Digitally signed by Marc P Maier
DN: c=US, o=GOFF COMMUNICATIONS, ou=GOFF COMMUNICATIONS, cn=Marc P Maier, email=marcm@goffcommunications.com, 0.9.2342.19200300.100.1.1=A01410000001582FD7CA0000001D18
Date: 2016.12.22 14:01:52 -05'00'

FL01
FA# 10070109
CROWN CASTLE BU# 842800

3601 VINKEMULDER ROAD
COCONUT CREEK, FL 33073

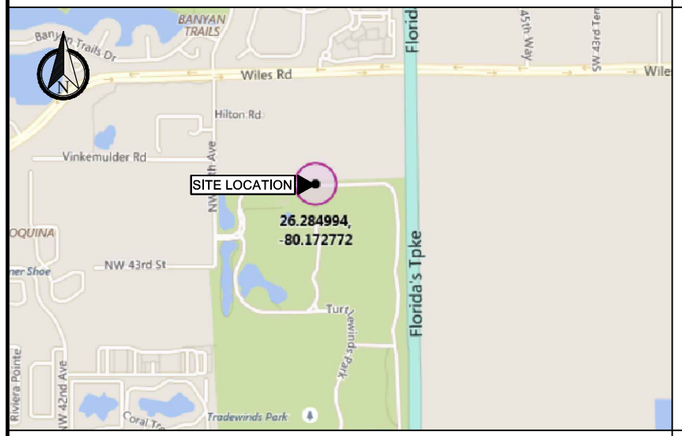
LTE 5TH CARRIER

REV.	DATE	DESCRIPTION
A	10/27/16	PRELIMINARY CDs REV "A"
B	10/27/16	PRELIMINARY CDs REV "B"
0	12/22/16	FINAL CDs ISSUED
1		
2		
3		
4		
5		

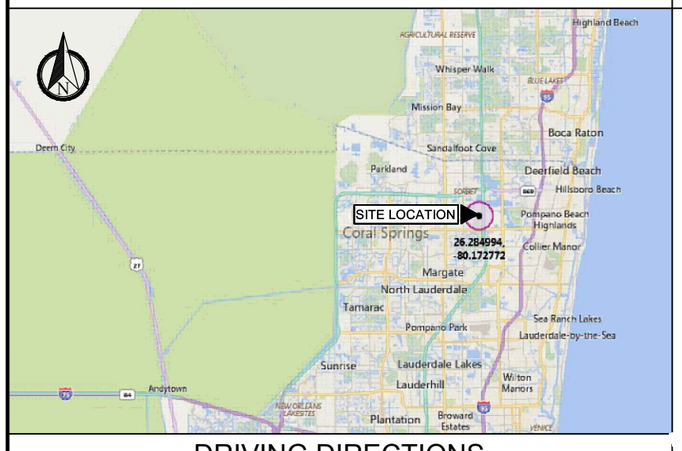
USA ENG PROJECT NO.: 12160002-17

DRAWN BY:	CHECKED BY:
BMF	MM

LOCATION MAP



VICINITY MAP



DRIVING DIRECTIONS

FROM AT&T FORT LAUDERDALE OFFICE...

1. DEPART NW 64TH ST TOWARD NW 21ST AVE, 312 FT
2. TURN RIGHT ONTO NW 21ST AVE, 0.3 MI
3. TURN LEFT ONTO W MCNAB RD, 1.0 MI
4. TURN RIGHT ONTO SW 46TH AVE / S LYONS RD, 1.5 MI
5. ROAD NAME CHANGES TO LYONS RD, 3.9 MI
6. TURN RIGHT ONTO WILES RD, 0.7 MI
7. TURN RIGHT ONTO NW 39TH AVE, 0.4 MI
8. TURN LEFT ONTO ROAD, 0.4 MI

ARRIVE AT - LAT: N 26.2849944°, LONG: W 80.1727722°

APPROVALS

PROPERTY OWNER	DATE
RF ENGINEER	DATE
CONSTRUCTION	DATE
SITE ACQUISITION	DATE
ZONING	DATE
NETWORK	DATE
OPERATIONS	DATE
CONTRACTOR	DATE

PROJECT SUMMARY

SITE NAME:	FL01
FA SITE NUMBER:	10070109
PARCEL #:	4842-17-02-0010
PROJECT INITIATIVE:	LTE 5TH CARRIER
COUNTY:	BROWARD
JURISDICTION:	CITY OF COCONUT CREEK
SITE COORDINATES:	N 26.2849944° W 80.1727722°
STRUCTURE TYPE:	SELF SUPPORT TOWER
TOWER HEIGHT:	192'-4" AGL
ANTENNA C.L. HEIGHT:	101'-0" AGL

ADMINISTRATIVE APPROVAL 06-19-17
APPROVED

PROJECT REFERENCES

1. THESE PLANS WERE COMPLETED PER LTE 5C V1.00 DATED 06/10/16. CONTRACTOR SHALL REQUEST CURRENT RFDS AND WORKBOOK FROM CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.

DESIGN CRITERIA

- FLORIDA BUILDING CODE 5th EDITION (2014)
  ANSI/EIA/TIA-222-G (ALLOWED PER EXEMPTION #5 OF 1609.1.1)
  ASCE 7-10
  Vult = 170 MPH (ULTIMATE 3 SECOND GUST)
  Vasd = 132 MPH (NOMINAL 3 SECOND GUST)
  RISK CATEGORY = II
  EXPOSURE = C
  IMPORTANCE FACTOR= 1.0
- NATIONAL ELECTRICAL CODE, 2011 EDITION (NFPA 70-2011)
- FLORIDA FIRE PREVENTION CODE 5th EDITION
- CONTRACTOR TO CONFIRM THAT THE SITE IS COMPLIANT WITH RF WARNING SIGNAGE & EMERGENCY SIGNAGE AS REQUIRED BY THE FEDERAL GUIDELINES CONTAINED WITH OET 65 BULLETIN & AS PER AT&T GUIDELINES

CONSTRUCTION NOTES

1. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
2. CONTRACTOR SHALL NOTIFY OWNER FOR ACCESS TO SITE.
3. THIS PROJECT CONSISTS OF THE INSTALLATION OF:
   (3) REPLACEMENT RRUS-32, (1) NEW DC POWER CABLE, AND ALL ASSOCIATED WORK.

