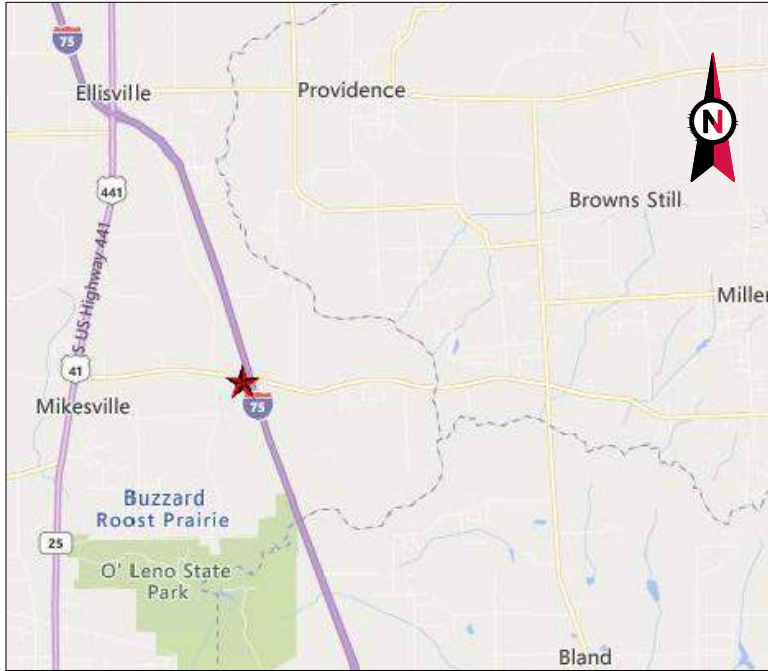




VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: LACROSSE FL 6
ATC SITE NUMBER: 303048
T-MOBILE SITE NAME: MIKESVILLE BOOMER
T-MOBILE SITE NUMBER: 9JK0174A
SITE ADDRESS: 183 SE WATERLEAF DR
LAKE CITY, FL 32024



LOCATION MAP

T-MOBILE EXCALIBUR ANTENNA AMENDMENT PLAN

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. 2020 FLORIDA BUILDING CODE, 7TH EDITION 2. ANSI/TIA-222-H 3. 7TH EDITION FLORIDA FIRE PREVENTION CODE (NFPA 70) 4. 2017 NATIONAL ELECTRICAL CODE 5. BASIC WIND SPEED: 108 MPH (3-SECOND GUST, VASD) / 115 MPH (3-SECOND GUST, VULT) 6. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 183 SE WATERLEAF DR LAKE CITY, FL 32024 COUNTY: COLUMBIA <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 29.95150556 LONGITUDE: -82.57071389 GROUND ELEVATION: 153' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (9) ANTENNA(s), (8) RRH(s), (1) COVP, (1) 1.58" HYBRID CABLE, AND (6) 1-5/8" COAX CABLE(s) INSTALL (3) ANTENNA(s), (9) RRH(s), AND (3) 1.99" HYBRID CABLE(s) <u>GROUND WORK:</u> REMOVE (1) HPL3, (1) SB3, AND (1) COVP INSTALL (1) 6160 AND (1) B160	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
			G-001	TITLE SHEET	1	06/01/21	JP
			G-002	GENERAL NOTES	0	04/09/21	TC
			C-101	DETAILED SITE PLAN	0	04/09/21	TC
			C-102	DETAILED GROUND PLAN	0	04/09/21	TC
			C-201	TOWER ELEVATION	0	04/09/21	TC
			C-401	ANTENNA INFORMATION & SCHEDULE	0	04/09/21	TC
			C-501	CONSTRUCTION DETAILS	0	04/09/21	TC
			E-501	GROUNDING DETAILS	0	04/09/21	TC
			R-601	SUPPLEMENTAL			
R-602	SUPPLEMENTAL						



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COA: 9053

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REV.	DESCRIPTION	BY	DATE
△	FOR CONSTRUCTION	TC	04/09/21
△	UPDATED CODE AND ADDRESS	JP	06/01/21
△			
△			
△			

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LAKE CITY, FL 32024

SEAL:

T-Mobile esign

DATE DRAWN:	04/09/21
ATC JOB NO:	13626581_G3
CUSTOMER ID:	MIKESVILLE BOOMER
CUSTOMER #:	9JK0174A

TITLE SHEET

SHEET NUMBER: G-001	REVISION: 1
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GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
- A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)

B. AC/TELCO INTERFACE BOX (PPC)

C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)

D. TOWERS, MONOPOLES

E. TOWER LIGHTING

F. GENERATORS & LIQUID PROPANE TANK

G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING

H. ANTENNAS (INSTALLED BY OTHERS)

I. TRANSMISSION LINE

J. TRANSMISSION LINE JUMPERS

K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS

L. TRANSMISSION LINE GROUND KITS

M. HANGERS

N. HOISTING GRIPS

O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
- A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OD COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND

B. INSTALL ANTENNA AS INDICATE ON DRAWINGS AND T-MOBILE SPECIFICATIONS.

C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS

D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.

E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.

F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.

G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



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REV.	DESCRIPTION	BY	DATE
△0	FOR CONSTRUCTION	TC	04/09/21
△1			
△2			
△3			
△4			

ATC SITE NUMBER:
303048

ATC SITE NAME:
LACROSSE FL 6

T-MOBILE SITE NAME:
MIKESVILLE BOOMER

SITE ADDRESS:
183 SE WATERLEAF DR
LAKE CITY, FL 32024

SEAL:



DATE DRAWN:	04/09/21
ATC JOB NO:	13626581_G3
CUSTOMER ID:	MIKESVILLE BOOMER
CUSTOMER #:	9JK0174A

GENERAL NOTES

SHEET NUMBER:

G-002

REVISION:

