

VICINITY MAP



ATC SITE NAME: BLACK FOREST
ATC SITE NUMBER: 302460
T-MOBILE SITE NAME: DN04235A
T-MOBILE SITE NUMBER: DN04235A
SITE ADDRESS: 4584 HODGEN ROAD
COLORADO SPRINGS, CO 80908-3006
SITE CLASS: SELF SUPPORT



LOCATION MAP

T-MOBILE MICROWAVE PLAN
DN04235A

Add property tax schedule number 6100000508
Add zoning district RR-5
parcel size: 1.32 acres

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
<p>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.</p> <p>1. 2015 INTERNATIONAL BUILDING CODE (IBC)</p> <p>2. 2023 NATIONAL ELECTRICAL CODE (NEC)</p> <p>3. LOCAL BUILDING CODE</p> <p>4. CITY/COUNTY ORDINANCES</p>	<p><u>SITE ADDRESS:</u></p> <p>4584 HODGEN ROAD</p> <p>COLORADO SPRINGS, CO 80908-3006</p> <p>COUNTY: EL PASO</p> <p><u>GEOGRAPHIC COORDINATES:</u></p> <p>LATITUDE: 39.07115887</p> <p>39° 4' 16.172" N</p> <p>LONGITUDE: -104.74321506</p> <p>104° 44' 35.574" W</p> <p>GROUND ELEVATION: 7679' AMSL</p>	<p>THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:</p> <p><u>TOWER WORK:</u></p> <p>INSTALL (1) DISH, (1) ODU, (1) MOUNTING PIPE, (1) FIBER CABLE AND (1) POWER CABLE</p> <p>EXISTING (5) ANTENNA(s), (6) RRH(s), (2) PENDANT(s) AND (2) HYBRID CABLE(s) TO REMAIN</p> <p>RELOCATE (1) ANTENNA AND (1) MOUNTING PIPE</p> <p><u>GROUND WORK:</u></p> <p>INSTALL (1) CERAGON IP20A IDU</p>	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
			G-001	TITLE SHEET	1	07/02/25	EC
			G-002	GENERAL NOTES	1	07/02/25	EC
			C-101	DETAILED SITE PLAN	1	07/02/25	EC
			C-201	TOWER ELEVATION	1	07/02/25	EC
			C-401	ANTENNA INFORMATION & SCHEDULE	1	07/02/25	EC
			C-501	CONSTRUCTION DETAILS	1	07/02/25	EC
			E-501	GROUNDING DETAILS	1	07/02/25	EC
			R-601	SUPPLEMENTAL			
			R-602	SUPPLEMENTAL			
		R-603	SUPPLEMENTAL				

Fullerton
DESIGN DEVELOP CONSTRUCT

1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.fullerton-us.com

Please leave an area about this size for the approval stamp.

REV.	DESCRIPTION	BY	DATE
A	PRELIM	BH	06/05/25
B	FINAL	EC	06/12/25
1	REV. FINAL	EC	07/02/25

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SITE ADDRESS:
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COLORADO SPRINGS, CO 80908-3006

SEAL:

ATC PROJ. #:	15320585_G0
CUST. ID:	DN04235A
CUST. #:	DN04235A

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. WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
29. COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
30. 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.
31. 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.
32. 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.
33. 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.
34. 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.
35. 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/HYBRID CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.

B. INSTALL ANTENNAS AS INDICATED 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. INSTALL COAXIAL/HYBRID 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/HYBRID CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
2. ANTENNA AND COAXIAL/HYBRID CABLE GROUNDING:
- A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

- B. ALL COAXIAL/HYBRID CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL/HYBRID 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.



1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
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SEAL:



ATC PROJ. #:	15320585_G0
CUST. ID:	DN04235A
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GENERAL NOTES

SHEET NUMBER: G-002	REVISION: 1
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SITE PLAN NOTES:

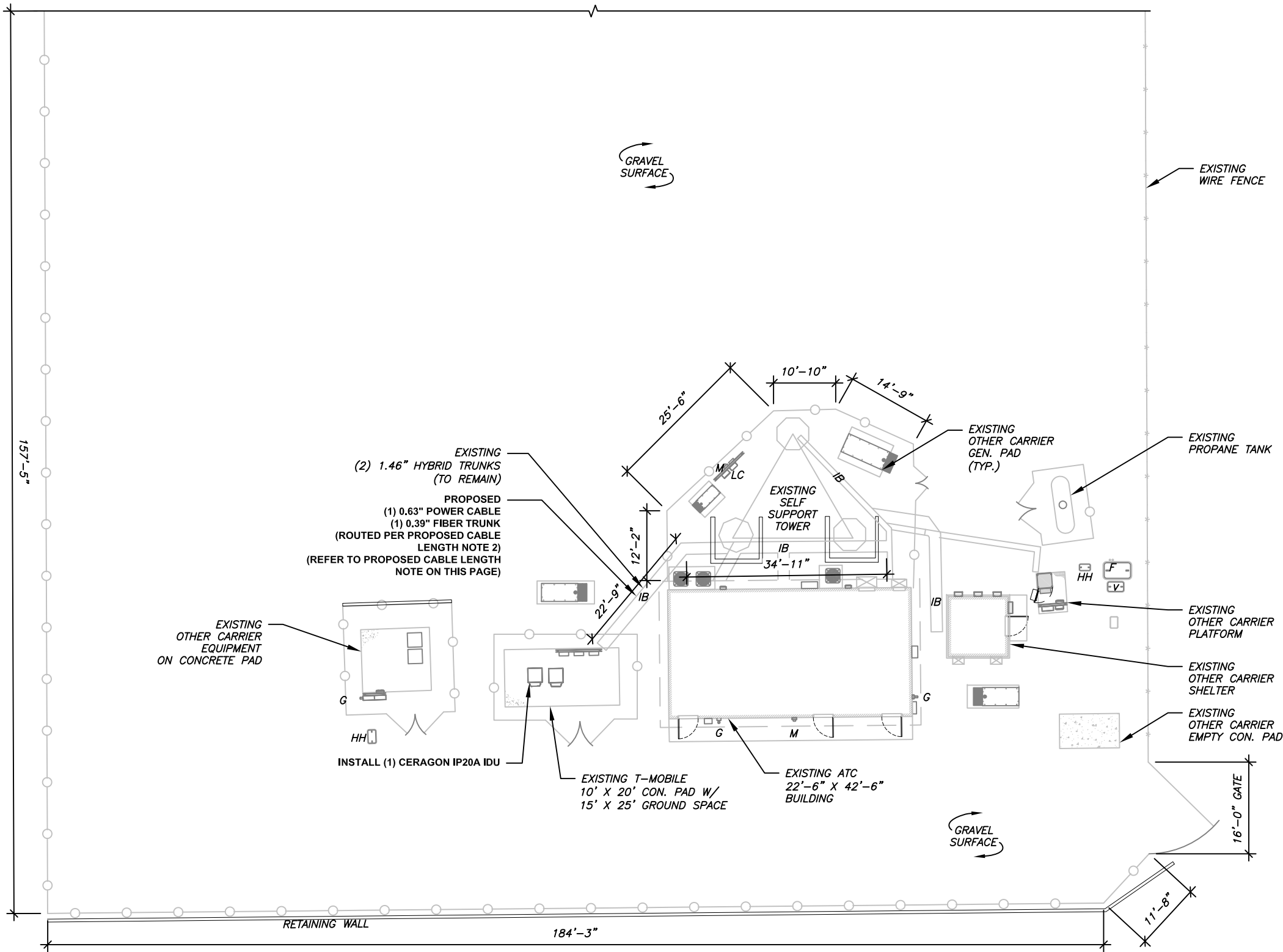
- THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE 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.
- NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

LEGEND

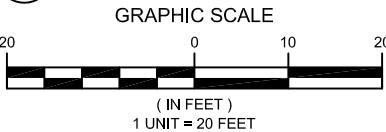
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
—	CHAINLINK FENCE

PROPOSED CABLE NOTES:

- ESTIMATED LENGTH OF PROPOSED CABLE IS **220'**. 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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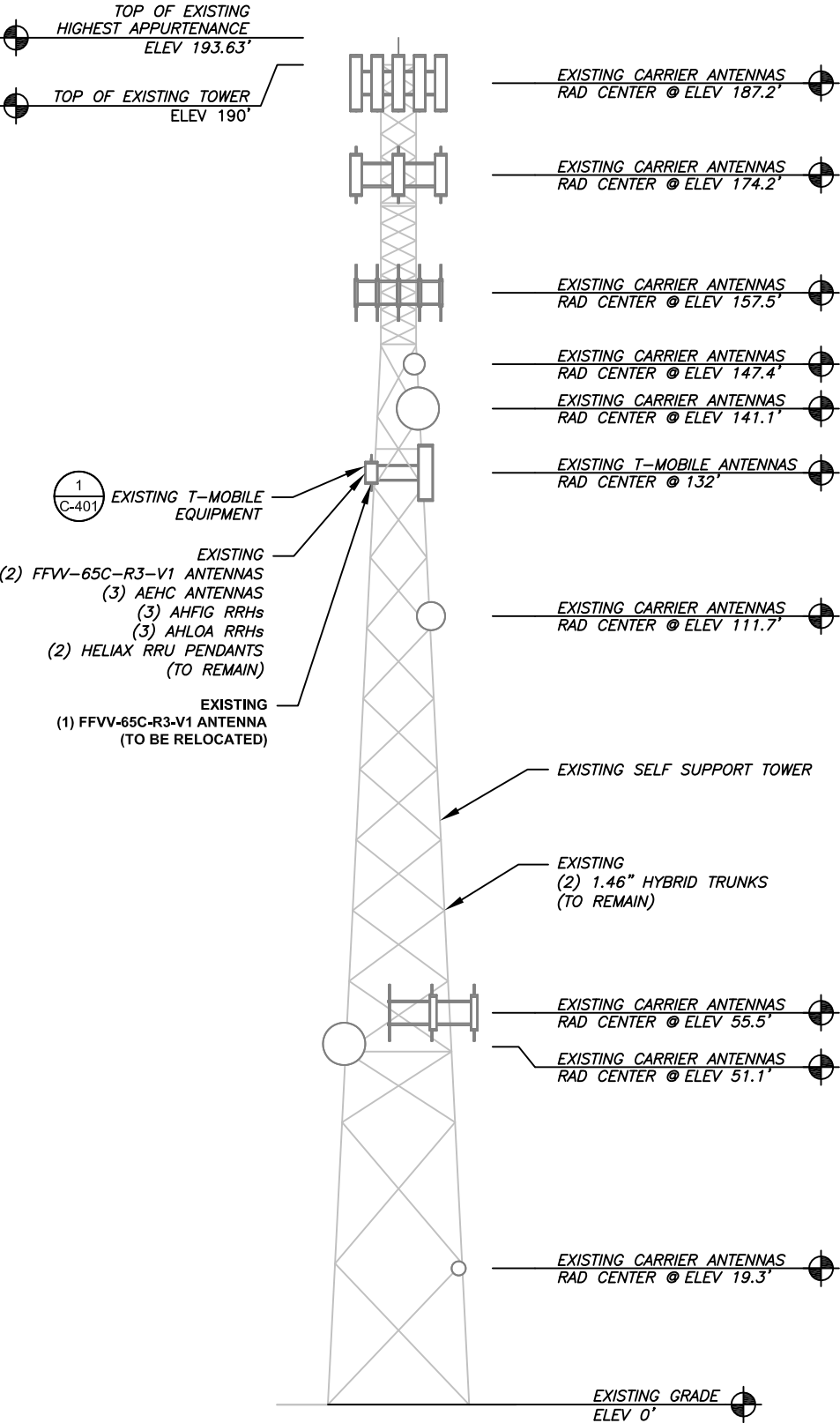
DETAILED SITE PLAN