CONTACTS

APPLICANT:
AT&T
2001 NW 64TH STREET
SUITE 100, FLOOR 1
FT. LAUDERDALE, FL 33309
CONTACT: CONNIE CHAPMAN
PHONE: (407) 942-8805

TOWER OWNER:
CROWN CASTLE
6420 CONGRESS AVENUE
SUITE 2000
BOCA RATON, FL 33487

ENGINEER:
USA ENGINEERING
2130 ASHLEY OAKS CIR.
SUITE 102
WESLEY CHAPEL, FL 33544
CONTACT: MARC MAIER, P.E.
PHONE: 813-994-0365

INDEX OF DRAWINGS

SHT. NO.	DESCRIPTION	REV. NO.
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GN-1	GENERAL NOTES, ABBREVIATIONS	
ARCHITECTURAL / CIVIL PLANS		
C-1	SITE PLAN	
STRUCTURAL PLANS		
S-1	TOWER ELEVATION AND ANTENNA ORIENTATION	
S-2	MISCELLANEOUS DETAILS	
S-3	MISCELLANEOUS DETAILS	
ANTENNA SCHEDULE		
AN-1	ANTENNA SCHEDULE	

PROJECT INFORMATION

1. THIS IS AN UNMANNED FACILITY AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
2. AT&T CERTIFIES THAT THIS EQUIPMENT FACILITY WILL BE SERVICED ONLY BY AT&T EMPLOYEES AND SUBCONTRACTORS AND THE WORK ASSOCIATED WITH ANY EQUIPMENT CANNOT BE PERFORMED BY HANDICAPPED PERSONS. THIS FACILITY WILL BE FREQUENTED ONLY BY SERVICE PERSONNEL FOR REPAIR PURPOSES ONLY.
3. NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
4. NO WASTEWATER WILL BE GENERATED AT THIS LOCATION.
5. NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.

at&t
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FL COA #31705

MARC P. MAIER LICENSE No 72513 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been electronically signed and sealed by Marc P. Maier, P.E., FL License #72513 using a Digital Signature.

Printed Copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Dec 22 2016
DECEMBER 22, 2016
MARC P. MAIER, PE
FL PROFESSIONAL ENGINEER LIC. # 72513

FL01
FA #10070109

3601 VINKERMULDER RD
COCONUT CREEK, FL 33073

SHEET DESCRIPTION
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES:

1. ALL REFERENCES TO OWNER HEREIN SHALL BE CONSTRUED TO MEAN AT&T OR IT'S DESIGNATED REPRESENTATIVE.

2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE AND/OR COUNTY IN WHICH IT IS TO BE PERFORMED.

3. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.

4. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.

5. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.

6. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND THE TESTING AGENCY PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.

7. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.

9. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST EDITION OF THE LOCAL BUILDING CODE.

10. ALL PROPOSED CELLULAR EQUIPMENT AND FIXTURES SHALL BE FURNISHED BY OWNER FOR INSTALLATION BY THE CONTRACTOR, UNLESS SPECIFICALLY NOTED OTHERWISE HEREIN.

11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.

12. PREFABRICATED BUILDING INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE A.I.S.C. SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS– ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN INCLUDING THE COMMENTARY AND THE A.I.S.C. CODE OF STANDARD PRACTICE.

2. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A26. ALL STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

3. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) D.1.1/D1.1M:2010. STRUCTURAL WELDING CODE–STEEL WELD ELECTRODES SHALL BE E70XX.

4. ALL COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.

5. ALL REINFORCING STEEL SHALL CONFORM TO ASTM 615 GRADE 60, DEFORMED BILLET STEEL BARS. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185.

6. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST A.I.S.C. SPECIFICATIONS.

7. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS.

8. HOT–DIP GALVANIZE ITEMS SPECIFIED TO BE ZINC–COATED, AFTER FABRICATION WHERE PRACTICAL. GALVANIZING: ASTM A 123, ASTM, A 153/A 153M OR ASTM A 653/A 653M, G90, AS APPLICABLE.

9. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A 780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED, AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS. IN STICK OR PASTE, SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.

10. CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS/SPECIFICATIONS IF NO INFORMATION IS CONTAINED IN THESE PLANS OR IF THE MANUFACTURER'S SPECIFICATIONS ARE STRICTER.

NOTE: REFER TO AT&T SPECIFICATIONS AS THE CONTROLLING STANDARD FOR PROPOSED CONSTRUCTION.

PERMITS:

1. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES.

2. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.

3. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND THE ACI 318–08, "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE".

4. THE CONTRACTOR SHALL NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER 24 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.

5. ALL DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE OWNER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

MISCELLANEOUS:

1. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLES SHALL CONFORM TO ASTM A307 OR ASTM 36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MIN. DIA. BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED FROM THE PLANE. ALL EXPOSED FASTENERS, NUTS, AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. ALL ANCHORS INTO CONCRETE SHALL BE STAINLESS STEEL.

2. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.

3. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY NORTH AND NOTIFY CONSULTANT OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.

4. PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.

5. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS.

6. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS TO BE A MIN. OF 8" RADIUS.

7. FOR GROUNDING TO BUILDING FRAME AND HATCH PLATE GROUND BARS, USE A TWO–BOLT HOLE NEPA DRILLED CONNECTOR SUCH AS T&B 32007 OR APPROVED EQUAL.

8. FOR ALL EXTERNAL GROUND CONNECTIONS, CLAMPS AND CADWELDS, APPLY A LIBERAL PROTECTIVE COATING OR AN ANTI–OXIDE COMPOUND SUCH AS 'NO–OXIDE A' BY DEARBORN CHEMICAL COMPANY.

9. REPAIR ALL METAL SURFACES THAT HAVE BEEN CUT OR DAMAGED BY REMOVING ANY EXISTING RUST AND APPLYING COLD GALVANIZATION.

10. ANTENNA CABLE LENGTHS HAVE BEEN DETERMINED BASED ON THESE PLANS. CABLE LENGTHS LISTED ARE APPROXIMATED AND ARE NOT INTENDED TO BE USED FOR FABRICATION. DUE TO FIELD CONDITIONS, ACTUAL CABLE LENGTHS VARY. CONTRACTOR MUST FIELD VERIFY ANTENNA CABLE LENGTHS PRIOR TO ORDER.

