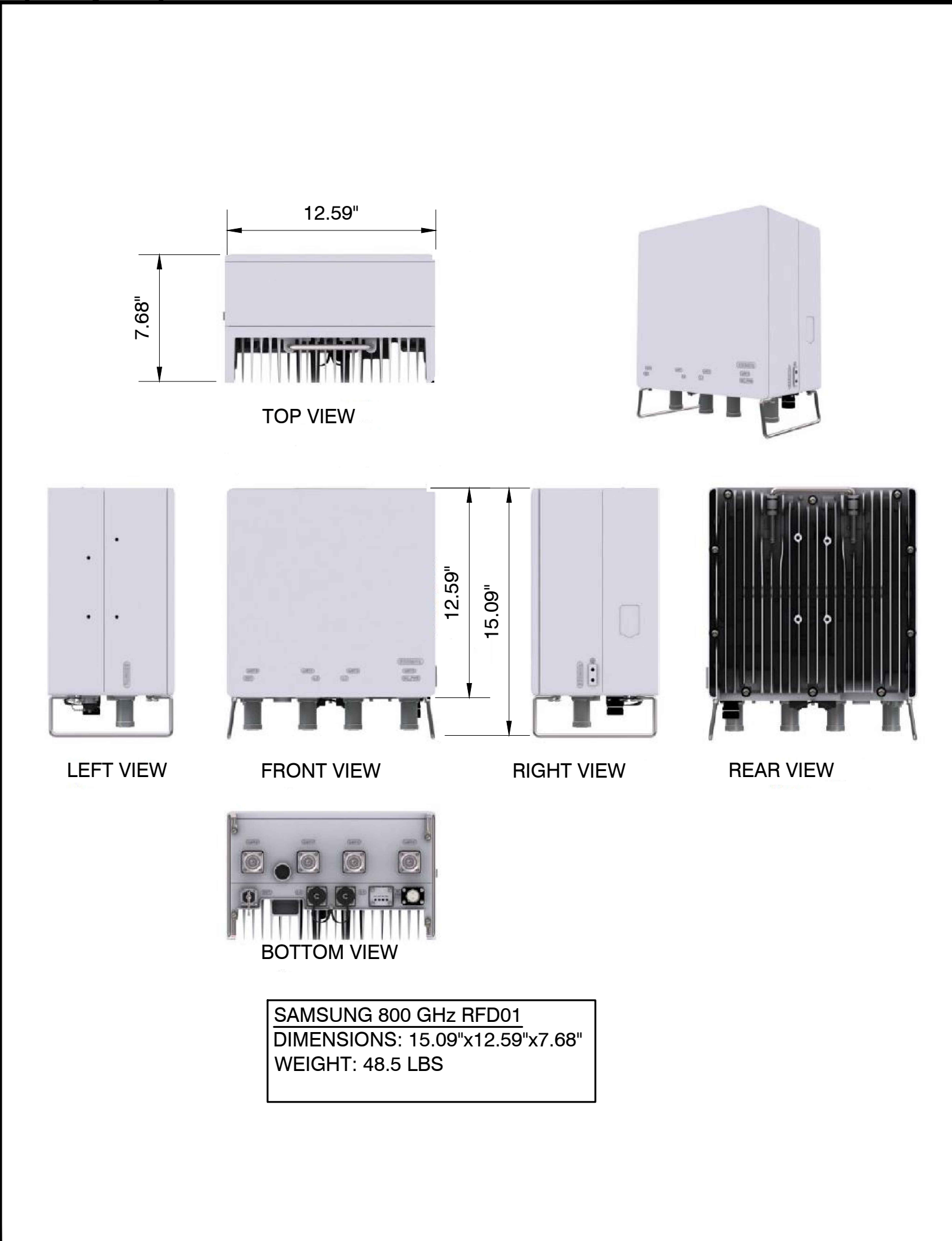
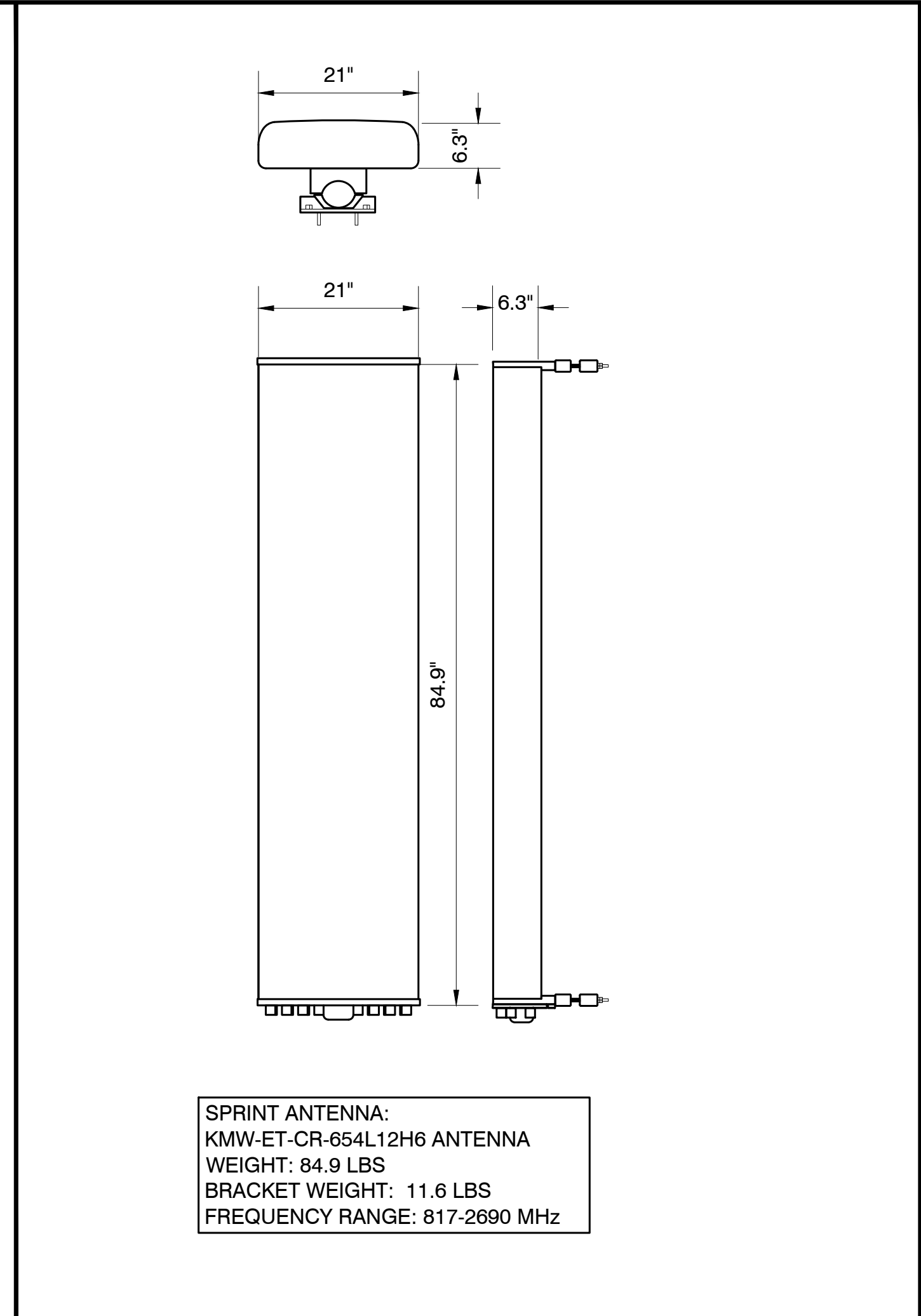
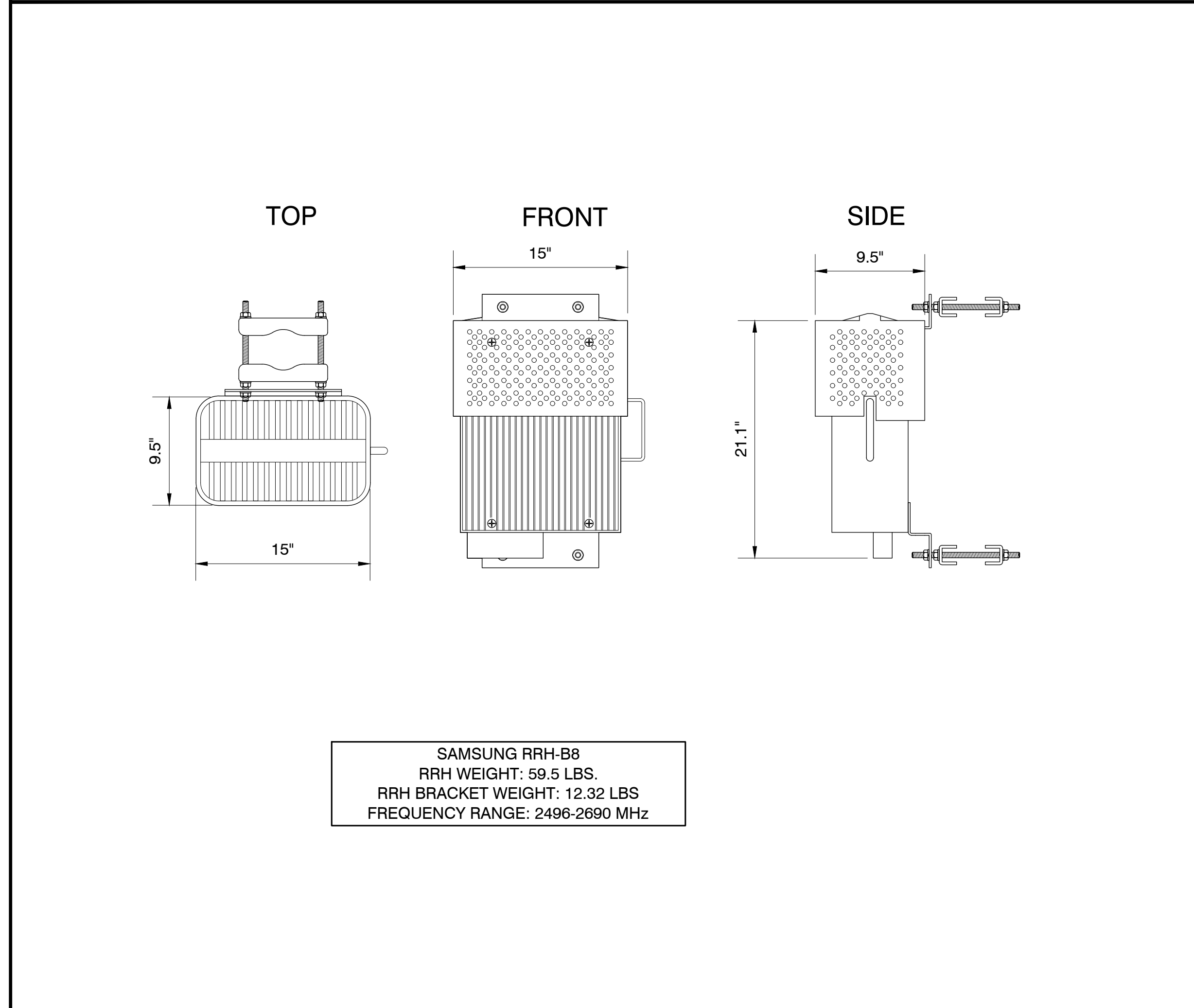
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ANTENNA AND RRU MOUNTING DETAILS

