FL71
FA #10070226

5555 REGENCY LAKES BOULEVARD
COCONUT CREEK, FL 33073

TOWER UPGRADES: 5G NR / 4TX4RX
PACE JOB#: MRSFL019387/MRSFL019385

REV	DATE	DESCRIPTION
A	07/10/19	PRELIMINARY CDs REV "A"
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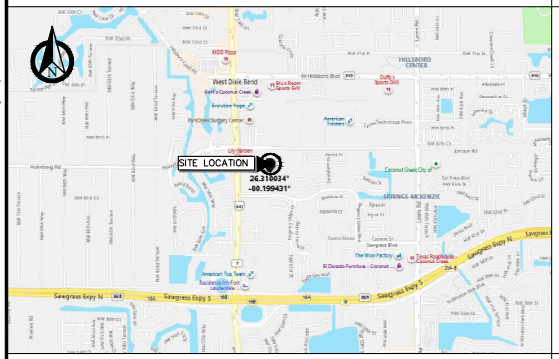
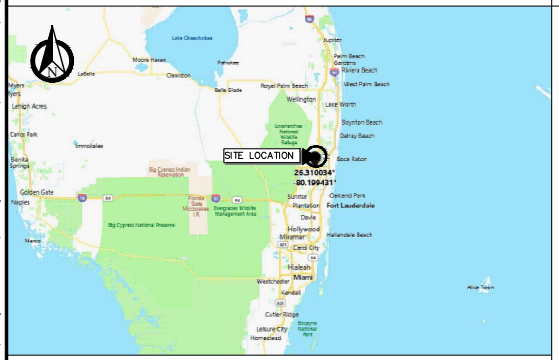
USA ENG PROJECT NO.: 27190002-19

DRAWN BY:	CHECKED BY:
EK	BMF

LOCATION MAP



VICINITY MAP



APPROVALS

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

PROJECT SUMMARY

SITE NAME:	FL71
FA SITE NUMBER:	10070226
PROJECT INITIATIVES:	5G NR/4TX4RX
FOLIO:	4842-06-16-0012
COUNTY:	BROWARD
JURISDICTION:	CITY OF COCONUT CREEK
SITE COORDINATES:	N 26.310034° W 80.199431°
STRUCTURE TYPE:	MONOPOLE TOWER
TOWER HEIGHT:	119'-0" AGL
ANTENNA C.L. HEIGHT:	100'-0" AGL

DESIGN CRITERIA

- FLORIDA BUILDING CODE (6TH EDITION) 2017
  ANSI/EIA/TIA-222-H (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, 2014 EDITION (NFPA 70-2014)
- FLORIDA FIRE PREVENTION CODE 6th EDITION (2017)
- 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) NEW B5/B12 4449, (3) NEW ANTENNAS AND ALL ASSOCIATED WORK.

CONTACTS

APPLICANT:
AT&T
8601 W SUNRISE BLVD
PLANTATION, FL 33322

TOWER OWNER:
CITY OF COCONUT CREEK
4800 W COPANS ROAD
COCONUT CREEK, FL 33063

ENGINEER:
USA ENGINEERING
2818 CYPRESS RIDGE BLVD
SUITE 110
WESLEY CHAPEL, FL 33544
CONTACT: MARC P. MAIER, P.E.
PHONE: 813-994-0365

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DRIVING DIRECTIONS

FROM AT&T OFFICES IN FT. LAUDERDALE: 8601 W Sunrise Blvd, Plantation, FL 33322
1. GET ON FL-869 N IN TAMARAC FROM N PINE ISLAND RD, W OAKLAND PARK BLVD AND N NOB HILL RD 5.6 mi
2. FOLLOW FL-869 N TO US-441 N. TAKE EXIT 18B FROM FL-869 N 12.8 mi
3. TAKE EXIT 18B TO MERGE ONTO US-441 N .04 mi
4. CONTINUE ON US-441 N THEN TURN RIGHT ONTO REGENCY LAKES BLVD 0.7 Mi
5. IN 200 FT TURN LEFT
6. TURN RIGHT AT THE 1ST CROSS STREET IN 371 FEET
7. ARRIVE AT YOUR DESTINATION ON THE RIGHT

5555 REGENCY LAKES BOULEVARD, COCONUT CREEK, FL 33073

PROJECT REFERENCES

1. THESE PLANS WERE COMPLETED PER PRELIMINARY/APPROVED 5G NR RFDS ID#: 2988587 V1.00 DATED 05/16/2019. CONTRACTOR SHALL REQUEST CURRENT RFDS & WORKBOOK FROM CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
2. THESE PLANS WERE COMPLETED PER BLUEWATER PROJECT MANAGEMENT'S MOUNT ANALYSIS DATED 6/18/19.