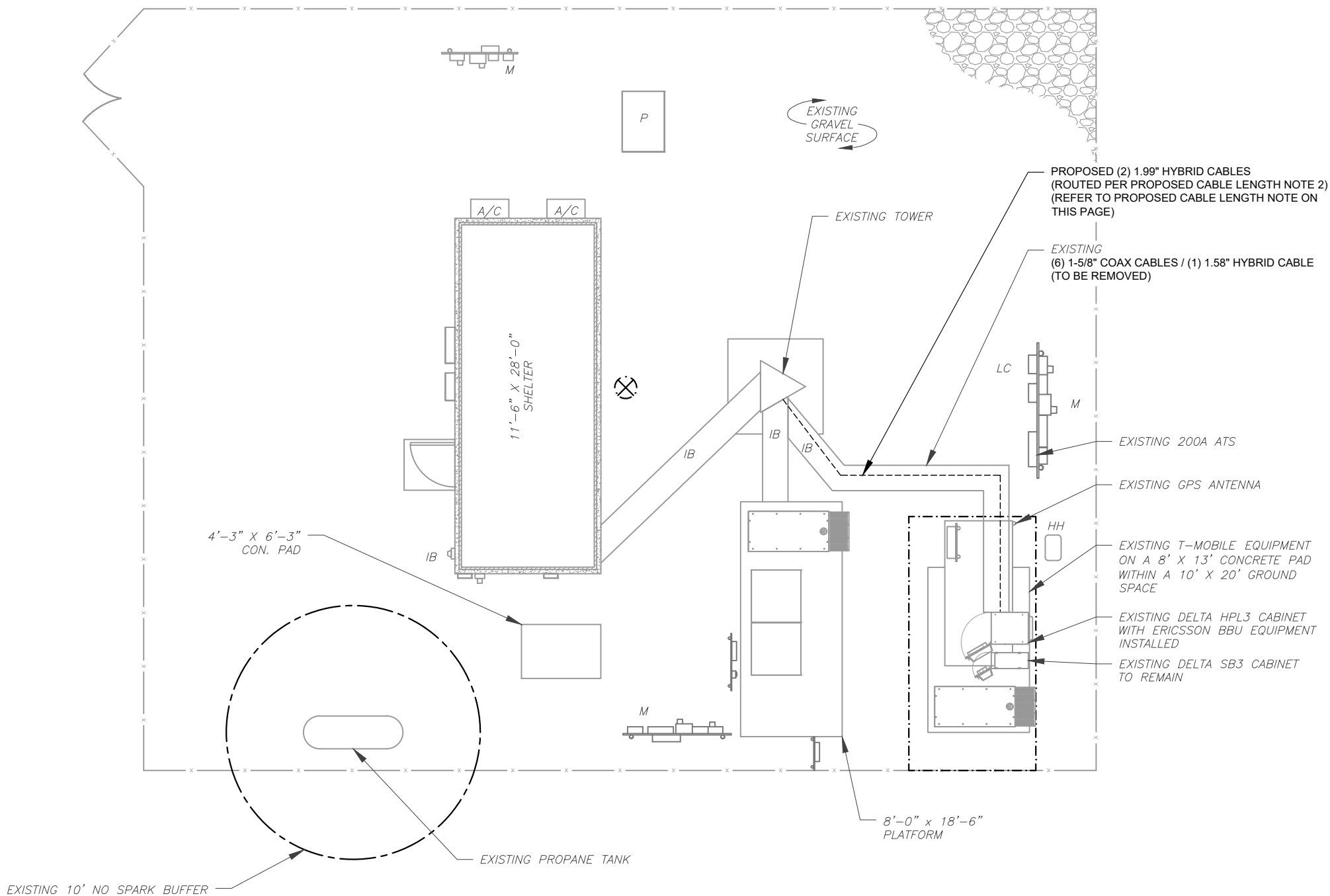
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1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.

Equipment that is physically being removed from the ground	
Equipment Type	Quantity
HPL3	1
SB3	1
COVP	1

1. **TECH LIGHTS WILL BE REPOSITIONED IF NECESSARY, PROVIDE LIGHTING INSIDE THE CABINETS.**
2. **EXISTING BTS CABINETS TO BE REMOVED. UTILITY FEEDS INCLUDING PPC SHALL REMAIN AND RECONNECT.**

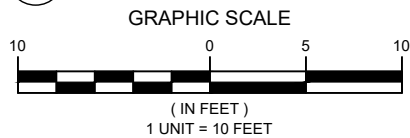
<u>LEGEND</u>	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK FENCE



ESTIMATED LENGTH OF PROPOSED CABLE IS **260'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.

ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).

1 DETAILED SITE PLAN



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SEAL:



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CUSTOMER #:	9JK0174A

DETAILED SITE PLAN

SHEET NUMBER:

C-101

REVISION:

0

Equipment that is physically being removed from the ground	
Equipment Type	Quantity
HPL3	1
SB3	1
COVP	1

- GROUND WORK:**
- TECH LIGHTS WILL BE REPOSITIONED IF NECESSARY, PROVIDE LIGHTING INSIDE THE CABINETS.
 - EXISTING BTS CABINETS TO BE REMOVED. UTILITY FEEDS INCLUDING PPC SHALL REMAIN AND RECONNECT.