SCALE: 1 1900 MHz RRU SPEC

SCALE: 2



2.5 GHz RRU SPEC

SCALE: 3 TRI-BAND ANTENNA SPEC

SCALE: 4 800 MHz RRU SPEC

SCALE: 5

MT. PITTSBURGE

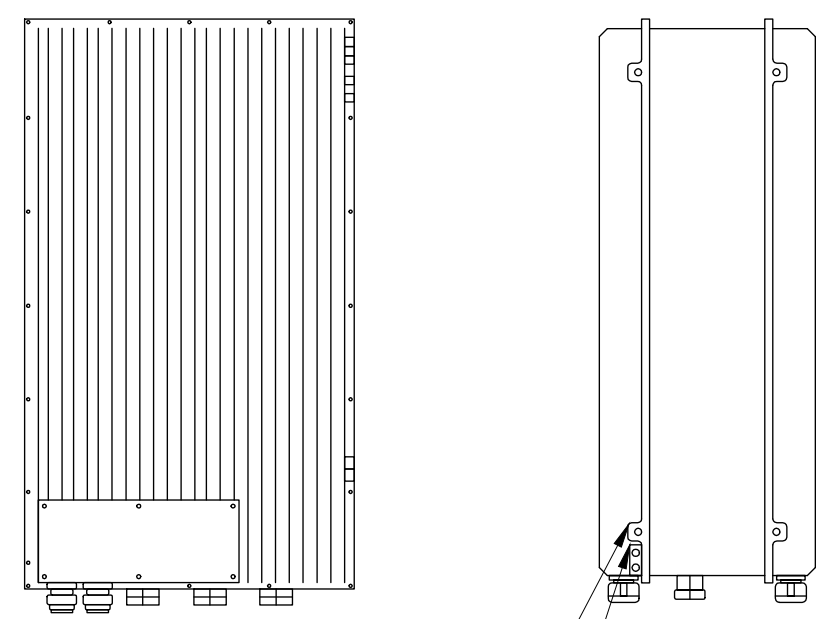
15743 PHANTOM CANYON VIEW
COLORADO SPRINGS, CO, 81926
EL PASO COUNTY

SHEET TITLE

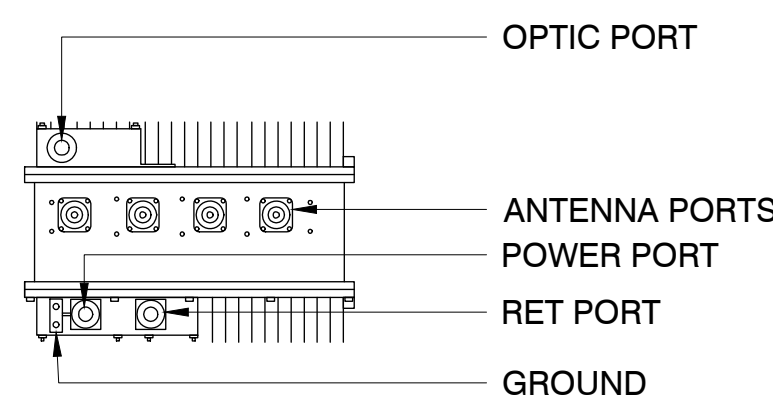
EQUIPMENT DETAILS

SHEET NUMBER

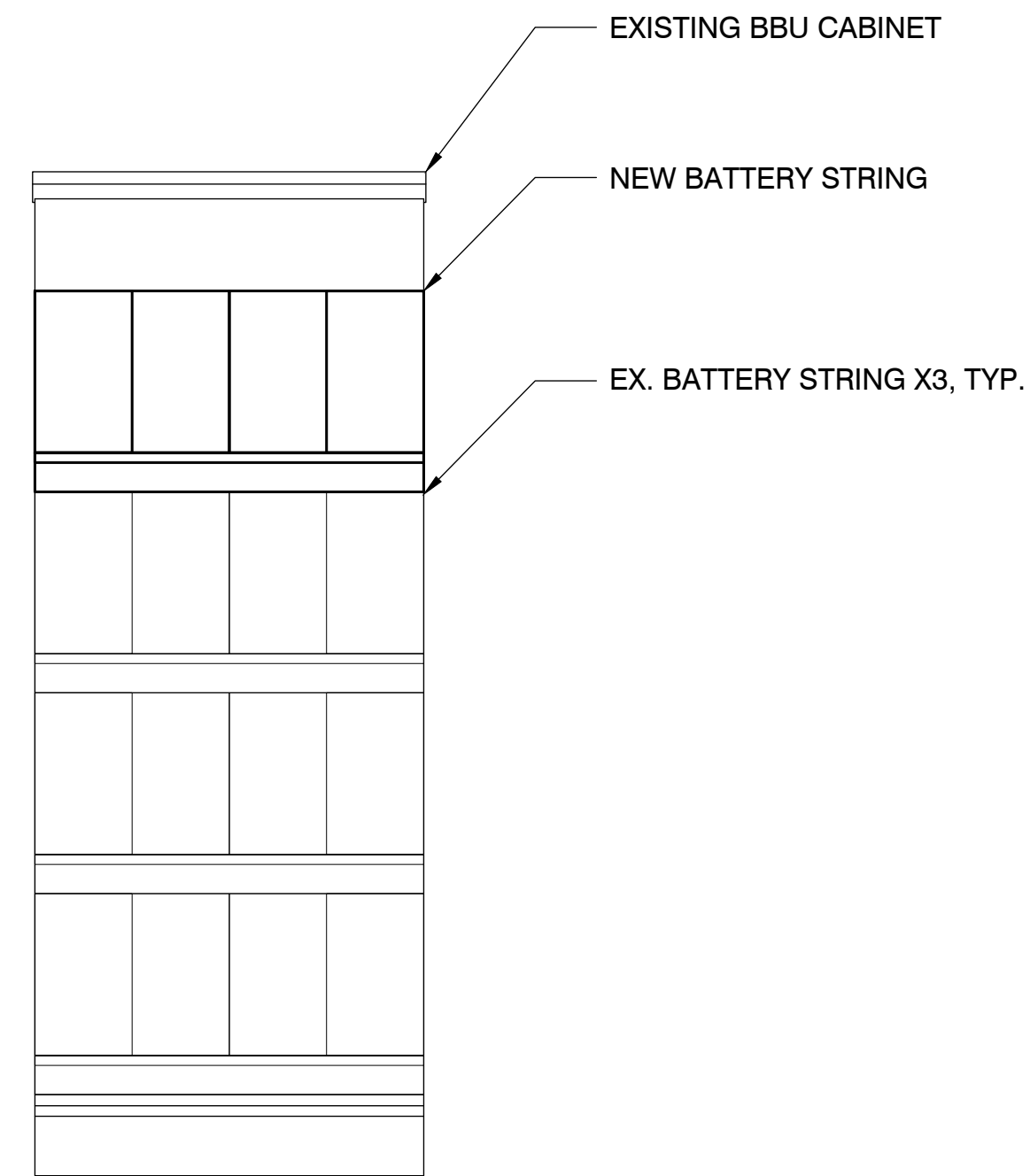
A-5.1



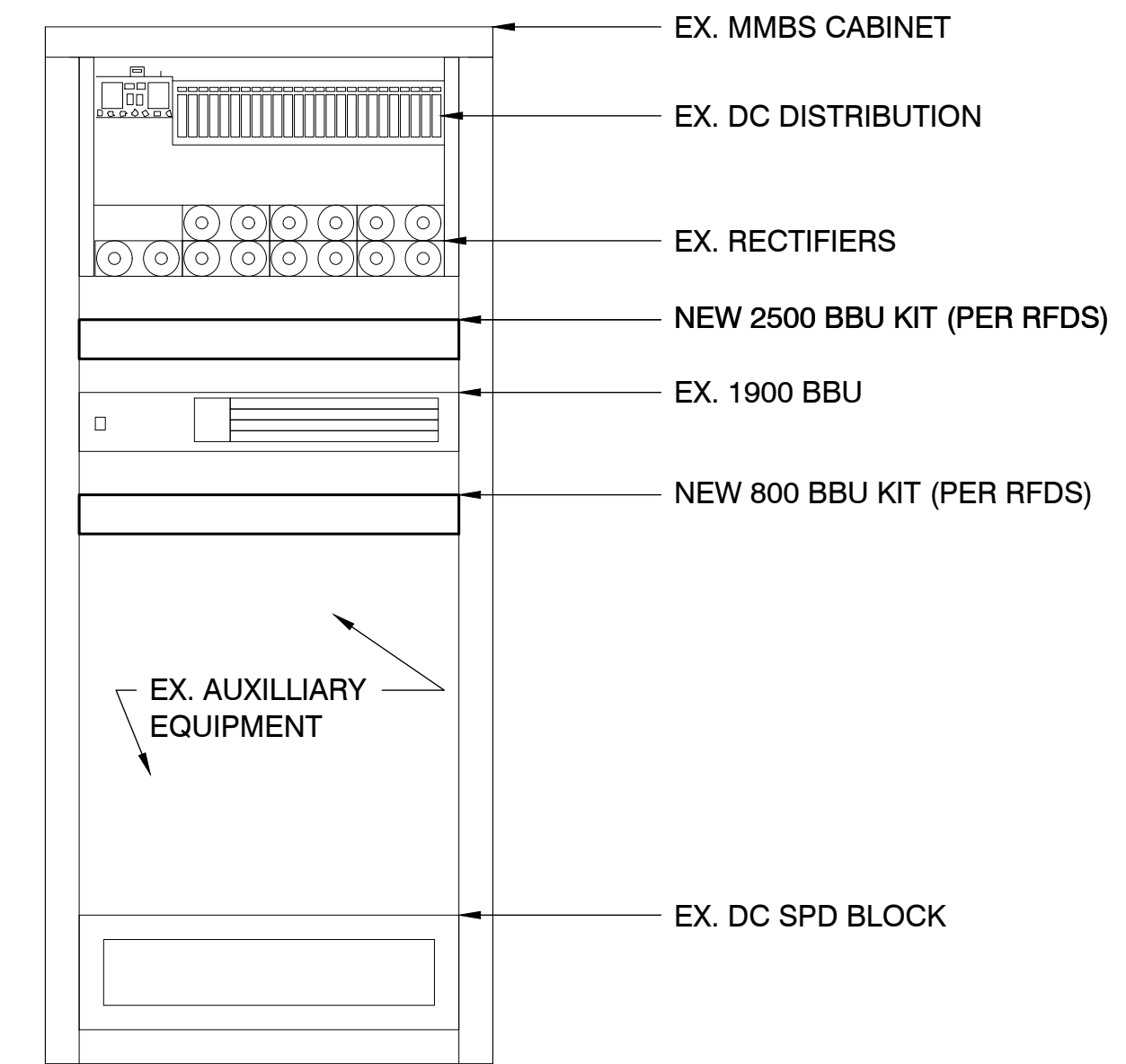
MOUNTING TABS
FGND



OPTIC PORT
ANTENNA PORTS
POWER PORT
RET PORT
GROUND



EXISTING BBU CABINET
NEW BATTERY STRING
EX. BATTERY STRING X3, TYP.