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
8601 W SUNRISE BLVD
PLANTATION, FL 33322

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LAFAYETTE, LA 70507
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PREPARED BY:
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2818 CYPRESS RIDGE BLVD.
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WESLEY CHAPEL, FL 33544
(813) 994-0365
FL COA #31705

NOT FOR CONSTRUCTION

7/11/19

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

FL71
FA#10070226

5555 REGENCY LAKES BLVD
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. 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.

5. 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.

6. 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.

7. 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.

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

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

10. 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.

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 A36. 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 GRADE 304 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.

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 318–14, "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 GRADE 304 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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USA ENG PROJECT NO.: 27190002–19

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EK	BMF

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NOT FOR CONSTRUCTION

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FL PROFESSIONAL ENGINEER LIC. # 72513

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COCONUT CREEK, FL 33073

SHEET DESCRIPTION

GENERAL NOTES, ABBREVIATIONS

SHEET NUMBER

GN-1

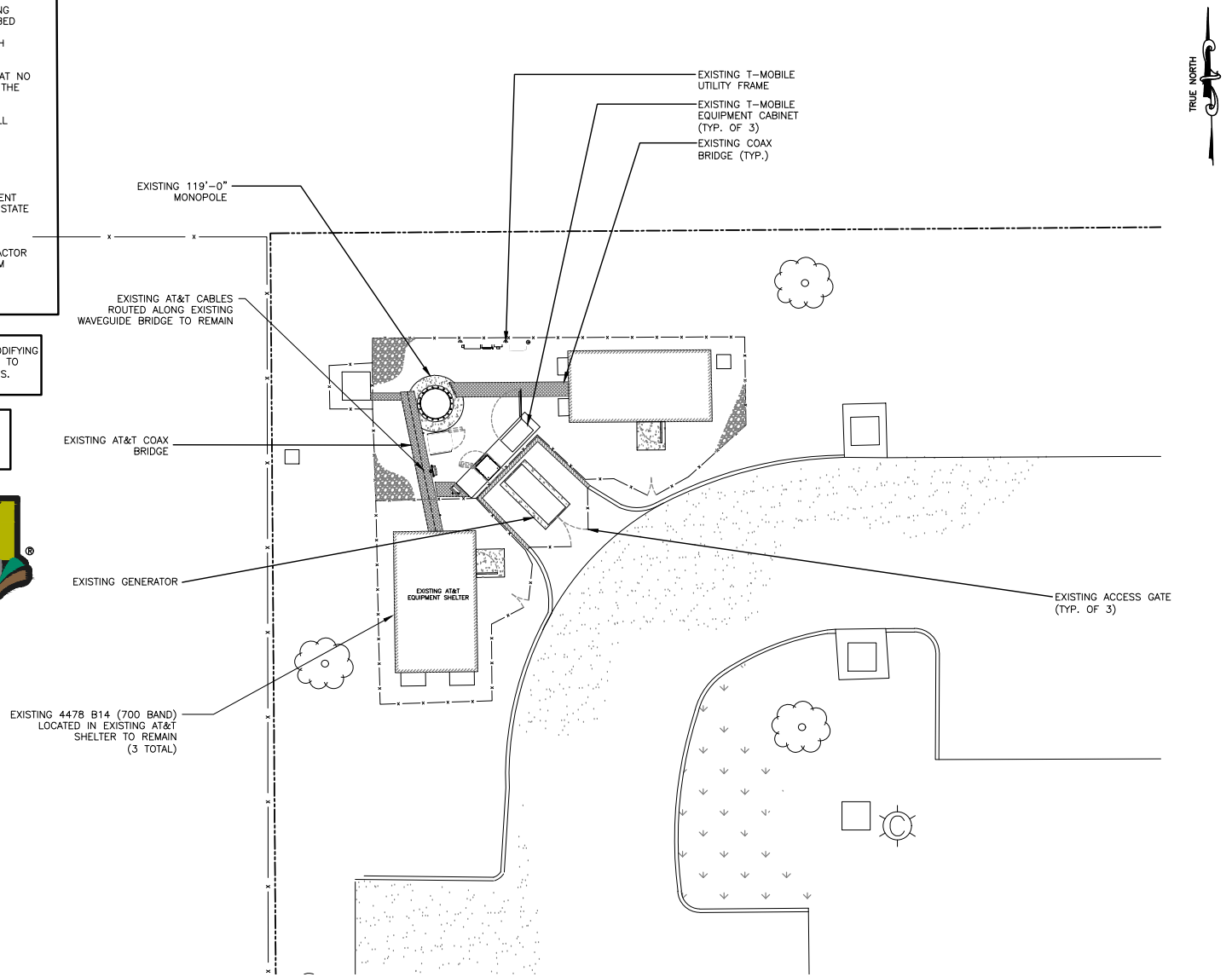
1. NOTES:
2. CONTRACTOR TO FILL ANY EXISTING GRAVEL AREAS THAT ARE DISTURBED DURING THE COURSE OF CONSTRUCTION, GRAVEL TO MATCH EXISTING.
3. THE CONTRACTOR TO ENSURE THAT NO DAMAGE OR DEBRIS OCCURS ON THE ADJACENT PROPERTIES.
4. THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITH LOW MAINTENANCE NATIVE GRASS AND COVER WITH APPROVED STRAW.
5. CONTRACTOR SHALL PROVIDE ALL REQUIRED EROSION CONTROL TECHNIQUES AND BEST MANAGEMENT PRACTICES PER LOCAL AND AND STATE REQUIREMENTS AS APPLICABLE.
6. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY NORTH AND INFORM ARCHITECT/ENGINEER OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE RAYCAP INSTALL AT GRADE LEVEL TO ACCOMMODATE THE QUANTITY OF RRU'S.