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PHONE: (407) 942–8805

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DECEMBER 22, 2016

MARC P. MAIER, PE
FL PROFESSIONAL ENGINEER LIC. # 72513

FL01
FA #10070109

3601 VINKERMULDER RD
COCONUT CREEK, FL 33073

SHEET DESCRIPTION

GENERAL NOTES, ABBREVIATIONS

SHEET NUMBER

GN-1

NOTES:

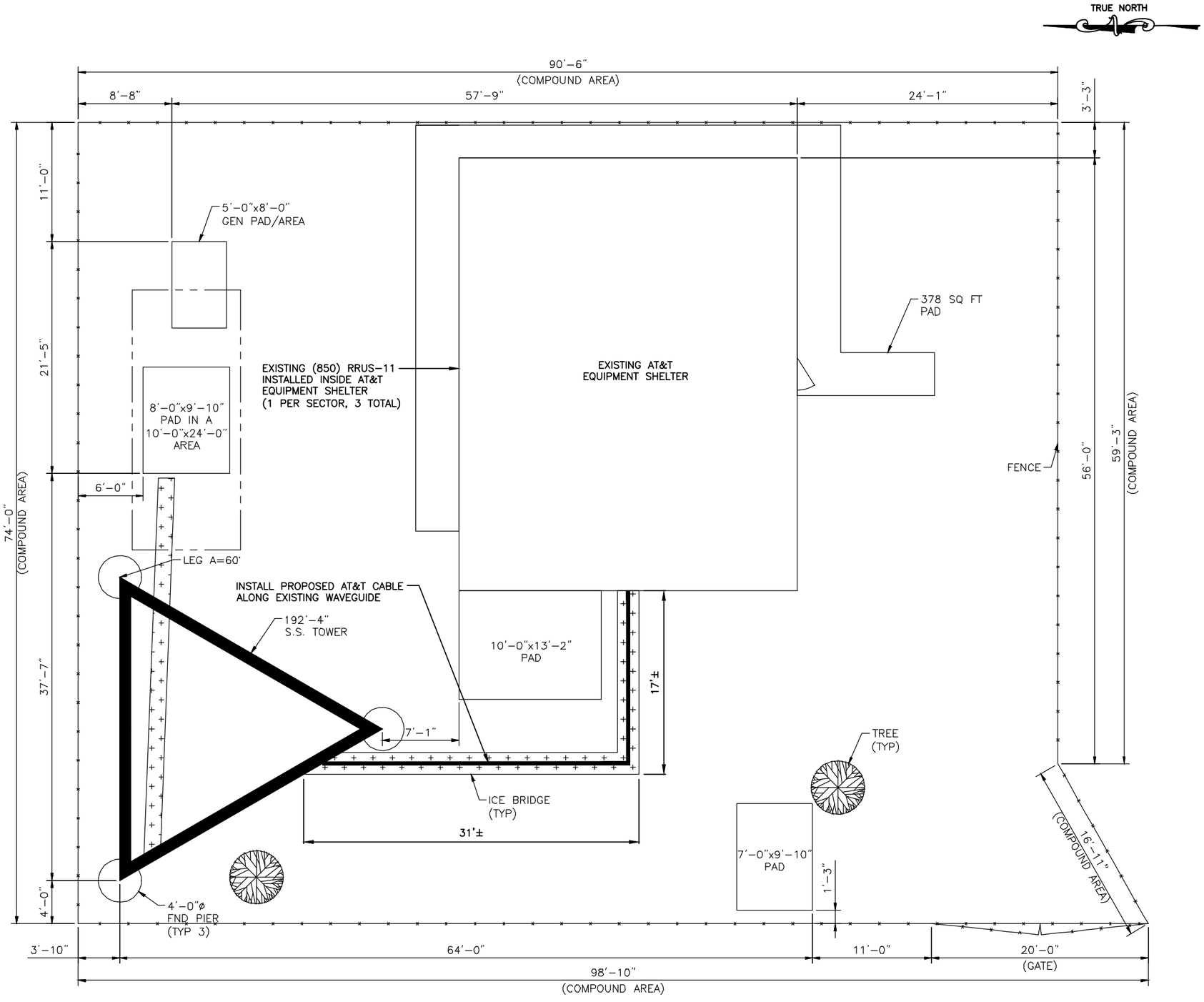
1. A STRUCTURAL ANALYSIS SHALL BE PERFORMED BY THE OWNER'S AGENT TO CERTIFY THAT THE EXISTING/PROPOSED COMMUNICATION STRUCTURE AND COMPONENTS ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, COAXIAL CABLES AND OTHER APPURTENANCES. THE OWNER'S AGENT SHALL FURNISH A CERTIFICATION LETTER SEALED BY A REGISTERED PROFESSIONAL ENGINEER STATING THAT THIS STRUCTURAL ANALYSIS WAS PREPARED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS.
2. IF ANY WORK IS PERFORMED AT THIS SITE THAT REQUIRES THE SITE TO BE OFF AIR OR TURNED DOWN, THE SWITCH IS TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION VIA NCR/CTS.
3. INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES, AND SUPPORT STRUCTURES. ANTENNA WORK TO BE INSTALLED PER THE REQUIREMENTS OF THE TOWER MANUFACTURER'S SPECIFICATION.
4. ANTENNA AND MOUNT DESIGN MUST COMPLY WITH TIA–EIA–222–G AND ALL LOCAL CODES.
5. CONTRACTOR TO PROVIDE THE PROPER COAX JUMPER SUPPORT ATTACHMENTS TO THE TOWER AND ANTENNA MOUNT.

CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE RAYCAP INSTALLED ON THE TOWER TO ACCOMODATE THE QUANTITY OF RRU'S.

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

NOTES:

1. REFER TO CURRENT RFDS FOR ADDITIONAL INFO.
2. ADJUST ANTENNA MOUNTS AS REQUIRED TO ACHIEVE THE AZIMUTH SPECIFIED AND LIMIT RF SHADOWING
3. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
4. CONTRACTOR TO RETURN ALL EXISTING ANTENNAS BEING REMOVED TO AT&T.
5. CONTRACTOR TO ENSURE MOUNT SUPPORT DOES NOT OBSTRUCT CLIMBING ACCESS.