1 EXISTING GROUND EQUIPMENT



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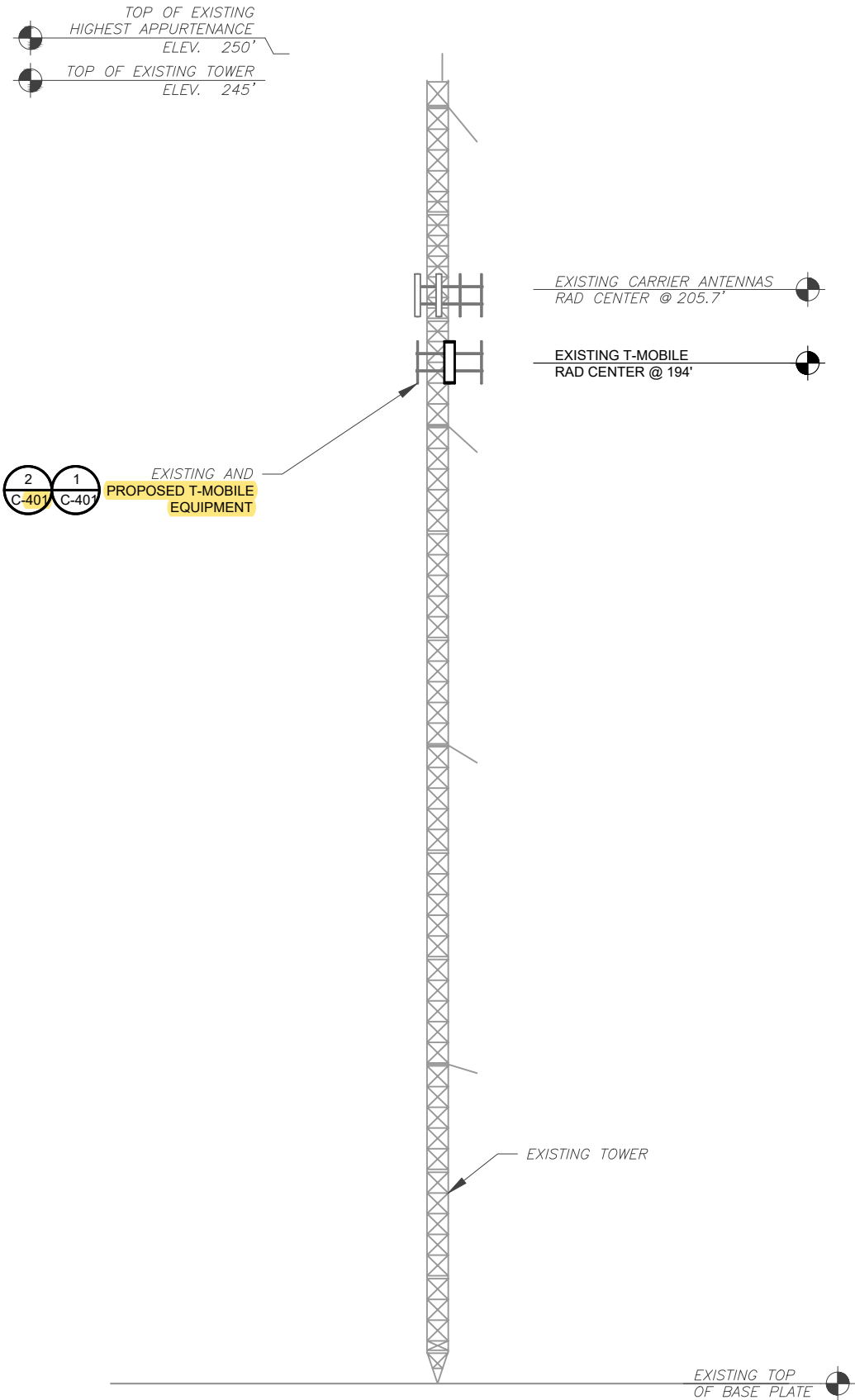
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CUSTOMER #:	9JK0174A

DETAILED GROUND
PLAN

SHEET NUMBER:	REVISION:
C-102	0



PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER, DATED 03/08/21, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING

- TOWER NOTE:**
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
 2. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
 3. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
 4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)



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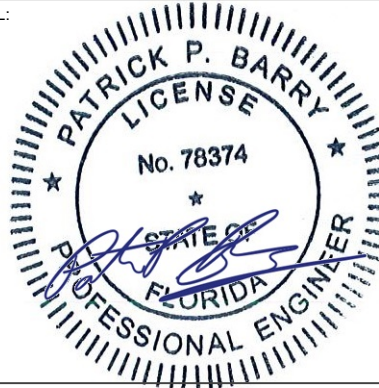
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T-Mobile esign

DATE DRAWN:	04/09/21
ATC JOB NO:	13626581_G3
CUSTOMER ID:	MIKESVILLE BOOMER
CUSTOMER #:	9JK0174A

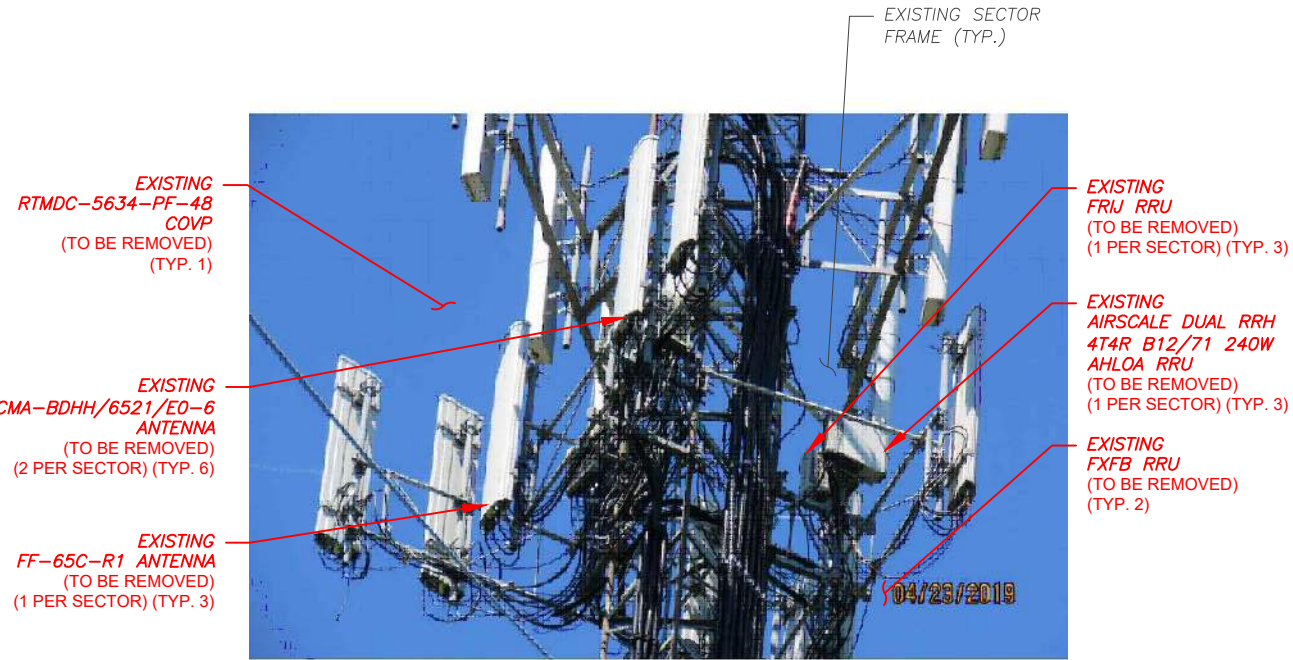
TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	0