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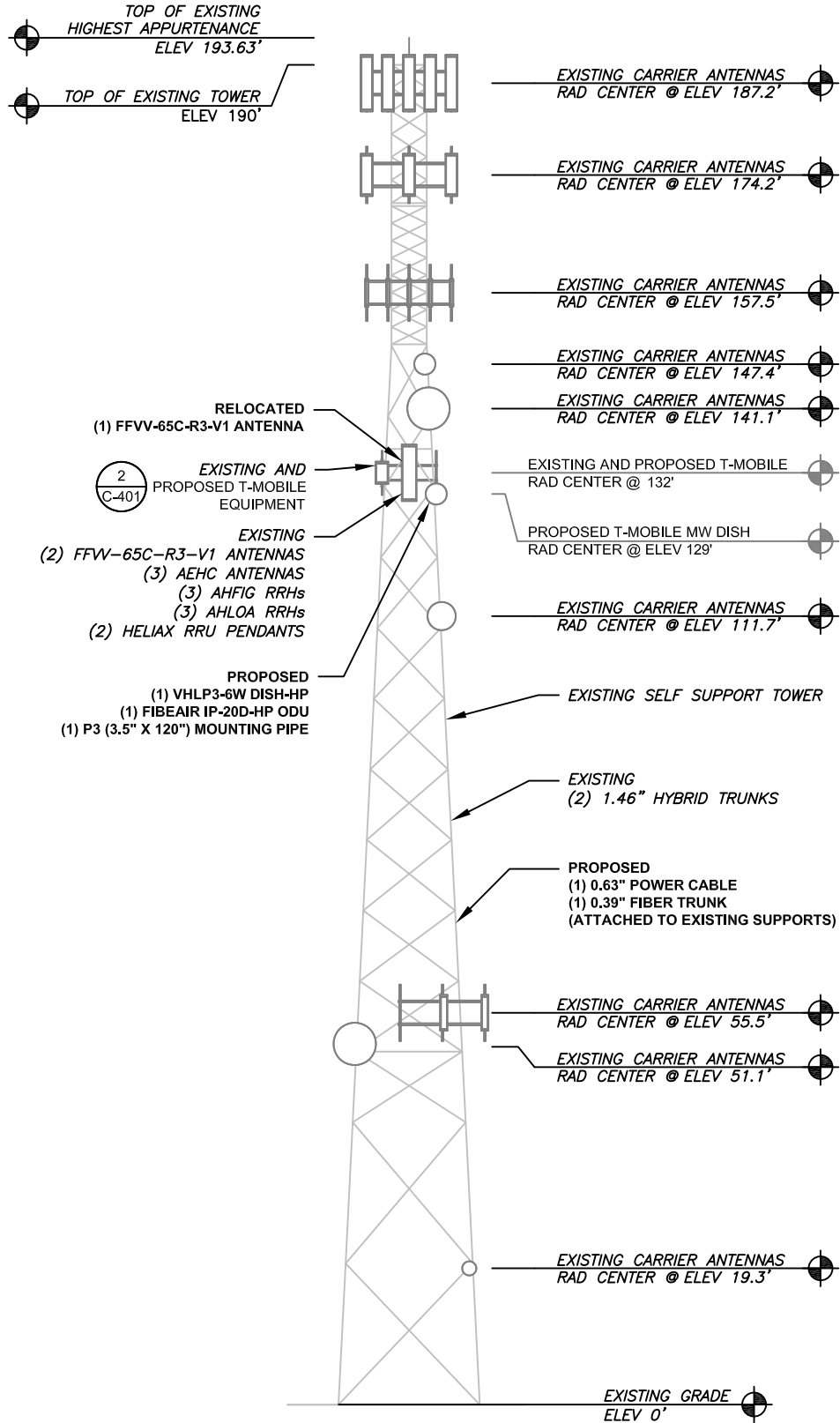
C-101

REVISION:

1



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



2 PROPOSED TOWER ELEVATION
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 05/28/2025, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

PER STRUCTURAL ANALYSIS COMPLETED BY ATC, DATED 05/20/2025, THE EXISTING TOWER CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

ALL ELEVATIONS REFLECT ABOVE GROUND LEVEL (A.G.L.)