1 / C-1 SITE PLAN
SCALE: 1" = 10'
SCALE BASED ON 11"x17" ONLY

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FT. LAUDERDALE, FL 33309
PHONE: (407) 942–8805

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DECEMBER 22, 2016

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FL PROFESSIONAL ENGINEER LIC. # 72513

FL01
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3601 VINKERMULDER RD
COCONUT CREEK, FL 33073

SHEET DESCRIPTION
SITE PLAN

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C-1

NOTES:

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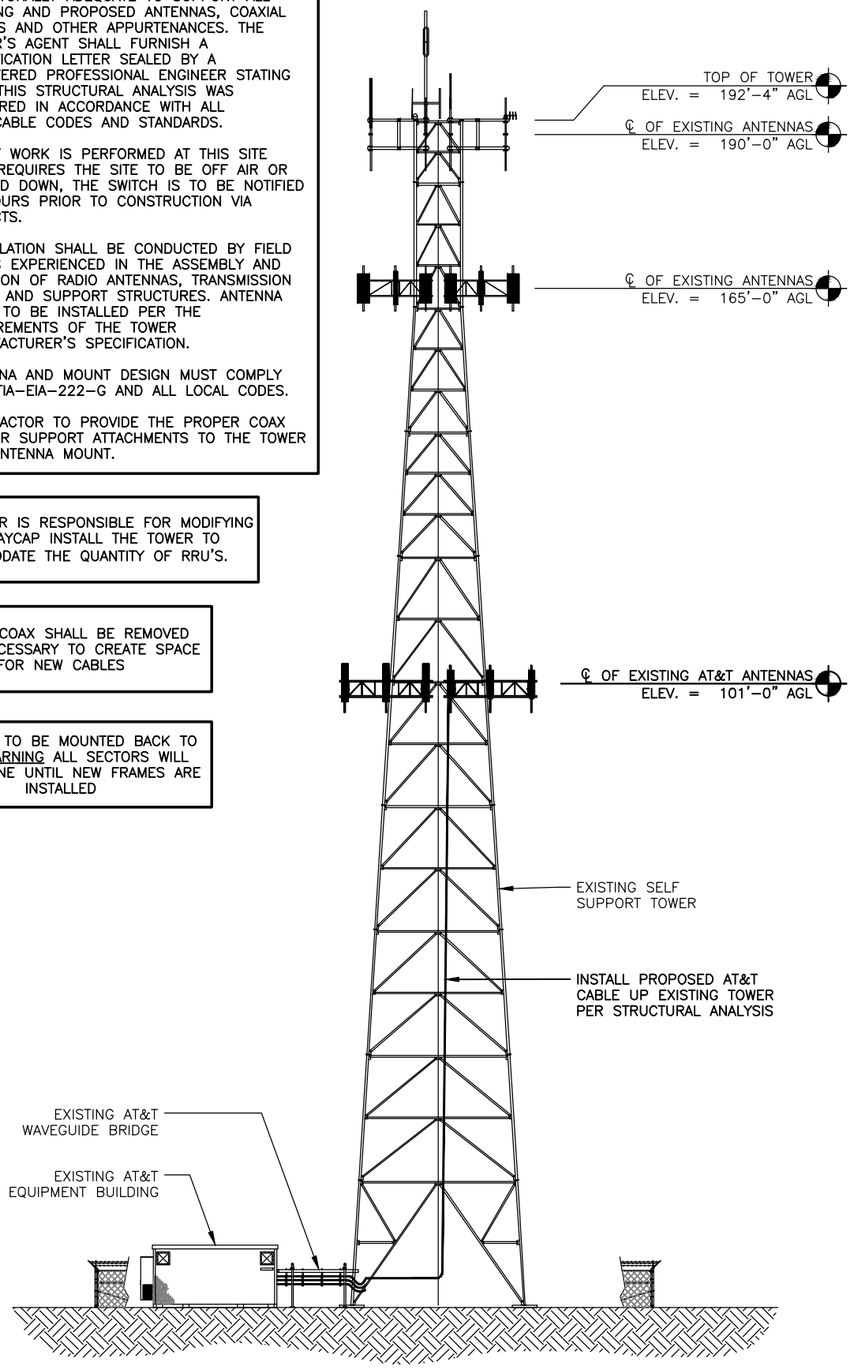
2. IF ANY WORK IS PERFORMED AT THIS SITE THAT REQUIRES THE SITE TO BE OFF AIR OR TURNED DOWN, THE SWITCH IS TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION VIA NCR/CTS.
3. INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES, AND SUPPORT STRUCTURES. ANTENNA WORK TO BE INSTALLED PER THE REQUIREMENTS OF THE TOWER MANUFACTURER'S SPECIFICATION.
4. ANTENNA AND MOUNT DESIGN MUST COMPLY WITH TIA-EIA-222-G AND ALL LOCAL CODES.
5. CONTRACTOR TO PROVIDE THE PROPER COAX JUMPER SUPPORT ATTACHMENTS TO THE TOWER AND ANTENNA MOUNT.