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

Sunshine State 811 One Call

CALL FLORIDA 811
ONE CALL - DIAL 811
CALL 3 WORKING DAYS
BEFORE YOU DIG
1-800-638-4097



1 / C-1 **SITE PLAN**
SCALE: 1"=15'
SCALE BASED ON 11"x17" ONLY

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SHEET DESCRIPTION
OVERALL SITE PLAN

SHEET NUMBER
C-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.

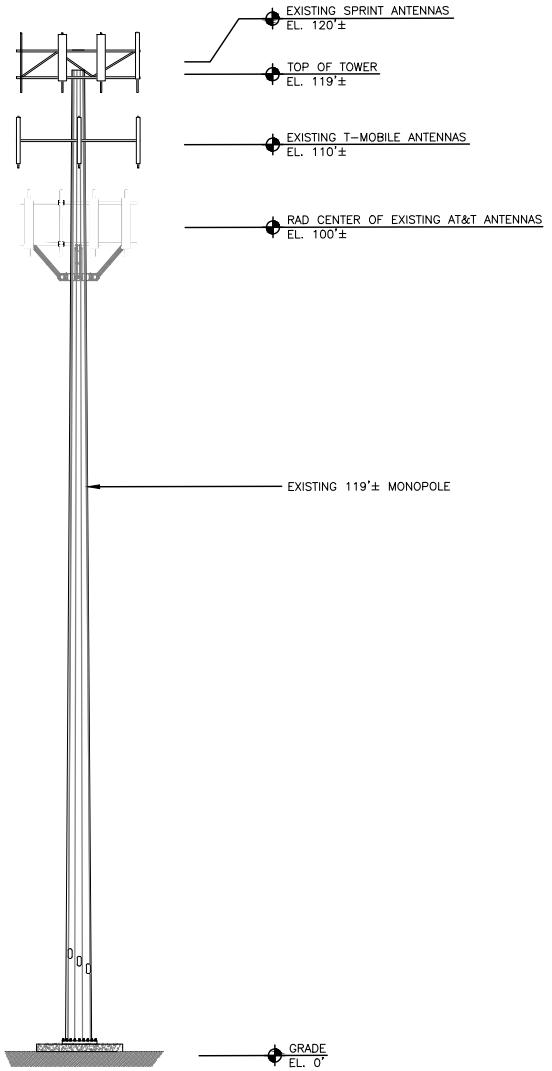
CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE RAYCAP INSTALLED ON THE TOWER TO ACCOMMODATE THE QUANTITY OF RRU'S.

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

NOTE:
THIS TOWER IS LOCATED IN AN FPL SUBSTATION AND A BOOM OR CRANE WILL BE NEEDED FOR THIS SOW.

REFER TO RFDS FOR EQUIPMENT TYPES/MODELS, ETC.