- TOWER NOTE:**
- 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.
 - 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.
 - 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).
 - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.



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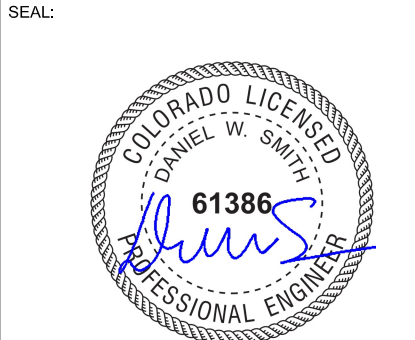
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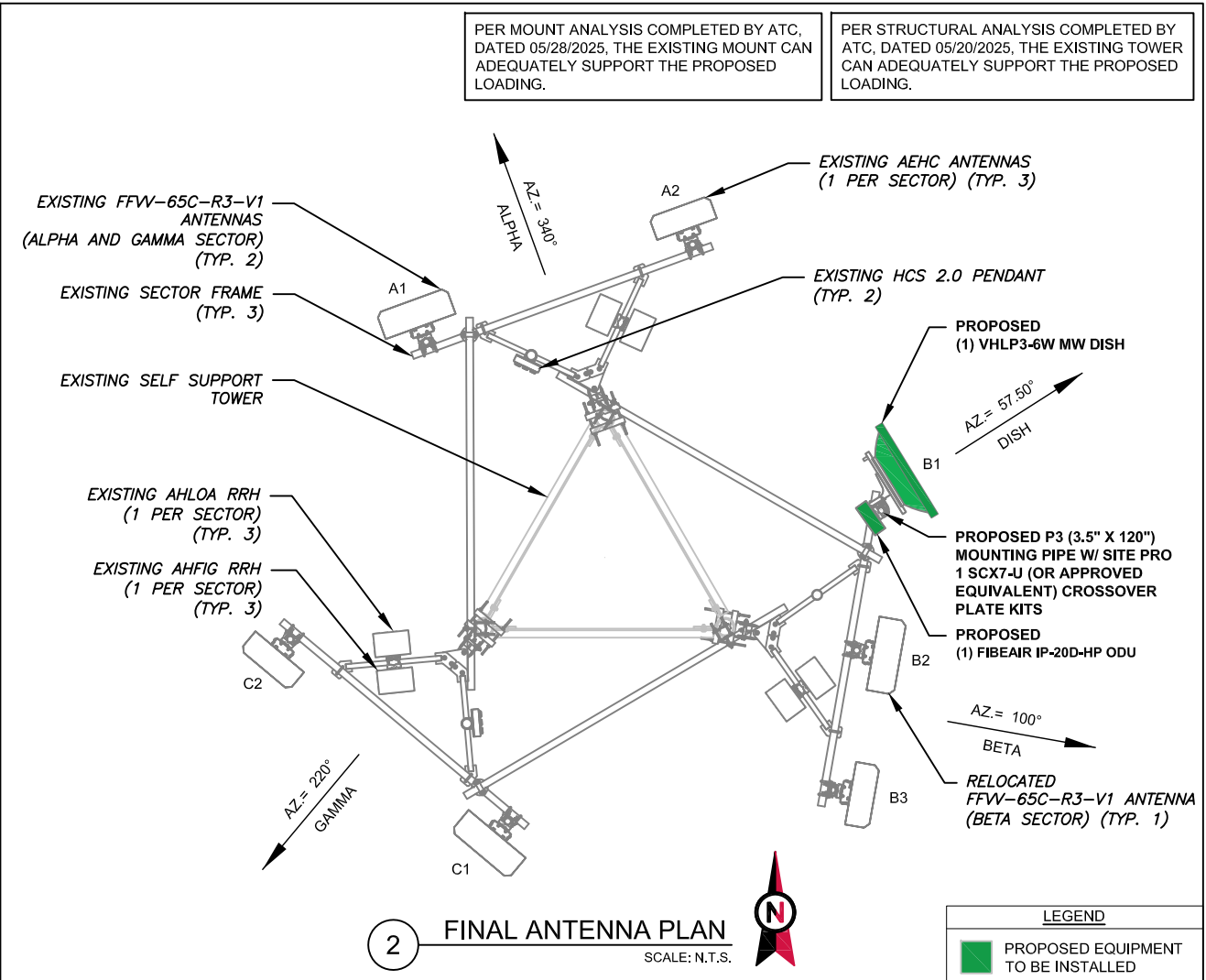
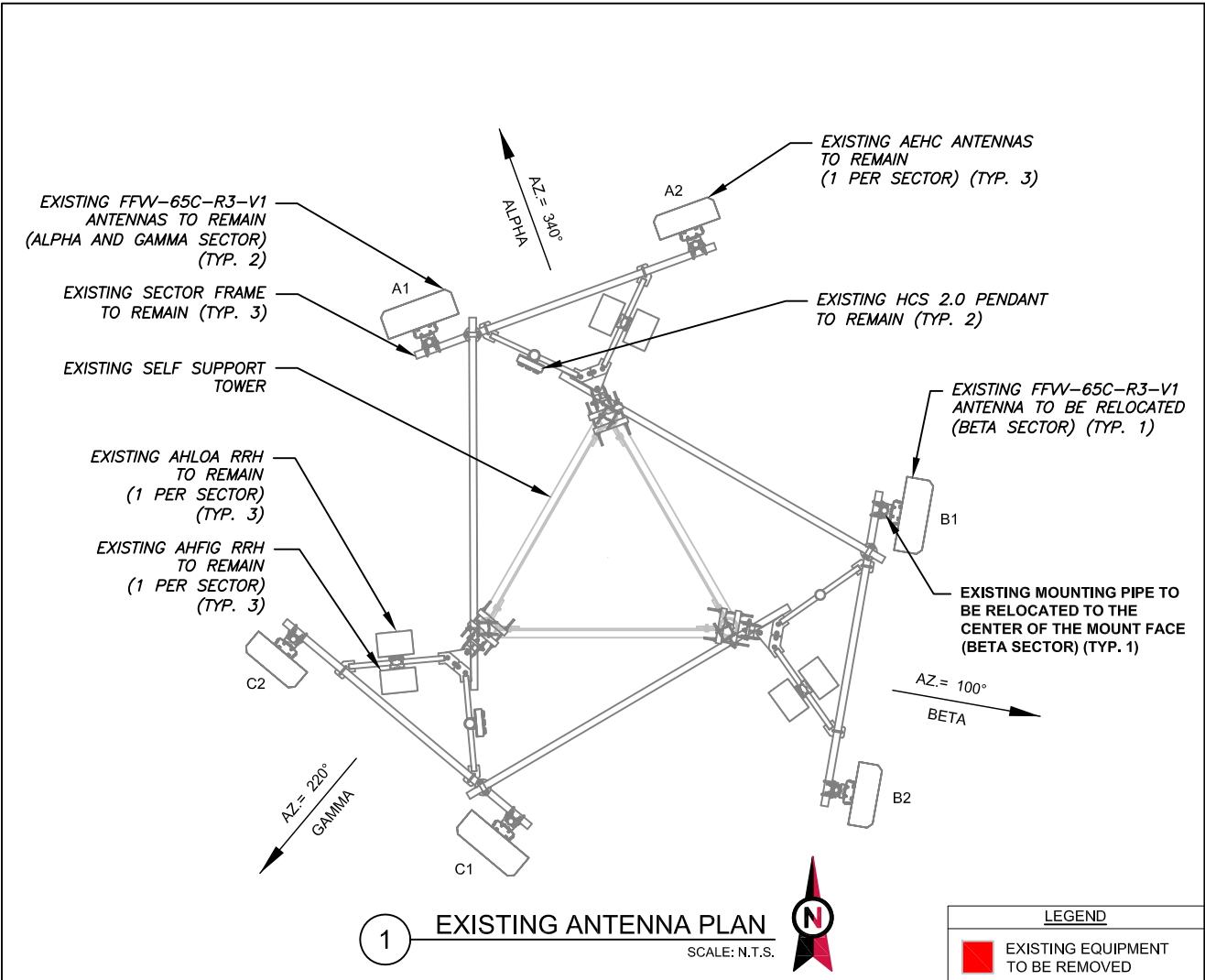
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TOWER ELEVATION	
SHEET NUMBER: C-201	REVISION: 1