EX. MMBS CABINET
EX. DC DISTRIBUTION
EX. RECTIFIERS
NEW 2500 BBU KIT (PER RFDS)
EX. 1900 BBU
NEW 800 BBU KIT (PER RFDS)
EX. AUXILLIARY EQUIPMENT
EX. DC SPD BLOCK



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1900 MHz RRU (RELOCATED)

1 BBU CABINET

2 MMBS CABINET

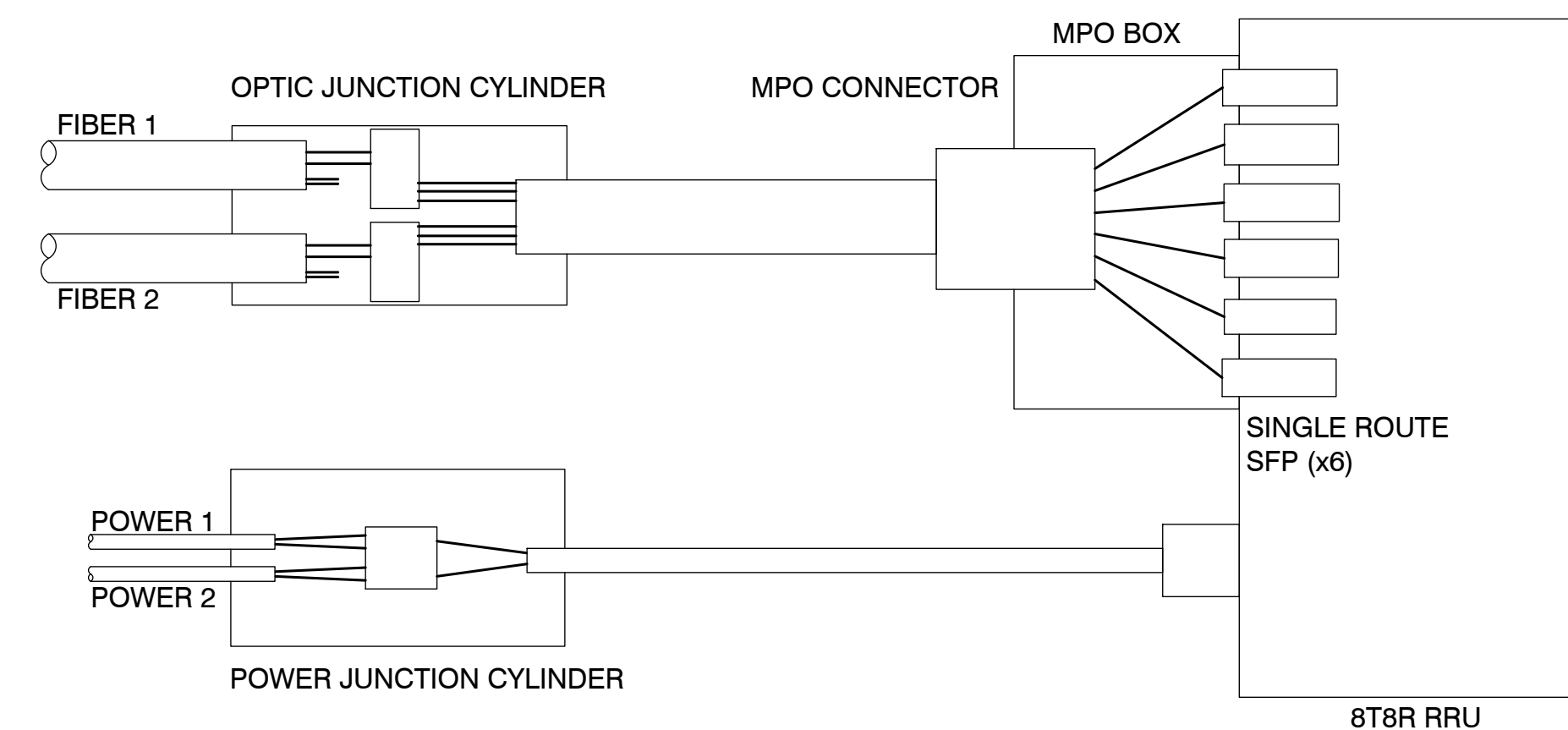
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ANTENNA SCHEDULE

SECTOR	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA SIZE	ANTENNA FREQUENCY (MHz)	ANTENNA QUANTITY	AZIMUTH	RAD CENTER (A.G.L.)
SECTOR 1	KMW	ET-CR-654L12H6	7'-1"	800/1900/2500	1	50°	40'-0"
SECTOR 2	KMW	ET-CR-654L12H6	7'-1"	800/1900/2500	1	130°	40'-0"
SECTOR 3	KMW	ET-CR-654L12H6	7'-1"	800/1900/2500	1	210°	40'-0"

ANTENNA SCHEDULE

4



NOT USED

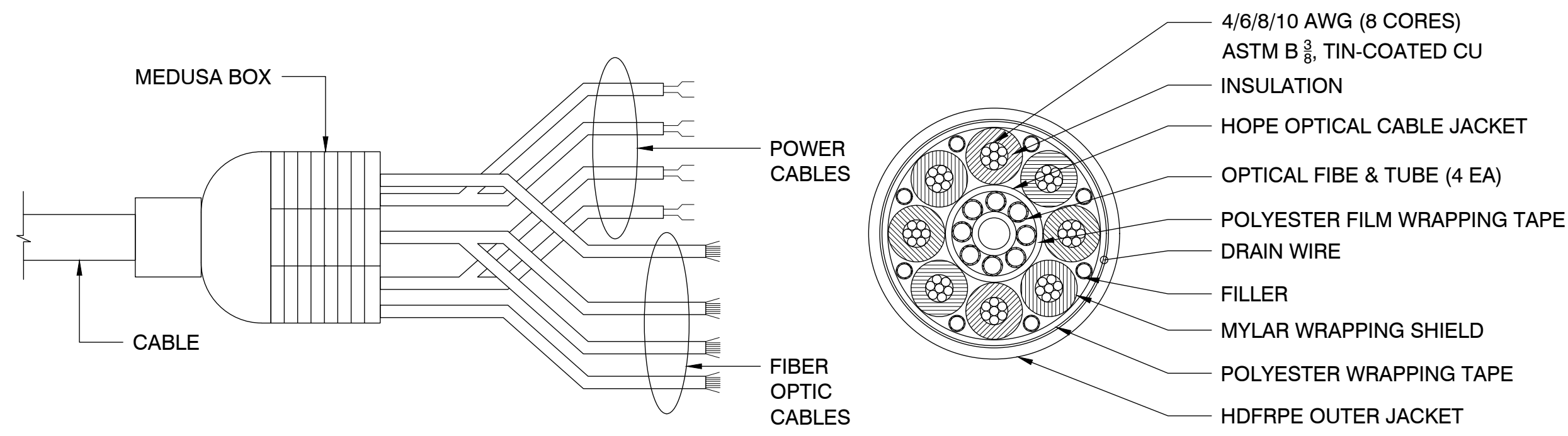
5 CYLINDER SCHEMATIC DETAIL

6

MT. PITTSBURGE
15743 PHANTOM CANYON VIEW
COLORADO SPRINGS, CO, 81926
EL PASO COUNTY

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5.2



CABLE BENDING RADIUS
 20 x CABLE DIAMETER (DURING OPERATION)
 25 x CABLE DIAMETER (DURING INSTALLATION)
 1.2 LB PER FT CABLE WEIGHT

	TYPE 1	TYPE 2	TYPE 3
TOTAL LENGTH	~40m	~70m	~120m
HYBRID POWER CABLE CONFIGURATION	AWG 8 1 PAIR AWG 10 3 PAIR	AWG 6 1 PAIR AWG 8 3 PAIR	AWG 4 1 PAIR AWG 6 3 PAIR
CABLE DIAMETER	32MM	32MM	36MM
BENDING RADIUS	800mm	800mm	800mm
OPTIC CABLE	LC/PC-TO-LCPC SINGLE MODE	LC/PC-TO-LCPC SINGLE MODE	LC/PC-TO-LCPC SINGLE MODE
RRU POWER CABLE SPEC	AWG 10, 4 PAIR	AWG 10, 4 PAIR	AWG 10, 4 PAIR
NON USE POWER AND OPTIC CABLE PROTECTION	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE

HYBRID CABLE DETAIL

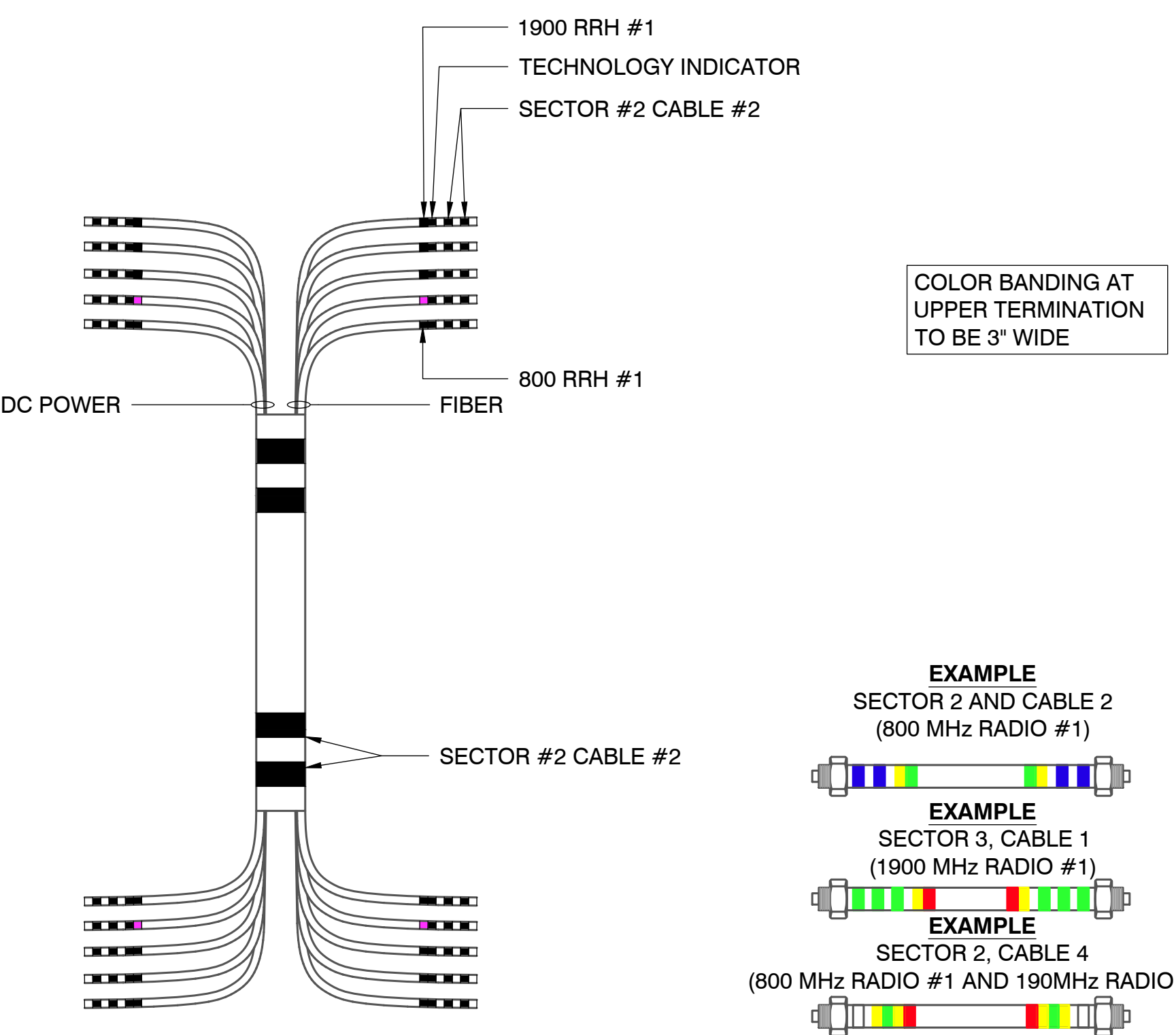
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SECTOR	CABLE	FIRST RING	SECOND RING	THIRD RING
1 ALPHA	1	GREEN	NO TAPE	NO TAPE
1	2	BLUE	NO TAPE	NO TAPE
1	3	BROWN	NO TAPE	NO TAPE
1	4	WHITE	NO TAPE	NO TAPE
1	5	RED	NO TAPE	NO TAPE
1	6	GREY	NO TAPE	NO TAPE
1	7	PURPLE	NO TAPE	NO TAPE
1	8	ORANGE	NO TAPE	NO TAPE
2 BETA	1	GREEN	GREEN	NO TAPE
2	2	BLUE	BLUE	NO TAPE
2	3	BROWN	BROWN	NO TAPE
2	4	WHITE	WHITE	NO TAPE
2	5	RED	RED	NO TAPE
2	6	GREY	GREY	NO TAPE
2	7	PURPLE	PURPLE	NO TAPE
2	8	ORANGE	ORANGE	NO TAPE
3 GAMMA	1	GREEN	GREEN	GREEN
3	2	BLUE	BLUE	BLUE
3	3	BROWN	BROWN	BROWN
3	4	WHITE	WHITE	WHITE
3	5	RED	RED	RED
3	6	GREY	GREY	GREY
3	7	PURPLE	PURPLE	PURPLE
3	8	ORANGE	ORANGE	ORANGE