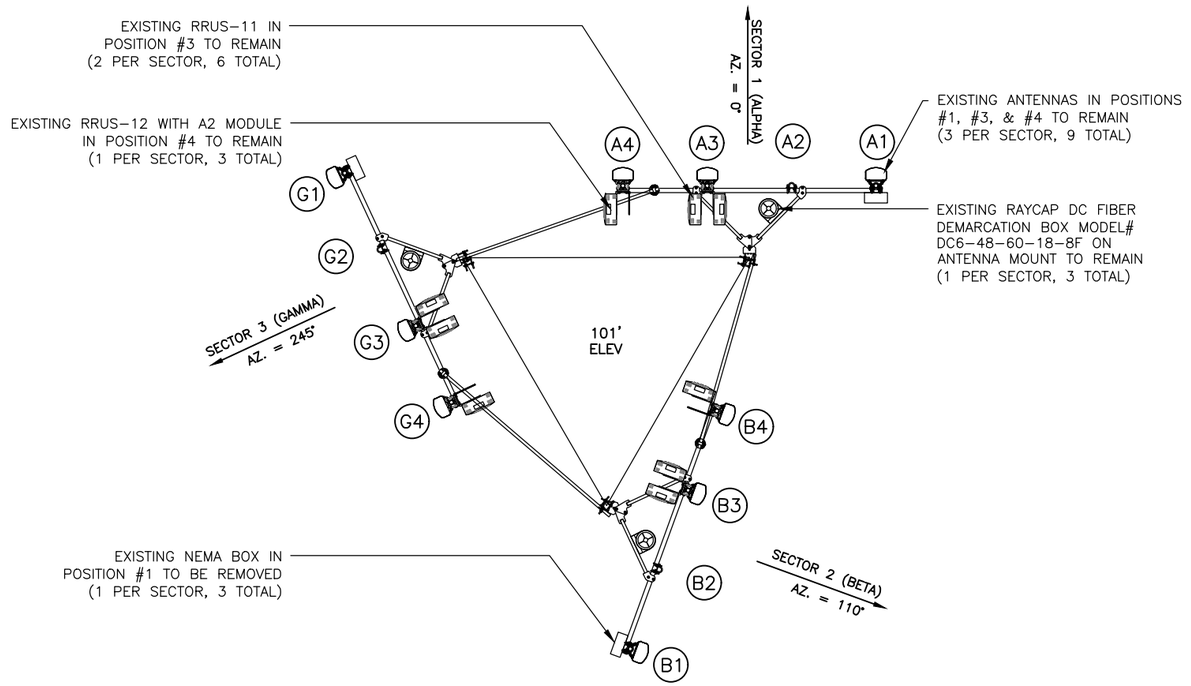
CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE RAYCAP INSTALL THE TOWER TO ACCOMODATE THE QUANTITY OF RRU'S.

UNUSED COAX SHALL BE REMOVED WHERE NECESSARY TO CREATE SPACE FOR NEW CABLES

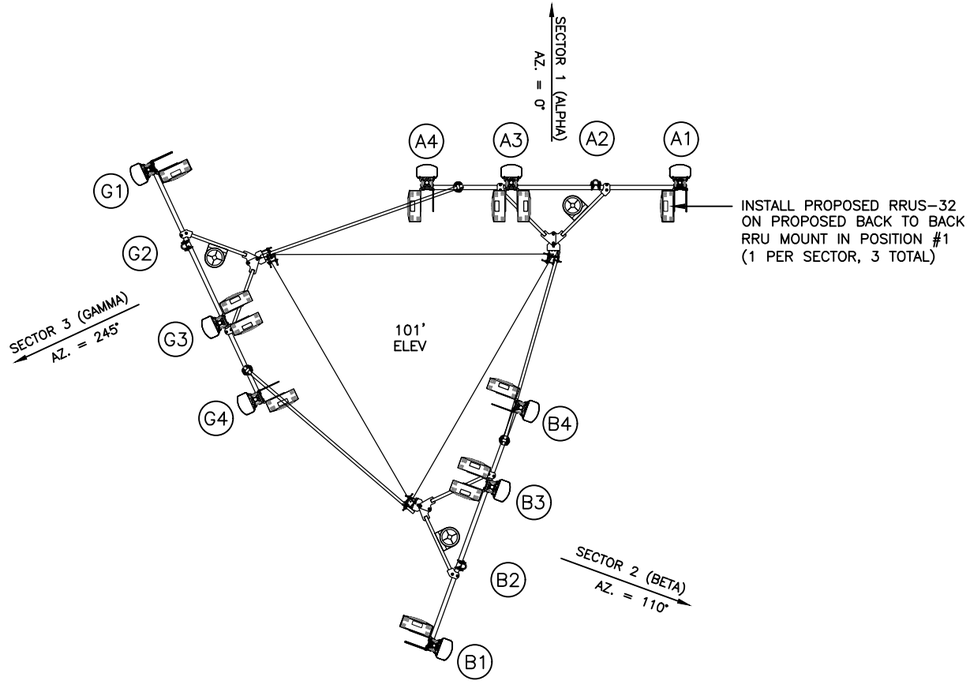
ALL RRHs TO BE MOUNTED BACK TO BACK. WARNING ALL SECTORS WILL GO OFF LINE UNTIL NEW FRAMES ARE INSTALLED



1 S-1 TOWER ELEVATION
SCALE: N.T.S.



2 S-1 EXISTING ANTENNA CONFIGURATION DETAIL
SCALE: N.T.S.



3 S-1 PROPOSED ANTENNA CONFIGURATION DETAIL
SCALE: N.T.S.

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FL PROFESSIONAL ENGINEER LIC. # 72513

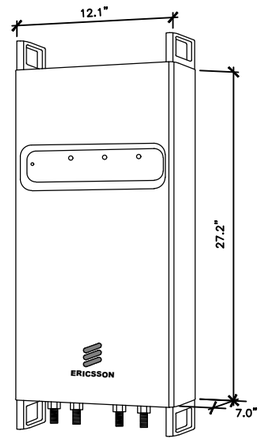
FL01
FA #10070109

3601 VINKERMULDER RD
COCONUT CREEK, FL 33073

SHEET DESCRIPTION
TOWER ELEVATION AND ANTENNA ORIENTATION

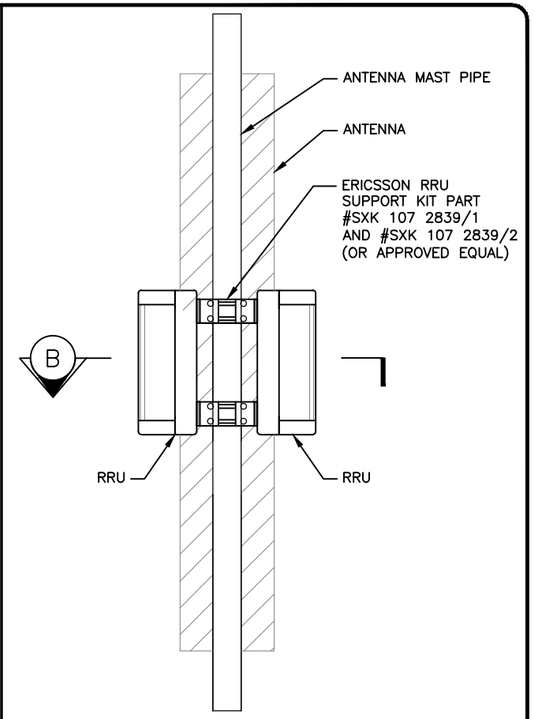
SHEET NUMBER
S-1

ERICSSON RRUS 32
- DIMENSIONS (H x W x D):
  27.2" x 12.1" x 7.0" (INCLUDES SUNSHIELD)
- WEIGHT: 60 LBS
- WCS A+B BLOCKS: TX = 2350–2360 MHz
  RX = 2305–2315 MHz
- CPRI 2 PORTS x 10 GBPS