NOTES:
- REFER TO RFDS FOR ADDITIONAL INFO.
- ADJUST ANTENNA MOUNTS AS REQUIRED TO ACHIEVE THE AZIMUTH SPECIFIED AND LIMIT RF SHADOWING
- UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
- CONTRACTOR TO RETURN ALL EXISTING ANTENNAS BEING REMOVED TO AT&T.



1 S-1 **TOWER ELEVATION**
SCALE: 1" = 15'

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SHEET DESCRIPTION
TOWER ELEVATION

SHEET NUMBER
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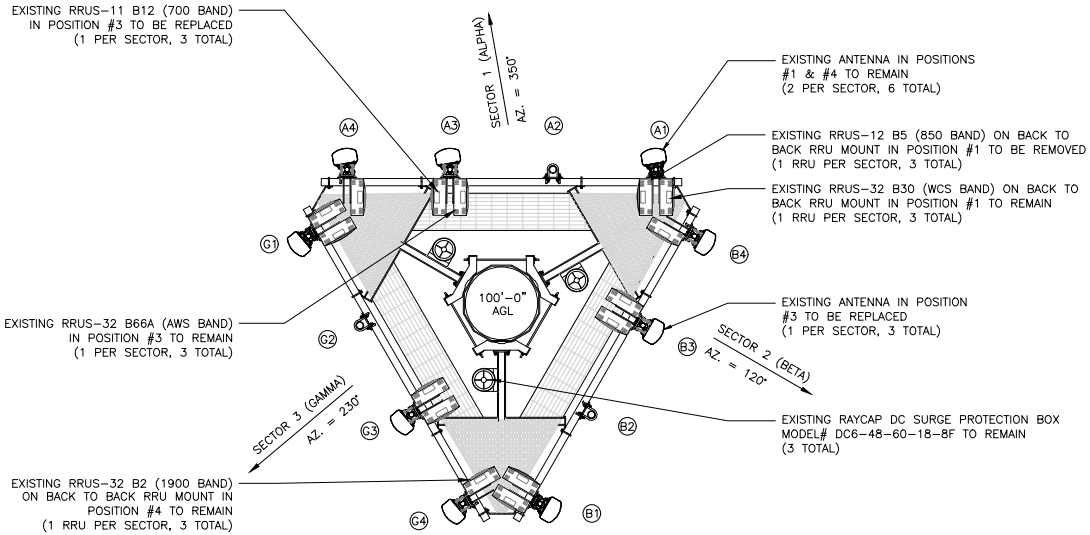

1 S-2 EXISTING ANTENNA CONFIGURATION DETAIL

SCALE: 1" = 5'

TRUE NORTH

NOTES:
- REFER TO RFDS FOR ADDITIONAL INFO.
- ADJUST ANTENNA MOUNTS AS REQUIRED TO ACHIEVE THE AZIMUTH SPECIFIED AND LIMIT RF SHADOWING
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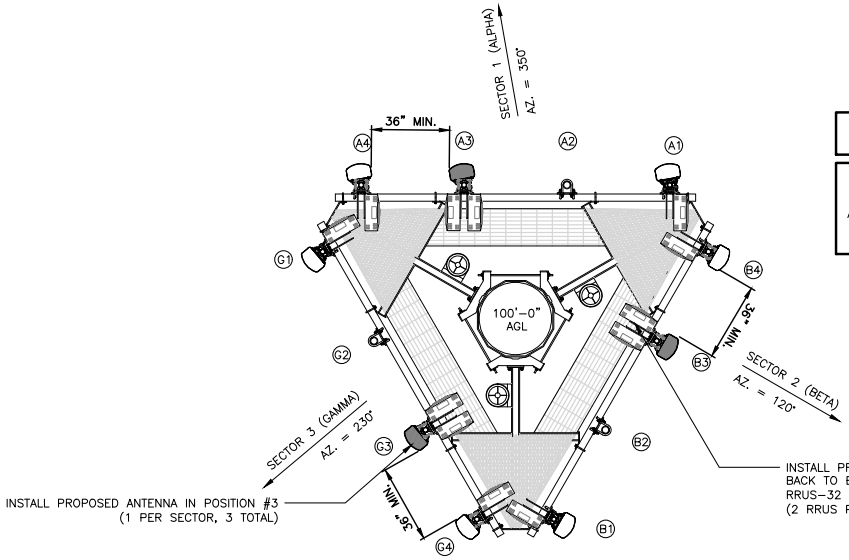