HYBRID CABLE COLOR CODING

2

TECHNOLOGY COLOR CODE	FIRST RING	SECOND RING
800 #1	YELLOW	GREEN
1900 #1	YELLOW	RED
1900 #2	YELLOW	BROWN
1900 #3	YELLOW	BLUE
1900 #4	YELLOW	GREY
800 #1	YELLOW	ORANGE
2500 #1	YELLOW	WHITE
2500 #2	YELLOW	PURPLE



2500 MHz RADIO CALIBRATION CABLE COLOR CODE

2500 MHz #1 CAL CABLE - SECTOR	CABLE	FIRST RING	SECOND RING	THIRD RING	FOURTH RING	FIFTH RING	SIXTH RING
1 ALPHA	1	YELLOW		YELLOW	WHITE		
2 BETA	2	YELLOW	YELLOW		YELLOW	WHITE	
3 GAMMA	3	YELLOW	YELLOW	YELLOW		YELLOW	WHITE

2500 MHz #1 CAL CABLE - SECTOR	CABLE	FIRST RING	SECOND RING	THIRD RING	FOURTH RING	FIFTH RING	SIXTH RING
1 ALPHA	1	YELLOW		YELLOW	WHITE		
2 BETA	2	YELLOW	YELLOW		YELLOW	WHITE	
3 GAMMA	3	YELLOW	YELLOW	YELLOW		YELLOW	WHITE

INFORMATION TAKEN FROM SPRINT'S TECHNICAL SPECIFICATIONS "ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS" LATEST VERSION, COPYRIGHT © 2014 SPRINT CORPORATION

COLOR CODING DETAIL

3

PREPARED FOR:

CONSULTING FIRM

3 INVERNESS DRIVE E STE 200
ENGLEWOOD, CO 80112

SITE NUMBER:	DE06AL036
DRAWN BY:	NAH
CHECKED BY:	KF

REV	DATE	DESCRIPTION	BY
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0	04/24/18	ISSUED FOR FINALS	CGS

MT. PITTSBURGE

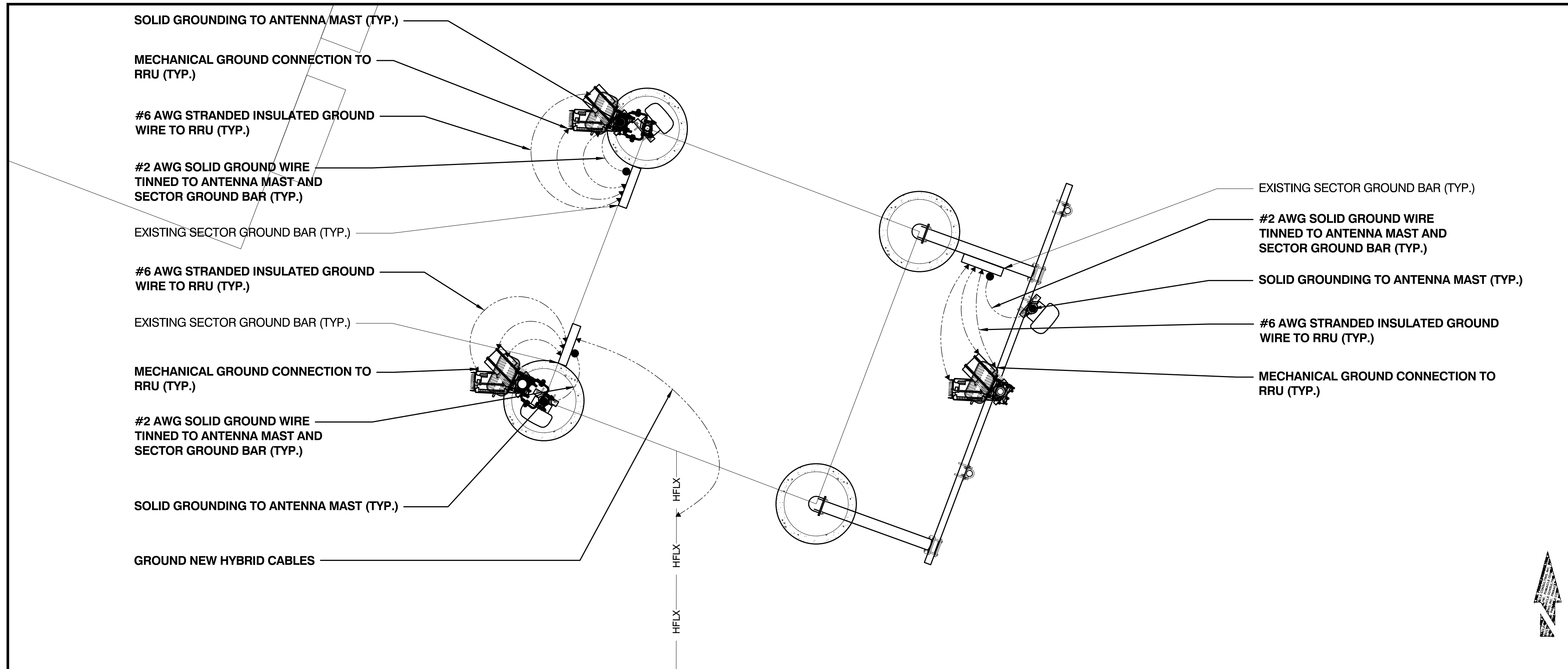
15743 PHANTOM CANYON VIEW
COLORADO SPRINGS, CO, 81926
EL PASO COUNTY

SHEET TITLE

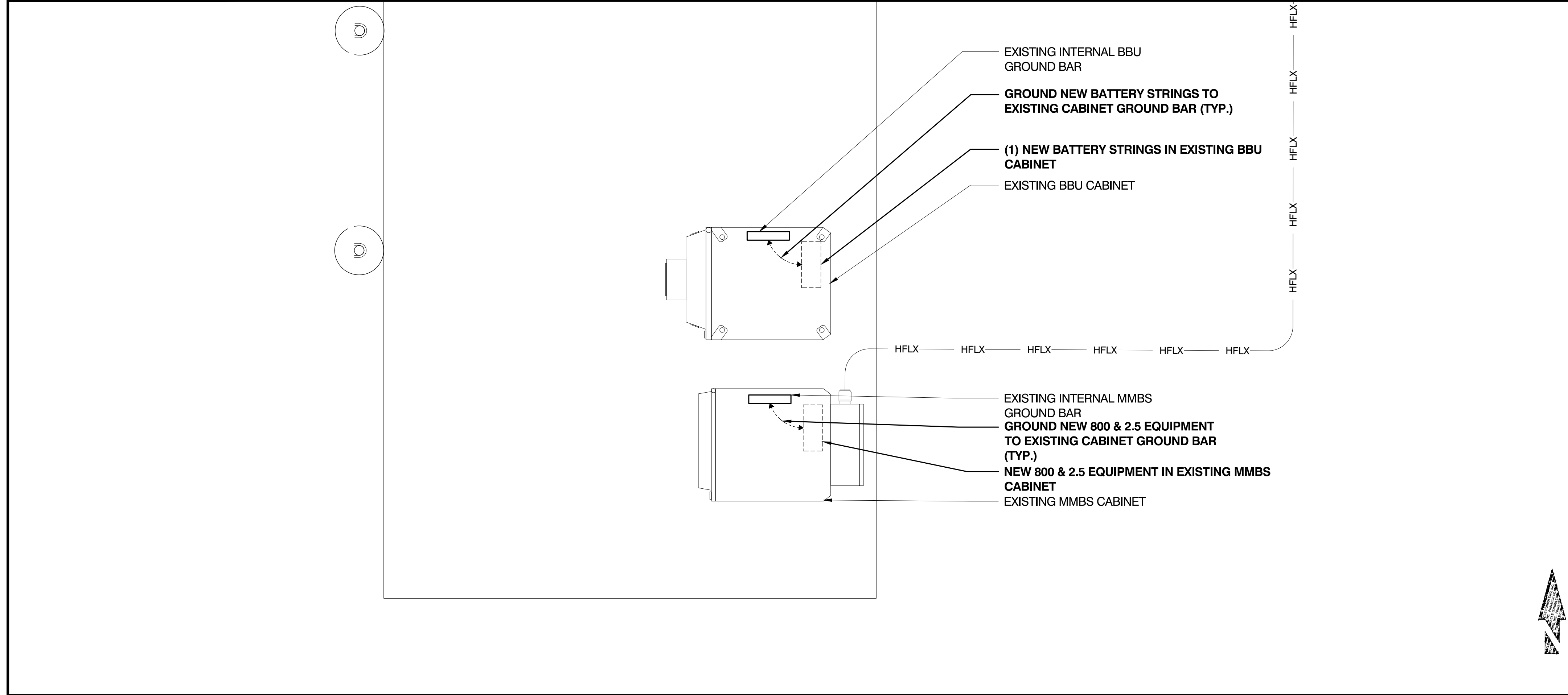
CABLE AND COLOR CODING DETAILS

SHEET NUMBER

A-6



ANTENNA GROUNDING PLAN SCALE: NTS 1



EQUIPMENT GROUNDING PLAN SCALE: NTS 2

GROUNDING NOTES:

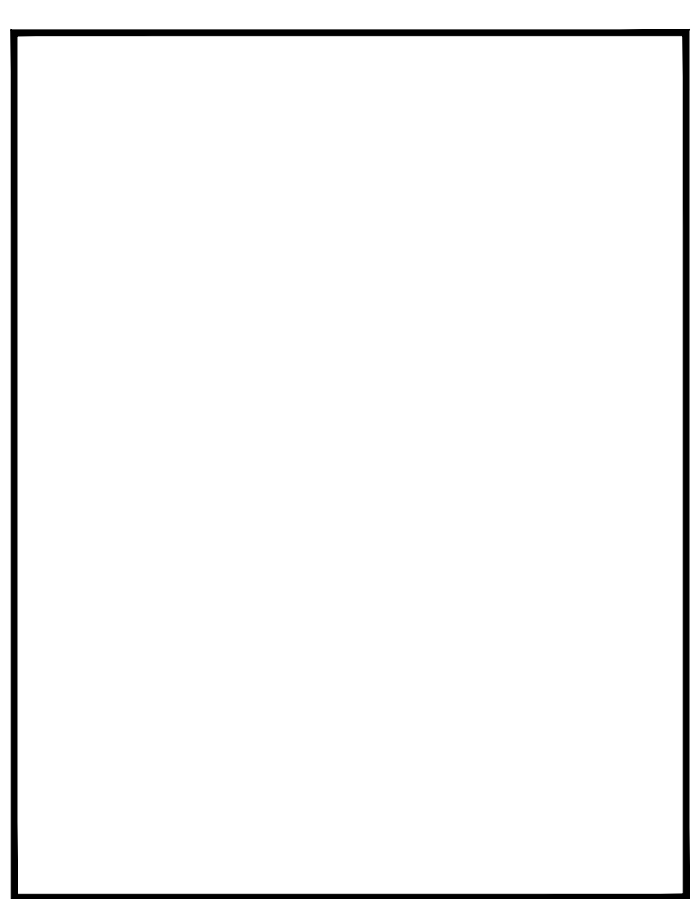
1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
3. 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 AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS PER NEC.
4. CONNECTIONS TO THE GROUND BAR SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BAR ARE PERMITTED.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH NEC, SHALL BE FURNISHED AND INSTALLED WITH POWER CIRCUITS TO BTS EQUIPMENT.
6. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
7. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/ GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TIN PLATED COPPER UNLESS OTHERWISE INDICATED.
9. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
10. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
11. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH NEC.
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 WITH LISTED BONDING FITTINGS.
13. GROUND ALL RF EQUIPMENT INCLUDING BUT NOT LIMITED TO COAX, DIPLEXERS, SURGE ARRESTORS, TMA'S, AND ANTENNA PIPE MOUNTS PER NEC.
14. ALL CONNECTIONS TO GROUND RING SHALL BE EXOTHERMICALLY WELDED. GROUND RING SHALL BE A MINIMUM DEPTH BELOW GRADE OF 18 INCHES OR 6 INCHES BELOW FROST, WHICHEVER IS GREATER.
15. WHERE MECHANICAL GROUNDING CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION-TYPE CLAMPS OR SPLIT-BOLT TYPE CONNECTORS SHALL BE USED.
16. AT CONNECTION POINTS, GRIND OFF ANY GALVANIZING OR PAINT WHEN PRESENT. EXOTHERMICALLY WELD #2 CONDUCTOR AT 6 INCHES ABOVE GRADE OR FOUNDATION, WHICHEVER IS TALLER. COLD-GALV AFTER. EXOTHERMICALLY WELD OTHER END TO GROUND.
17. GROUND CONDUCTORS CONNECTING TO GROUND RING SHALL BE ENCASED IN 3/4" PVC CONDUIT TO GRADE. MOUNT PVC WITH GALVANIZED 'C' CLAMPS. SEAL TOP ENDS.
18. FOLLOWING COMPLETION OF WORK, CONDUCT GROUND TEST. SUBMIT WRITTEN TEST TO CONSTRUCTION MANAGER AND PROJECT MANAGER.
19. WHEN REQUIRED, GROUND RODS SHALL NEVER BE SPACED HORIZONTALLY CLOSER THAN TWICE THE GROUND ROD LENGTH.
20. NOTIFY THE CONSTRUCTION MANAGER 24 HOURS IN ADVANCE WHEN THE BURIED GROUND WIRE IS INSTALLED SO THAT A REPRESENTATIVE CAN INSPECT PRIOR TO BACKFILL.
21. CONTRACTOR TO VERIFY EXISTING GROUNDING CONDITIONS. THE CONTRACTOR SHALL BRING SITE UP TO SPECIFICATIONS, CORRECTING ANY DEFICIENCIES TO BE INCLUDED IN ORIGINAL PRICING AND CORRECT DEFICIENCIES DURING NEW CONSTRUCTION. INCLUDING MISSING GROUND BARS, BAD GROUND WELDS, MISSING GROUND LEADS OR BROKEN GROUND LEADS, ETC.

GROUNDING NOTES SCALE: NTS 3



SITE NUMBER:	DE06AL036
DRAWN BY:	NAH
CHECKED BY:	KF

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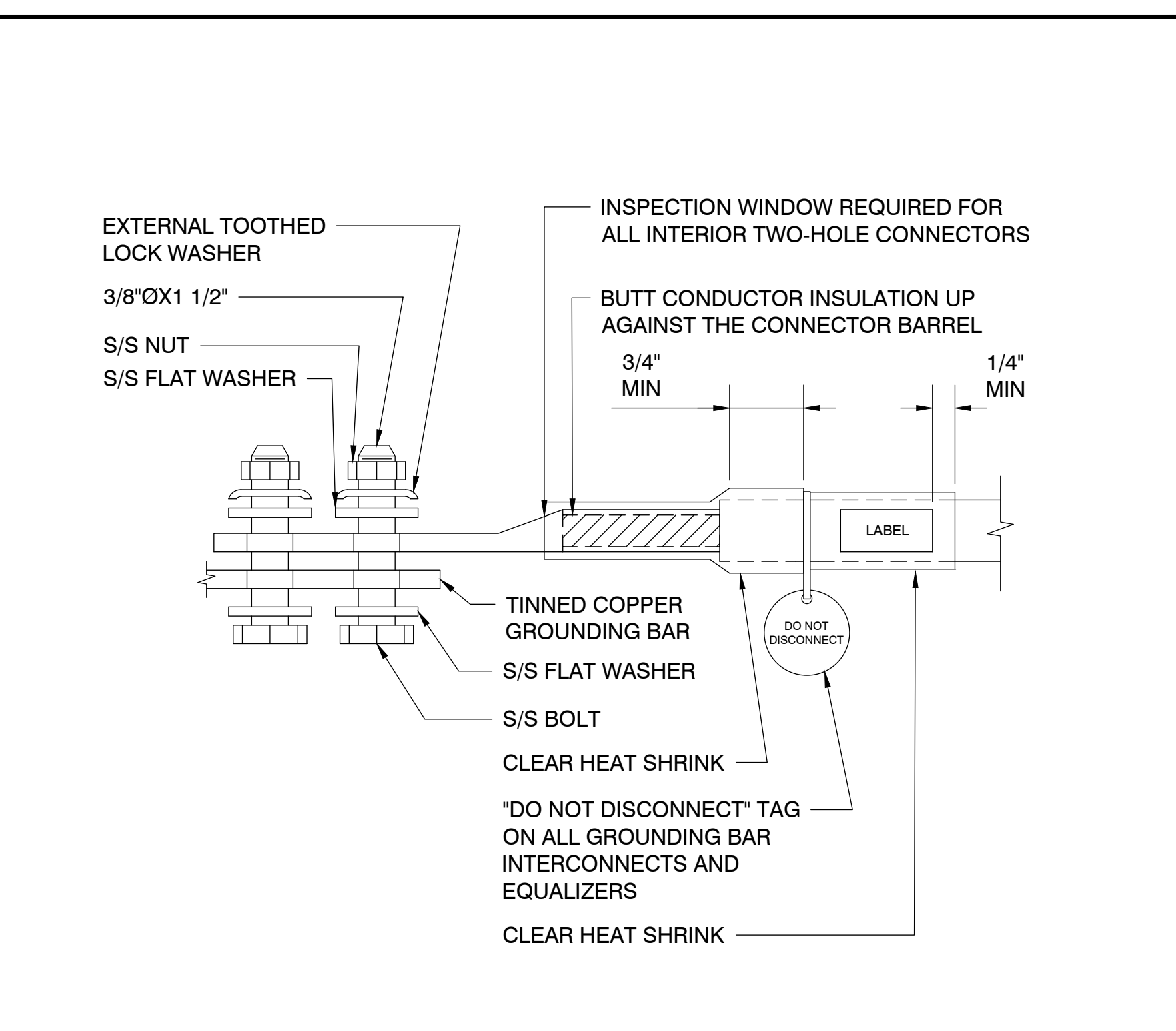
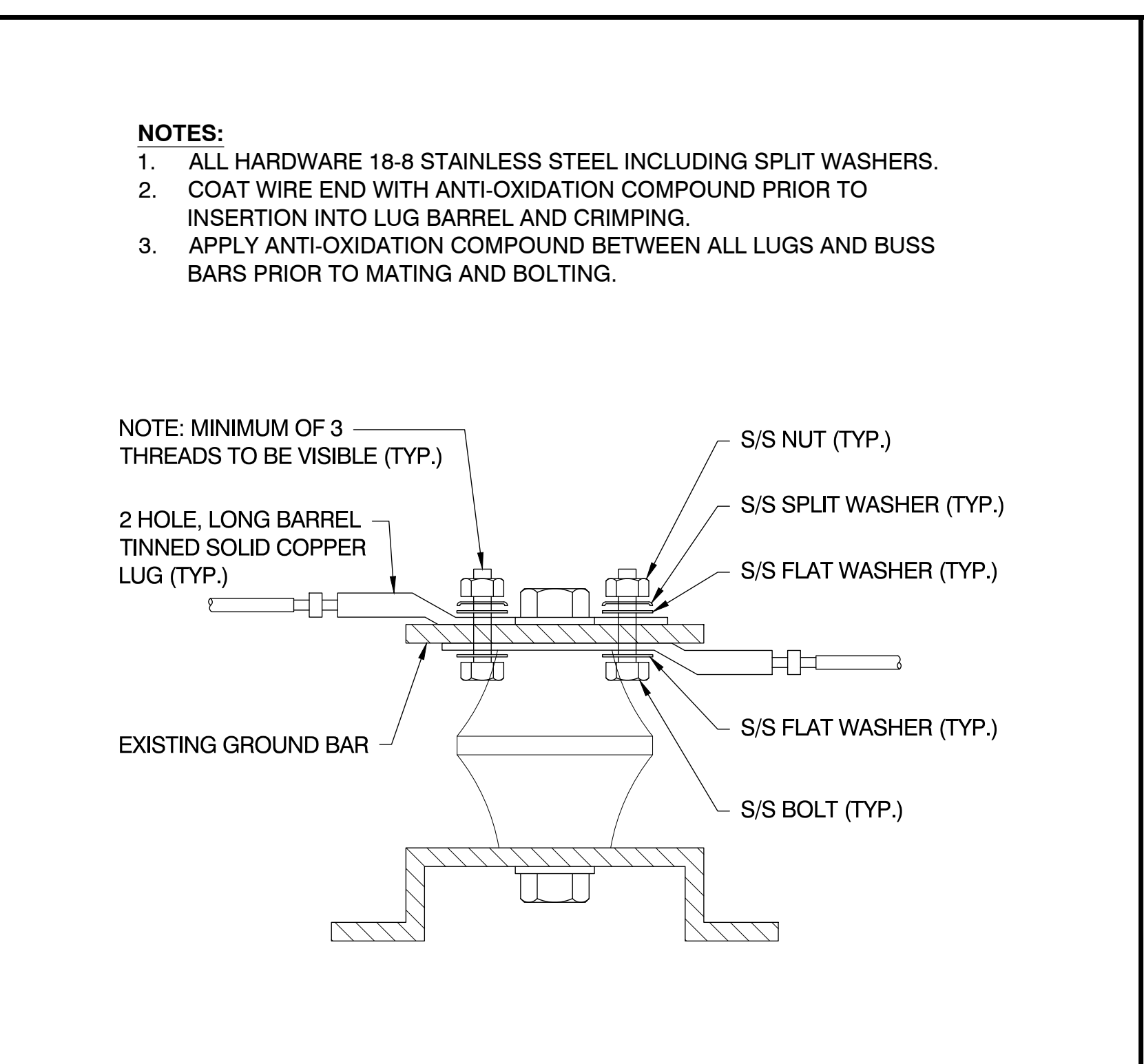
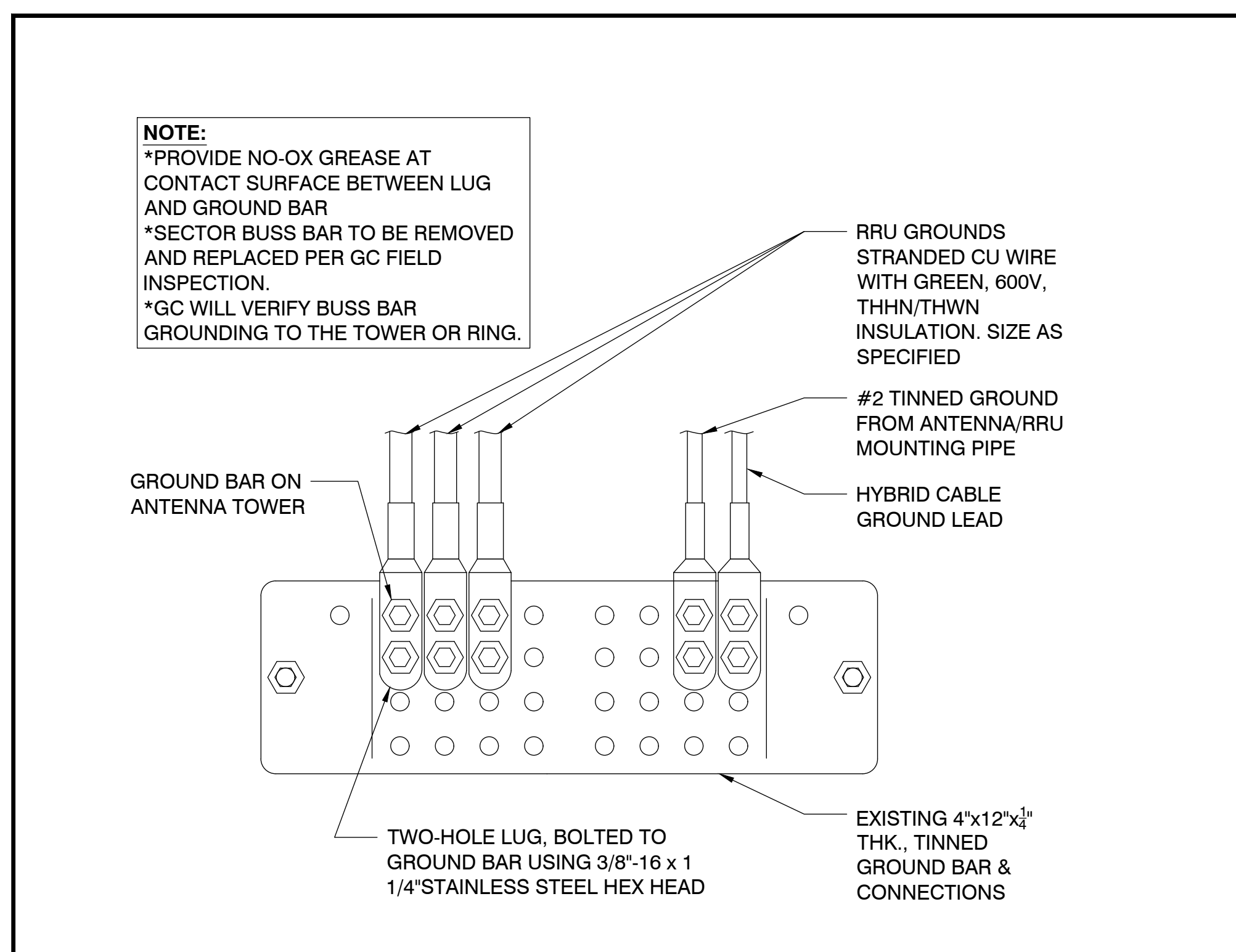
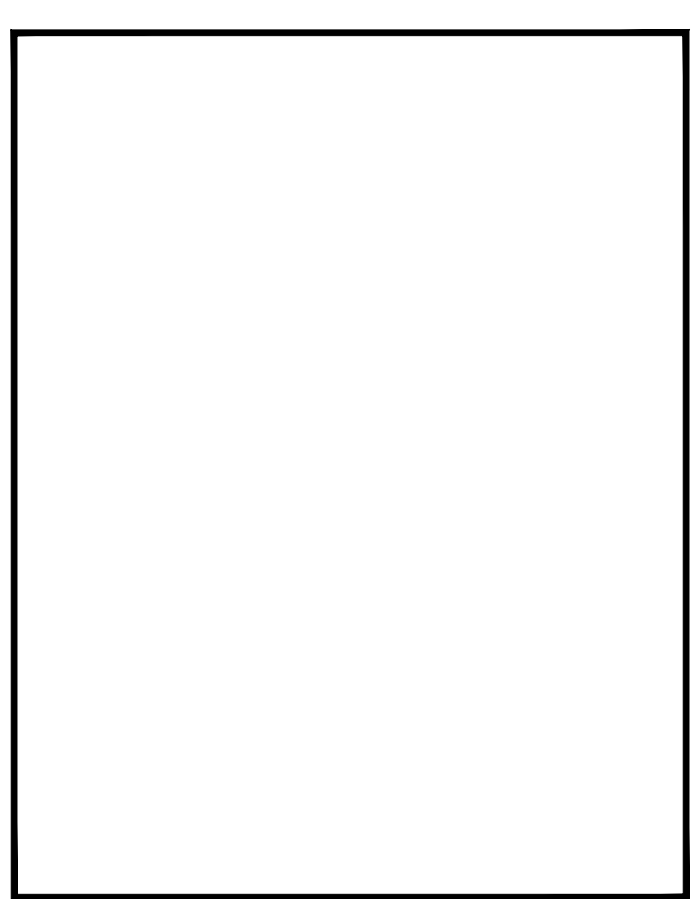
MT. PITTSBURGE