EXISTING ANTENNA SCHEDULE									
LOCATION		ANTENNA SUMMARY					NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	132'	340°	A1	COMMSCOPE FFV-65C-R3-V1	L700/L600/N600/L 2100L1900/G1900 /U2100 N1900/N2100	0/4/4/4/ 4	RMN	AHLOA RRH AHFIG RRH	RMN RMN
			A2	-	-	-	-	-	-
			A3	AEHC	L2500/N2500	0/2	RMN	-	-
BETA	132'	100°	B1	COMMSCOPE FFV-65C-R3-V1	L700/L600/N600/L 2100L1900/G1900 /U2100 N1900/N2100	0/4/4/4/ 4	REL	AHLOA RRH AHFIG RRH	RMN RMN
			B2	-	-	-	-	-	-
			B3	AEHC	L2500/N2500	0/2	RMN	-	-
GAMMA	132'	200°	C1	COMMSCOPE FFV-65C-R3-V1	L700/L600/N600/L 2100L1900/G1900 /U2100 N1900/N2100	0/4/4/4/ 4	REL	AHLOA RRH AHFIG RRH	RMN RMN
			C2	-	-	-	-	-	-
			C3	AEHC	L2500/N2500	0/2	RMN	-	-

- NOTES
1. GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.

2. GC TO CAP ALL UNUSED PORTS.

3. GC TO 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'

FINAL ANTENNA SCHEDULE									
LOCATION		ANTENNA SUMMARY					NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	132'	340°	A1	COMMSCOPE FFV-65C-R3-V1	L700/L600/N600/ L2100L1900/G190 0/U2100 N1900/N2100	0/4/4/4/ 4	RMN	AHLOA RRH AHFIG RRH	RMN RMN
			A2	-	-	-	-	-	-
			A3	AEHC	L2500/N2500	0/2	RMN	-	-
BETA	132'	100°	B1	VHLP3-6W	-	-	ADD	FIBEAIR IP-20D-HP	ADD
			B2	COMMSCOPE FFV-65C-R3-V1	L700/L600/N600/ L2100L1900/G190 0/U2100 N1900/N2100	0/4/4/4/ 4	RMN	AHLOA RRH AHFIG RRH	RMN RMN
			B3	AEHC	L2500/N2500	0/2	RMN	-	-
GAMMA	132'	200°	C1	COMMSCOPE FFV-65C-R3-V1	L700/L600/N600/ L2100L1900/G190 0/U2100 N1900/N2100	0/4/4/4/ 4	RMN	AHLOA RRH AHFIG RRH	RMN RMN
			C2	-	-	-	-	-	-
			C3	AEHC	L2500/N2500	0/2	RMN	-	-

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
(2) HELIAX FIBERFEED 12 RRU PENDANT CONNECTS	RMN	-	(2) 1.46"	RMN

3

EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	FIBER	POWER	HYBRID	STATUS
(2) HELIAX FIBERFEED 12 RRU PENDANT CONNECTS	RMN	-	-	(2) 1.46"	RMN
-	-	(1) 0.39"	(1) 0.63"	-	ADD

1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.fullerton-us.com

REV.	DESCRIPTION	BY	DATE
A	PRELIM	BH	06/05/25
B	FINAL	EC	06/12/25
1	REV. FINAL	EC	07/02/25

ATC SITE NUMBER:
302460

ATC SITE NAME:
BLACK FOREST

T-MOBILE SITE NAME:
DN04235A

SITE ADDRESS:
4584 HODGEN ROAD
COLORADO SPRINGS, CO 80908-3006

SEAL:

ATC PROJ. #: 15320585_G0

CUST. ID: DN04235A

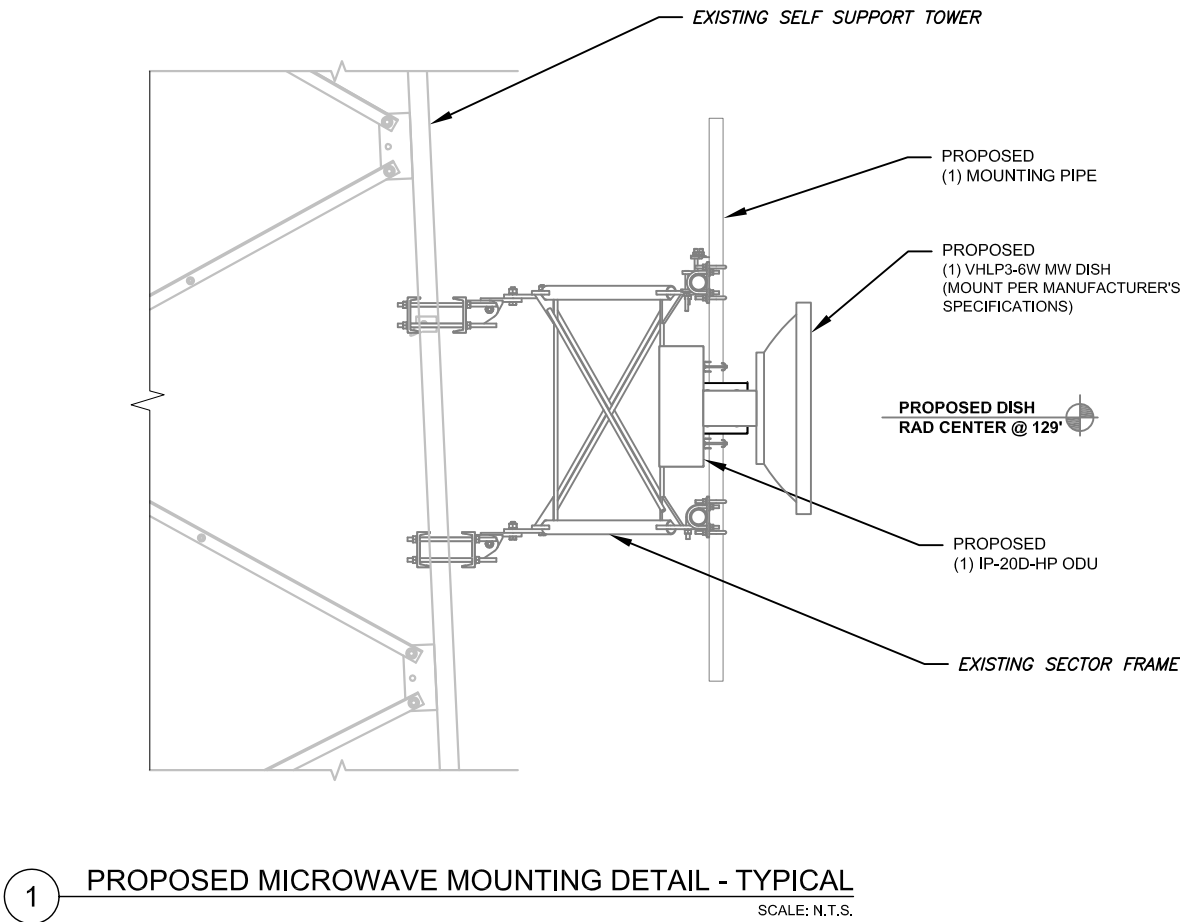
CUST. #: DN04235A

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:
C-401

REVISION:
1

EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	BH	06/05/25
B	FINAL	EC	06/12/25
1	REV. FINAL	EC	07/02/25