REFER TO CURRENT RFDS FOR BEFORE STARTING BUILD

CONTRACTOR TO ENSURE MINIMUM OF 36" EDGE TO EDGE SEPARATION BETWEEN THE 700 B12, B17, B29 AND 700 B14 ANTENNAS PER SECTOR AND THE ANTENNA BACKPLANES OF SAME ON DIFFERENT FACE'S (ADJACENT SECTORS ON SAME RAD CENTER) REMAINDER OF ANTENNAS TO BE EQUALLY SPACED

2 S-2 PROPOSED ANTENNA CONFIGURATION DETAIL

SCALE: 1" = 5'

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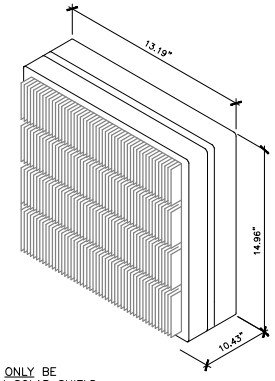
SHEET DESCRIPTION
ANTENNA ORIENTATION

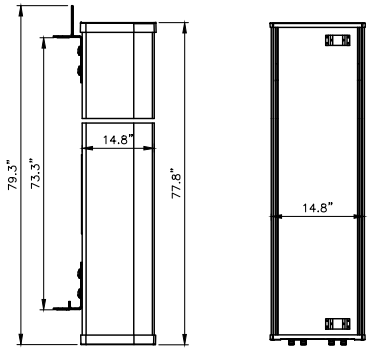
SHEET NUMBER
S-2

ERICSSON RRUS-4449 B5/B12
- DIMENSIONS (H x W x D):
  14.96" x 13.19" x 10.43" (INCLUDES SUNSHIELD)
- WEIGHT: 73 LBS
- CLIMATE: IP65, -40°C TO +55°C
- 48 VDC 3 WIRE (2 DC POWER PORTS OF 20A)
- 320W OF TOTAL POWER

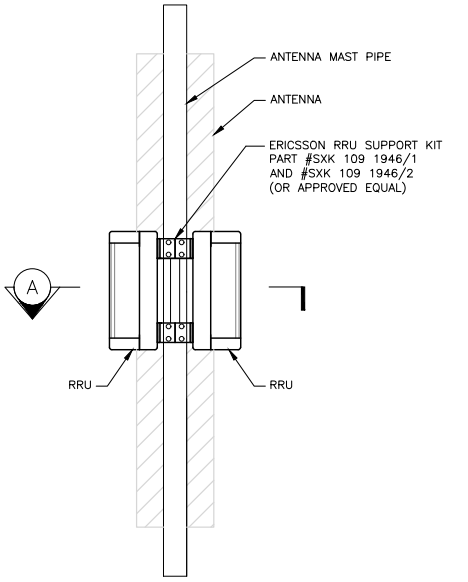


NOTE:
RRUS CAN ONLY BE
PAINTED ON SOLAR SHIELD.

1 S-3 RRUS 4449 B5/B12 DETAIL
SCALE: N.T.S.

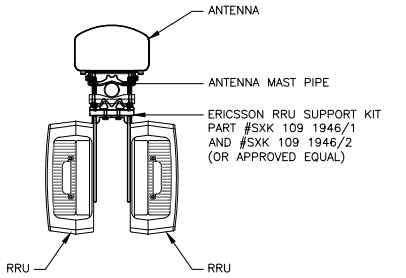


2 S-3 KATHREIN- 800372965
SCALE: N.T.S.



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

BACK VIEW

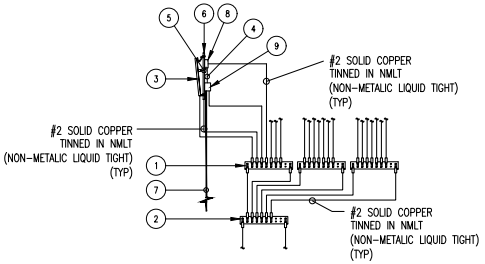


NOTE:
DETAIL IS DIAGRAMMATIC. CONTRACTOR TO INSTALL RRU'S ON RRU MOUNT BEST SUITED FOR ANTENNA CONFIGURATION.

