



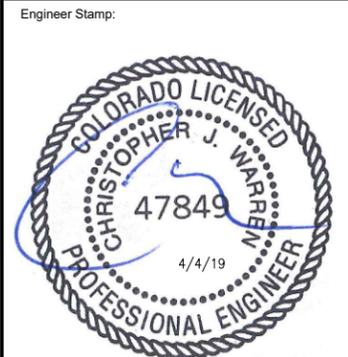
PROJECT:
 SITE NAME:
 SITE CASCADE:
 STREET ADDRESS:
 COUNTY:
 TOWER TYPE:

DO MACRO UPGRADE
 CHAMBERS & HAMPDEN
 DN36XC504
 15528 E. HAMPDEN CIR
 AURORA, CO 80013
 ARAPAHOE
 STEALTH

Prepared By:
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SBA SITE ID: CO46105



Signed: _____ Date: _____

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Rev.	Submittal / Revision	App'd	Date
1	REVISED PER ANTENNA	JR	4/4/19
0	ISSUED FOR CONSTRUCTION	EDR	06/04/18
A	ISSUED FOR REVIEW	EDR	04/04/18

Designed: EP Date: 4/4/19
 Approved: EDR Date: 4/4/19

Project Number: 656-003

Site ID/Name: DN36XC504
 CHAMBERS & HAMPDEN

Site Address: 15528 E. HAMPDEN CIR
 AURORA, CO 80013

Prepared For:

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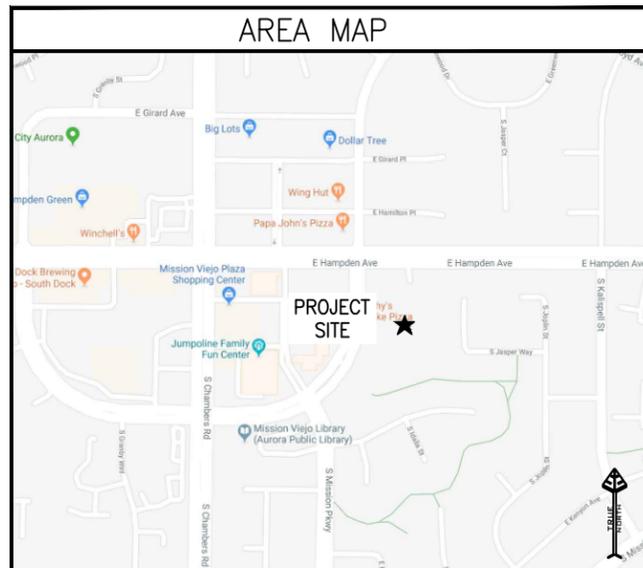
Drawing Scale: AS NOTED Date: 4/4/19

CD

Drawing Title: TITLE SHEET

Drawing Number: T-1

SITE INFORMATION	
PROPERTY OWNER:	US FOREST SERVICE 740 SIMMS ST. ROOM 262 GOLDEN, CO 80401
TOWER OWNER:	SBA
APPLICANT:	SPRINT
SITE ADDRESS:	15528 E. HAMPDEN CIR AURORA, CO 80013
LATITUDE:	39.651972 (39° 39' 07.1" N)
LONGITUDE:	-104.806444 (104° 48' 23.2" W)
JURISDICTION:	ARAPAHOE COUNTY
ZONING:	UNDEVELOPED
CURRENT USE:	UNMANNED TELECOMMUNICATION FACILITY
ASSESSORS PARCEL:	TBD



PROJECT DESCRIPTION
SPRINT PROPOSES THE MODIFICATION OF AN UNMANNED WIRELESS BROADBAND FACILITY:
ANTENNA LEVEL:
<ul style="list-style-type: none"> (3) EXISTING ANTENNA TO BE REMOVED (1) EXISTING ANTENNA CANISTER TO BE REMOVED (1) NEW SPRINT ANTENNA TO BE INSTALLED (18) NEW COAX CABLES TO BE INSTALLED
MAIN EQUIPMENT LEVEL:
<ul style="list-style-type: none"> INSTALL NEW BATTERY STRING IN EXISTING BBU UPGRADE EXISTING MMBS WITH 2.5 BASEBAND UNIT (6) NEW SPRINT RRUS TO BE INSTALLED AT GROUND LEVEL

DRAWING INDEX	
SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
GN-1	GENERAL NOTES
GN-2	GENERAL NOTES
A-1	OVERALL SITE PLAN & COMPOUND PLAN
A-2	EXISTING & NEW EQUIPMENT PLAN
A-3	EXISTING & NEW TOWER ELEVATIONS
A-4	EXISTING & NEW ANTENNA PLANS / ANTENNA SCHEDULE
A-5	COLOR CODING
D-1	EQUIPMENT DETAILS
D-2	EQUIPMENT DETAILS
E-1	GENERAL ELECTRICAL NOTES
E-2	ONE-LINE DIAGRAM/PANEL SCHEDULE
E-3	DC DISTRIBUTION & ANTENNA GROUNDING PLAN & DIAGRAM
E-4	GROUNDING DETAILS

PROJECT TEAM	
PROJECT MANAGEMENT:	SBA COMMUNICATIONS 8051 CONGRESS AVE. BOCA RATON, FL 33487
PROFESSIONAL ENGINEER:	INFINIGY ENGINEERING, PLLC 2500 W. HIGGINS ROAD SUITE 500 HOFFMAN ESTATES, IL 60169
CONTACT:	EDDIE RIOS (847) 648-4068
SITE ACQUISITION & ZONING:	SBA COMMUNICATIONS 8051 CONGRESS AVE. BOCA RATON, FL 33487



APPLICABLE CODES
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:
<ul style="list-style-type: none"> 2015 INTERNATIONAL BUILDING CODE 2017 NATIONAL ELECTRICAL CODE 2009 INTERNATIONAL ENERGY CONSERVATION CODE, IECC LOCAL BUILDING CODES CITY/COUNTY ORDINANCES
HTTPS://LIBRARY.MUNICODE.COM/CO/AURORA/CODES/BUILDING_AND_ZONING?NODEID=BUZOCO_CH22BUBURE
<p>TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN COLORADO, CALL COLORADO 811 TOLL FREE: 1-800-922-1987 OR www.co811.org COLORADO STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE</p> <p>Know what's below. Call before you dig.</p>

APPROVALS	
THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.	
SPRINT ENGINEER: _____	DATE: _____
SPRINT OPERATIONS: _____	DATE: _____
SITE ACQUISITION: _____	DATE: _____
CONSTRUCTION MANAGER: _____	DATE: _____
PROPERTY OWNER: _____	DATE: _____
ZONING: _____	DATE: _____
PROJECT MANAGER: _____	DATE: _____

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE. PORTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS NEW.

DO NOT SCALE DRAWINGS

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

GENERAL NOTES

- ALL PLANS AND SPECIFICATIONS ARE INTENDED TO INCLUDE ALL ITEMS REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THIS WORK. ANY ITEM OR WORK MENTIONED IN THE SPECIFICATION AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS SHALL BE PROVIDED BY THE CONTRACTOR AS IF INCLUDED IN BOTH.
- THE DOCUMENTS FOR THIS PROJECT CONSIST OF DRAWINGS, AND SPECIFICATIONS PREPARED BY INFINIGY.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY CONTRACT DOCUMENTS, CONSTRUCTION DOCUMENTS, SPECIFICATIONS AND SHOP DRAWINGS, AND ANY OTHER INFORMATION REQUIRED TO COORDINATE ALL INTENDED WORK.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS, BONDS, OCCUPANCY PERMITS AND FEES.
- ALL WORK NOTED "BY OTHER" OR "N.I.C." IS TO BE THE RESPONSIBILITY OF THE OWNER AND IS NOT TO BE PART OF THE GENERAL CONTRACTORS, CONSTRUCTION AGREEMENT. THE GENERAL CONTRACTOR SHALL COOPERATE WITH OWNER TO COORDINATE SAID WORK WITH OWNERS CONTRACTOR.
- THE GENERAL CONTRACTOR SHALL PROVIDE ALL MATERIAL, AND LABOR NECESSARY TO COMPLETE THE WORK AS SPECIFIED IN THESE DRAWINGS AND SPECIFICATION.
- DO NOT SCALE DRAWINGS. DIMENSIONS GOVERN. LARGER SCALE DETAILS GOVERN OVER SMALLER DETAILS. NOTIFY THE ARCHITECT OR ENGINEER OF ANY CONFLICTS.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, PROPOSED AND EXISTING CONDITIONS ON THE SITE AND THOSE SHOWN ON THESE DRAWING PRIOR TO ORDERING OR STARTING ANY WORK. GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT OR ENGINEER OF ANY DISCREPANCIES, OMISSIONS AND/OR CONFLICTS BEFORE COMMENCEMENT OF ANY WORK.
- THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT OR ENGINEER OF ANY DISCREPANCIES BETWEEN THE CONSULTANTS DRAWINGS AND INFINIGY'S DOCUMENTS.
- NO PLEA OF IGNORANCE ON THE PART OF CONTRACTOR OR SUBCONTRACTOR REGARDING ANY EXISTING CONDITIONS SHALL BE VALID ONCE THE CONTRACT BETWEEN OWNER AND CONTRACTOR HAS BEEN EXECUTED.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO ADJACENT WORK THAT OCCUR, AND SHALL TAKE CARE TO PREVENT DAMAGE TO ALL OTHER TRADES LABOR AND MATERIAL. ALL SHALL REPAIR SUCH DAMAGE AT THEIR OWN EXPENSE. THIS INCLUDES TRACES OF SPLASHES, DROPPINGS, SMUDGES, AND ALL OTHER FOREIGN MATTER FROM ALL WALLS, FLOORS AND CEILINGS.
- ALL MATERIAL TO BE USED FOR THIS PROJECT SHALL BE STORED IN A LEVEL AND DRY MANNER SO AS NOT TO OBSTRUCT THE COMPLETION OF OTHER WORK.
- THE GENERAL CONTRACTOR SHALL SECURE ALL REQUIRED SHOP DRAWINGS AND REVIEW THEM FOR ANY ERROR PRIOR TO SUBMITTING THEM TO THE OWNER OR ARCHITECT.
- THE GENERAL CONTRACTOR SHALL SUBMIT ALL NECESSARY PRODUCT DATA WHICH CLEARLY INDICATES THAT THE PRODUCT MEETS OR EXCEEDS ITEMS SPECIFIED.
- ALL WORK PERFORMED SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE AND FEDERAL BUILDING CODES IN CASE OF A CONFLICT THE MORE STRINGENT INTERPRETATION SHALL APPLY.

- CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL LAWS, REGULATIONS, AND RULES PROMULGATED BY FEDERAL STATE AND LOCAL AUTHORITIES WITH JURISDICTION OVER THE SALTIER. THIS RESPONSIBILITY IS IN EFFECT REGARDLESS OF WHETHER THE LAW, ORDINANCE, REGULATION OR RULE IS MENTIONED IN THESE DOCUMENTS.
- CONTRACTOR SHALL HAVE AND MAINTAIN A VALID CONTRACTOR'S LICENSE FOR THE LOCATION IN WHICH THE WORK IS TO BE PERFORMED. FOR JURISDICTIONS THAT LICENSE INDIVIDUAL TRADES, THE TRADESMAN OR SUBCONTRACTOR PERFORMING THOSE TRADES SHALL BE LICENSED. RESEARCH AND COMPLY WITH THE LICENSING LAWS, PAY LICENSE FEES, AND SELECT AND INFORM SUBCONTRACTORS REGARDING THESE LAWS.
- FOLLOW ALL APPLICABLE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION AND STATE LAWS BASED IN THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT. THESE REGULATIONS INCLUDE, BUT ARE NOT LIMITED TO, REGULATIONS DEALING WITH TOWER CONSTRUCTION AND SAFETY, EXCAVATIONS AND TRENCHING, AND WORK IN CONFINED SPACES. ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES DURING CONSTRUCTION.
- PROVIDE PHOTOGRAPHIC EVIDENCE OF ALL FOUNDATION INSTALLATION, GROUNDING, AND TRENCHING AFTER PLACEMENT OF UTILITIES PRIOR TO BACKFILL.
- CONTRACTOR SHALL SUBMIT CONSTRUCTION DOCUMENTS TO THE JURISDICTIONAL AUTHORITY FOR PLAN CHECK AND REVIEW. CONTRACTOR WILL SUBMIT LICENSING AND WORKMAN'S COMPENSATION INFORMATION TO THE JURISDICTION AS REQUIRED TO OBTAIN THE BUILDING PERMIT, CONTRACTOR SHALL COORDINATE AND SCHEDULE REQUIRED INSPECTIONS AND POST REQUIRED PERMITS AT THE JOB SITE. COMPLY WITH SPECIFIC PROJECT RELATED REQUESTS AND SUGGESTION MADE BY BUILDING INSPECTOR, AND INFORM CONSTRUCTION MANAGER OF ANY SUCH WORK THAT MAY BE BEYOND THE SCOPE OF THE CONTRACT OR DEVIATE FROM THE CONSTRUCTION DOCUMENTS, SPRINT WILL REIMBURSE THE CONTRACTOR FOR FEES, FOR PLAN REVIEW, BUILDING PERMIT. CONNECTIONS, AND INSPECTION. (INCLUDED IN THE BASE PROPOSAL).
- CONTRACTOR SHALL SUBMIT FOR AND OBTAIN ALL ZONING AND CONDITIONAL USE PERMITS, SOME USE PERMITS MAY HAVE SPECIFIC REQUIREMENTS FOR THE SITE RELATED TO CONSTRUCTION, SUCH AS NOISE REGULATIONS, HOURS OF WORK. ACCESS LIMITATIONS, ETC. THE CONSTRUCTION MANAGER WILL INFORM THE CONTRACTOR OF THESE REQUIREMENTS AT THE PRE-BID MEETING OR AS SHOWN IN THE CONSTRUCTION DOCUMENTS.

CONSTRUCTION ADMINISTRATION

- PRIOR TO STARTING CONSTRUCTION GENERAL CONTRACTOR SHALL ASSIGN A PROJECT MANAGER THAT WILL BE RESPONSIBLE FOR THE COORDINATION AND SCHEDULING OF ALL WORK. THIS PROJECT MANAGER SHALL BE THE SINGLE CONTACT PERSON FOR ALL PERSONNEL WORKING ON THIS PROJECT. PRIOR TO THE START OF THIS PROJECT THE PROJECT MANAGER SHALL SCHEDULE A ON-SITE MEETING WITH ALL CONTRACTORS INVOLVED IN THIS PROJECT.
- PRIOR TO STARTING CONSTRUCTION THE GENERAL CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE TO THE OWNER AND INFINIGY'S REPRESENTATIVE FOR THEIR REVIEW.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING DAILY PROGRESS REPORTS THAT, INCLUDE ALL CONTRACTORS WORKING ON THE JOB SITE, MATERIALS ON SITE AND WEATHER CONDITIONS. THE GENERAL CONTRACTOR SHALL PROVIDE A WRITTEN WEEKLY REPORT TO THE OWNER AND TRILEAF FOR REVIEW.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL OSHA, AND WPCS SAFETY REQUIREMENTS DURING CONSTRUCTION.
- PRIOR TO POURING ANY CONCRETE, TOWER ERECTIONS OR TELECOM. EQUIPMENT BEING DONE, THE GENERAL CONTRACTOR SHALL PROVIDE THE PROJECT MANAGER AND TRILEAF WITH 48 HOUR NOTICE.
- EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEAN UP OF ALL MATERIAL AND DEBRIS.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL NECESSARY INSPECTIONS AS REQUIRED.
- TRILEAF SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, MATERIAL AND / OR METHODS OTHER THEN WHAT IS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS
- THE GENERAL CONTRACTOR SHALL FOR THE DURATION OF THE PROJECT CARRY AND MAINTAIN AT THEIR OWN EXPENSE ALL REQUIRED BONDS AND INSURANCES AS SPECIFIED IN MASTER AGREEMENT AND/OR CONSTRUCTION CONTRACT. THE INSURANCE SHALL LIST THE OWNER AS ADDITIONAL INSURED ON ALL POLICIES.
- GENERAL CONTRACTOR SHALL PROVIDE WRITTEN PROOF OF ALL REQUIRED BONDS AND INSURANCE.