15743 PHANTOM CANYON VIEW
COLORADO SPRINGS, CO, 81926
EL PASO COUNTY

SHEET TITLE
GROUNDING PLANS & GROUNDING NOTES

SHEET NUMBER
E-1

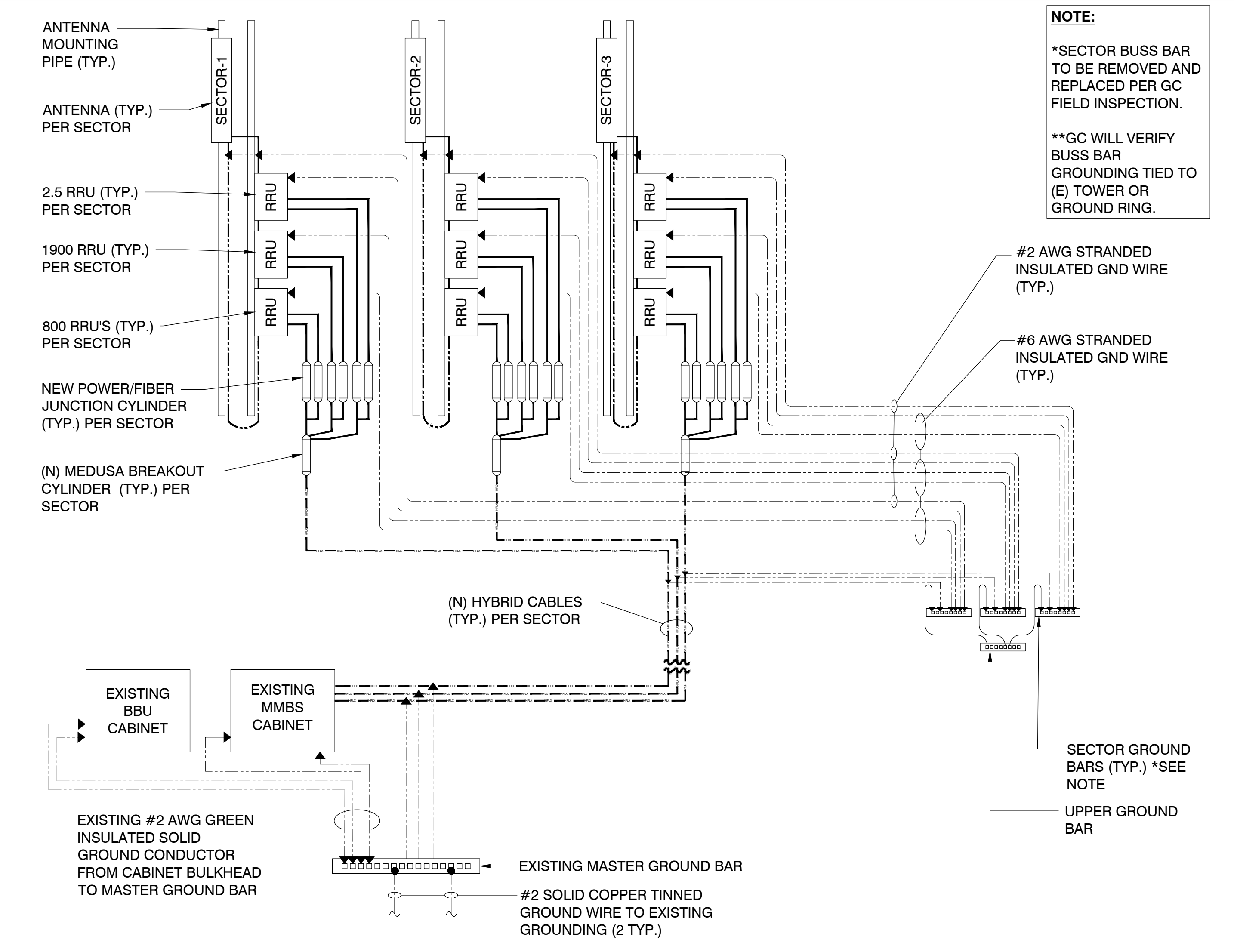
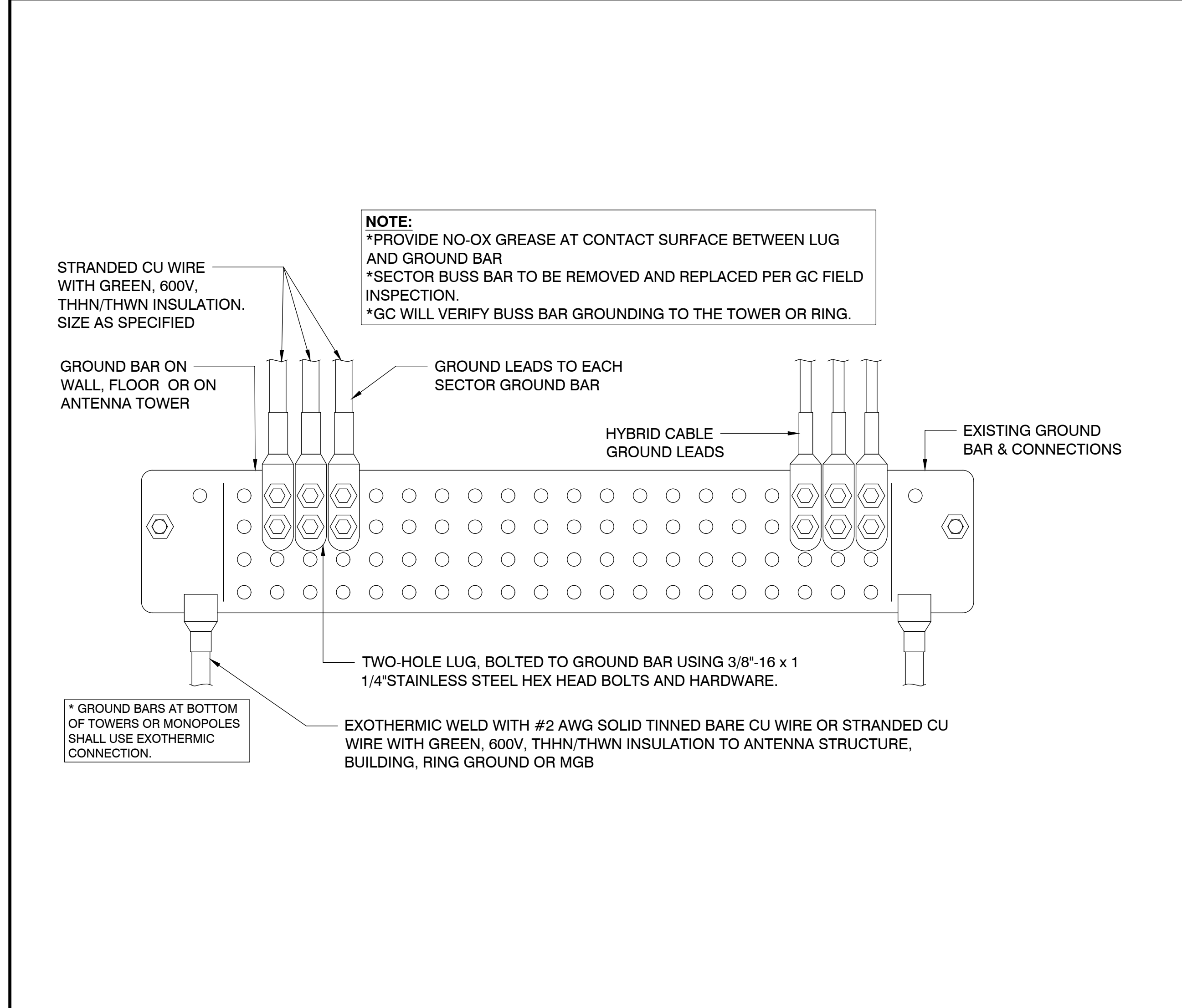
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0	04/24/18	ISSUED FOR FINALS	CGS