SECTION A

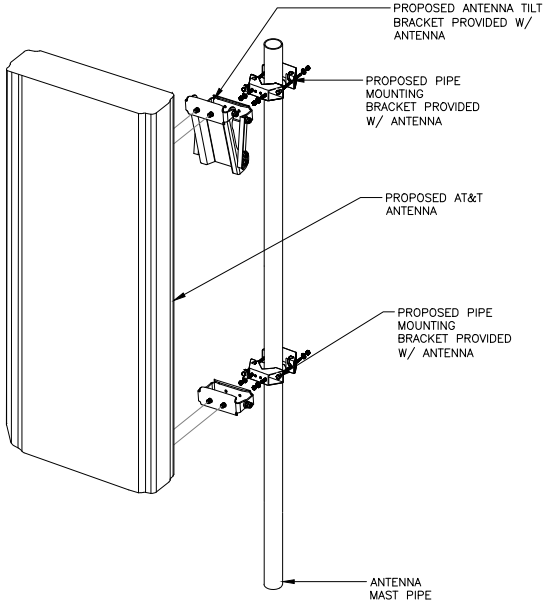
5 S-3 RRU MOUNTING DETAIL
SCALE: N.T.S.

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).



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



4 S-3 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	07/10/19	PRELIMINARY CDs REV "A"
B		
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8		

USA ENG PROJECT NO.: 27190002-19

DRAWN BY:	CHECKED BY:
EK	BMF

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NOT FOR CONSTRUCTION

7/11/19

MARC P. MAIER, PE
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FA#10070226

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COCONUT CREEK, FL 33073

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	
125'-6"	DC6-48-60-18-8F	3	ROSENBERGER (18) PAIR FIBER TRUNK	3/8"	3	160'-0"	
125'-6"	-	-	(6)- #8 AWG TINNED COPPER CONDUCTORS	3/4"	-	160'-0"	

ANTENNA AND COAX SCHEDULE

		ANTENNAS							CABLES					RRU		A2	COMPONENT			TMA	
		RAD	ANTENNA			APPROXIMATE	DOWN TILT					LENGTH/	COLOR			MOD		TWR	GRND		
SECTOR	AZ	CENTER	MAKE	MODEL	(QTY)	ANTENNA SPECS	ELEC	MECH	MODEL	SIZE	(QTY)	LINE	CODE	MODEL	(QTY)	(QTY)	MODEL	(QTY)	(QTY)	MODEL	(QTY)
ALPHA (A1)	10°	126'-0"	KMW	ET-X-UW-68-14-65-18-iR-AT	1	H=72" x W=12" x D=6.3"	-	-	LDF7-50	7/8"	2	118'-0"	1 RED	-	-	-	-	-	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	1 RED	RRUS-32 B30	1	-	'DBC0061F1V51-1	2			
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	1 RED	-	-	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	1 RED								
ALPHA (A2)	-	126'-0"	-	-	-	-	-	-	-	-	-	-	2 RED	-	-	-	-	-	-	-	-
ALPHA (A3)	10°	126'-0"	**KATHREIN**	**800372965**	**1**	**H=78.7" x W=14.8" x D=6.9"**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	4	15'-0"	3 RED	**4449 B5/B12**	**1**	-					
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	3	15'-0"	3 RED	RRUS-32 B66A	1	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	8	10'-0"	3 RED	-	-	-					
ALPHA (A4)	10°	126'-0"	KMW	ET-X-UW-68-14-65-18-iR-AT	1	H=72" x W=12" x D=6.3"	-	-	LDF7-50	7/8"	2	118'-0"	4 RED	-	-	-	DBC0061F1V51-1	2	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	4 RED	-	-	-					
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 RED	*B14-4478	1	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	6	10'-0"	4 RED	RRUS-32 B2	1	-					
BETA (B1)	95°	126'-0"	KMW	ET-X-UW-68-14-65-18-iR-AT	1	H=72" x W=12" x D=6.3"	-	-	LDF7-50	7/8"	2	118'-0"	1 BLUE	-	-	-	-	-	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	1 BLUE	RRUS-32 B30	1	-	'DBC0061F1V51-1	2			
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	1 BLUE	-	-	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	1 BLUE								
BETA (B2)	-	126'-0"	-	-	-	-	-	-	-	-	-	-	2 BLUE	-	-	-	-	-	-	-	-
BETA (B3)	95°	126'-0"	**KATHREIN**	**800372965**	**1**	**H=78.7" x W=14.8" x D=6.9"**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	4	15'-0"	3 BLUE	**4449 B5/B12**	**1**	-					
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	3	15'-0"	3 BLUE	RRUS-32 B66A	1	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	8	10'-0"	3 BLUE	-	-	-					
BETA (B4)	95°	126'-0"	KMW	ET-X-UW-68-14-65-18-iR-AT	1	H=72" x W=12" x D=6.3"	-	-	LDF7-50	7/8"	2	118'-0"	4 BLUE	-	-	-	DBC0061F1V51-1	2	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	4 BLUE	-	-	-					
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 BLUE	*B14-4478	1	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	6	10'-0"	4 BLUE	RRUS-32 B2	1	-					
GAMMA (G1)	260°	126'-0"	KMW	ET-X-UW-68-14-65-18-iR-AT	1	H=72" x W=12" x D=6.3"	-	-	LDF7-50	7/8"	2	118'-0"	1 GREEN	-	-	-	-	-	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	1 GREEN	RRUS-32 B30	1	-	'DBC0061F1V51-1	2			
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	1 GREEN	-	-	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	1 GREEN								
GAMMA (G2)	-	126'-0"	-	-	-	-	-	-	-	-	-	-	2 GREEN	-	-	-	-	-	-	-	-
GAMMA (G3)	260°	126'-0"	**KATHREIN**	**800372965**	**1**	**H=78.7" x W=14.8" x D=6.9"**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	4	15'-0"	3 GREEN	**4449 B5/B12**	**1**	-					
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	3	15'-0"	3 GREEN	RRUS-32 B66A	1	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	8	10'-0"	3 GREEN	-	-	-					
GAMMA (G4)	260°	126'-0"	KMW	ET-X-UW-68-14-65-18-iR-AT	1	H=72" x W=12" x D=6.3"	-	-	LDF7-50	7/8"	2	118'-0"	4 GREEN	-	-	-	DBC0061F1V51-1	2	-	-	-
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	4 GREEN	-	-	-					
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 GREEN	*B14-4478	1	-					
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	6	10'-0"	4 GREEN	RRUS-32 B2	1	-					
			TOTAL		9									TOTAL	15	0	TOTAL	12	0	TOTAL	0