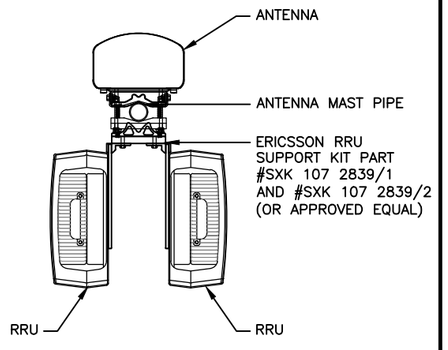
NOTE:
RRUS CAN ONLY BE
PAINTED ON SOLAR SHIELD.

1 S-2 RRUS-32 DETAIL
SCALE: N.T.S.



NOTE:
DETAIL IS DIAGRAMMATIC. CONTRACTOR TO INSTALL RRU'S ON RRU MOUNT BEST SUITED FOR ANTENNA CONFIGURATION.

BACK VIEW



NOTE:
DETAIL IS DIAGRAMMATIC. CONTRACTOR TO INSTALL RRU'S ON RRU MOUNT BEST SUITED FOR ANTENNA CONFIGURATION.

SECTION B

4 S-2 RRU MOUNTING DETAIL
SCALE: N.T.S.

REV.	DATE	DESCRIPTION
A	10/27/16	PRELIMINARY CDs REV "A"
B	10/27/16	PRELIMINARY CDs REV "B"
0	12/22/16	FINAL CDs ISSUED
1		
2		
3		
4		
5		

USA ENG. PROJECT NO.: 12160002-17

DRAWN BY:	CHECKED BY:
BMF	MM

at&t
2001 NW 64TH ST
SUITE 100
FT. LAUDERDALE, FL 33309
PHONE: (407) 942-8805

HIGH PERFORMANCE SERVICES, LLC
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P: 850-232-7951
F: 337-565-2923

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BOCA RATON, FL 33487

PREPARED BY:
USA ENGINEERING
2130 ASHLEY OAKS CIRCLE
SUITE 102
WESLEY CHAPEL, FL 33544
(813) 994-0365
FL COA #31705

DECEMBER 22, 2016

MARC P. MAIER, PE
FL PROFESSIONAL ENGINEER LIC. # 72513

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3601 VINKERMULDER RD
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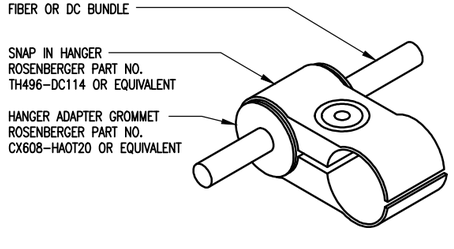
SHEET DESCRIPTION
MISCELLANEOUS DETAILS

SHEET NUMBER
S-2

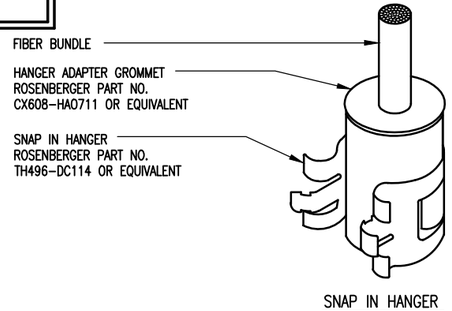
MISCELLANEOUS MATERIALS SCHEDULE

DESCRIPTION	MODEL NUMBER	QUANTITY
SNAP-IN HANGER	TH496-DC114	60
HANGER ADAPTER GROMMET	CX608-HA0711	60
HOISTING GRIP	CX051-HG38PL	1
HOISTING GRIP	CX06-HC12PL	–
GROUNDING KIT	–	–

NOTES:
1. REFER TO JSA DOCUMENTS FOR EXACT CABLE NUMBER AND MANUFACTURER SPECIFICATIONS FOR PROPER GROMMETS AND HANGER TO SUPPORT THE FIBER AND DC CABLE BUNDLES.
2. REFER TO STRUCTURAL ANALYSIS FOR EXACT CABLE ROUTING AND MOUNTING CONFIGURATION.