SCALE: NTS 1 **SECTOR GROUND BAR CONNECTIONS**

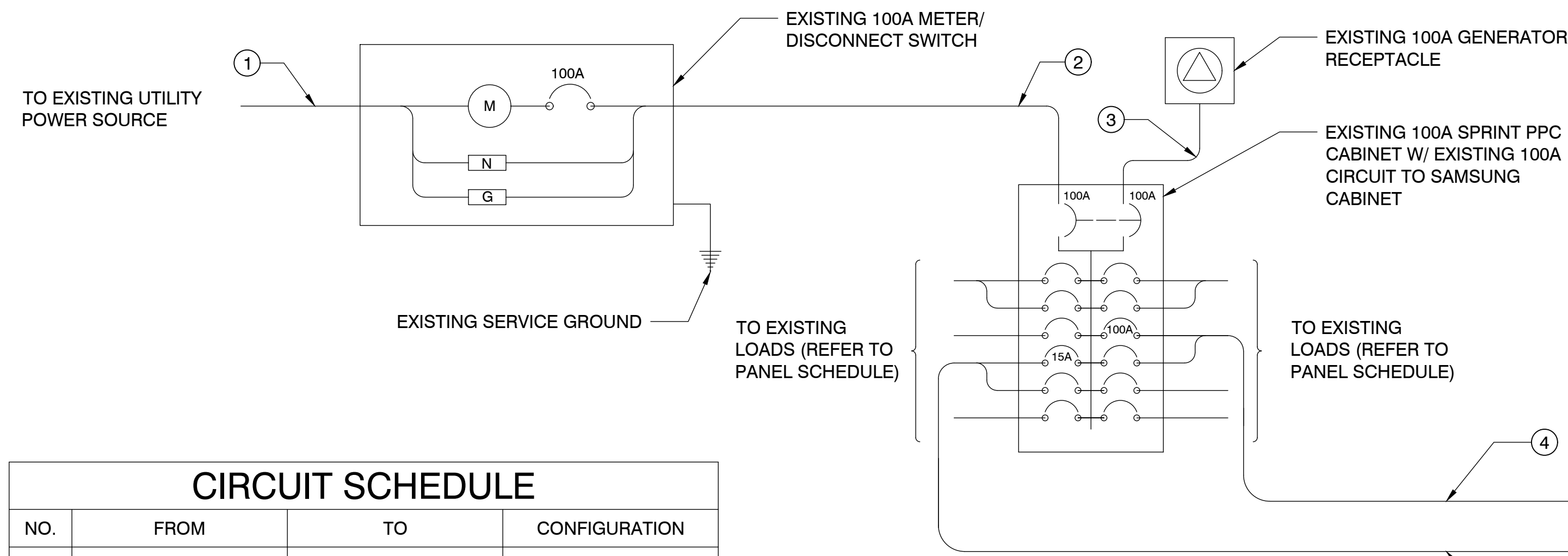
SCALE: NTS 2 **GROUND LUG DETAIL**

SCALE: NTS 3 **TWO HOLE LUG DETAIL**



SCALE: NTS 4 **MASTER GROUND BAR CONNECTIONS**

SCALE: NTS 5 **GROUNDING RISER DIAGRAM**



CIRCUIT SCHEDULE			
NO.	FROM	TO	CONFIGURATION
①	UTILITY SOURCE	METER/DISCONNECT	EXISTING
②	METER/DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
③	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
④	TRANSFER & LOAD CENTER	EXISTING MMBS CABINET	EXISTING
⑤	TRANSFER & LOAD CENTER	EXISTING BBU CABINET	EXISTING

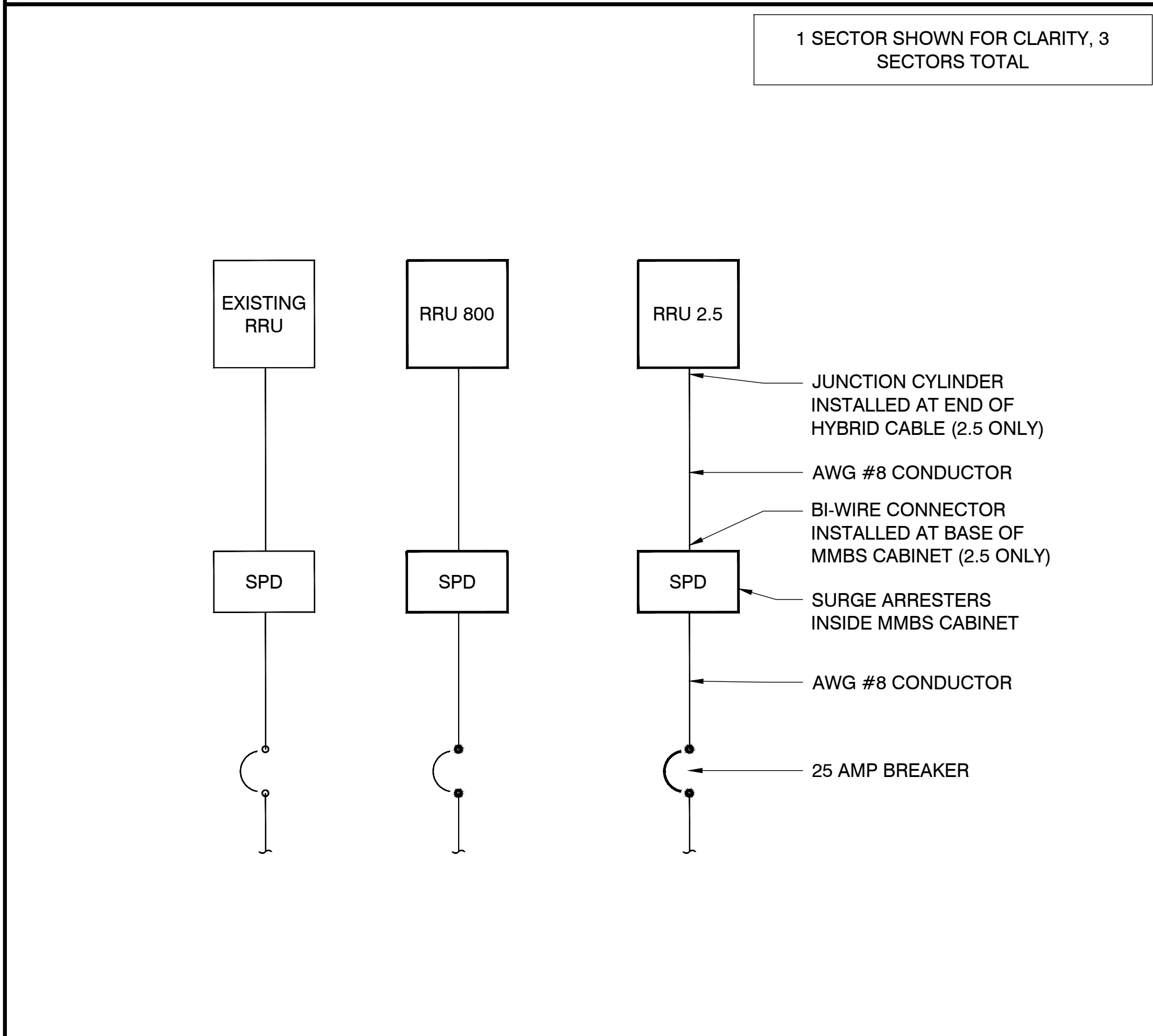
- ELECTRICAL NOTES:**
- ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL LOCAL AND STATE CODE, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
 - CONTRACTOR SHALL COORDINATE WITH LOCAL POWER COMPANY FOR REQUIREMENTS OF POWER SERVICE LINE TO THE METER BASE. POWER SERVICE REQUIREMENTS IS COMMERCIAL. AC NOMINAL 120/208 VOLT OR 120/240 VOLT, SINGLE PHASE WITH 200 AMP RATING.
 - CONTRACTOR SHALL COORDINATE WITH LOCAL TELEPHONE COMPANY FOR SERVICE LINE REQUIREMENTS TO TERMINATE AT THE PPC CABINET.
 - CONTRACTOR SHALL FURNISH AND INSTALL ELECTRIC METER BASE AND 200A DISCONNECT SWITCH PER SITE PLAN AND DETAIL DRAWINGS. THE METER BASE SHOULD BE LOCATED IN A MANNER WHERE ACCESSIBLE BY THE LOCAL POWER COMPANY.
 - LOCAL POWER COMPANY SHALL PROVIDE 200 AMP ELECTRIC METER. CONTRACTOR SHALL COORDINATE INSTALLATION OF METER WITH LOCAL POWER COMPANY.
 - UNDERGROUND POWER AND TELCO SERVICE LINES SHALL BE ROUTED IN A COMMON TRENCH. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 AND CONDUIT EXPOSED ABOVE GROUND SHALL BE GALVANIZED RIGID STEEL TUBING UNLESS OTHERWISE INDICATED.
 - ALL TELCO CONDUIT LINES SHALL BE 4" SCH. 40 PVC CONDUIT UNLESS OTHERWISE INDICATED. THE TELCO CONDUIT FROM THE PPC SHALL BE ROUTED AND TERMINATED AT DESIGNATED TELCO DEMARCATION OR 2-FEET OUTSIDE FENCED AREA, NEAR UTILITY POLE (IN FENCED AREA), OR END CAP OFF AND PROVIDE MARKER STAKE PAINTED BRIGHT ORANGE WITH DESIGNATION FOR TELCO SERVICE.
 - CONDUITS INSTALLED AT PCS EQUIPMENT ENDS PRIOR TO THE EQUIPMENT INSTALLATION SHALL BE STUBBED AND CAPPED AT 6" ABOVE GRADE OR PLATFORM. IF SERVICE LINES CAN'T BE INSTALLED INITIALLY, PROVIDE NYLON PULL CORD IN CONDUITS.
 - THE SPRINT CABINET, INCLUDING 200 AMP LOAD PANEL AND TELCO PANEL, SHALL BE PROVIDED BY OWNER AND INSTALLED BY THE CONTRACTOR. CONTRACTOR IS TO INSTALL BREAKER(S) NOT PROVIDED BY MANUFACTURER. SEE PANEL SCHEDULE ON THIS SHEET FOR BREAKER REQUIREMENTS.
 - LOCATION OF ELECTRIC METER AND DISCONNECT SWITCH TO BE PROVIDED BY GENERAL CONTRACTOR.
 - #2 WIRE TO BE UTILIZED IN ELECTRIC SERVICE RUNS EXCEEDING 100'.
 - CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OR 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.
 - LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
 - THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
 - PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
 - ALL CONDUITS SHALL BE MET WITH BENDS IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12 MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
 - ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
 - ALL WIRE SHALL BE "TYPE THWN" SOLID, ANNEALED COPPER UP TO SIZE 1/10 AWG (18 AND LARGER SHALL BE CONCENTRIC STRANDED) 75 DEGREE C, (167 DEGREES F), 98" CONDUCTIVITY, MINIMUM #12.
 - LL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY OR APPROVED EQUAL.
 - ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
 - CONDUIT ROUGH-IN SHALL COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
 - ALL PANEL DIRECTORIES SHALL BE TYPE WRITTEN NOT HAND WRITTEN.
 - INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES AND ALL DISCONNECT SWITCHES, STARTERS AND EQUIPMENT CABINETS.
 - THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS. DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
 - ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAME PLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS). PROVIDE SAMPLE FOR CONSTRUCTION MANAGER'S APPROVAL.
 - ALL ELECTRICAL DEVICES AND INSTALLATION OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACT AS ADOPTED BY THE APPLICABLE STATE.
 - ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAME PLATE DATE FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASE UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS).
 - LOCATION OF ALL OUTLET, BOXES, ETC. AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.