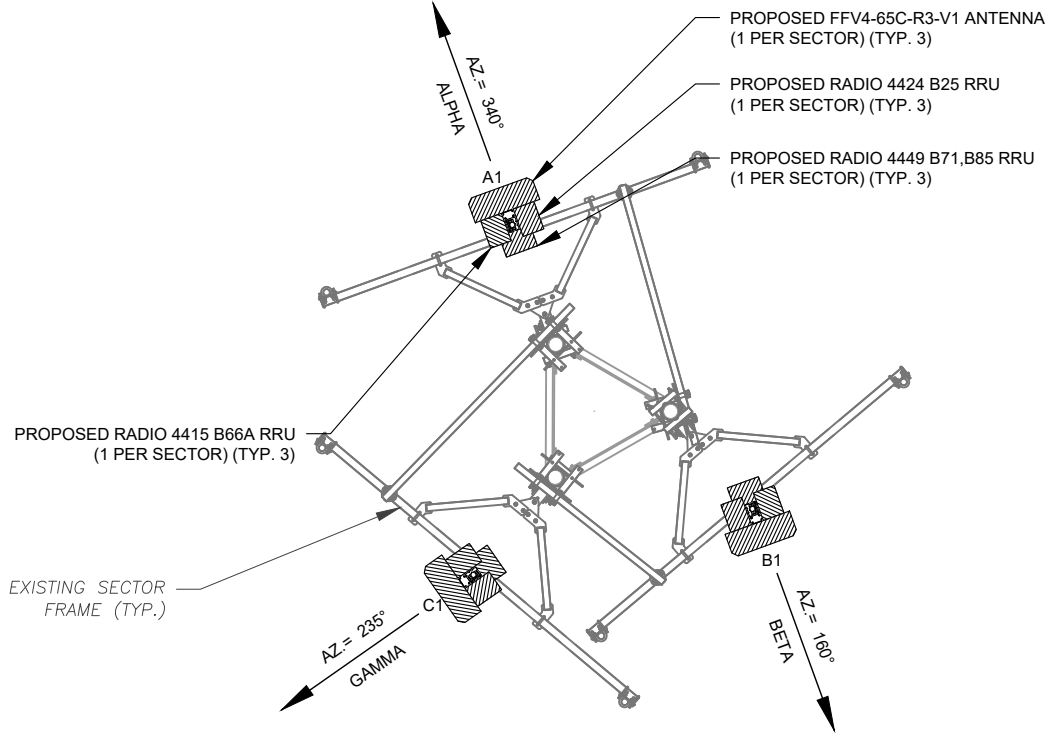
1 TOWER ELEVATION
SCALE: N.T.S.

ALL EXISTING ANTENNA, RADIOS, LINES, ETC. SHALL BE REMOVED. MOST RECENT PHOTO DOES NOT ACCURATELY DEPICT WHAT IS EXISTING ON TOWER.

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER, DATED 03/08/21, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



1 EXISTING ANTENNA EQUIPMENT
SCALE: N.T.S.



2 FINAL ANTENNA PLAN
SCALE: N.T.S.

Equipment that is physically being removed from the tower			
Equipment Type	Equipment Size	Model	Quantity
PANEL	81x15x5.2	CMA-BDHH/6521/E0-6	6
PANEL	96x25.2x9.3	FF-65C-R1	3
RRU/RRH	22.1x19.4x5.2	FXFB	2
RRU/RRH	22x12.1x7.4	AirScale Dual RRH 4T4R B12/71 240W AHLOA	3
RRU/RRH	23.1x12.6x4.8	FRIJ	3
BOB/SSB	16x14x8	RTMDC-5634-PF-48	1

Coax/Fiber Lines that are physically being removed from the tower		
Line Type	Line Size	Quantity
Coax	1 5/8" Coax	6
Fiber/Hybrid	1.58" (40.1mm) Hybrid	1

- NOTES
- CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
 - CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

3 ANTENNA AND RF EQUIPMENT SCHEDULE

SECTOR	RAD	AZ	POS	ANTENNA	STATUS	ADD'L EQUIPMENT	STATUS
ALPHA	194.0	340	A1	FFV4-65C-R3-V1	ADD	4415	ADD
BETA		160	B1	FFV4-65C-R3-V1	ADD	4424	ADD
GAMMA		235	C1	FFV4-65C-R3-V1	ADD	4449	ADD

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	(2) 1.99"	ADD
-	-	-	-	-

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	04/09/21
1			
2			
3			
4			

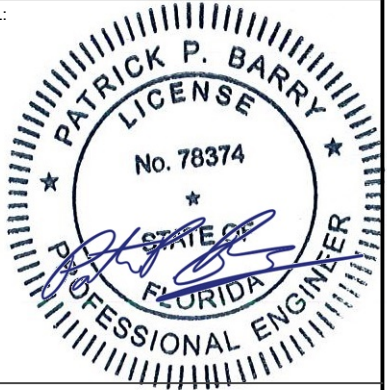
ATC SITE NUMBER:
303048

ATC SITE NAME:
LACROSSE FL 6

T-MOBILE SITE NAME:
MIKESVILLE BOOMER

SITE ADDRESS:
183 SE WATERLEAF DR
LAKE CITY, FL 32024

SEAL:

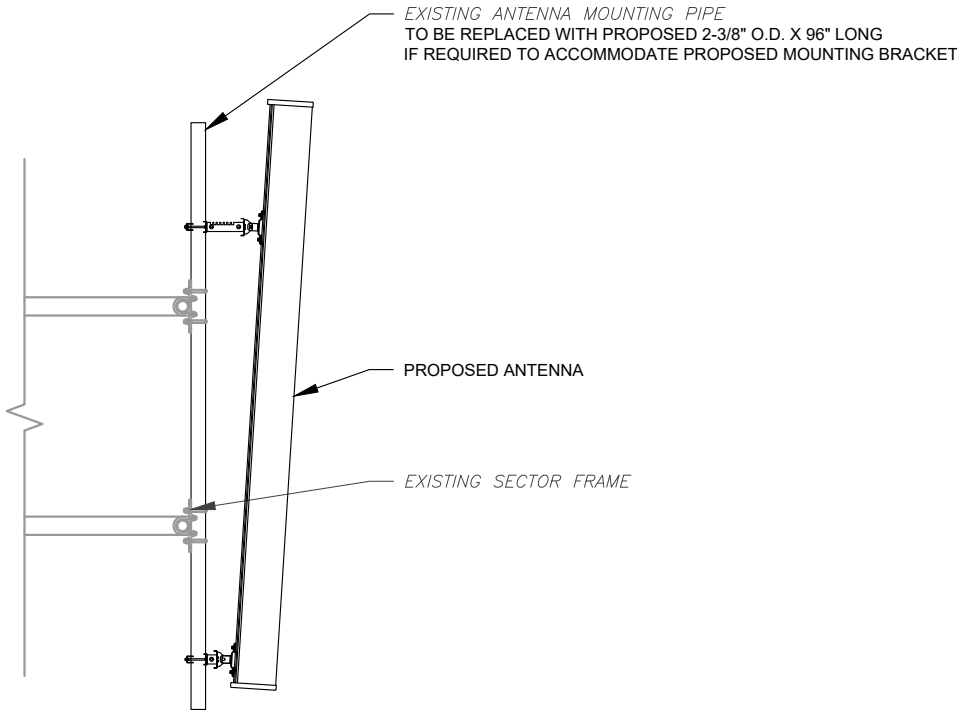


T-Mobile design

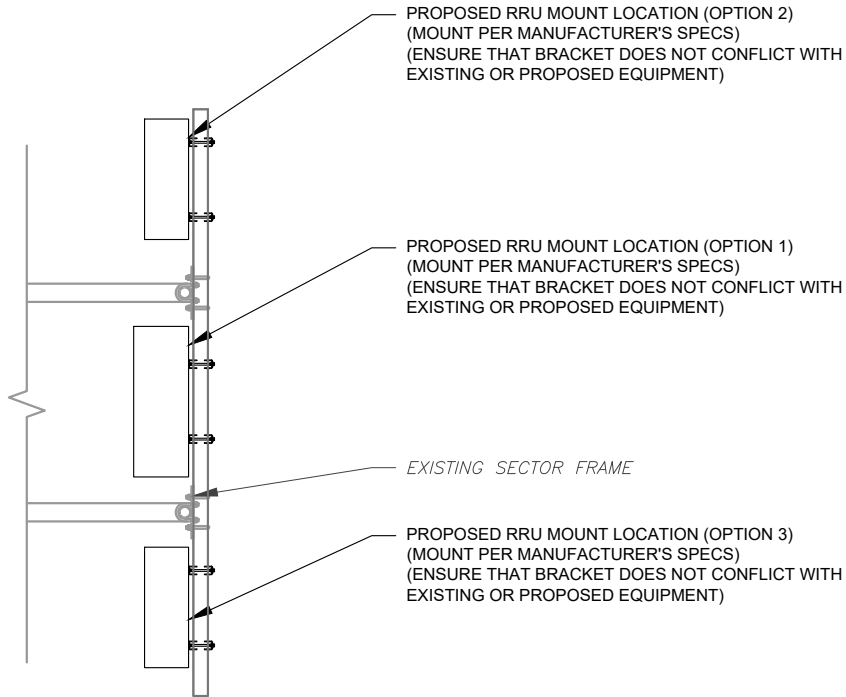
DATE DRAWN:	04/09/21
ATC JOB NO:	13626581_G3
CUSTOMER ID:	MIKESVILLE BOOMER
CUSTOMER #:	9JK0174A

ANTENNA INFORMATION
& SCHEDULE

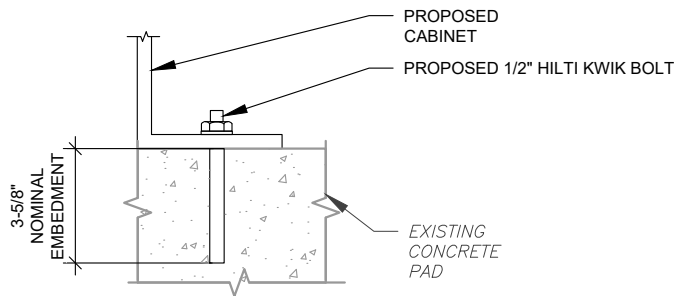
SHEET NUMBER:	REVISION:
C-401	0



1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.