ATC SITE NUMBER:
302460
ATC SITE NAME:
BLACK FOREST
T-MOBILE SITE NAME:
DN04235A
SITE ADDRESS:
4584 HODGEN ROAD
COLORADO SPRINGS, CO 80908-3006

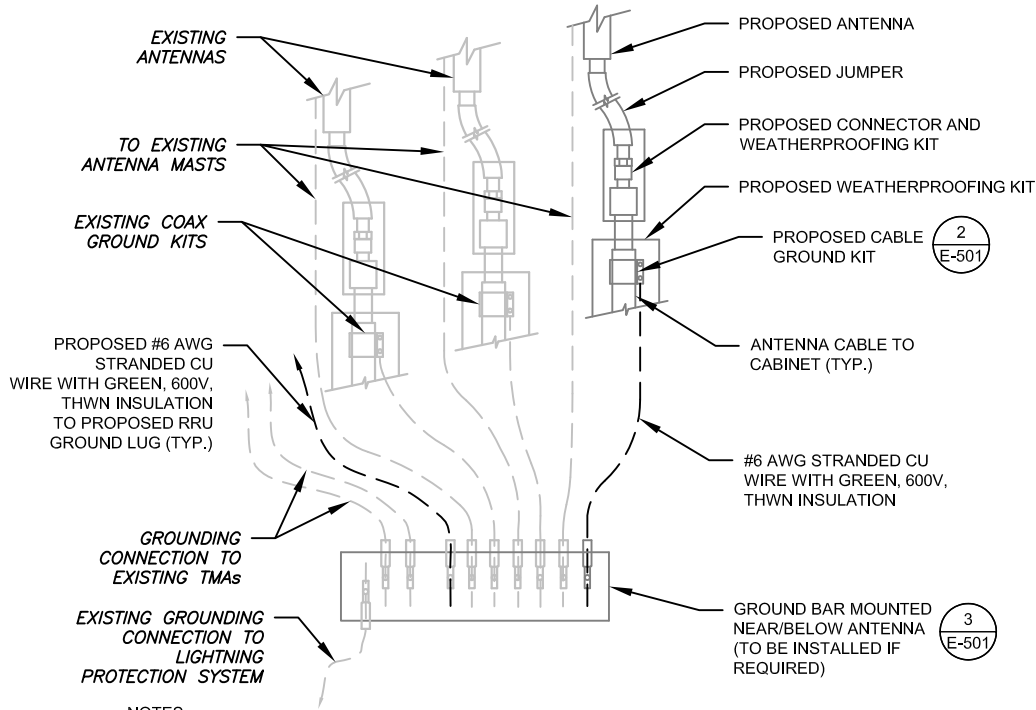
SEAL:



ATC PROJ. #:	15320585_G0
CUST. ID:	DN04235A
CUST. #:	DN04235A

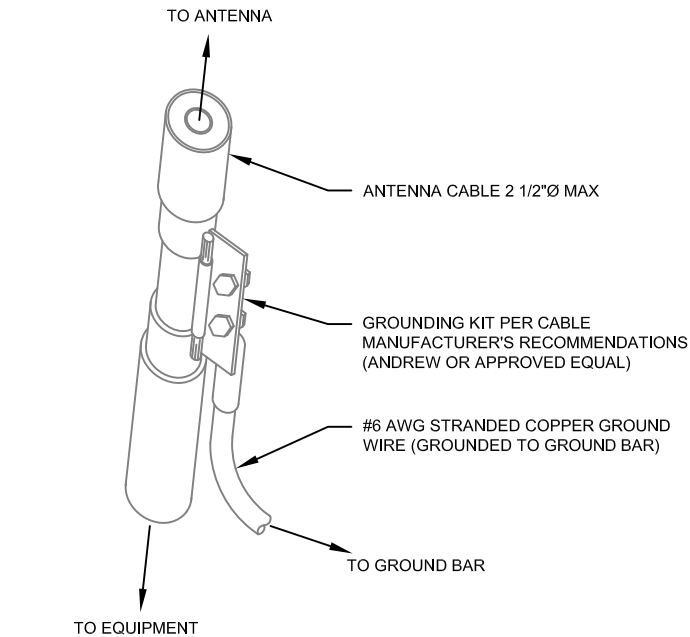
CONSTRUCTION
DETAILS

SHEET NUMBER:	REVISION:
C-501	1



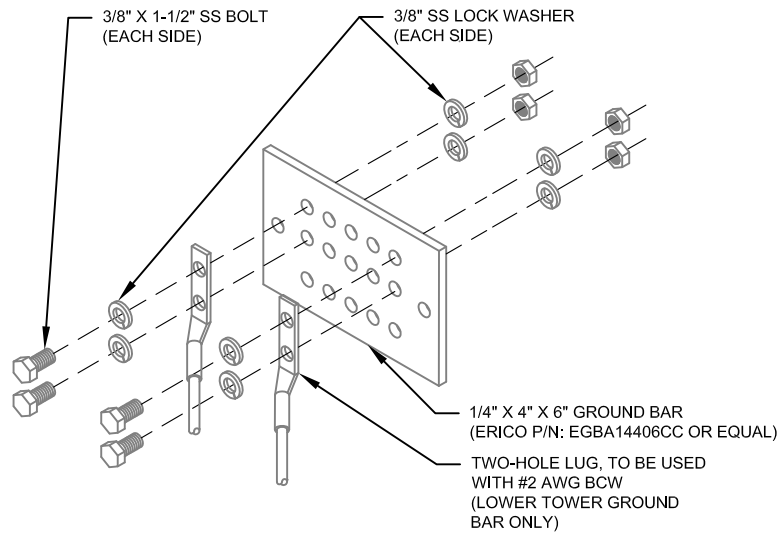
- NOTES:
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE 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.