EXCAVATION AND GRADING

- GENERAL CONTRACTOR SHALL NOTIFY ALL INSPECTORS AS REQUIRED, PRIOR TO POURING ANY AND ALL CONCRETE.
- CONTRACTOR SHALL VERIFY ALL FILL MATERIAL REQUIRED WITH LOCAL AND PUBLIC HIGHWAY DEPARTMENTS.
- ALL CONCRETE SHALL BE PLACED ON UNDISTURBED SOIL WITH A MIN. ALLOWABLE SOIL BEARING CAPACITY OF 3000 LBS PER SQUARE FOOT UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL REMOVE ALL ORGANIC MATERIAL TO A MIN. OF 6" BELOW GRADE.
- REMOVE ALL TREES, BRUSH AND DEBRIS FROM SITE AREA AND ACCESS ROAD RIGHT OF WAY AS REQUIRED.
- GENERAL CONTRACTOR SHALL REMOVE ALL SOFT SPOTS AND UNSTABLE SOIL CONDITIONS, AND COMPACT TO 85% STANDARD PROCTOR, WHERE NECESSARY PROVIDE STABILIZER MAT PRIOR TO INSTALLING ANY FILL OR BASE MATERIAL.
- ALL COMPACTING SHALL BE DONE BY MECHANICAL MEANS. LARGER AREAS SHALL USE SHEEPS FOOT, VIBRATORY OR RUBBER TIED ROLLERS, OF AT LEAST 5 TONS. SMALLER AREAS SHALL BE COMPACTED BY POWER DRIVEN HAND HELD TAMPERS. WATER TREATMENT MAY BE REQUIRED TO OBTAIN COMPACTION.
- ALL EARTH WORK WITH ON SITE MATERIAL SHOULD BE PERFORMED WHEN TEMPERATURES ARE ABOVE FREEZING. FROZEN SOIL SHOULD NOT BE USED BENEATH STRUCTURES. ALL FOUNDATION EXCAVATION MUST BE INSULATED AGAINST FREEZING UNTIL CONSTRUCTION OF FOUNDATION IS COMPLETED.
- ALL EXCESS SPOILS SHALL BE REMOVED FROM SITE.
- ALL STONE FILL SHALL BE PLACED IN MAX. 6" LIFTS IN ACCORDANCE WITH ASTM-D1557. WITH 95% PROCTOR UNDER SLABS.
- IN AREAS OF COMPACTED FILL WITH IN THE FOUNDATION LINE BACKFILLING AGAINST BOTH SIDES OF FOUNDATION SHALL BE DONE AT THE SAME RATE TO PREVENT STRESS AND OVERTURNING OF FOUNDATION.
- ACCESS ROAD SHALL BE BROUGHT UP TO BASE COURSE LEVEL PRIOR TO PLACING FOUNDATION.
- ALL SITE GRADING INCLUDING, SWALES, CULVERTS, AND DITCHES SHALL BE PLACED SO THAT NO WATER IS DIRECTED TO ADJACENT SITE.
- WHERE SITE SLOPES OF ALL FENCED AREAS, PARKING AREAS EXCEEDS 2:1, RIPRAP SHALL BE APPLIED TO SLOPED SIDES. ALL CULVERT OPENING SHALL HAVE RIPRAP FOR THE ENTIRE FIRST 6'-0" OF DITCH.
- ALL GRADING AND EXCAVATION SHALL INCLUDE, GRADING, DITCHING AND BANKING UNLESS OTHERWISE NOTED.
- AFTER FINAL GRADING, ANY DEPRESSIONS THAT ALLOW PONDING WILL BE REJECTED.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL EROSION CONTROL DEVICES INCLUDING, BUT NOT LIMITED TO, SILT FENCE AROUND THE CONSTRUCTION LIMITS, STONE ACCESS DRIVES, AND FILTER FABRIC PROTECTORS AND STRAW BALES AROUND ALL MANHOLES AND INLETS PER DETAILS.

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Project Manager:

 SBA SITE ID: CO46105

Engineer Stamp:


Signed: _____ Date: _____

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Drawing Scale: AS NOTED Date: 4/4/19 **CD**

Drawing Title: GENERAL NOTES

Drawing Number: GN-1

ANTENNA & TOWER CONSTRUCTION

1. THIS SECTION INCLUDES THE INSTALLATION OF SIDE ARMS, MICROWAVE DISH ANTENNAS, GALVANIZED STEEL ANTENNA MOUNTS, AND WAVEGUIDE BRIDGE AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS.
2. ANTENNA CONTRACTOR SHALL VERIFY ALL REQUIREMENTS WITH CELL PROVIDERS REPRESENTATIVE PRIOR TO STARTING CONSTRUCTION.
3. PROVIDE MATERIAL AND LABOR TO IN INSULATED GROUND BAR AT EQUIPMENT CABINET. SEE GROUNDING NOTES
4. ANTENNA CONTRACTOR SHALL PERFORM ALL NECESSARY FIELD TEST, INCLUDING SWEEP TEST.
5. THE FOLLOWING REGULATOR AGENCIES APPLY TO THIS SECTION
- A. EIA ELECTRONIC INDUSTRIES ASSOCIATION TIA/EIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORT STRUCTURES.
- B. FAA FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70-7460-IH. OBSTRUCTION MARKING AND LIGHTING. IN ALL CASES PART 77.
- C. FCC FEDERAL COMMUNICATIONS COMMISSION RULES AND REGULATIONS FORM # 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES AND FORM 715A. HIGH INTENSITY OBSTRUCTIONS LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES. AND IN ALL CASES PART 17, AND 22.
- D. AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- E. NEC NATIONAL ELECTRICAL CODE, FOR TOWER LIGHTING.
- F. UL UNDERWRITERS LABORATORIES,
- G. NFPA-101 LIFE SAFETY CODE.

STRUCTURAL NOTES

1. ALL DESIGN AND CONSTRUCTION SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE, CURRENT EDITION, AND ANY STATE OR LOCAL CODES THAT APPLY. IF A CONFLICT BETWEEN THE CODES THE MOST RESTRICTIVE CODE APPLIES.
2. DO NOT SCALE DRAWINGS
3. CONTRACTOR SHALL VERIFY ALL EQUIPMENT LOCATIONS AND MOUNT DIMENSIONS PER MANUFACTURES SPECIFICATIONS AND INSTALLATION DRAWINGS PRIOR TO STARTING ANY CONSTRUCTION.
4. CONTRACTOR SHALL PROVIDE A MIN. OF TWO COPIES OF ALL SHOP DRAWINGS TO THE ARCHITECT OR ENGINEER FOR APPROVAL PRIOR TO STARTING ANY INSTALLATION.
5. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, SECTIONS AND DETAIL BETWEEN THESE DOCUMENTS AND THE MANUFACTURES SHOP DRAWINGS AND NOTIFY THE ARCHITECT / ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY BRACING, SHORING, OR ANY OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION.
7. CONTRACTOR SHALL VERIFY ALL SIZES, LOCATIONS AND NUMBER OF FLOOR AND ROOF OPENINGS PRIOR TO STARTING ANY WORK.

GENERAL NOTES

1. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO SPRINT.
2. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
3. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
4. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SYSTEM, FIBER SYSTEM, AND THE GROUNDING SYSTEM AS SHOWN ON THESE DRAWINGS.
5. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES. INSTALLED IN A NEAT MANNER AND SHALL BE SUBJECT TO APPROVAL BY SPRINT.
6. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
7. PROTECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
8. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE SITE OWNERS REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY. USE OF THE PROPERTY'S DUMPSTER IS PROHIBITED.
9. CONTRACTOR TO CONFIRM AVAILABLE CAPACITY AT EXISTING UTILITY PEDESTAL AND ADVISE ENGINEER OF SERVICE SIZE AND FAULT CURRENT LEVEL.
10. IF PEDESTAL DOES NOT HAVE ADEQUATE CAPACITY, CONTRACTOR TO SUBMIT COST QUOTATION TO UPGRADE. UPON APPROVAL OF SUBMITTED COST QUOTATION, THE CONTRACTOR SHALL PROVIDE PROPOSED SERVICE AND/ OR UPGRADE SERVICE. FEEDERS AND EQUIPMENT/ ELECTRODE GROUNDING CONDUCTORS SIZE ACCORDINGLY.
11. CONTRACTOR SHALL VERIFY SEPARATION DIMENSION BETWEEN POWER COMPANY ELECTRICAL CONDUITS AND LP GAS PIPES AS PER UTILITY COMPANY. LOCAL CODES, NEC, NFPA, AND GAS TANK MANUFACTURER'S SPECIFICATION.
12. CONTRACTOR SHALL VERIFY THAT THE TOTAL NUMBER OF SERVICE ENTRANCE DISCONNECTS IN THE EXISTING UTILITY COMPANY PEDESTAL MUST NOT EXCEED SIX. IF THE PROPOSED SERVICE ADDED EXCEEDS THIS VALUE, CONTRACTOR MUST COORDINATE WITH THE UTILITY COMPANY AND AUTHORITY HAVING JURISDICTION. THE RUNNING OF AN ADDITIONAL EXCLUSIVE AND DEDICATED SERVICE LATERAL SET FOR THE PROPOSED LOAD ADDED TO THE COMPOUND AS PER NEC ARTICLE 230-2 (B).
13. THE EQUIPMENT/ PROTECTIONS MUST BE RATED FOR STANDARD AIC RATE HIGHER THAN INCOMING EQUIPMENT AND/ OR UTILITY COMPANY AIC RATE.

ELECTRICAL NOTES

1. REFERENCE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES FOR GENERAL ELECTRICAL REQUIREMENTS.
2. WIRING SHALL BE AWG STRANDED COPPER WITH THHN OR EQUIVALENT INSULATION. #12 MINIMUM INSTALLED IN "MINIMUM CONDUIT. SIGNAL WIRING BE INSULATED #22 AWG. NO BX OR ROMEX CABLE IS PERMITTED. CONDUITS SHALL BE SURFACE MOUNTED.
3. WIRING DEVICES AND EQUIPMENT SHALL BE UL LISTED SPECIFICATIONS GRADE.
4. MATERIALS SHALL BE PROPOSED AND CONFORM TO THE APPLICABLE STANDARDS ESTABLISHED FOR EACH ITEM BY THE ORGANIZATIONS LISTED BELOW. -AMERICAN SOCIETY FOR TESTING MATERIAL (ASTM) - UNDERWRITER LABORATORY (UL) - NATIONAL ELECTRICAL MANUFACTURING ASSOCIATION (NEMA) - AMERICAN STANDARDS ASSOCIATION (ASA) - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
5. INSTALLATION OF MATERIALS SHALL COMPLY WITH REGULATIONS OF: -THE NATIONAL ELECTRIC CODE (NFPA) 70) - THE NATIONAL ELECTRICAL SAFETY CODE (ANSI-2) - THE LIFE SAFETY CODE (NFPA 101) - LOCAL BUILDING CODES.
6. THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDING USING LOCKOUTS AND BONDING NUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTOR. RECEPTACLES AND EQUIPMENT BRANCH CIRCUITS SHALL BE GROUNDING WITH A FULL-SIZE EQUIPMENT GROUNDING CONDUCTOR RUN IN THE CIRCUITS CONDUIT.
7. OUTLET AND JUNCTION BOXES SHALL BE ZINC-COATED OR CADMIUM PLATED STEEL NOT LESS THAN 4" SQUARE AND SUITABLE FOR THE TYPE SERVICE AND OUTLET. OUTLET AND JUNCTION BOXES SHALL BE SURFACE MOUNTED AND LABELED WITH BRANCH CIRCUIT BREAKER NUMBER.
8. LABEL ALL EQUIPMENT SERVED FROM SPRINT PANEL BOARD WITH PHENOLIC LABELS SIZED IN RELATION TO USAGE.
9. INDOOR CONDUCTORS SHALL BE INSTALLED IN EMT UNLESS NOTED OTHERWISE. OUTDOOR CONDUCTORS SHALL BE INSTALLED IN RIGID GALVANIZED STEEL UNLESS NOTED OTHERWISE. WHERE EMT IS USED. IT SHALL BE WITH ONLY LISTED COMPRESSION FITTINGS. NO SET SCREW FITTINGS SHALL BE ALLOWED.
10. CONTRACTOR IS TO PROVIDE AND INSTALL ENGRAVES LABEL ON THE SPRINT METER SOCKET ENCLOSURE.
11. CONTRACTOR IS TO OBTAIN ALL PERMITS, PAY PERMITS FEES, AND BE RESPONSIBLE FOR SCHEDULING INSPECTIONS. THE CONTRACTOR IS TO OBTAIN LOCAL POWER AND TELEPHONE COMPANY APPROVAL & COORDINATE WITH UTILITY COMPANIES SERVICE ENTRANCE REQUIREMENTS.

Prepared By:
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Project Manager:

 SBA SITE ID: CO46105

Engineer Stamp:


Signed: _____ Date: _____

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0	ISSUED FOR CONSTRUCTION	EDR	06/04/18
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Rev.	Submittal / Revision	App'd	Date
Designed:	EP	Date:	4/4/19
Approved:	EDR	Date:	4/4/19

Project Number: 656-003

Site ID/Name: DN36XC504
 CHAMBERS & HAMPDEN

Site Address: 15528 E. HAMPDEN CIR
 AURORA, CO 80013

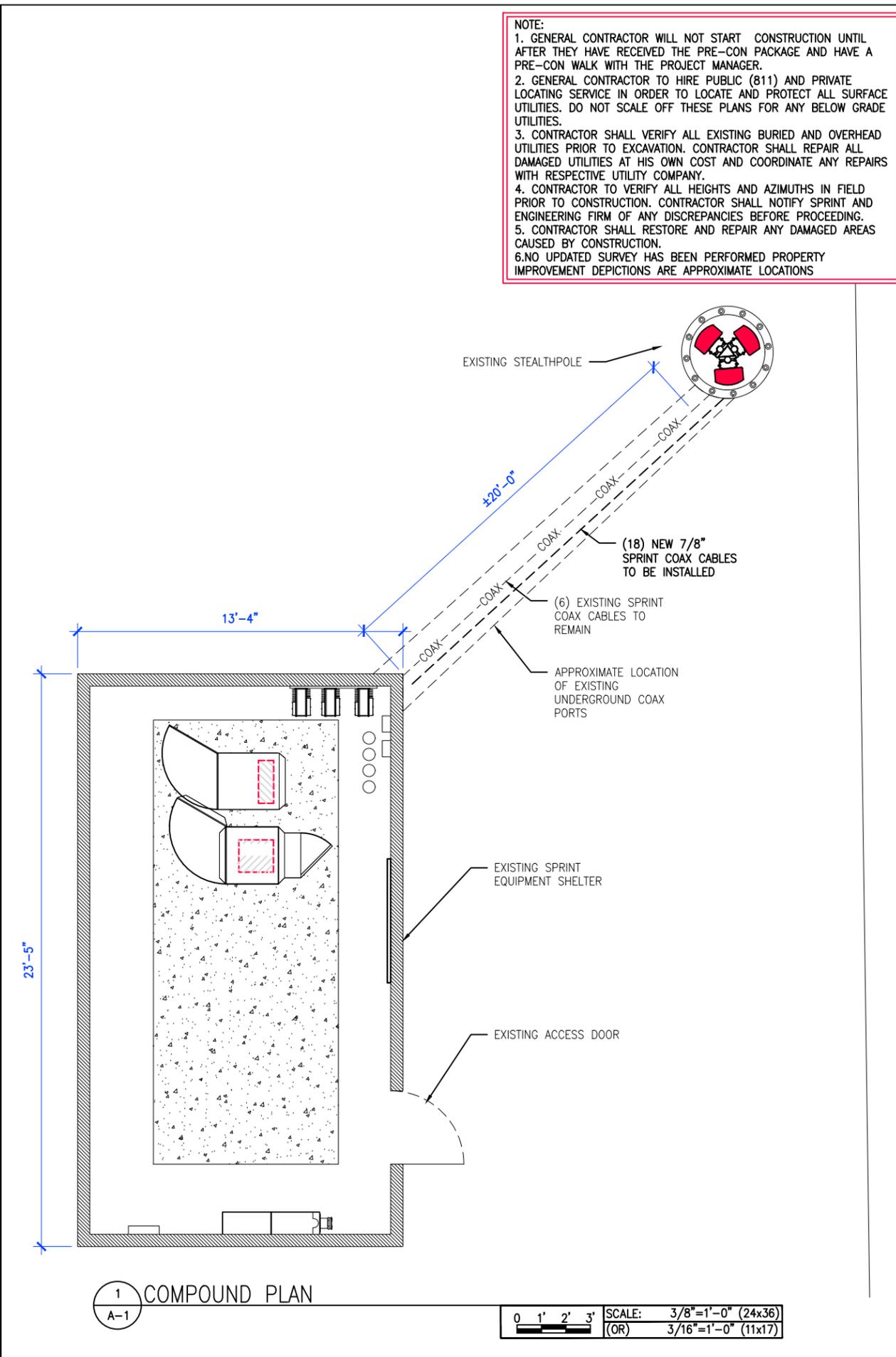
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Drawing Scale: AS NOTED Date: 4/4/19 **CD**

Drawing Title: GENERAL NOTES

Drawing Number: GN-2



NOTE:

1. GENERAL CONTRACTOR WILL NOT START CONSTRUCTION UNTIL AFTER THEY HAVE RECEIVED THE PRE-CON PACKAGE AND HAVE A PRE-CON WALK WITH THE PROJECT MANAGER.
2. GENERAL CONTRACTOR TO HIRE PUBLIC (811) AND PRIVATE LOCATING SERVICE IN ORDER TO LOCATE AND PROTECT ALL SURFACE UTILITIES. DO NOT SCALE OFF THESE PLANS FOR ANY BELOW GRADE UTILITIES.
3. CONTRACTOR SHALL VERIFY ALL EXISTING BURIED AND OVERHEAD UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL REPAIR ALL DAMAGED UTILITIES AT HIS OWN COST AND COORDINATE ANY REPAIRS WITH RESPECTIVE UTILITY COMPANY.
4. CONTRACTOR TO VERIFY ALL HEIGHTS AND AZIMUTHS IN FIELD PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY SPRINT AND ENGINEERING FIRM OF ANY DISCREPANCIES BEFORE PROCEEDING.
5. CONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION.
6. NO UPDATED SURVEY HAS BEEN PERFORMED PROPERTY IMPROVEMENT DEPICTIONS ARE APPROXIMATE LOCATIONS

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Project Manager:
SBA
 SBA SITE ID: CO46105

Engineer Stamp:

 COLORADO LICENSED
 CHRISTOPHER J. WARREN
 47849
 4/4/19
 PROFESSIONAL ENGINEER

Signed: _____ Date: _____

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Project Number: 656-003

Site ID/Name: DN36XC504
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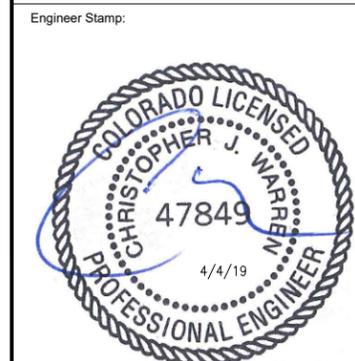
Drawing Scale: AS NOTED Date: 4/4/19 **CD**

Drawing Title: OVERALL SITE PLAN & COMPOUND PLAN

Drawing Number: A-1



SBA SITE ID: CO46105



Signed: _____ Date: _____

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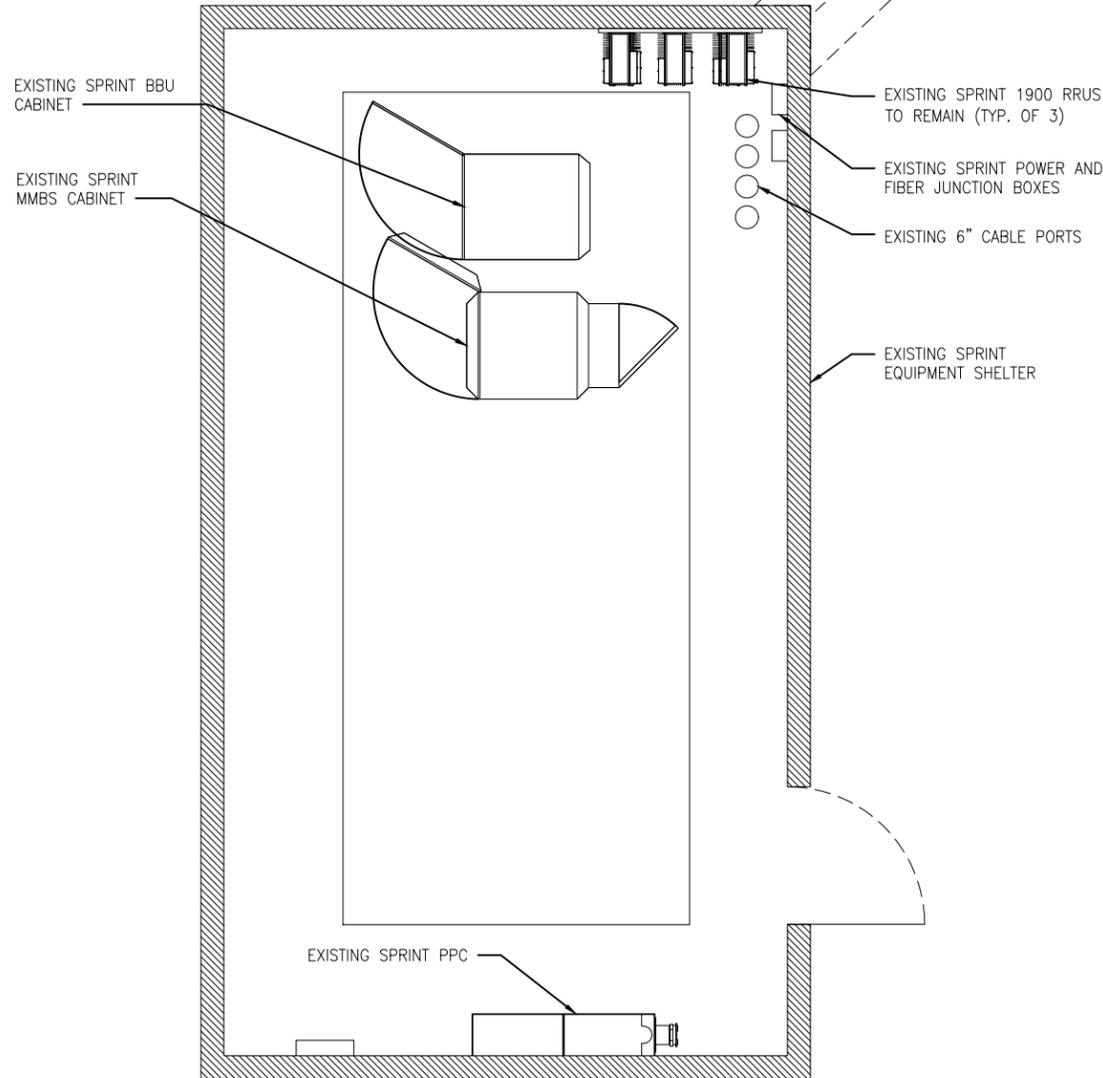
CD

Drawing Title: EXISTING & NEW EQUIPMENT PLANS

Drawing Number: A-2

APPROXIMATE LOCATION OF UNDERGROUND COAX PORTS TO BE RE-USED

(6) EXISTING SPRINT COAX CABLES TO REMAIN



2 EXISTING EQUIPMENT PLAN

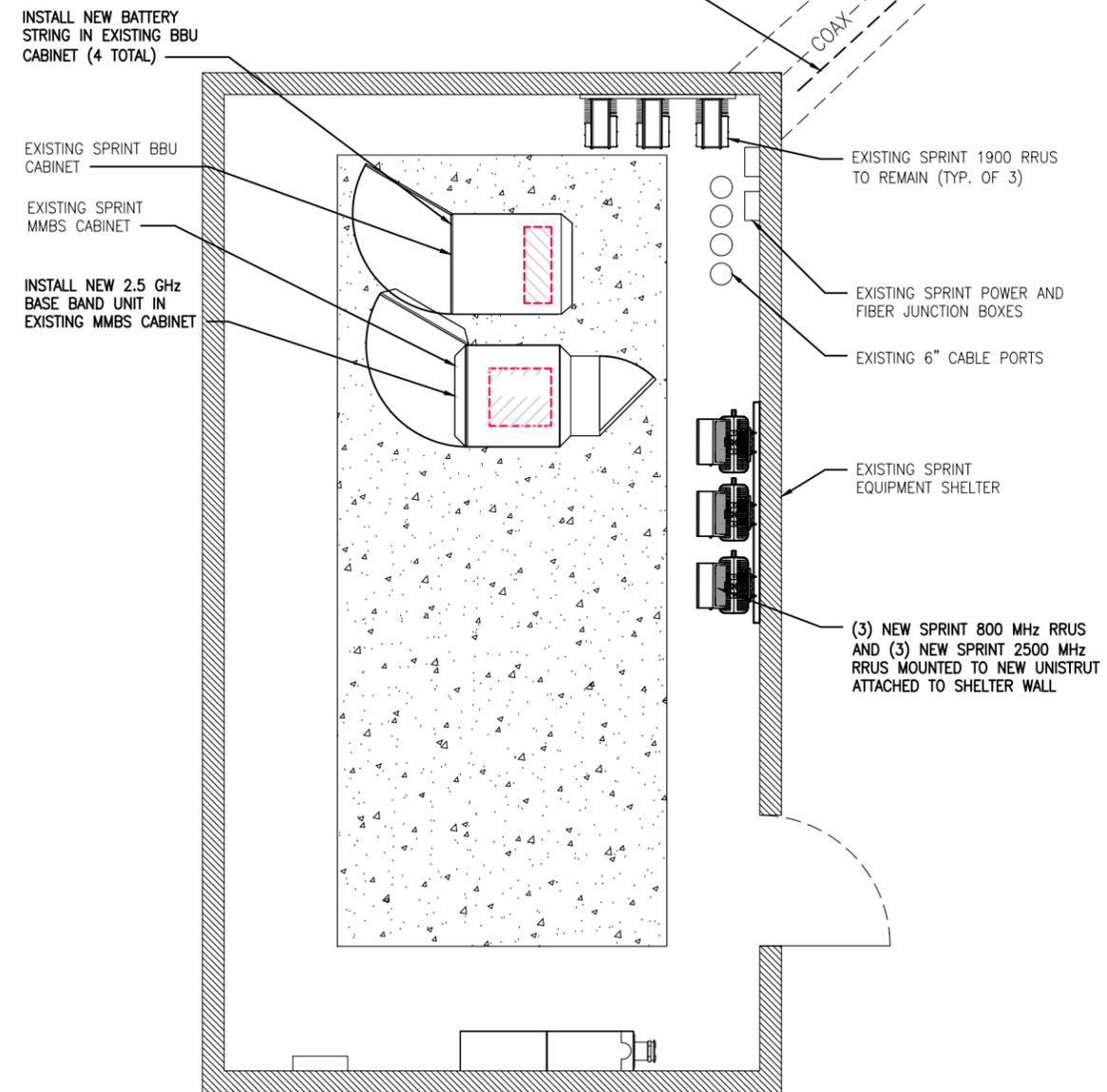
SCALE: 1/2"=1'-0" (24x36)
 (OR) 1/4"=1'-0" (11x17)

0 6" 1' 2'

CALLLED NORTH

APPROXIMATE LOCATION OF UNDERGROUND COAX PORTS TO BE RE-USED

(18) NEW 7/8" COAX CABLES TO BE INSTALLED



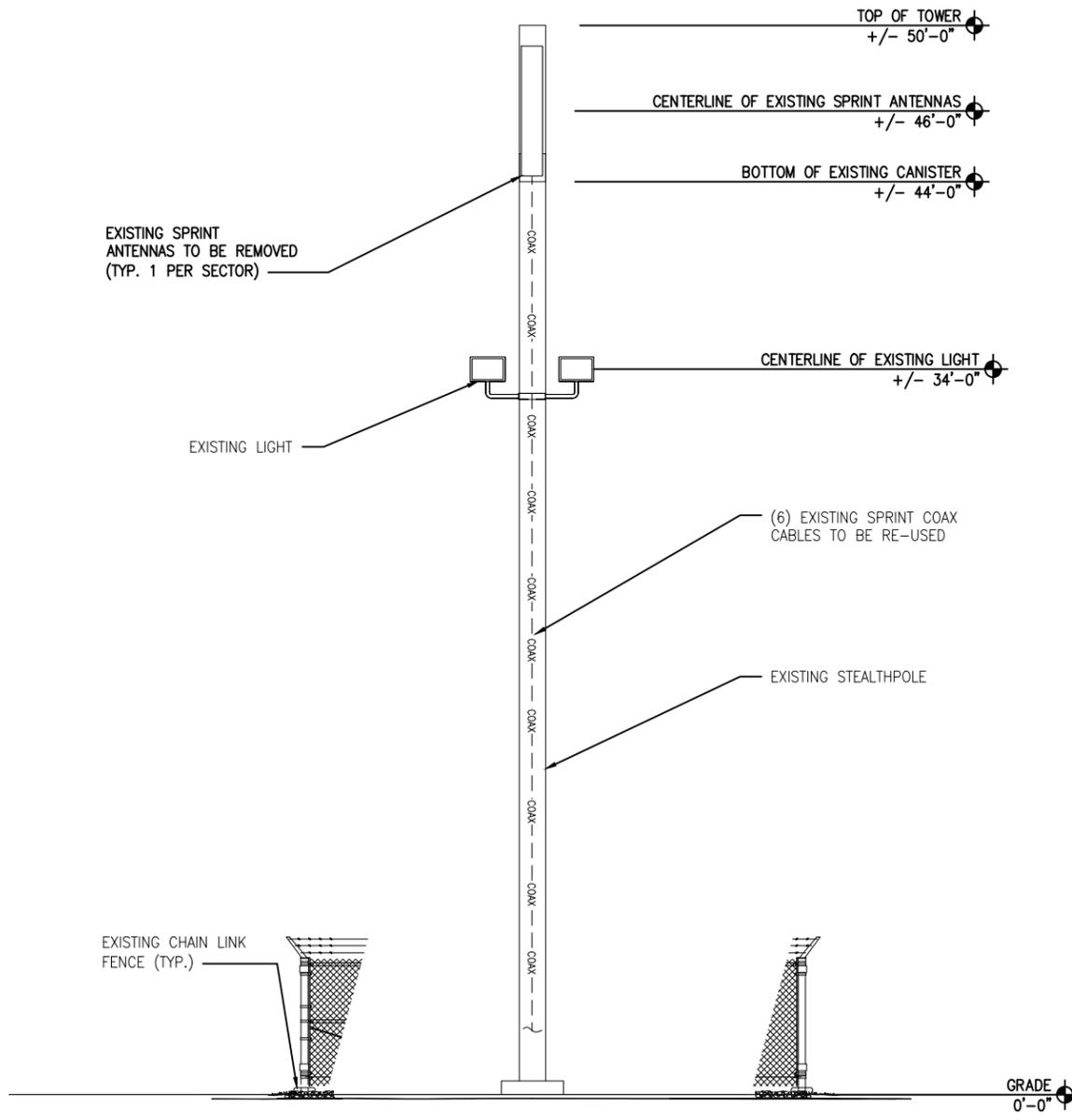
1 NEW EQUIPMENT PLAN

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

0 6" 1' 2'

CALLLED NORTH

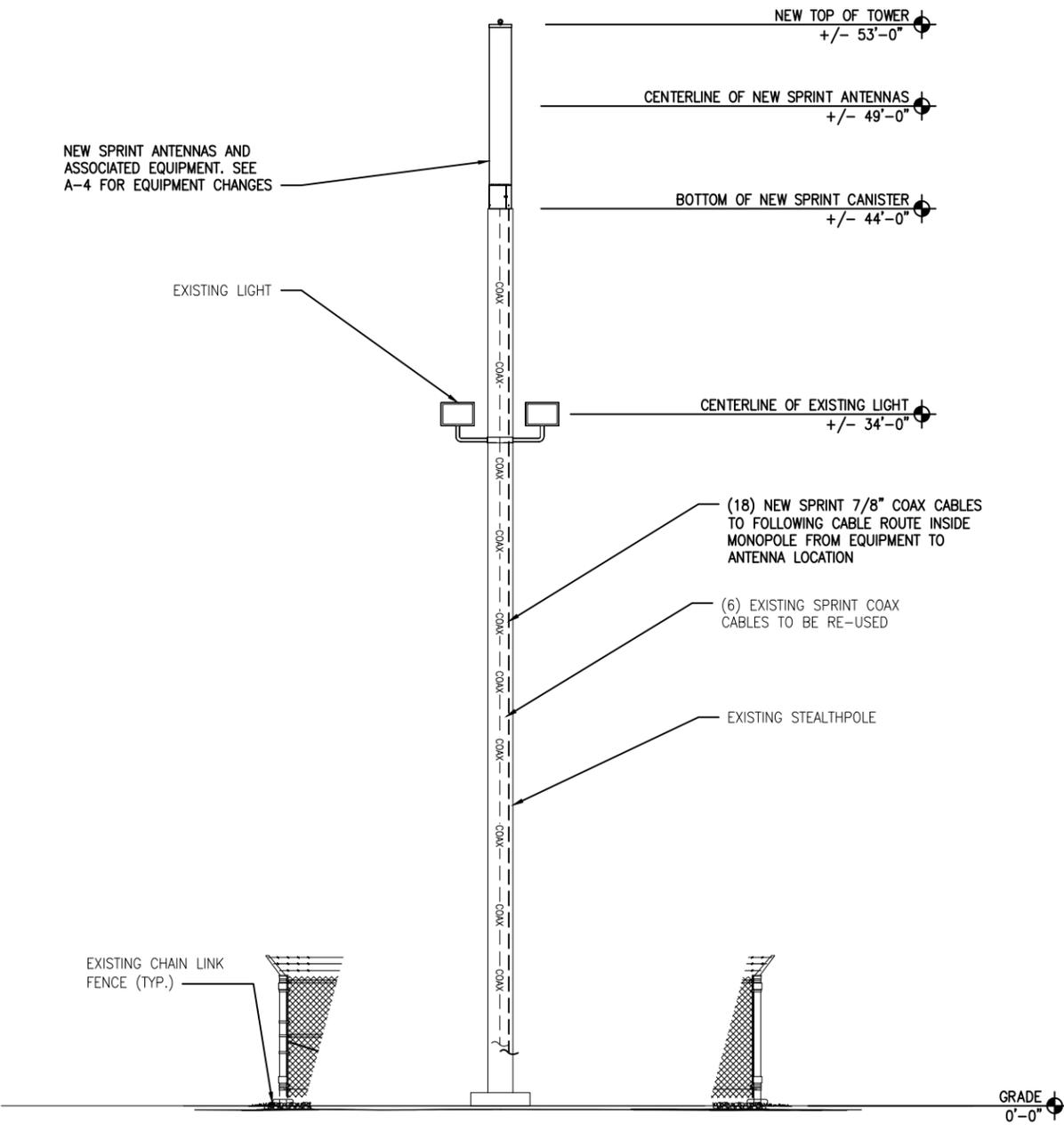
NOTE:
 THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT. SEE PASSING SA BY TES DATED 12/10/18