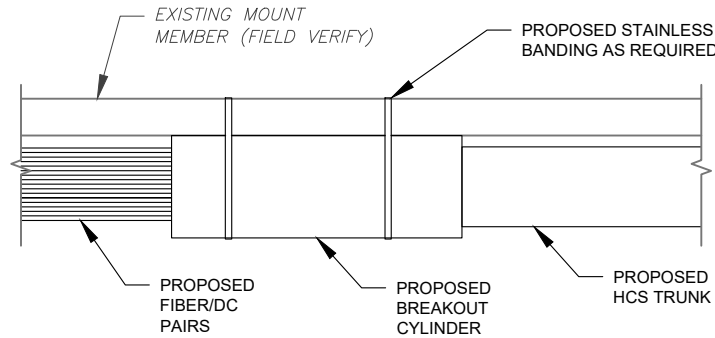


2 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



NOTE:
INSTALL HILTI KWIK BOLT ANCHORS STRICTLY PER
INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR
FOUND ONLINE AT WWW.US.HILTI.COM. PROPER
INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

3 CABINET ATTACHMENT DETAIL
SCALE: NOT TO SCALE



4 PROPOSED BREAKOUT CYLINDER ATTACHMENT
SCALE: N.T.S.



AMERICAN TOWER®
ATC TOWER SERVICES, LLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: 9053

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	04/09/21

ATC SITE NUMBER:
303048

ATC SITE NAME:
LACROSSE FL 6

T-MOBILE SITE NAME:
MIKESVILLE BOOMER

SITE ADDRESS:
183 SE WATERLEAF DR
LAKE CITY, FL 32024

SEAL:



T-Mobile esign

DATE DRAWN:	04/09/21
ATC JOB NO:	13626581_G3
CUSTOMER ID:	MIKESVILLE BOOMER
CUSTOMER #:	9JK0174A

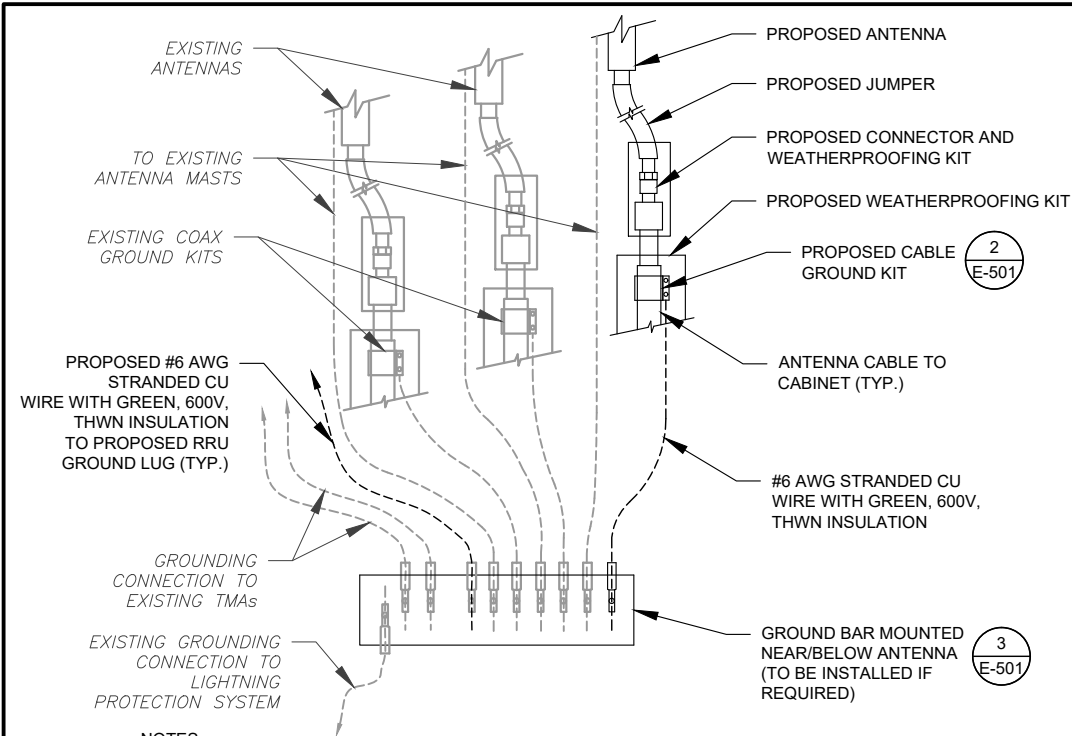
**CONSTRUCTION
DETAILS**

SHEET NUMBER:

C-501

REVISION:

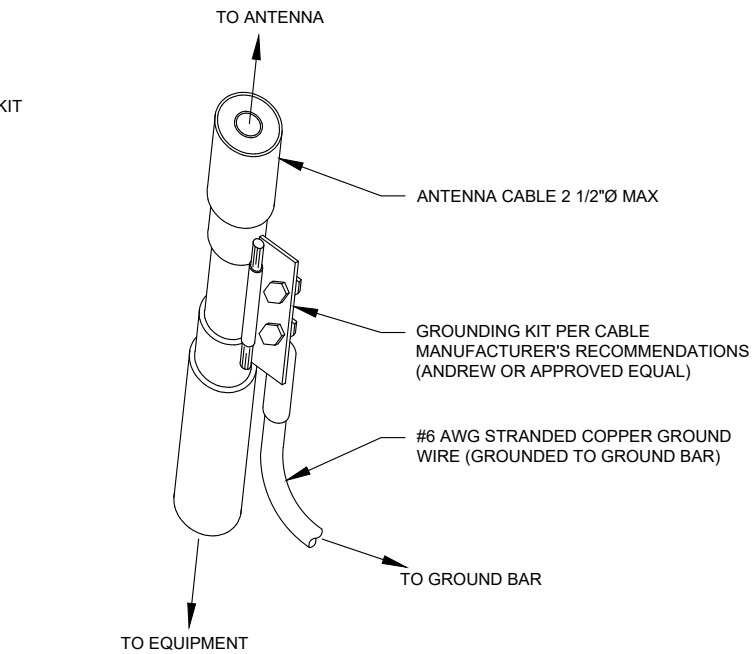
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NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