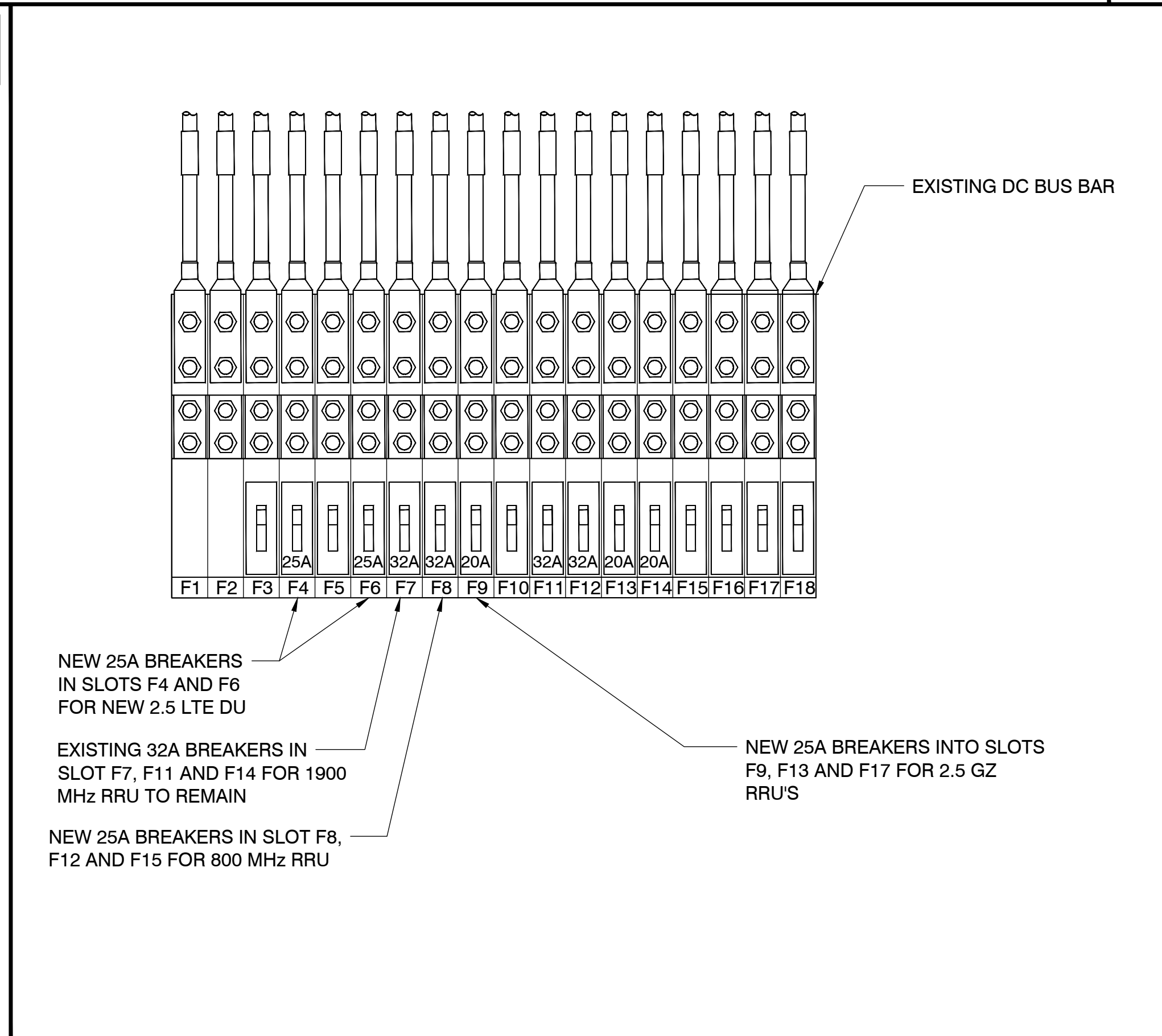
SITE NUMBER:	DE06AL098
DRAWN BY:	NAH
CHECKED BY:	KF

REV	DATE	DESCRIPTION	BY
A	9/27/2017	ISSUED FOR REVIEW	NAH
B	12/12/2017	ISSUED FOR REVIEW	JMS
C	12/20/2017	ISSUED FOR REVIEW	JMS
D	12/28/2017	ISSUED FOR REVIEW	JMS
E	01/02/2018	ISSUED FOR REVIEW	JMS
0	04/24/18	ISSUED FOR FINALS	CGS

AC ONE-LINE DIAGRAM



DC ONE-LINE DIAGRAM



2 TYPICAL DC POWER DISTRIBUTION

3 ELECTRICAL NOTES

MT. PITTSBURGE

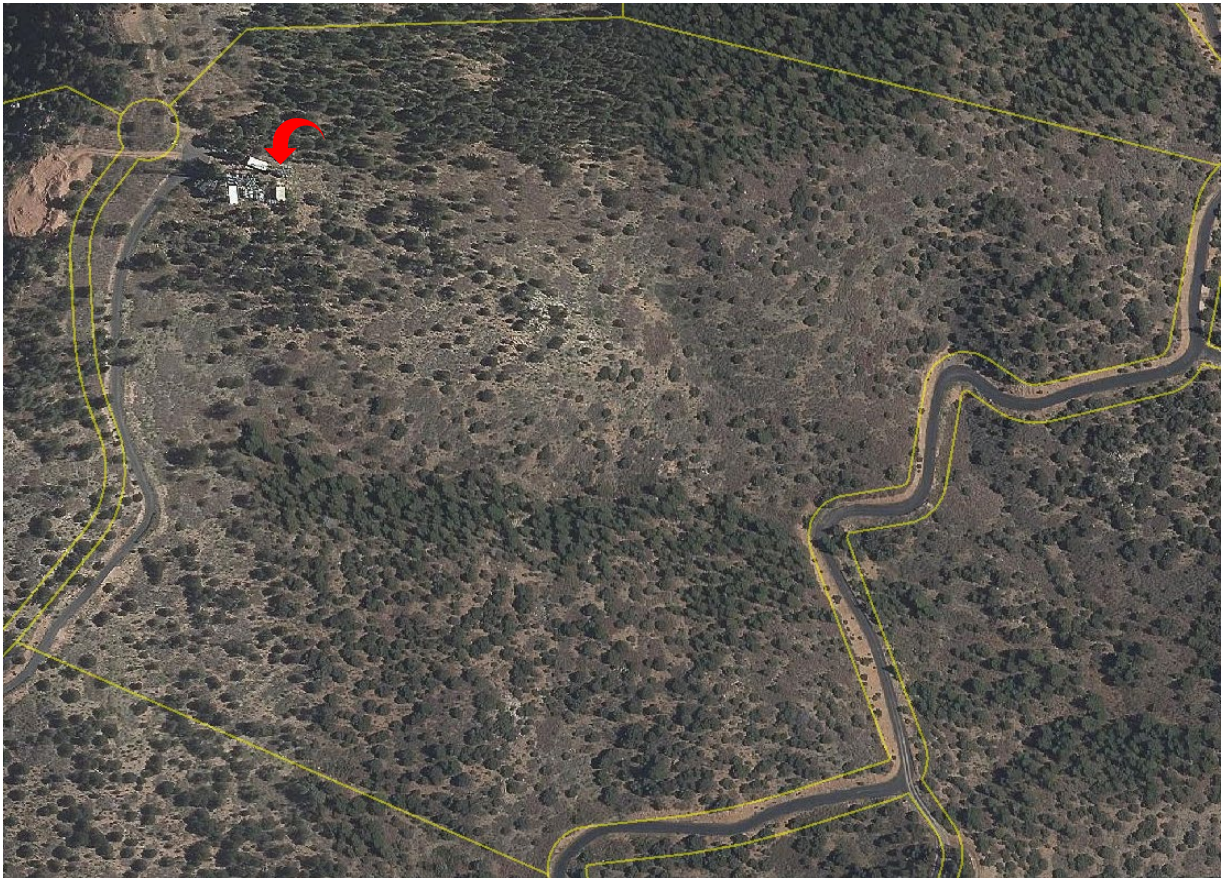
15743 PHANTOM CANYON VIEW
COLORADO SPRINGS, CO, 81926
EL PASO COUNTY

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-3





Proposed equipment upgrade is for the tower furthest to the East.