2 EXISTING TOWER ELEVATION

A-3

SCALE: 1/8"=1'-0" (24x36)
 (OR) 1/16"=1'-0" (11x17)



1 NEW TOWER ELEVATION

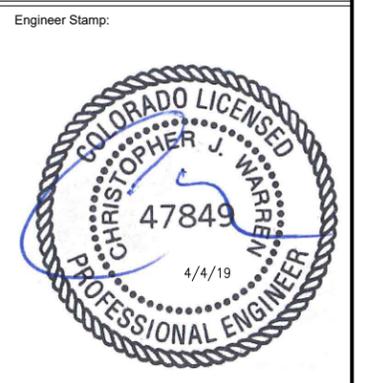
A-3

SCALE: 1/8"=1'-0" (24x36)
 (OR) 1/16"=1'-0" (11x17)

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 CHAMBERS & HAMPDEN

Site Address: 15528 E. HAMPDEN CIR
 AURORA, CO 80013



Drawing Scale: AS NOTED Date: 4/4/19

CD

Drawing Title: EXISTING & NEW TOWER ELEVATIONS

Drawing Number: A-3

NOTES

1. CONTRACTOR IS TO REFER TO SPRINTS MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION
2. CABLE LENGTHS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY CABLE LENGTHS PRIOR TO ORDERING, FABRICATION, OR INSTALLATION OF CABLES
3. **BOLD-** INDICATES NEW EQUIPMENT

FINAL ANTENNA SCHEDULE															
SECTOR	ANTENNA				RRU		FILTER		HYBRID CABLE (HCS)		COAX				
	MODEL	SIZE	AZIMUTH	RAD CENTER	FREQUENCY	QTY	MODEL	QTY	MODEL	QTY	LENGTH	QTY	TYPE	LENGTH	
A	ALPHA WIRELESS AW3363	108.4"	55°	49'-0"	800/1900/2500 MHz	1/1/1	800/1900/2500 MHz	N/A	N/A	-	-	(6) (18)	EXISTING NEW 7/8"	±70'-0"	
			--		--	--	--	--	--	--	--				--
B			175°		800/1900/2500 MHz	1/1	800/1900/2500 MHz	N/A	N/A	-	-				
			--		--	--	--	--	--	-	-				
C			295°		800/1900/2500 MHz	1/1	800/1900/2500 MHz	N/A	N/A	-	-				
			--		--	--	--	--	--	-	-				

2 ANTENNA SCHEDULES
A-4

SCALE
N.T.S.

Project Manager:
SBA
SBA SITE ID: CO46105

Engineer Stamp:
COLORADO LICENSED
CHRISTOPHER J. WARREN
47849
PROFESSIONAL ENGINEER
4/4/19

Signed: _____ Date: _____

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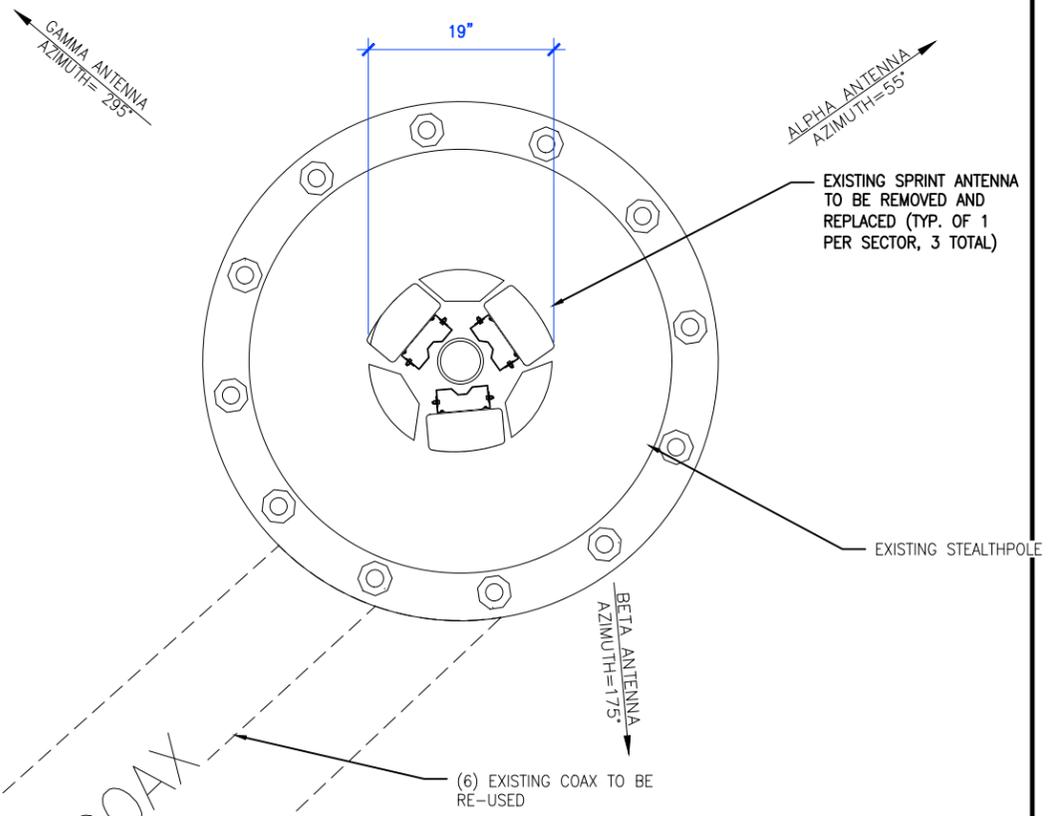
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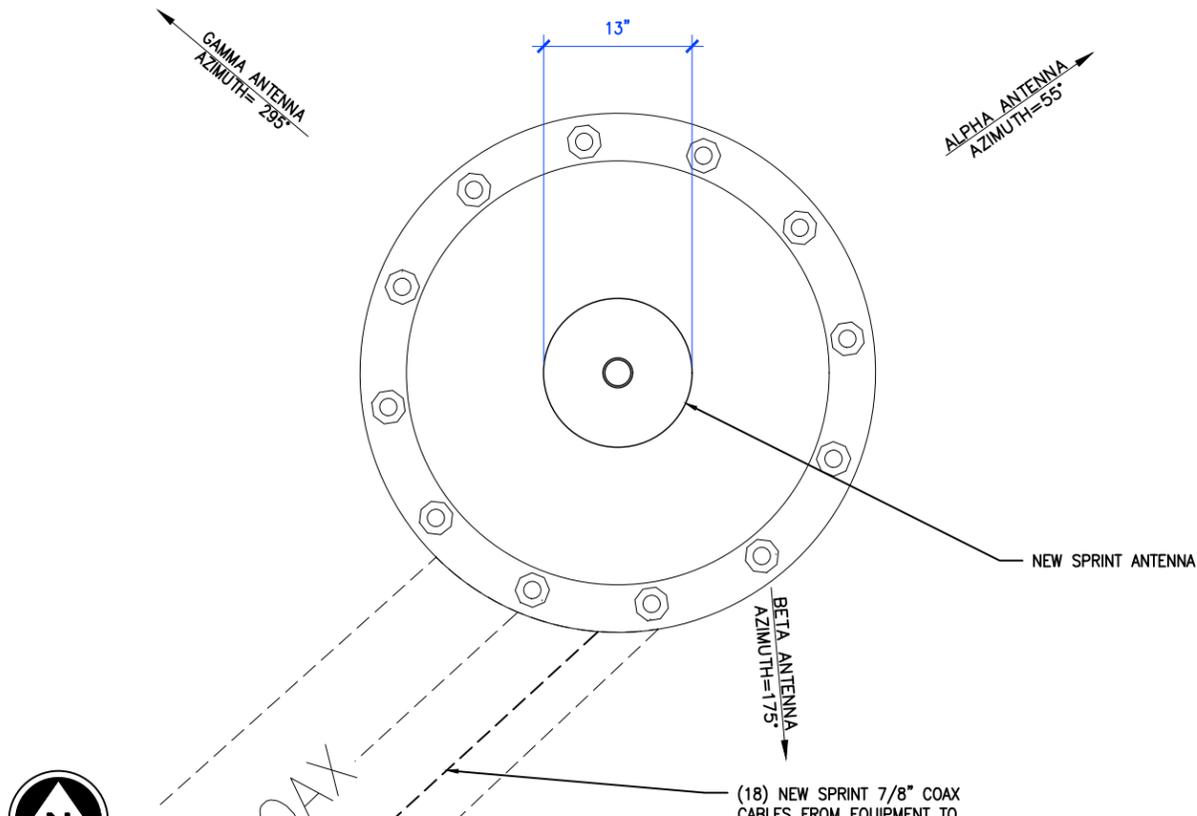
Drawing Scale: AS NOTED Date: 4/4/19 **CD**

Drawing Title: EXISTING & NEW ANTENNA PLANS
NEW ANTENNA SCHEDULE

Drawing Number: **A-4**



3 EXISTING ANTENNA PLAN @ 49'-0"
A-4 SCALE N.T.S.



1 NEW ANTENNA PLAN @ 49'-0"
A-4 SCALE N.T.S.



Frequency / Radio	Indicator	ID
800 #1	Yellow	Green
1900 #1	Yellow	Red
1900 #2	Yellow	Brown
1900 #3	Yellow	Blue
1900 #4	Yellow	Grey
800 #2	Yellow	Orange
2500 #1	Yellow	White
2500 #2	Yellow	Purple

2 TECHNOLOGY COLOR CODING
A-5

SCALE
N.T.S.

2500MHz #1 Cal Cable - Sector	Cable	First Ring	Second Ring	Third Ring	Forth 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

2500MHz #2 Cal Cable - Sector	Cable	First Ring	Second Ring	Third Ring	Forth Ring	Fifth Ring	Sixth Ring
1 Alpha	1	Yellow		Yellow	Purple		
2 Beta	2	Yellow	Yellow		Yellow	Purple	
3 Gamma	3	Yellow	Yellow	Yellow		Yellow	Purple

3 2500 MHz RADIO CALIBRATION CABLE COLOR CODING
A-5

SCALE
N.T.S.

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

1 HYBRID CABLE COLOR CODING
A-5

SCALE
N.T.S.

Project Manager:



SBA SITE ID: CO46105

Engineer Stamp:



Signed: _____ Date: _____

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AURORA, CO 80013

Prepared For:



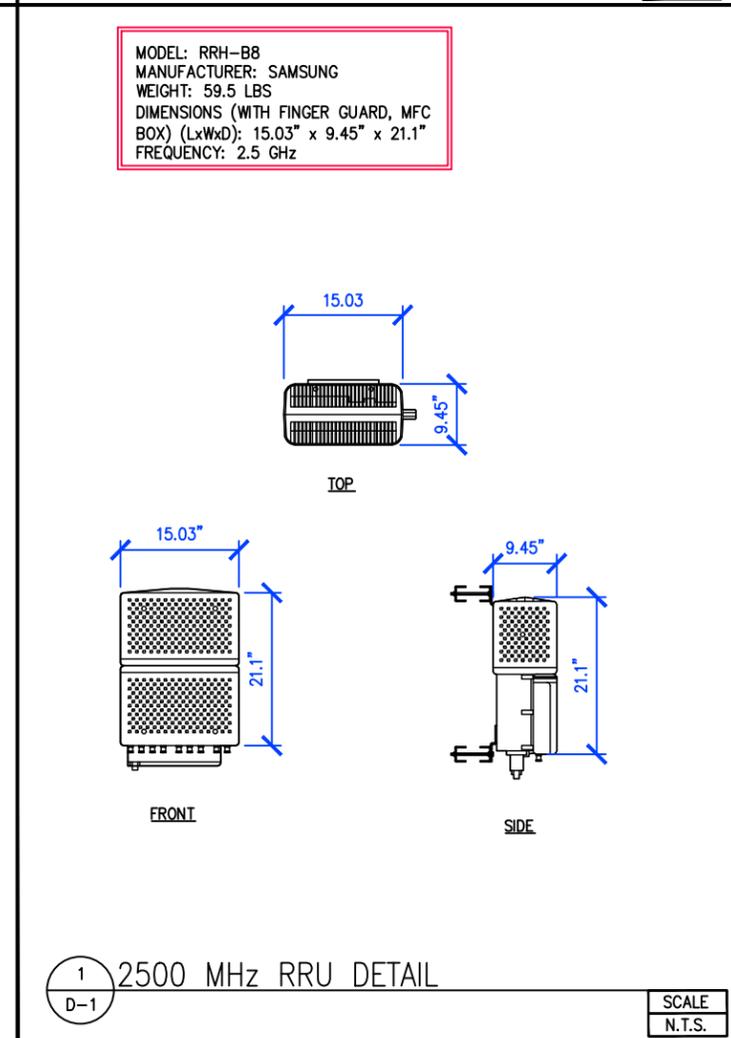
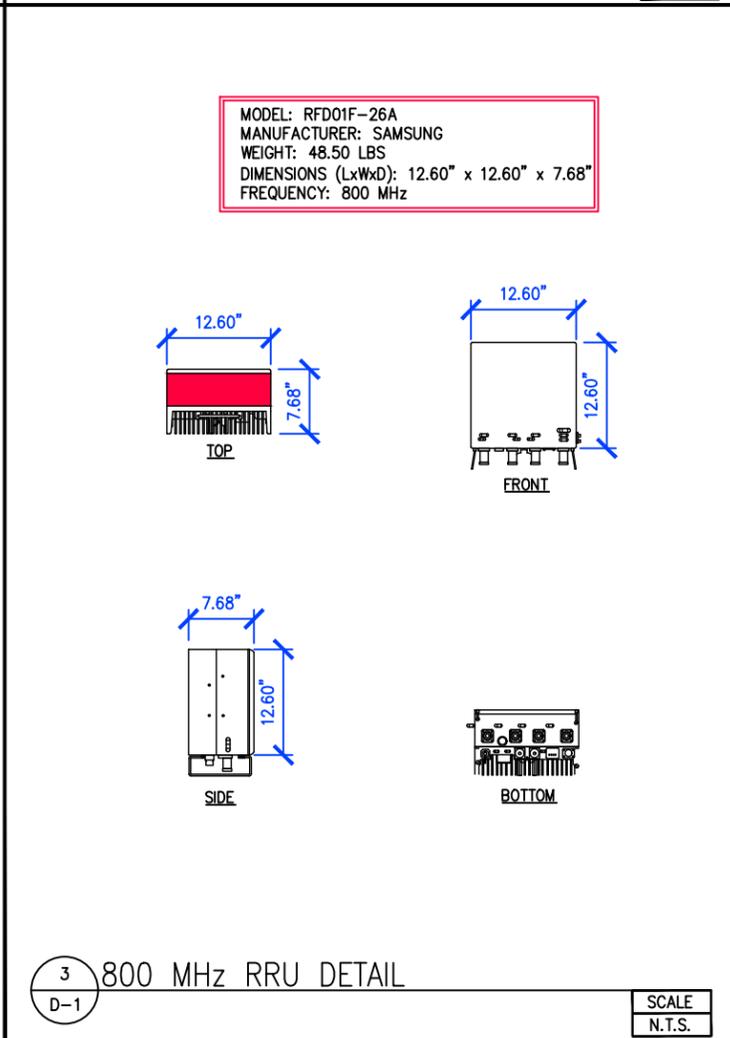
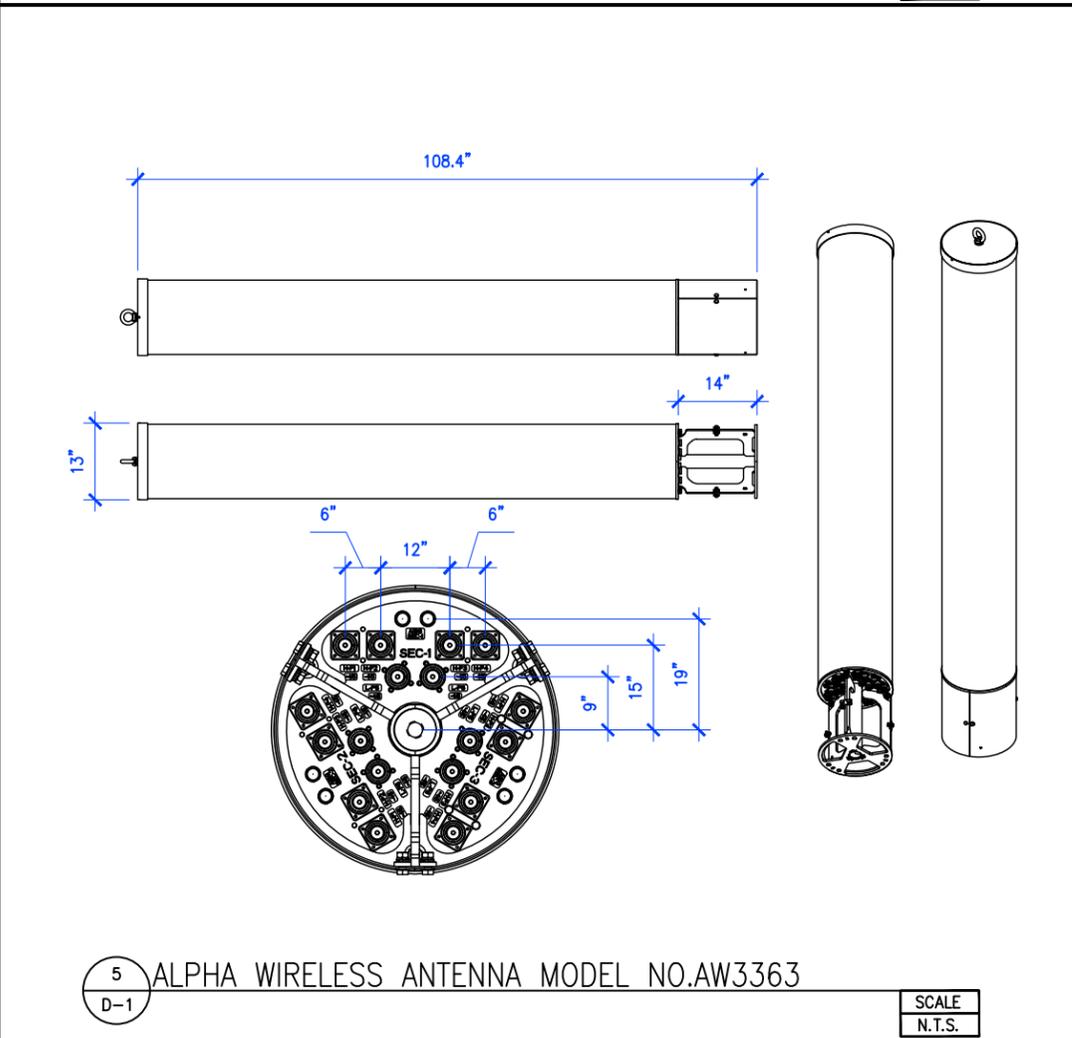
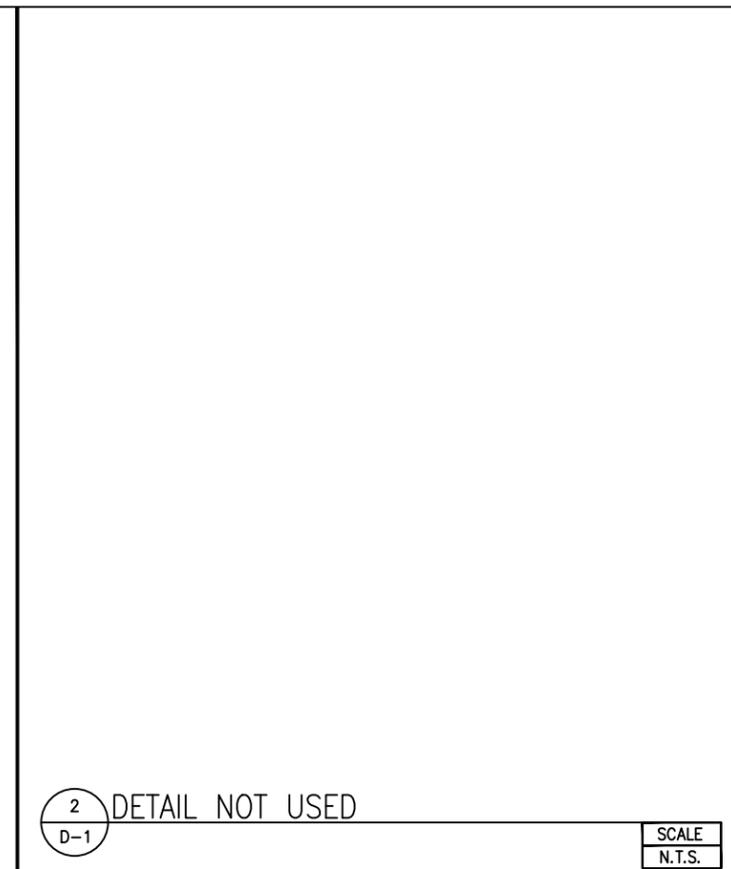
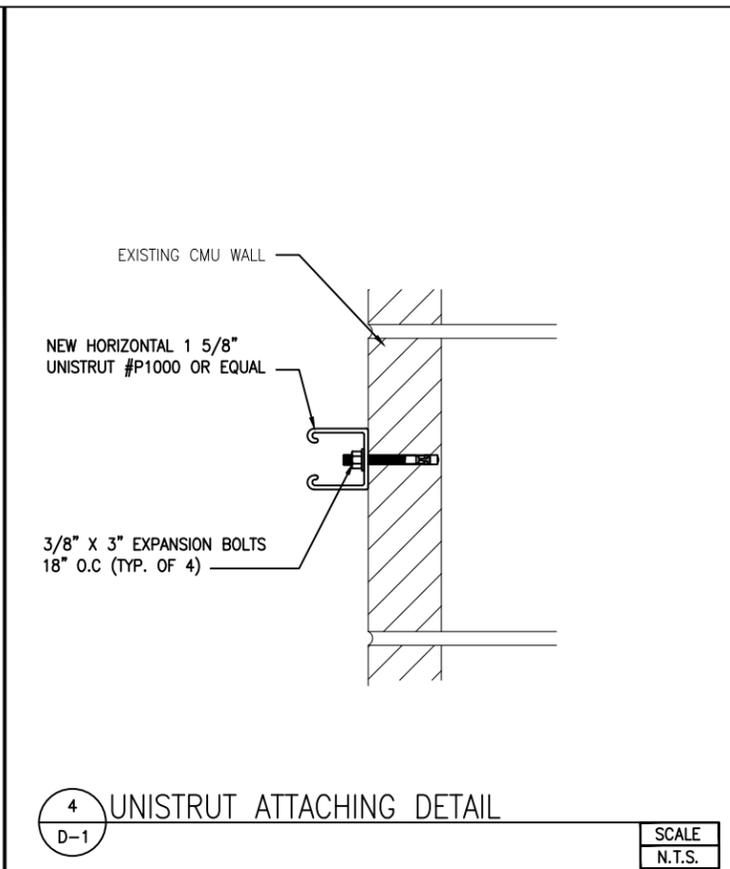
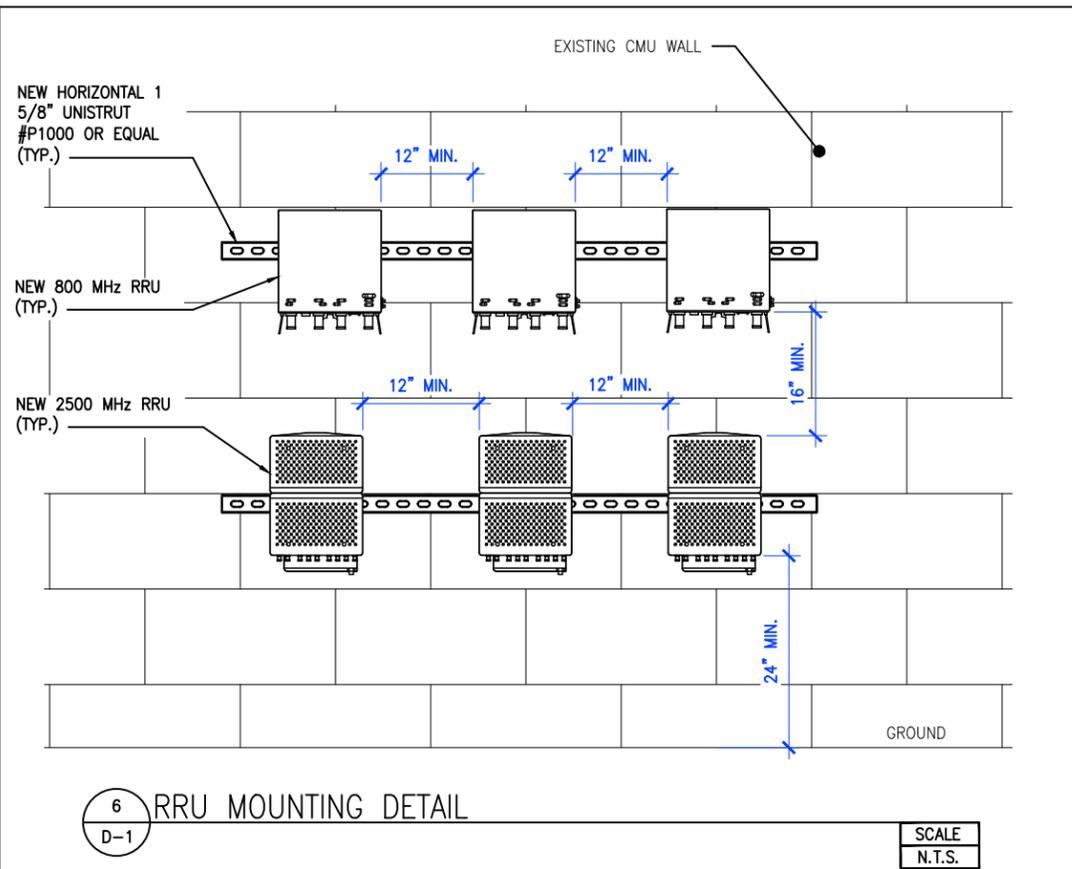
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Drawing Title: COLOR CODING

Drawing Number: A-5



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Project Manager:
SBA
SBA SITE ID: CO46105

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CHRISTOPHER J. WARREN
47849
4/4/19
PROFESSIONAL ENGINEER

Signed: _____ Date: _____

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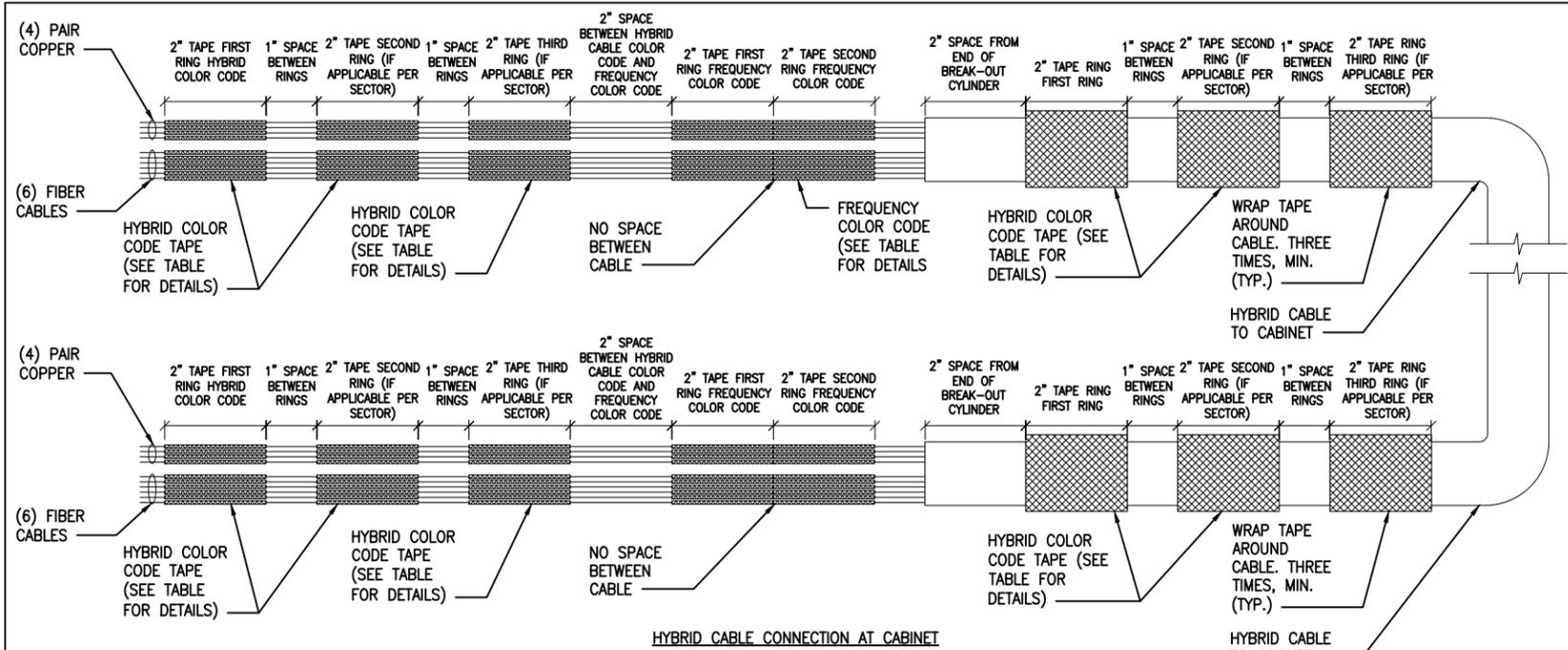
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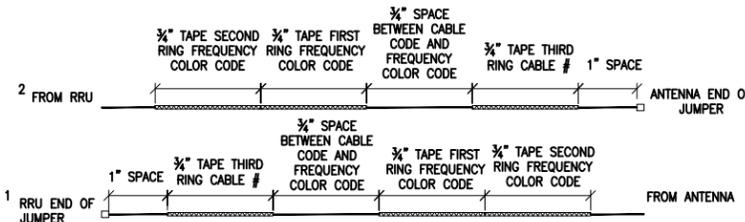
Drawing Title: EQUIPMENT DETAILS

Drawing Number: D-1



HYBRID CABLE CONNECTION AT CABINET

- NOTES:**
1. ALL CABLES SHALL BE MARKED AT THE TOP AND BOTTOM WITH 2" COLORED TAPE OR STENCIL TAG. COLOR TAPE SHALL BE OBTAINED FROM GRAYBAR ELECTRIC.
 2. THE FIRST RING SHALL BE CLOSEST TO THE END OF THE CABLE AND SPACED APPROXIMATELY 2" FROM AN END CONNECTOR, WEATHERPROOFING, OR BREAK-OUT CYLINDER, WITH 1" SPACE BETWEEN EACH RING.
 3. THE HYBRID CABLE COLOR SHALL BE APPLIED IN ACCORDANCE WITH THE "TYPICAL HYBRID CABLE COLOR CODE" TABLE BELOW FOR THE RESPECTIVE SECTOR.
 4. INDIVIDUAL POWER PAIRS AND FIBER CABLES SHALL BE LABELED WITH BOTH THE HYBRID CABLE COLOR FOR THE RESPECTIVE SECTOR AND A FREQUENCY COLOR CODE IN ACCORDANCE WITH THE "FREQUENCY COLOR CODE FOR PAIRS AND FIBER CABLES OF HYBRID CABLE" TABLE.
 5. A 2" GAP SHALL SEPARATE THE HYBRID CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE.
 6. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.
 7. THE 2" COLORED TAPE(S) SHALL EACH BE WRAPPED A MINIMUM OF 3 TIMES AROUND THE HYBRID CABLE OR INDIVIDUAL CABLES, AND THE TAPE SHALL BE KEPT IN THE SAME LOCATION AS MUCH AS POSSIBLE.
 8. COLOR BAND ON JUMPERS SHALL BE 2" WIDE WITH A 2" SPACE.



JUMPER CABLE CONNECTION AT RRU AND ANTENNA

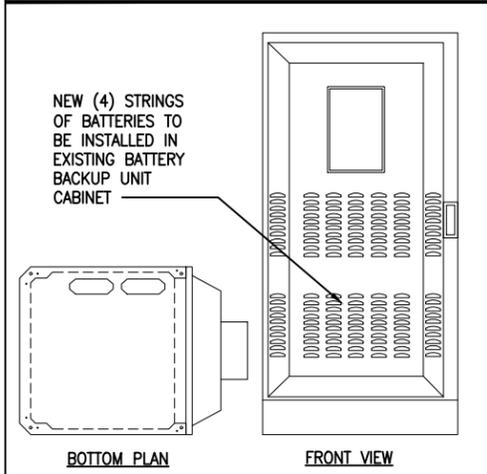
4 NEW HYBRID CABLE COLOR SCHEME DETAIL

SCALE N.T.S.