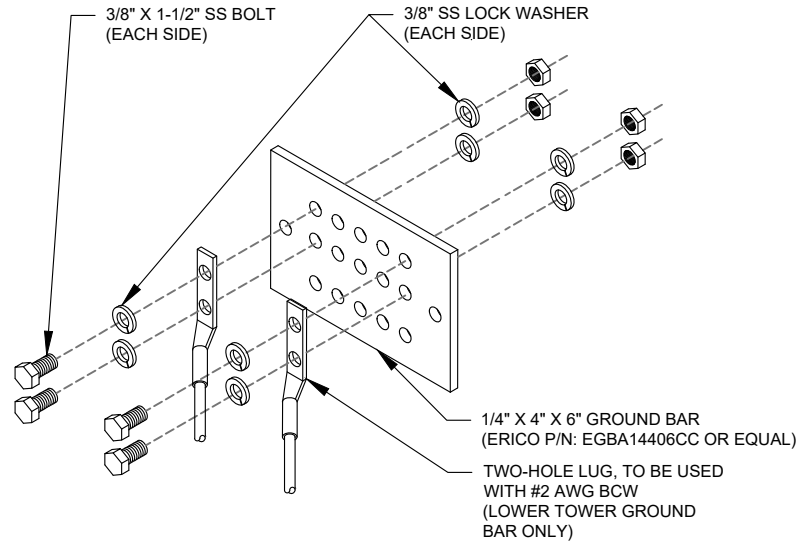
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

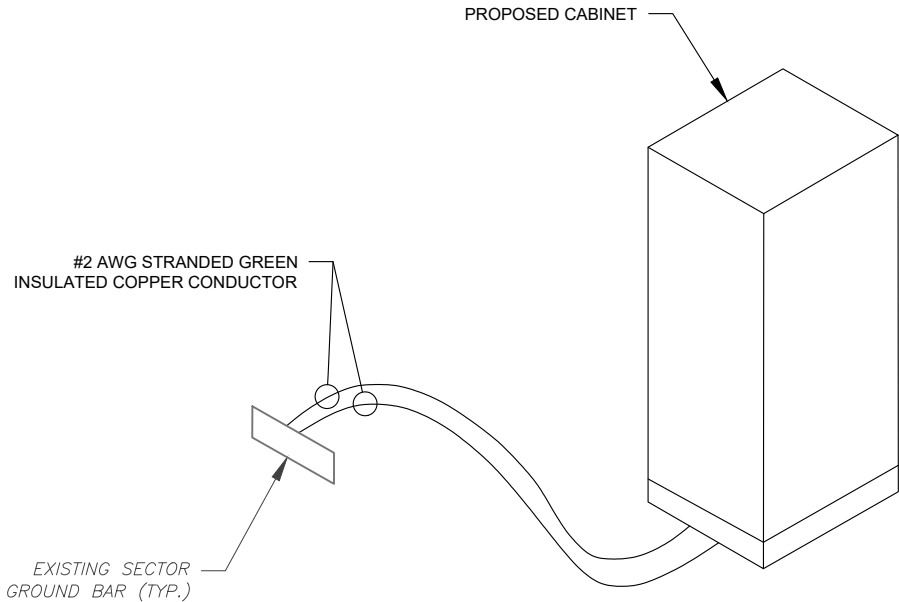
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.

ELECTRICAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
2. ATC HAS NOT VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER. PROPOSED CABLE AND CONDUIT SHALL BE MINIMUM SIZE PER BELOW:
3. FOR SPECIFIC CABINET/ANCILLARY EQUIPMENT WIRING REQUIREMENTS, THE T-MOBILE CONTRACTOR SHOULD REFERENCE DESIGN DOCUMENTS PROVIDED BY T-MOBILE FOR THIS CURRENT PROJECT CONFIGURATION, IN ACCORDANCE WITH LOCAL JURISDICTION REQUIREMENTS & NEC STANDARDS & PRACTICES.

OCPD SIZE	WIRE SIZE	GROUND SIZE	CONDUIT SIZE
80A/2P	2#3 AWG	#8 AWG	1-1/4"
100/2P	2#2 AWG	#8 AWG	1-1/4"
125A/2P	2#1 AWG	#8 AWG	1-1/2"
150A/2P	2#1/0 AWG	#8 AWG	1-1/2"



4 CABINET GROUNDING DETAIL
SCALE: N.T.S.

AMERICAN TOWER®
ATC TOWER SERVICES, LLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: 9053

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REV.	DESCRIPTION	BY	DATE
△0	FOR CONSTRUCTION	TC	04/09/21
△1			
△2			
△3			
△4			

ATC SITE NUMBER:
303048

ATC SITE NAME:
LACROSSE FL 6

T-MOBILE SITE NAME:
MIKESVILLE BOOMER

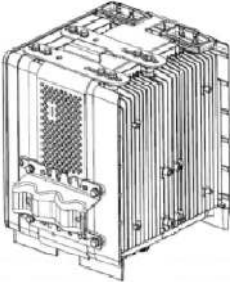
SITE ADDRESS:
183 SE WATERLEAF DR
LAKE CITY, FL 32024

SEAL:

DATE DRAWN:	04/09/21
ATC JOB NO:	13626581_G3
CUSTOMER ID:	MIKESVILLE BOOMER
CUSTOMER #:	9JK0174A

GROUNDING DETAILS

SHEET NUMBER: E-501	REVISION: 0
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PRODUCT DESCRIPTION		Radio 4424 B25
Spectrum Bands	B2/B25 (extended PCS including G block) UL: 1850 – 1915 MHz DL: 1930 – 1995 MHz	
Technology	GSM, WCDMA and LTE on B25	
5G NR Support	Capable	
Max Output Power	4x80W	
Instantaneous BW	B2/B25: 65 MHz	
RF Connector	4.3-10	
Data Ports	4 x 10.1Gb/s CPRI	
DC Feed	2x 48 V DC power connector	
Fuse Rating	20A	
Max Power Consumption	660W	
Dimensions (H x W x D)	17.1" x 14.4" x 11.3" inches	
Weight	86 lb	

Radio 4449 B71 B85A

- › 4TX/4RX – 320W FDD
 - 4x40W B71 + 4x40W B85A
- › IBW:
 - Full band support in each of the bands
- › 4 Antenna ports, each port shared by two bands
 - 4.3-19 plus (f) or equivalent
- › LTE, NR, NB-IoT
- › Carrier per port per band:
 - Up to 4 carriers (DL/UL) in each band
 - › Up to 4 LTE carriers
 - › NB-IoT
 - Up to 2 Standalone carrier
 - In-Band & Guard Band as per legacy requirements
 - › NR carrier up to 35 MHz (B71)
- › 2.5; 4.9; 9.8; 10.1 Gbit/s CPRI
- › 380mm x 335mm x 267mm (< 34 liter, < 75 lb (34 kg))
- › -48 VDC (Two DC feeds, 2x 20A Breakers)
- › AISG TMA & RET support
- › Convection cooling
- › 2 external alarms supported
- › IP 65, -40 to +55°C