TOTAL 7/8" COAX (ACTIVE)	**12**	**1416'-0"**
TOTAL 7/8" COAX (INACTIVE)	**6**	**708'-0"**
TOTAL FIBER JUMPER	**21**	**315'-0"**
TOTAL DC JUMPER	**15**	**225'-0"**
TOTAL COAX JUMPERS	**66**	**660'-0"**
TOTAL 5/16" RET CABLES	**3**	**480'-0"**

* ANTENNA AND COAX INFORMATION PROVIDED FROM THE 5G NR RFDS V1.00 DATED 05/16/19.
* CONTRACTOR TO VERIFY RF INFO WITH CLIENT PRIOR TO CONSTRUCTION.
* 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.

* 4478 B14 RADIO EQUIPMENT LOCATED ON GROUND INCLUDED IN TOTALS

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

REV	DATE	DESCRIPTION
A	07/10/19	PRELIMINARY CDs REV "A"
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USA ENG PROJECT NO.: 27190002-19

DRAWN BY:	CHECKED BY:
EK	BMF

at&t
8601 W SUNRISE BLVD
PLANTATION, FL 33322

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(813) 994-0365
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NOT FOR CONSTRUCTION

7/11/19

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

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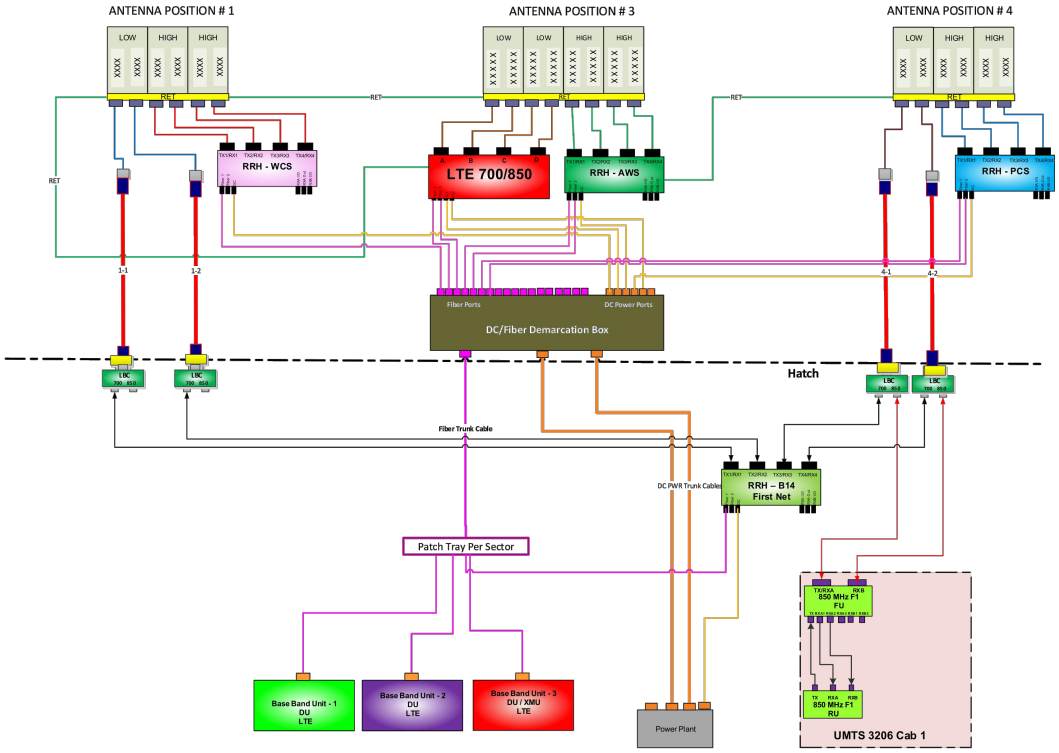
FA#10070226