CABLE TYPE	NUMBER, SIZE (awg)	10/C #6 + 2/C #18
VOLTAGE		600
OUTER JACKET		PVC
SHIELDING		CORRUGATED COPPER
MAX SHIELD RESISTANCE (ohm/ft @ 20 c)		0.00350
DRAIN		N/A
RIPCORD		KEVLAR
DC CONDUCTOR MATERIAL		COPPER
DC CONDUCTOR SIZE (awg)		6
MAX DC RESISTANCE (ohm/1000 ft)		0.411 @ 20 deg C
COLOR CODE		BLACK/RED
ALARM CONDUCTOR MATERIAL		COPPER
ALARM CONDUCTOR SIZE (awg)		18
MAX DC RESISTANCE (ohm/1000 ft)		6.7
COLOR CODE		TBD
FIBER CABLE		SM
OUTER DIAMETER (in) - NOMINAL		1.24
WEIGHT (lb/ft)		1.05
MINIMUM BEND RADIUS (in)		15
BEND MOMENT (lb/ft)		N/A
TENSILE STRENGTH (lb)		325
CRUSH RESISTANCE, FOTP-41 (N/mm)		22
STRENGTH MEMBER		NO
OPERATING TEMPERATURE RANGE (low)		-40 deg C
OPERATING TEMPERATURE RANGE (high)		+80 deg C
FIBER TYPE		LOW WATER PEAK SINGLE MODE LOOSE TUBE
FIBER STANDARD COMPLIANCE		ITU-T REC. G.652.D, G657.A2
FIBER COATING DIAMETER		242 +/- 0.007mm 0.9 +/- 0.005mm
FIBER COUNT		24
NUMBER OF FIBER SUBUNITS		1
FIBER COUNT EACH UNITS		24
FIBER OUTER JACKETS		FR JACKET
MAX ATTENUATION, 1310 NM (dB/km)		<=0.5
MAX ATTENUATION, 1550 NM (dB/km)		<=0.5

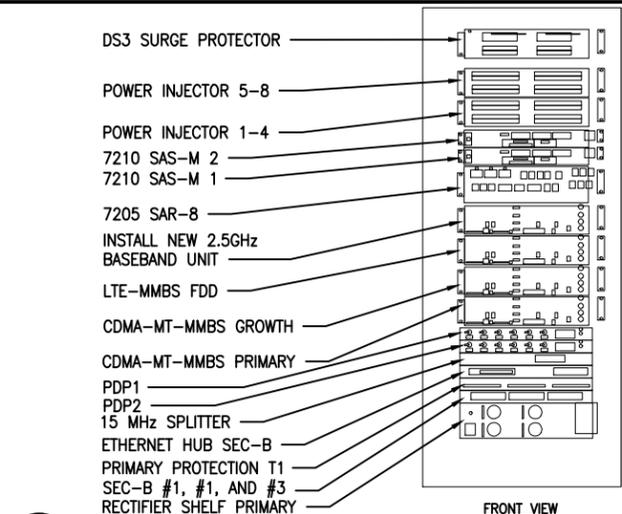
2 HYBRID CABLE DETAIL

SCALE N.T.S.



5 EXISTING BATTERY CABINET

SCALE N.T.S.



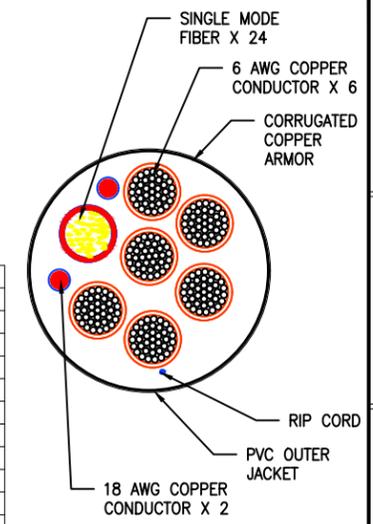
3 EXISTING MMBS CABINET

SCALE N.T.S.

	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7
TOTAL LENGTH	35 M (114.8')	55M (114.8')	65M (213.3')	80M (262.5')	100M (328.1')	120M (420.0')	160M (550.0')
HYBRID POWER CABLE CONFIGURATION	AWG 10 1 PAIR, AWG 12 3 PAIR	AWG 8 1 PAIR, AWG 10 3 PAIR	AWG 6 1 PAIR, AWG 8 1 PAIR, AWG 10 2 PAIR	AWG 6 1 PAIR, AWG 8 3 PAIR	AWG 4 1 PAIR, AWG 6 1 PAIR, AWG 8 2 PAIR	AWG 6 1 PAIR, AWG 8 3 PAIR	AWG 2 1 PAIR, AWG 4 3 PAIR
CABLE Ø	25 MM (0.98")	27 MM (1.06")	30 MM (1.18")	30/32 MM (1.18"/1.25")	39.2 MM (1.25")	39.2 MM (1.56")	43.5 MM (1.69")
BEND RADIUS	11.81"	12.99"	15.35"	17.71"	17.71"	18.00"/30.00"	21.00"/35.00"
OPTIC CABLE	LC/PC-T0-LC/PC, SINGLE MODE						
DU CABINET (POWER CABLE TERMINAL MAX SIZE AWG 4)	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE						
RRU POWER CABLE SPEC	AWG 8, 14.7-15.4 MM (0.57"-0.60")/AWG 10, 11.5-12.4 MM (0.45"-0.48")			8 AWG CABLES 4 PAIRS			
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	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	2 PAIR POWER AND OPTIC CABLE WITH PE PIPE
SAMSUNG FIBER	0.5 LBS/LF	0.6 LBS/LF	0.8 LBS/LF	0.9 LBS/LF	1.1 LBS/LF	N/A	N/A
ASIA TAI	0.7 LBS/LF	0.7 LBS/LF	0.7 LBS/LF	0.7 LBS/LF	0.7 LBS/LF	N/A	N/A
TESCO	N/A	N/A	N/A	N/A	N/A	1.6 LBS/LF	2.2 LBS/LF

1 NEW HYBRID CABLE TYPE

SCALE N.T.S.



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Project Manager:
SBA
 SBA SITE ID: CO46105

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 CHRISTOPHER J. WARREN
 47849
 PROFESSIONAL ENGINEER
 4/4/19

Signed: _____ Date: _____
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 Drawing Title: EQUIPMENT DETAILS
 Drawing Number: D-2

GENERAL ELECTRICAL NOTES

1. SUBMITTAL OF BIO INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PERFORM ALL FIELD VERIFICATION AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER AND OWNER LISTING ALL MALFUNCTIONS, FAULTY, EQUIPMENT AND DISCREPANCIES.
3. THESE PLANS ARE SCHEMATIC ONLY; CONTRACTOR SHALL FOLLOW AS CLOSELY AS POSSIBLE.
4. ANTENNA MOUNTING HEIGHTS AND AZIMUTHS SHALL BE VERIFIED WITH OWNER PRIOR TO INSTALLATION.
5. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE INDICATED. NOTE THAT CONTRACTOR SHALL SECURE ALL NECESSARY ELECTRICAL PERMITS, AND PAY ALL REQUIRED FEES.
6. IF REQUIRED, CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE, THE TEMPORARY POWER AND ALL HOOK-UP COSTS SHALL BE PAID BY THE CONTRACTOR.
7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. EXCEPTIONS TO THIS MAY BE PERMITTED IF NEW REPLACEMENT BREAKERS OR SWITCHES ARE NOT AVAILABLE FOR ORIGINAL ELECTRICAL DISTRIBUTION EQUIPMENT – ON THAT CASE, RECONDITIONED EQUIPMENT MAY BE PERMISSIBLE IF IT CARRIES ONE (1) YEAR WARRANTY. MATERIALS SHOULD BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCK APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
8. IF CONTRACTOR IS PROPOSING ALTERNATE MATERIALS OR CONSTRUCTION METHODS FROM WHAT IS SPECIFIED IN THE PLANS, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND/OR CATALOG CUT-SHEETS TO OWNER FOR APPROVAL PRIOR TO COMMENCEMENT OF THE WORK.
9. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL CODES AND ALL LOCAL AND STATE CODES, LAWS AND ORDINANCES, PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC.
10. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANEL BOARD, PULLBOX, J-BOX, SWITCH BOX, ETC. IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
11. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF THE JOB ACCEPTANCE BY OWNER, ANY WORK, MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
12. CLEAN WORK SITE DAILY, AND REMOVE ALL DEBRIS RESULTING FROM CONSTRUCTION. LEAVE JOB SITE IN A TIDY AND UNDAMAGED CONDITION.
13. UPON COMPLETION OF WORK, PERFORM CONTINUITY, SHORT CIRCUIT, AND GROUNDING TEST, GROUNDING SYSTEM SHALL BE TESTED BY INDEPENDENT TESTING AGENCY, WITH WRITTEN REPORT SUBMITTED TO THE OWNER FOR REVIEW AND APPROVAL, AFTER APPROVAL, FURNISH ONE COPY OF REPORT TO ENGINEER.
14. PROVIDE OWNER WITH ONE SET OF COMPLETE ELECTRICAL "AS BUILT" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL EQUIPMENT LOCATIONS, CONDUIT/CABLE ROUTING, PANEL SCHEDULE, AND OTHER DETAILS WITHIN 10 DAYS OF PROJECT COMPLETION, DATE OF JOB COMPLETION SHALL BE THE DATE ON THE CONTRACTOR'S "NOTICE OF COMPLETION" SUBMITTED TO THE OWNER, AFTER SITE INSPECTION AND SIGNOFF BY OWNER.
15. ALL BROCHURES, OPERATING MANUAL, CATALOGS, SHOP DRAWINGS, ETC., SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.
16. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C
17. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.

18. IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSED THROUGH THE FLOOR OR WALLS FOR CONDUIT RUNS, PIPE RUNS, ETC., IT MUST CLEARLY UNDERSTOOD THAT TENDONS AND/OR REINFORCING STEEL WILL NOT BE DRILLED INTO, CUT, OR DAMAGED UNDER ANY CIRCUMSTANCES.
19. EXACT LOCATION OF TENDONS AND/OR REINFORCING STEEL ARE NOT KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS, SUCH AS X-RAY EQUIPMENT OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING AND/OR STEEL TENDONS.
20. ALL EXTERIOR WALL PENETRATIONS SHALL BE SEALED WITH SUITABLE WEATHERPROOF SEALANT, PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH CURRENT LOCAL BUILDING CODES USING U.L. RATED MATERIALS.
21. ALL CONDUCTORS SHALL BE COPPER, #12 AWG MINIMUM, UNLESS NOTED OTHERWISE, INSULATION SHALL BE 90° C RATED, AND DUAL RATED THHN/THWN-2, NO BX OR ROMEX CABLE IS PERMITTED UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS.
22. ALL CONDUIT ONLY (C.O) RUNS SHALL HAVE A PULL WIRE OR ROPE, AND TRUE TAPE.
23. GROUND THE ENTIRE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE NEC AND DRAWINGS, BELOW GRADE GROUND CONDUCTORS SHALL BE #2 AWG SOLID BARE TINTED COPPER, ABOVE GRADE, ALL CONDUCTORS SHALL BE STRANDED GREEN INSULATED COPPER, SIZED #2 AWG OR AS SHOWN IN THE DRAWINGS, GROUND CONDUCTOR SHALL HAVE A MINIMUM 24" BENDING RADIUS, GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8" ROUND AND 8" LONG, GROUNDING HARDWARE SHALL BE ERICO, STORM COPPER COMPONENTS, FUSHI COPPERWELD OR APPROVED EQUAL.
24. GROUND ALL ANTENNA BASES, ENCLOSURES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING GROUND WIRES AND CONNECT TO THE BUS BARS, FOLLOW EQUIPMENT MANUFACTURERS RECOMMENDATIONS FOR GROUNDING, GROUND COAX SHIELD AT BOTH ENDS USING CABLE MANUFACTURER'S RECOMMENDATIONS.
25. THE NUMBER OF GROUNDING BARS MAY VARY DEPENDING UPON THE SITE LAYOUT, ANTENNA LOCATION, AND OTHER FACTORS. THE CONTRACTORS SHALL BE RESPONSIBLE FOR INSTALLING SUFFICIENT GROUNDING BARS AS REQUIRED, PROVIDING 50% SPARE CONNECTION POINTS.
26. EXOTHERMIC WELDS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, CABLE TO GROUND RODS, GROUNDS ROD SPLICES AND OTHER SYSTEMS AS INDICATED, ALL MATERIALS USED (MOLDS, WELDING, METAL, ETC.) SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES, ALL EXOTHERMIC WELD CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COLORED TO MATCH SURFACE WITH (2) TWO COATS OF GALVITE (WHITE) PAINT OR SILVERBRITE (ALUMINUM).
27. ALL STRANDED COPPER WITH GREEN INSULATION TO BE ATTACHED WITH CRIMPED DOUBLE LUG, ATTACHED WITH NUTS, BOLTS AND STAR WASHERS TYPICAL, ALL MECHANICAL CONNECTIONS SHALL HAVE ANTI-OXIDANT GREASE (E.G. NO-OX) APPLIED BETWEEN LUG AND BUS BAR.
28. ALL EXPOSED TINNED COPPER GROUNDS SHALL BE PROTECTED BY 1/2" PVC CONDUIT AND SECURED, WHERE SUBJECT TO MECHANICAL DAMAGE, OTHER GROUND LEADS SHALL ALSO BE ENCLOSED IN 1/2" OR 3/4" LTFC.
29. COMPRESSION FITNESS TO BE USED ON ALL CONDUITS (NO SETSCREWS).
30. PVC CONDUIT INSTALLED IN OUTDOOR LOCATIONS SUBJECT TO SUNLIGHT EXPOSURE SHALL BE UV RESISTANT, SURFACE-MOUNTED CONDUIT INSTALLED IN LOCATIONS SUBJECT TO FOOT TRAFFIC OR OTHER WEAR AND TEAR, SHALL BE PVC SCHEDULE 80, IMC, OR GRC, CONDUIT RUNS ALONG WALLS OR FLOORS SHALL BE SURFACE MOUNTED UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS, OTHER CONDUIT REQUIREMENTS:
 - 30.A. INTERMEDIATE METALLIC CONDUIT (IMC) SHALL HAVE U.L. LABEL, FITTINGS SHALL BE WATERTIGHT COMPRESSION TYPE, IMC SHALL BE USED FOR OUTDOOR RUNS, IMC IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
 - 30.B. ELECTRICAL METALLIC TUBING (EMT) SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE, EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
 - 30.C. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE, FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
 - 30.D. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 24" BELOW GRADE.
31. ALL NEW ELECTRICAL ENCLOSURES (EXCEPT FOR JUNCTION OR SPLICE BOXES) SUCH AS PANEL BOARDS AND DISCONNECT SWITCHES SHALL BE LABELED WITH PERMANENT ENGRAVED PHENOLIC NAMEPLATES, BLACK WITH WHITE LETTERING, AND ATTACHED WITH RIVETS.

ABBREVIATIONS

AAV	ALTERNATE ACCESS VENDOR	GR	GROWTH (CABINET)	UADU	UNIVERSAL TYPE A DIGITAL UNIT
ACCA	ANTENNA CABLE ASSEMBLY	GRC	GALVANIZED RIGID (STEEL) CONDUIT	U/G	UNDERGROUND
AFF	ABOVE FINISHED FLOOR	IGB	INTERNAL GROUND BAR	WP	WEATHERPROOF
AFG	ABOVE FINISHED GRADE	IGR	INTERNAL GROUND RING	WW	WIREFWAY
AWS	ADVANCE WIRELESS SERVICES	IMC	INTERMEDIATE METALLIC CONDUIT	XMFR	TRANSFORMER
A/G	ABOVE GROUND	ISCW	INSULATED STRANDED COPPER WIRE		
AGB	ANTENNA GROUND BAR	LTE	LONG TERM EVOLUTION		
ATS	AUTOMATIC TRANSFER SWITCH	LTFC	LIQUID TIGHT FLEXIBLE CONDUIT		
AWG	AMERICAN WIRE GAUGE	MGB	MAIN (OR MASTER) GROUND BAR		
BBU	BASEBAND UNIT	MMBS	MULTI-MODE BASE STATION		
BCW	BARE COPPER WIRE	MTS	MANUAL TRANSFER SWITCH		
BSCW	BARE STRANDED COPPER WIRE	NEC	NATIONAL ELECTRIC CODE		
BTCW	BARE TINNED COPPER WIRE	NID	NETWORK INTERFACE DEVICE		
C	CONDUIT	NV	NETWORK VISION		
CAB	CABINET	O/H	OVERHEAD		
CE	CONCRETE ENCASED	PCS	PERSONAL COMMUNICATION SERVICES		
CGB	COLLECTOR GROUND BAR	PPC	POWER PROTECTION CABINET		
CKT	CIRCUIT	PRC	PRIMARY RADIO CABINET		
COVP	CAPACITOR OVERVOLTAGE PROTECTION	PVC	POLYVINYL CHLORIDE		
DB	DIRECT BURIED	PWR	POWER		
DEI	DIGITAL EXPANSION INTERFACE	RGS	RIGID GALVANIZED STEEL		
DISC	DISCONNECT	RRH	REMOTE RADIO HEAD		
EMT	ELECTRICAL METALLIC TUBING	RRU	REMOTE RADIO UNIT		
GFCI	GROUND FAULT CURRENT INTERRUPTER	SPD	SURGE PROTECTIVE DEVICE		
G	GROUND	S/S	STAINLESS STEEL		
GND	GROUND	TVSS	TRANSIENT VOLTAGE SURGE PROCESSOR		
GPS	GLOBAL POSITIONING SYSTEM	TYP	TYPICAL		

ELECTRICAL LEGEND

— UGP — UGP — UGP —	EXISTING U/G ELECTRICAL	— x — x — x —	EXISTING CHAINLINK FENCE
— OE — OE — OE —	EXISTING O/H ELECTRICAL	— x — x — x —	NEW CHAINLINK FENCE
— AGP — AGP — AGP —	EXISTING A/G ELECTRICAL	— □ — □ — □ — □ — □ —	EXISTING WOOD FENCE
— UGT — UGT — UGT —	EXISTING U/G TELEPHONE	— □ — □ — □ — □ — □ —	NEW WOOD FENCE
— FO — FO — FO —	EXISTING FIBER OPTIC		
- HFLEX — HFLEX — HFLEX	EXISTING HYBRIFLEX CABLE		
— UGP — UGP — UGP —	NEW U/G ELECTRIC		
— OE — OE — OE —	NEW O/H ELECTRIC		
— AGP — AGP — AGP —	NEW A/G ELECTRIC		
— UGT — UGT — UGT —	NEW U/G TELEPHONE		
— FO — FO — FO —	NEW FIBER OPTIC		
- HFLEX — HFLEX — HFLEX	NEW HYBRIFLEX CABLE		



ELEVATION/SECTION REFERENCE. TOP NUMBER IS DETAIL; BOTTOM NUMBER IS SHEET NO.