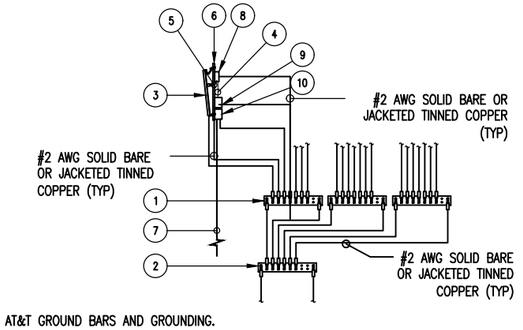
DOUBLE CLAMP



SNAP IN HANGER

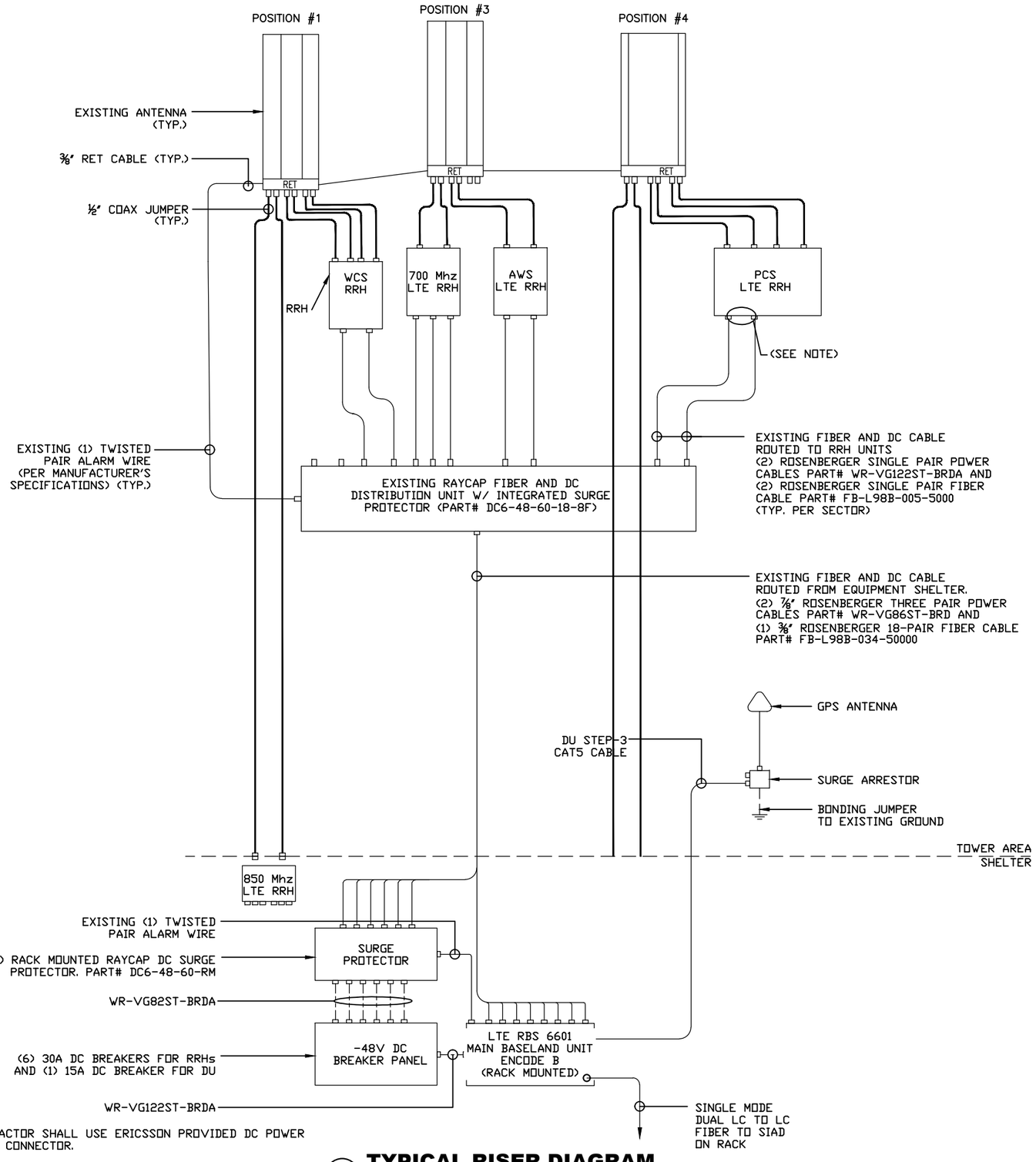
2 S-2 HANGER ADAPTER GROMMET DETAILS
SCALE: N.T.S.

KEYNOTE LEGEND:
1. SECTOR GROUND BAR (TYP).
2. COLLECTOR GROUND BAR.
3. NEW ANTENNA.
4. SINGLE PAIR FIBER & DC POWER.
5. JUMPER CABLE, 1/2" (TYP).
6. PIPE MOUNT.
7. DC POWER & FIBER TO RAYCAP UNIT.
8. REMOTE RADIO HEAD (RRH) (IF APPLICABLE).
9. DC6 RAYCAP SURGE SUPPRESSOR (IF APPLICABLE).
10. WCS FILTER



1. UTILIZE EXISTING AT&T GROUND BARS AND GROUNDING.
2. ADD GROUND BARS IF THERE ARE INSUFFICIENT LUG POSITIONS.
3. REFERENCE AT&T BONDING & GROUNDING PRACTICE TP76416.

3 S-2 ANTENNA GROUNDING SCHEMATIC
SCALE: N.T.S.



1 S-3 TYPICAL RISER DIAGRAM
SCALE: N.T.S.

KEYNOTE LEGEND:

1. -48V DC POWER PLANT.
2. (1) RACK MOUNTED RAYCAP DC SURGE PROTECTOR (DC6-48-60-RM).
3. RAYCAP FIBER AND DC DISTRIBUTION UNIT (DC6-48-60-18-8F).
4. #8 AWG SHIELDED CONDUCTORS (WR-VG82ST-BRDA).
5. PROVIDE (2) 6-CONDUCTOR #8 AWG BUNDLES FOR DC POWER FROM RACK MOUNTED RAYCAP SURGE PROTECTION UNIT TO THE RAYCAP FIBER AND DISTRIBUTION UNIT ON TOWER.
6. EXISTING FIBER AND DC CABLE ROUTED TO EXISTING RRH UNITS.
7. #12 AWG SHIELDED CONDUCTORS (WR-VG122ST-BRDA).

2 S-3 TYPICAL DC RISER DIAGRAM
SCALE: N.T.S.

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SHEET DESCRIPTION
MISCELLANEOUS DETAILS

SHEET NUMBER
S-3

DC / FIBER DEMARCATION BOX

RAYCAP DC FIBER DEMARCATION BOX			CABLES				NOTES
MOUNTING HEIGHT	MODEL	QTY	MODEL	SIZE	QTY	LENGTH PER LINE	
101'-0"	DC6-48-60-18-8F	3	ROSENBERGER (18) PAIR FIBER TRUNK	3/8"	3	180'-0"	
			(6)- #8 AWG TINNED COPPER CONDUCTORS	**3/4"**	**4**	**180'-0"**	