RRUS 4415 B25

- › B25
 - TX = 1930 – 1995 MHz
 - RX = 1850 – 1915 MHz
- › CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 2 SFPs and connect 2 fiber pair to the RRUS 4415 during initial install.
- › Only use Ericsson supplied and approved SFPs. RDH10265/25
 - Exception: SFP7 RDH10265/25 for CPRI 1.4km to 10km
 - Exception: SFP7 (pair) RDH10270/1 and RDH10270/2 for CPRI > 10km
- › 2 external alarm inputs
- › Max wind load @ 50m/sec = 260N
- › Breaker size = 25A, DC Power Consumption = 670W (for dimensioning)
- › 200mm horizontal separation required for side by side mounting
- › 200mm separation required from antenna backplane to radio
- › 400mm vertical outdoor/indoor separation required between 2 radios
- › 500mm vertical separation below antenna
- › Min, Max DC cable size from squid to radio = 10.8 AWG
 - Adapter is required for 2-wire connection
 - Shielded DC cable is required
- › Ground cable size = 2AWG
- › Dimensions (incl. handles, feet and sunshield, w/o fan unit)
 - Height: 16.5" (420 mm)
 - Width: 13.4" (342 mm)
 - Depth: 5.9" (149 mm)
- › Weight, excl. mounting hardware = 46 lbs (21 kg)



FFV4-65C-R3-V1



12-port sector antenna, 4x 617-894 and 8x 1695-2690 MHz, 65° HPBW, 3x RET

Electrical Specifications

Frequency Band, MHz	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Gain, dBi	15.7	16.3	17.7	18.1	18.6	18.7	19.2
Beamwidth, Horizontal, degrees	64	62	62	61	61	60	60
Beamwidth, Vertical, degrees	10.4	8.6	5.6	5.3	5.0	4.3	4.0
Beam Tilt, degrees	2-13	2-13	2-12	2-12	2-12	2-12	2-12
USLS (First Lobe), dB	18	17	19	18	20	19	19
Front-to-Back Ratio at 180°, dB	29	32	33	31	30	30	31
Isolation, Cross Polarization, dB	25	25	25	25	25	25	25
Isolation, Inter-band, dB	28	28	28	28	28	28	28
VSWR Return Loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PLM, 3rd Order, 2 x 20 W, dBc	-150	-153	-153	-153	-153	-153	-153
Input Power per Port at 50°C, maximum, watts	250	250	200	200	200	200	150
Polarization	±45°	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Gain by all Beam Tilts, average, dBi	15.5	15.8	17.3	17.7	18.0	18.3	18.6
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.5	±0.5	±0.5	±0.6	±0.6	±0.7
Gain by Beam Tilt, average, dBi	2 ° 15.3 7 ° 15.6 13 ° 15.5	2 ° 15.7 7 ° 16.0 13 ° 15.6	2 ° 17.2 6 ° 17.4 12 ° 17.2	2 ° 17.6 6 ° 17.8 12 ° 17.6	2 ° 17.7 6 ° 18.1 12 ° 18.1	2 ° 18.2 6 ° 18.6 12 ° 18.1	2 ° 18.4 6 ° 18.6 12 ° 18.3
Beamwidth, Horizontal Tolerance, degrees	±3	±5	±4.4	±4.8	±5.7	±6.9	±10.1
Beamwidth, Vertical Tolerance, degrees	±0.6	±1.1	±0.3	±0.3	±0.4	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	18	13	13	14	16	15	14
Front-to-Back Total Power at 180° ± 30°, dB	22	22	27	26	24	25	24
CPR at Boresight, dB	17	16	20	20	18	16	16
CPR at Sector, dB	9	8	6	5	4	5	7

* Commscope® supports 3GPP recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper](#) [Time to Raise the Bar on BASTA](#).

Array Layout

page 1 of 6
November 26, 2019

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COMMSCOPE®

SUPPLEMENTAL

SHEET NUMBER:

R-601

REVISION:

0



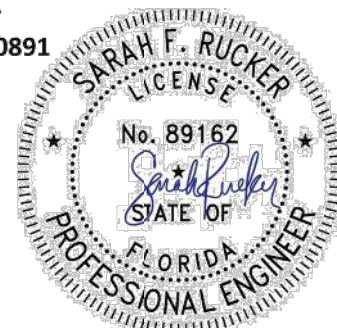
Eng. Number 13626581_C8_01
March 8, 2021
Page 1

Antenna Mount Analysis Report

ATC Site Name : Lacrosse FL 6, FL
ATC Site Number : 303048
Engineering Number : 13626581_C8_01
Mount Elevation : 194 ft
Carrier : T-Mobile
Carrier Site Name : 9JK0174A
Carrier Site Number : 9JK0174A
Site Location : 2156 SE CR18
Lake City, FL 32024-0001
29.95153502 , -82.57070891
County : Columbia
Date : March 8, 2021
Max Usage : 51%
Result : Pass

Prepared By:
Rohith Koduru
Structural Engineer I

Reviewed By:



This item has been electronically signed and sealed by Sarah F. Rucker, PE on the date shown using a digital signature. Printed copies are not considered signed and sealed and the signature must be verified on any electronic copies.
Authorized by "EOR"
08 Mar 2021 06:43:45

cosign

COA: 9053

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for T-Mobile at 194 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 VFA12-HD, dated June 29, 2018
Radio Frequency Data Sheet	RFDS ID #9JK0174A, dated February 24, 2021

Analysis

This antenna mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	30 mph (3-Second Gust) w/ 1/4" radial ice concurrent
Codes:	ANSI/TIA-222-H / 2018 IBC / 7th ED (2020) Florida Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.081, S1 = 0.048
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	0