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Project Manager:

 SBA SITE ID: CO46105

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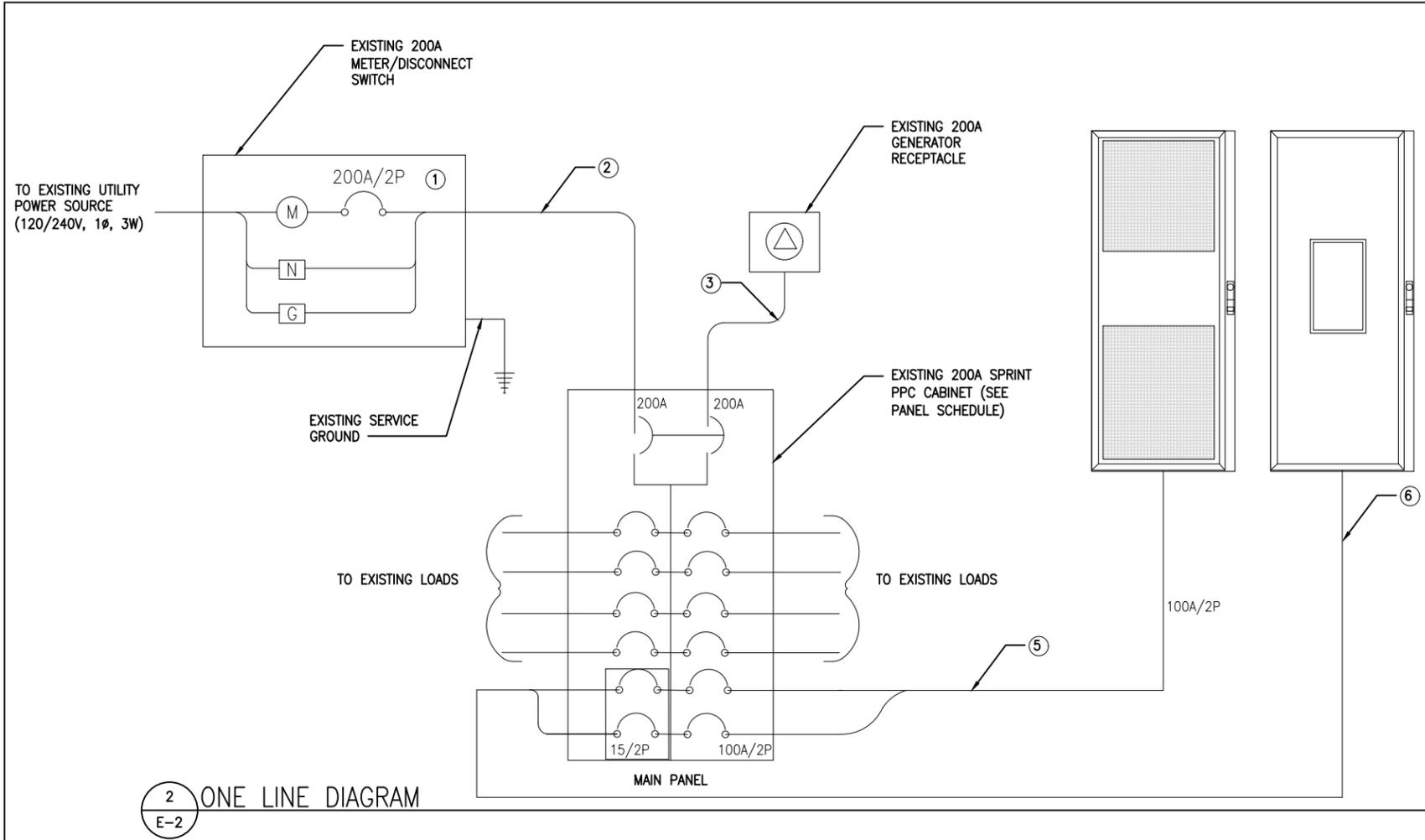
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Drawing Title: GENERAL ELECTRICAL NOTES

Drawing Number: E-1



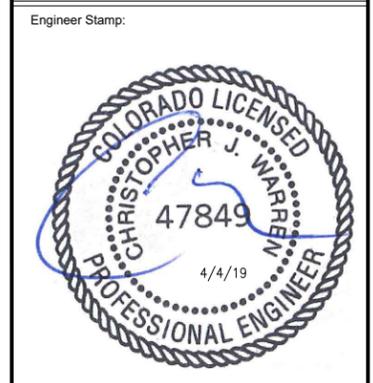
② ONE LINE DIAGRAM
E-2

SCALE
N.T.S.

CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
1	UTILITY SOURCE	METER/DISCONNECT	EXISTING
2	METER/DISCONNECT	TRANSFER AND LOAD CENTER	EXISTING
3	TRANSFER AND LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
5	LOAD CENTER	EXISTING MMBS CABINET	EXISTING
6	LOAD CENTER	EXISTING BATTERY CABINET	EXISTING

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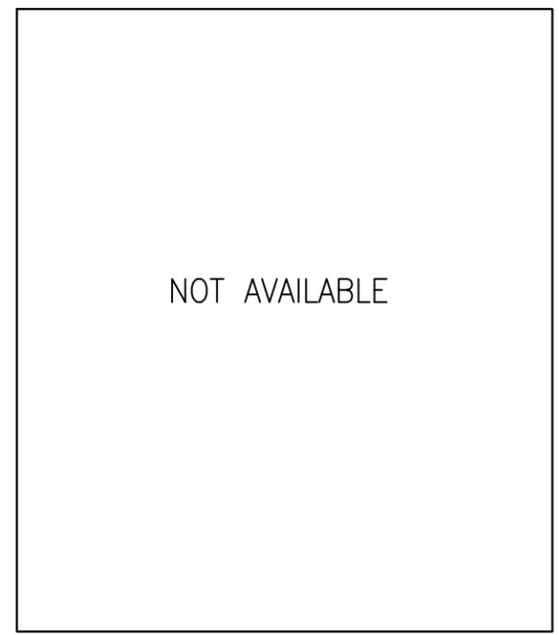
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Drawing Title: ONE-LINE DIAGRAM / PANEL SCHEDULE
Drawing Number: E-2

LOAD CENTER (INTERNAL TO PPC)														
MAIN CB	VOLTAGE				PHASE				WIRE					
	200A				120/240V				3Ø					3
	BREAKER				LOADS PER PHASE		LOADS PER PHASE		BREAKER					
	WIRE	POLES	AMPS	CIRCUIT #	LOAD A	LOAD B	LOAD A	LOAD B	CIRCUIT #	AMPS	POLES	WIRE		
MMBS	2	2	100	1	7000		100		2	20	2	6	AAV	
-				3		7000		100	4				-	
BBU	10	2	15	5	400		180		6	20	1	14	GFCI RECEPTACLE (*)	
-				7		400		500	8	15	1	10	SHELTER LIGHTS (*)	
SPACE				9					10				SPACE	
-				11		2500			12				SPACE	
SPACE				13					14				SPACE	
SPACE				15					16				SPACE	
SPACE				17					18				SPACE	
SPACE				19					20				SPACE	
SPACE				21					22				SPACE	
SPACE				23					24				SPACE	
LOAD LOAD/PHASE (VA)					9900	9900	280	600	(*) - FACTORY INSTALLED					
TOTAL CONNECTED LOAD									26884	ALL OTHER C/B TO BE FURNISHED AND INSTALLED BY CONTRACTOR				
TOTAL AMPS @ 240 (V)									112.02					

NOTE: COULD NOT ACCESS SPRINT SHELTER AT A TIME OF SITE VISIT. TYPICAL PANEL SCHEDULE SHOWN NOTIFY ENGINEER WITH ANY DISCREPANCIES.

③ PANEL SCHEDULE
E-2

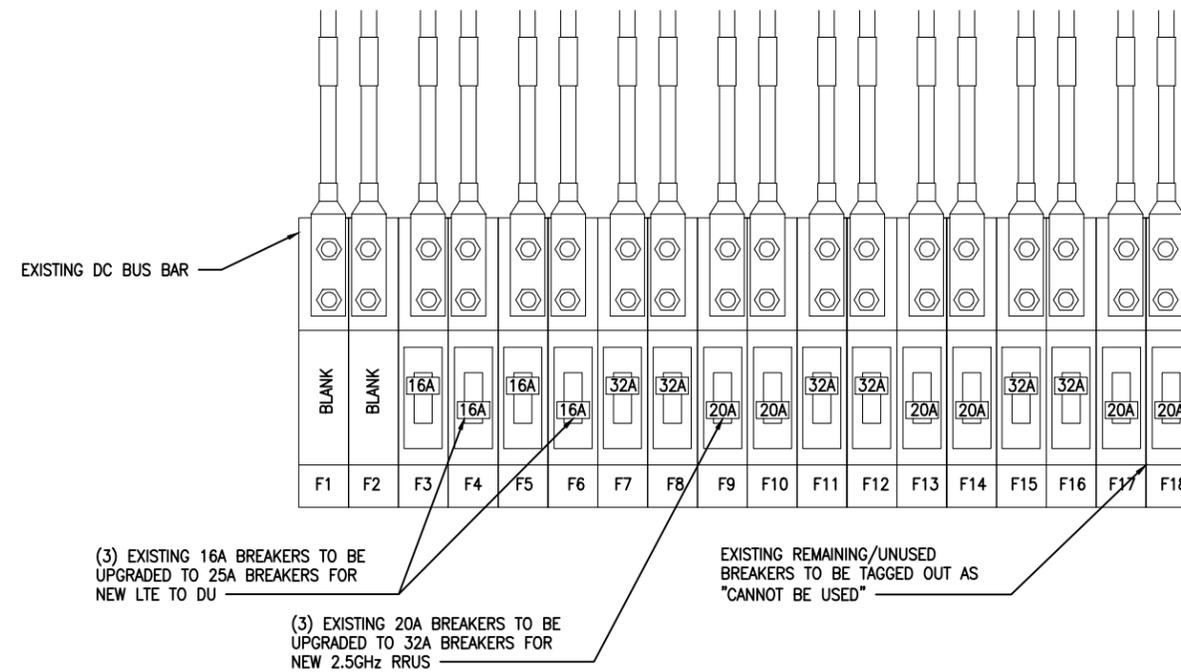
SCALE
N.T.S.



① PANEL PHOTO
E-2

SCALE
N.T.S.

- NOTES:
- (3) DU BREAKERS TO BE UPGRADED FROM 16A TO 25 A.
 - (3) RRU BREAKERS TO BE UPGRADED FROM 20A TO 32A.
 - REMAINING/UNUSED RRH BREAKERS TO BE TAGGED OUT AS "CANNOT BE USED"



2 TYPICAL DC POWER DISTRIBUTION

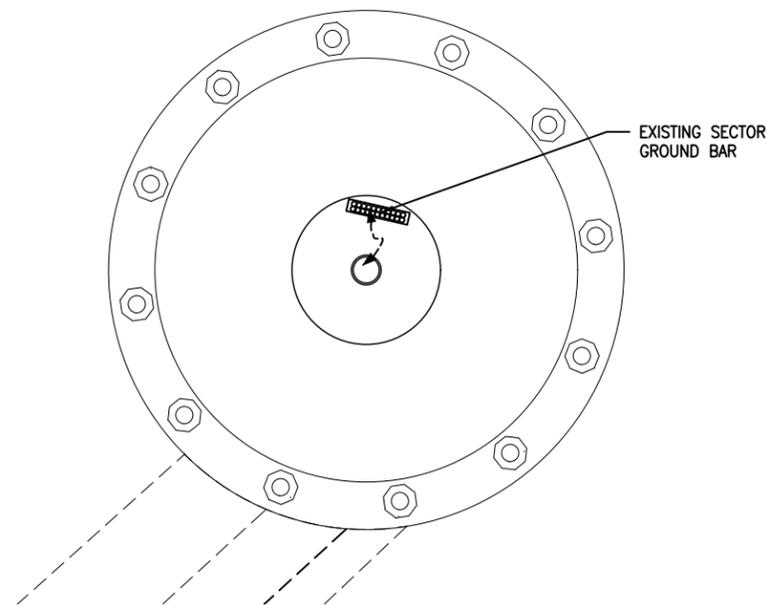
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SCALE
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4 NOT USED

E-3

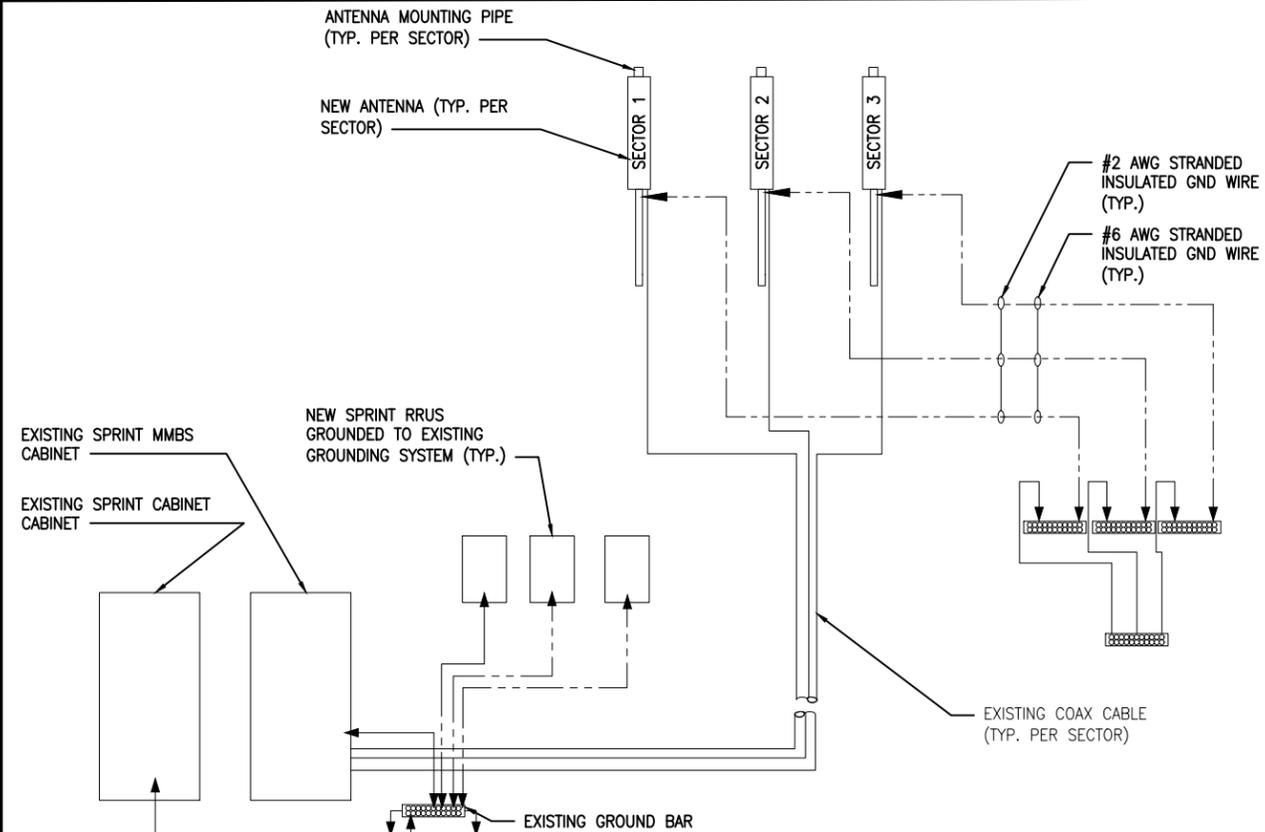
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N.T.S.