ANTENNA AND COAX SCHEDULE

		ANTENNAS							CABLES					RRU		A2	COMPONENT			TMA	
SECTOR	AZ	RAD CENTER	ANTENNA MAKE	ANTENNA MODEL	(QTY)	APPROXIMATE ANTENNA SPECS	DOWN TILT ELEC	DOWN TILT MECH	MODEL	SIZE	(QTY)	LENGTH/ LINE	COLOR CODE	MODEL	(QTY)	MOD (QTY)	MODEL	TWR (QTY)	GRND (QTY)	MODEL	(QTY)
ALPHA (A1)	0°	101'-0"	ANDREW	SBNHH-1D85A	1	H=48.0" x W=11.9" x D=7.1"	-	-	LDF5-50	7/8"	2	180'-0"	1 RED	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	**ROSENBERGER FIBER JUMPER (DC6 TO RRU)**	**3/8"**	**1**	**15'-0"**	**1 RED**	**RRUS-32**	**1**	**-**	-	-	-	-	-
-	-	-	-	-	-	-	-	-	**ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)**	**7/16"**	**1**	**15'-0"**	**1 RED**	RRUS-11*	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	**1/2" COAX JUMPER (RRU TO ANTENNA)**	**1/2"**	**4**	**10'-0"**	**1 RED**	-	-	-	-	-	-	-	-
ALPHA (A2)	-	-	-	-	-	-	-	-	-	-	-	-	2 RED	-	-	-	-	-	-	-	-
ALPHA (A3)	0°	101'-0"	ANDREW	SBNHH-1D85A	1	H=48.0" x W=11.9" x D=7.1"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	3 RED	RRUS-11	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	2	15'-0"	3 RED	RRUS-11	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	3 RED	-	-	-	-	-	-	-	-
ALPHA (A4)	0°	101'-0"	ANDREW	SBNHH-1D85A	1	H=48.0" x W=11.9" x D=7.1"	-	-	LDF5-50	7/8"	2	180'-0"	4 RED	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	4 RED	RRUS-12	1	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 RED	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	4 RED	-	-	-	-	-	-	-	-
BETA (B1)	110°	101'-0"	KMW	ET-X-UW-68-14-65-18-IR-AT	1	H=72.7" x W=12.0" x D=6.3"	-	-	LDF5-50	7/8"	2	180'-0"	1 BLUE	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	**ROSENBERGER FIBER JUMPER (DC6 TO RRU)**	**3/8"**	**1**	**15'-0"**	**1 BLUE**	**RRUS-32**	**1**	**-**	-	-	-	-	-
-	-	-	-	-	-	-	-	-	**ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)**	**7/16"**	**1**	**15'-0"**	**1 BLUE**	RRUS-11*	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	**1/2" COAX JUMPER (RRU TO ANTENNA)**	**1/2"**	**4**	**10'-0"**	**1 BLUE**	-	-	-	-	-	-	-	-
BETA (B2)	-	-	-	-	-	-	-	-	-	-	-	-	2 BLUE	-	-	-	-	-	-	-	-
BETA (B3)	110°	101'-0"	KMW	ET-X-UW-68-14-65-18-IR-AT	1	H=72.7" x W=12.0" x D=6.3"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	3 BLUE	RRUS-11	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	2	15'-0"	3 BLUE	RRUS-11	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	3 BLUE	-	-	-	-	-	-	-	-
BETA (B4)	110°	101'-0"	KMW	ET-X-UW-68-14-65-18-IR-AT	1	H=72.7" x W=12.0" x D=6.3"	-	-	LDF5-50	7/8"	2	180'-0"	4 BLUE	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	4 BLUE	RRUS-12	1	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 BLUE	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	4 BLUE	-	-	-	-	-	-	-	-
GAMMA (G1)	245°	101'-0"	KMW	ET-X-UW-68-14-65-18-IR-AT	1	H=72.7" x W=12.0" x D=6.3"	-	-	LDF5-50	7/8"	2	180'-0"	1 GREEN	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	**ROSENBERGER FIBER JUMPER (DC6 TO RRU)**	**3/8"**	**1**	**15'-0"**	**1 GREEN**	**RRUS-32**	**1**	**-**	-	-	-	-	-
-	-	-	-	-	-	-	-	-	**ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)**	**7/16"**	**1**	**15'-0"**	**1 GREEN**	RRUS-11*	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	**1/2" COAX JUMPER (RRU TO ANTENNA)**	**1/2"**	**4**	**10'-0"**	**1 GREEN**	-	-	-	-	-	-	-	-
GAMMA (G2)	-	-	-	-	-	-	-	-	-	-	-	-	2 GREEN	-	-	-	-	-	-	-	-
GAMMA (G3)	245°	101'-0"	KMW	ET-X-UW-68-14-65-18-IR-AT	1	H=72.7" x W=12.0" x D=6.3"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	3 GREEN	RRUS-11	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	2	15'-0"	3 GREEN	RRUS-11	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	3 GREEN	-	-	-	-	-	-	-	-
GAMMA (G4)	245°	101'-0"	KMW	ET-X-UW-68-14-65-18-IR-AT	1	H=72.7" x W=12.0" x D=6.3"	-	-	LDF5-50	7/8"	2	180'-0"	4 GREEN	-	-	-	-	-	-	-	-
-	-	-	-	-		-	-	-	ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	4 GREEN	RRUS-12	1	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 GREEN	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	4 GREEN	-	-	-	-	-	-	-	-
									TOTAL 7/8" COAX (ACTIVE)		**12**	**2160'-0"**		**TOTAL**	**15**	**3**	**TOTAL**	**0**	**0**	**TOTAL**	**0**
									TOTAL 7/8" COAX (INACTIVE)		**-**	**-**									
									TOTAL FIBER JUMPER		**12**	**180'-0"**									
									TOTAL DC JUMPER		**12**	**180'-0"**									
									TOTAL 1/2" COAX JUMPERS		**36**	**360'-0"**									
									TOTAL 5/16" RET CABLES		**3**	**540'-0"**									

* ANTENNA AND COAX INFORMATION PROVIDED FROM THE LTE 5C RFDS V1.00 DATED 06/10/16.
* COAX LENGTHS ARE APPROXIMATE AND MUST BE VERIFIED PRIOR TO CONSTRUCTION.
* ALL COAX SHALL BE COLOR CODED AT TOP AN BOTTOM JUMPER AND AT TOP OF TOWER BOTTOM OF TOWER, AND INSIDE SHELTER ON MAIN COAX.
* EACH MAIN COAX SHALL HAVE CORROSION PROOF "ID TAGS" INSTALLED INSIDE THE SHELTER AT THE PORT AND AT THE ANTENNA.
* QUANTITIES GIVEN ARE TOTAL EXISTING AND PROPOSED.

*NOTE: (3) EXISTING (850) RRUS-11 ARE INSTALLED ON THE GROUND.

1 AN-1 **ANTENNA & COAX SCHEDULE**
SCALE: N.T.S.

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