5555 REGENCY LAKES BLVD
COCONUT CREEK, FL 33073

SHEET DESCRIPTION
ANTENNA SCHEDULE

SHEET NUMBER
AN-1

First Net Design
3 – Hex Antennas / Sector

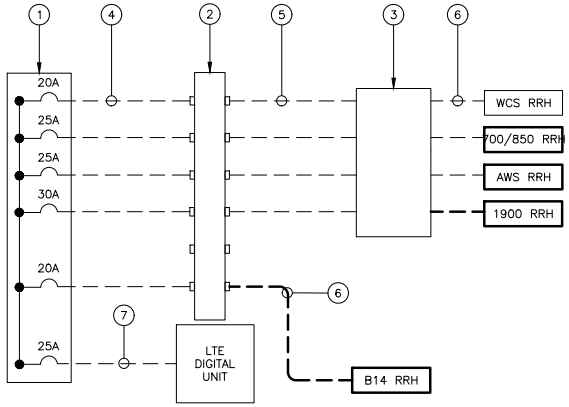


1 E-1 ANTENNA ONE-LINE DIAGRAM

SCALE: N.T.S.

ELECTRICAL SCOPE OF WORK:
NO NEW A/C ELECTRICAL UPGRADES ARE PROPOSED.

ERICSSON RRU BREAKER REQUIREMENTS		
ERICSSON RADIO	SIZE BREAKER	TECHNOLOGY
RRUS 32 B66	30 AMP	AWS (2100)
RRUS 32 B30	20 AMP	WCS (2300)
RRUS 32 B2	30 AMP	PCS (1900)
RRUS 11	25 AMP	VARIOUS BANDS (700 [B12] , 850 [B5], 1900 [B2], 2100 [B4])
RRUS12 + A2	25 AMP	VARIOUS BANDS (850 [B5], 1900 [B2], 2100 [B4])
RRU 4415 B25	25 AMP	1900
RRU 4426 B66	30 AMP	2100
RRU 4478 B14	25 AMP	700
RRU 4478 B5	25 AMP	850
RRUS E2 B29	25 AMP	700
RRUS 4449 B5/B12	2x25 AMP	700/850
RRUS 8843 B2/B66	2x30 AMP	1900/2100
RRUS 2203 B5	10 AMP	850
RRUS 2205 B46	10 AMP	5 GHz



KEYNOTE LEGEND:

1. –48V DC POWER PLANT. CONTRACTOR TO VERIFY CORRRECT BREAKER SIZE IS INSTALLED FOR EACH RRU PER CHART.
2. (1) RACK MOUNTED RAYCAP DC SURGE PROTECTOR (DC6–48–60–RM).
3. RAYCAP FIBER AND DC DISTRIBUTION UNIT (DC6–48–60–18–8F) TOWER MOUNTED.
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. DC CABLE ROUTED TO RRH UNITS.
7. #12 AWG SHIELDED CONDUCTORS (WR–VG122ST–BRDA).

2 E-1 TYPICAL DC RISER DIAGRAM

SCALE: N.T.S.

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COCONUT CREEK, FL 33073

SHEET DESCRIPTION

ONE–LINE DIAGRAMS

SHEET NUMBER

E-1