3 TYPICAL ANTENNA GROUNDING PLAN

E-3

SCALE
N.T.S.



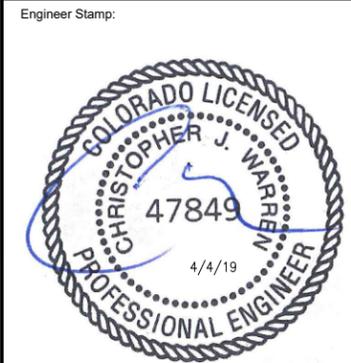
1 GROUNDING RISER DIAGRAM

E-3

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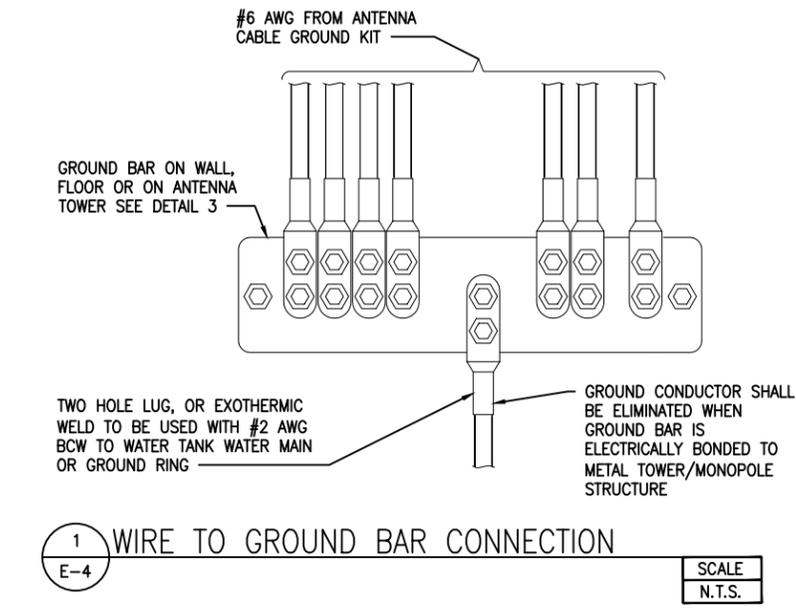
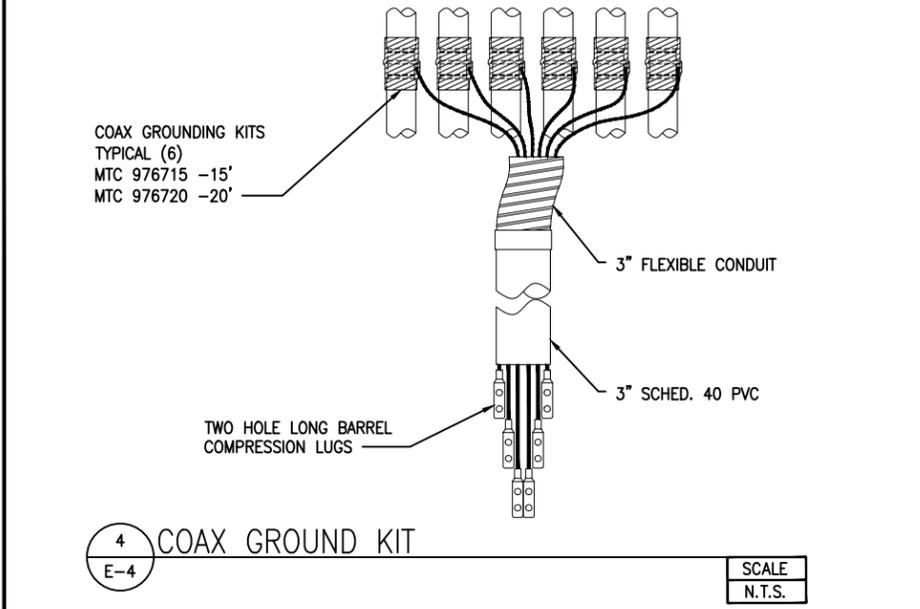
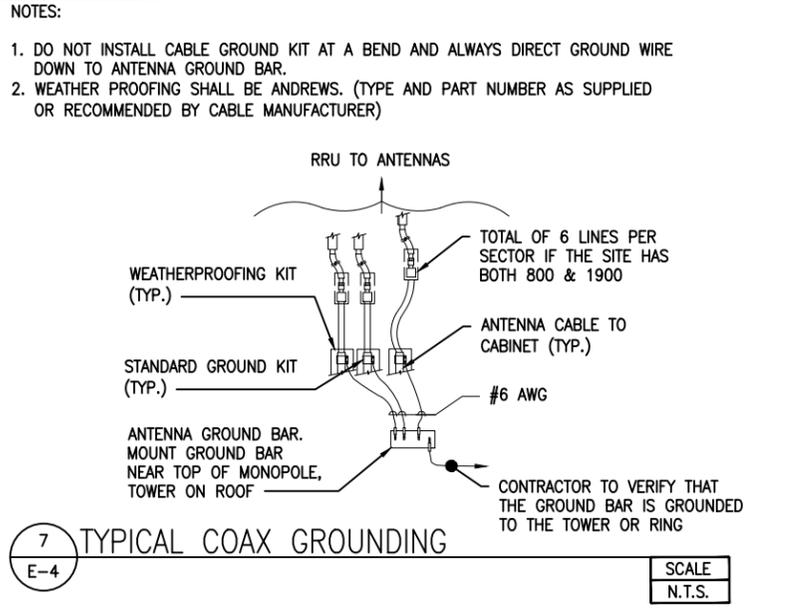
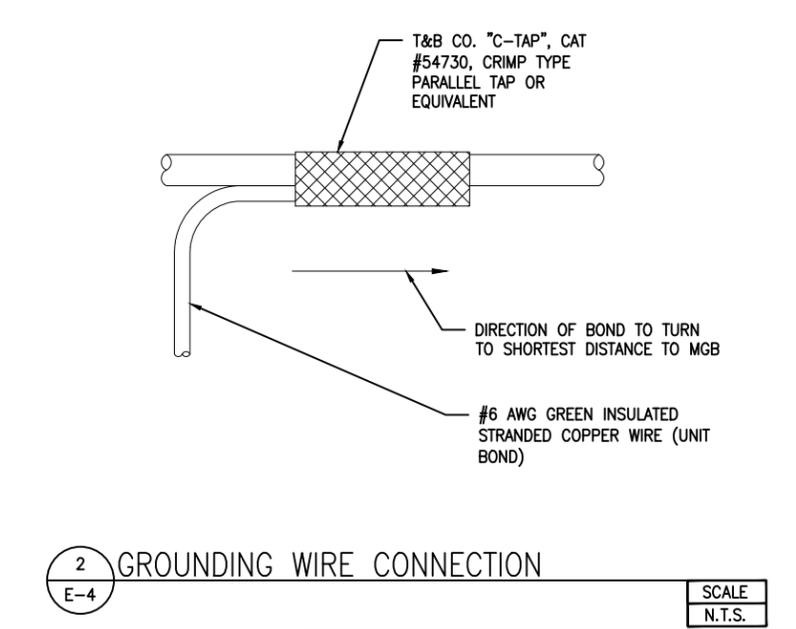
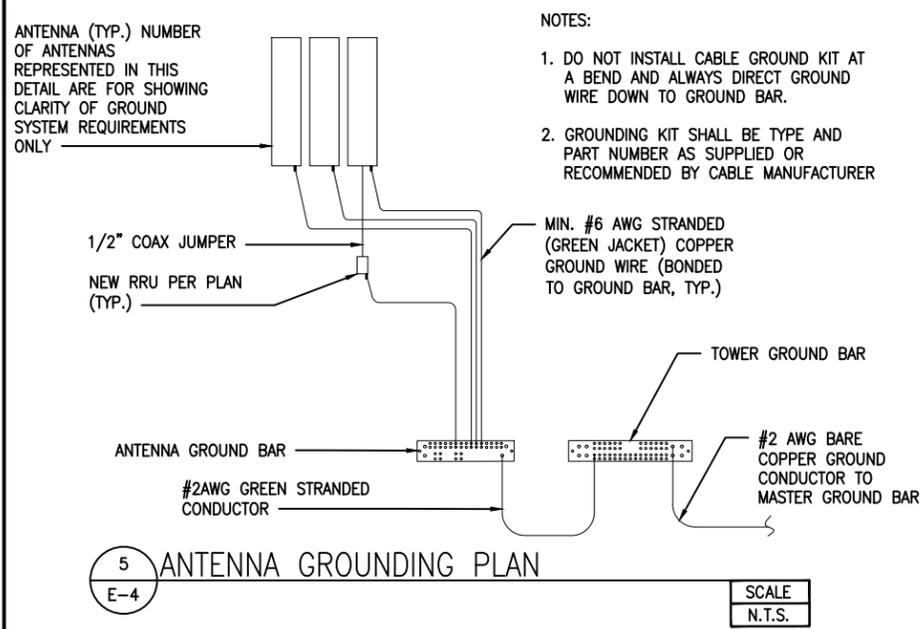
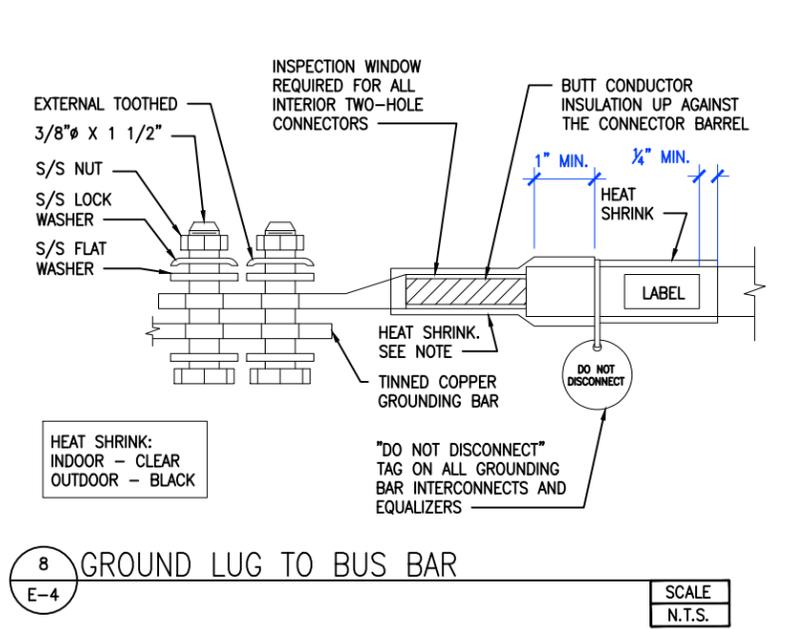
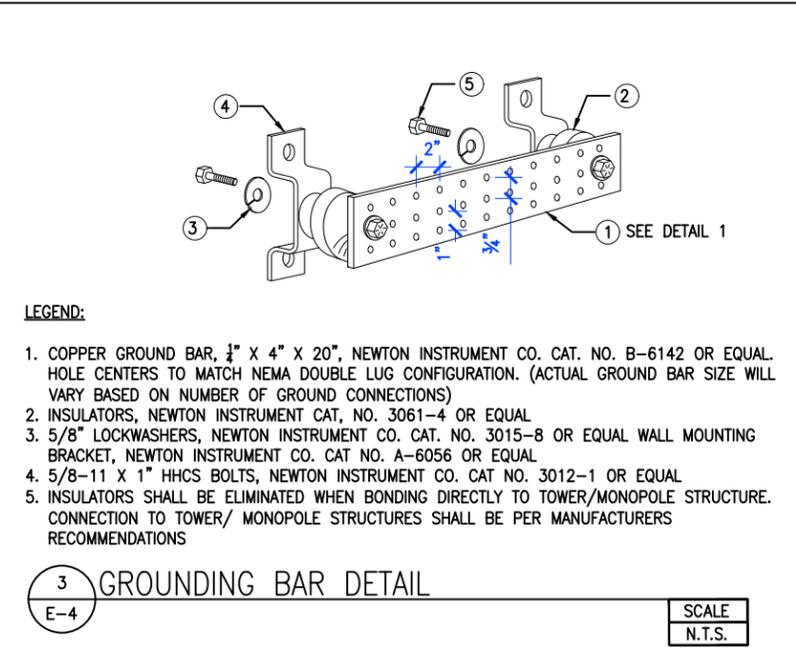
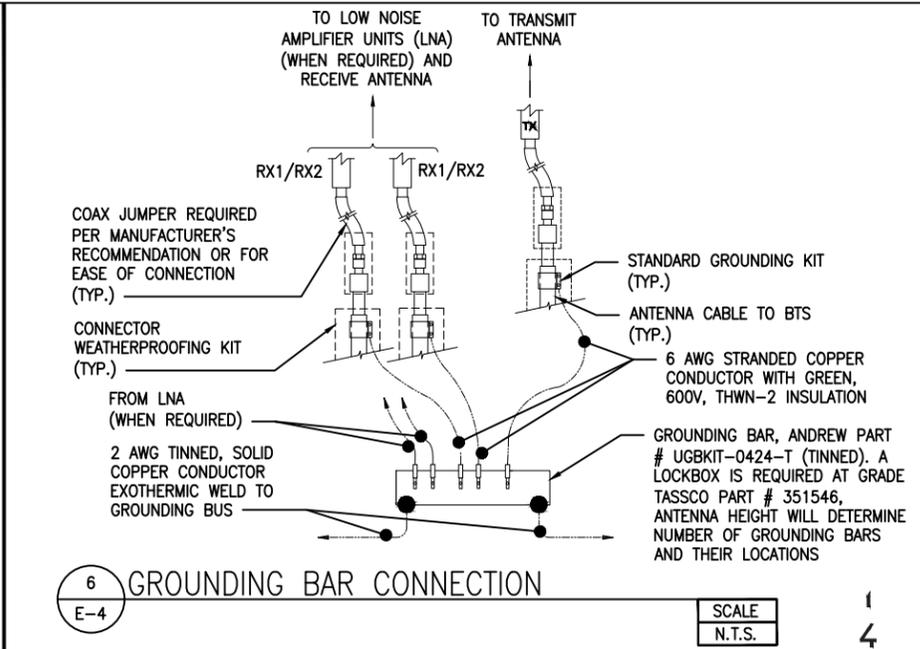
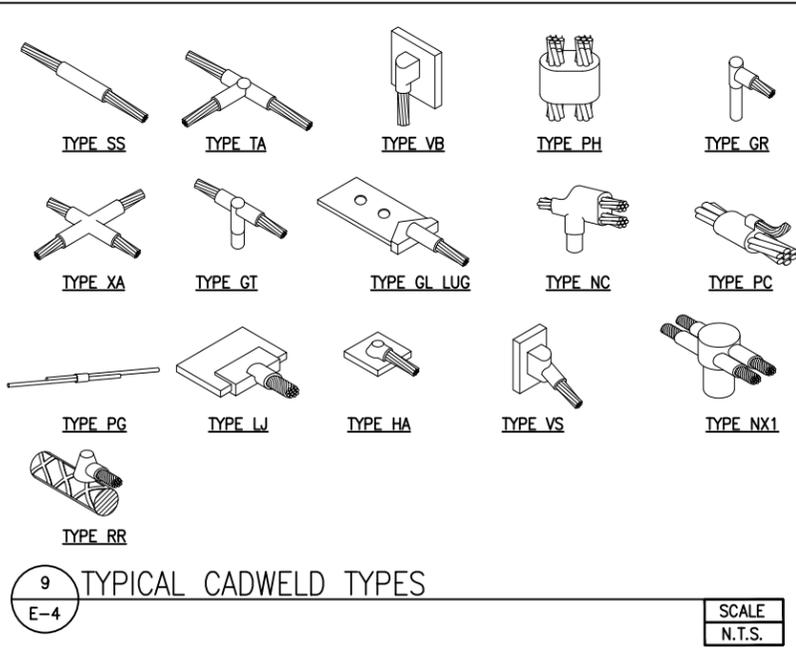
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Drawing Scale: AS NOTED Date: 4/4/19 **CD**

Drawing Title: DC DISTRIBUTION & ANTENNA GROUNDING PLAN & DIAGRAM

Drawing Number: E-3



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 COLORADO LICENSED PROFESSIONAL ENGINEER

Signed: _____ Date: _____

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1	REVISED PER ANTENNA	JR	4/4/19
0	ISSUED FOR CONSTRUCTION	EDR	06/04/18
A	ISSUED FOR REVIEW	EDR	04/04/18
Rev.	Submittal / Revision	App'd	Date
Designed:	EP		Date: 4/4/19
Approved:	EDR		Date: 4/4/19

Project Number: 656-003

Site ID/Name: DN36XC504
 CHAMBERS & HAMPDEN

Site Address: 15528 E. HAMPDEN CIR
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CD

Drawing Title: **GROUNDING DETAILS**

Drawing Number: **E-4**