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	BH	06/05/25
B	FINAL	EC	06/12/25
1	REV. FINAL	EC	07/02/25

ATC SITE NUMBER:
302460
ATC SITE NAME:
BLACK FOREST
T-MOBILE SITE NAME:
DN04235A
SITE ADDRESS:
4584 HODGEN ROAD
COLORADO SPRINGS, CO 80908-3006

SEAL:



ATC PROJ. #:	15320585_G0
CUST. ID:	DN04235A
CUST. #:	DN04235A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	1

VHLP3-6W/A

Base Product



0.9m | 3 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 5.925–7.125 GHz

Product Classification

Product Type	Microwave antenna
Product Brand	ValuLine®

General Specifications

Antenna Type	VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized
Polarization	Single
Side Struts, Included	0
Side Struts, Optional	1 inboard

Dimensions

Diameter, nominal	0.9 m 3 ft
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Electrical Specifications

Operating Frequency Band	5.925 – 7.125 GHz
Gain, Low Band	32 dBi
Gain, Mid Band	33.3 dBi
Gain, Top Band	34.3 dBi
Boresite Cross Polarization Discrimination (XPD)	30 dB
Front-to-Back Ratio	60 dB
Beamwidth, Horizontal	3.7 °
Beamwidth, Vertical	3.7 °
Return Loss	17.7 dB
VSWR	1.3
Radiation Pattern Envelope Reference (RPE)	7144A
Electrical Compliance	Brazil Anatel Class 2 ETSI 302 217 Class 3 US FCC Part 101B2

Page 1 of 5

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SUPPLEMENTAL

SHEET NUMBER:

R-601

REVISION:

1

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Standards

MEF

Carrier Ethernet 2.0 (CE 2.0)

Supported Ethernet Standards

10/100/1000base-T/X (IEEE 802.3)

Ethernet VLANs (IEEE 802.3ac)

Virtual LAN (VLAN, IEEE 802.1Q)

Class of service (IEEE 802.1p)

Provider bridges (QinQ – IEEE 802.1ad)

Link aggregation (IEEE 802.3ad)

Auto MDI/MDIX for 1000baseT

RFC 1349: IPv4 TOS

RFC 2474: IPv4 DSCP

RFC 2460: IPv6 Traffic Classes

Security

Radio Encryption – AES 256

Secured protocols:

- HTTPS
- SNMPv3
- SSH
- SFTP

RADIUS authentication and authorization

Standards Compliance

Radio Spectral Efficiency: EN 302 217-2-2

EMC: EN 301 489-1, EN 301 489-4, Class B (Europe), FCC 47 CFR, part 15, class B (US), ICES-003, Class B (Canada), TEC/EMI/TEL-001/01, Class B (India)

Surge: EN61000-4-5, Class 4 (for PWR and ETH1 ports)

Safety: EN 60950-1, IEC 60950-1, UL 60950-1, CSA-C22.2 No.60950-1, EN 60950-22, UL 60950-22, CSA C22.2.60950-22

Storage: ETSI EN 300 019-1-1 Class 1.2

Transportation: ETSI EN 300 019-1-2 Class 2.

Technical Specifications

Mechanical Specifications

Dimensions – 12.4”(H), 11.2”(W), 4.2”(D), 26.5 lbs. (includes diplexer or OCU unit)

Pole Diameter Range (for Remote Mount Installation) – 3.5” – 4.5”

Environmental Specifications

-27°F to +131°F (-49°F to +140°F extended)



Power Input Specifications

Standard Input: -48 VDC

DC Input range: -40 to -60 VDC

Separate DC feed

Power Consumption Specifications

Maximum Power Consumption (Multi-Core Operation):

135W

Maximum Power Consumption (1+0 Operation):

81W

Physical View

IP-20D-HP



SUPPLEMENTAL

SHEET NUMBER:

R-602

REVISION:

1

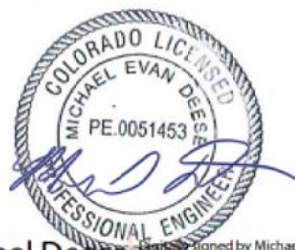
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Mount Analysis Report

Mount Type : 8 ft V-Frame
ATC Asset Name : Black Forest
ATC Asset Number : 302460
Engineering Number : 15320585_C8_01
Mount Elevation : 130.5 ft
Proposed Carrier : T-Mobile
Carrier Site Name : DN04235A
Carrier Site Number : DN04235A
Site Location : 4584 Hodgen Road
COLORADO SPRINGS, CO 80908-3006
39.071159, -104.743215
County : El Paso
Date : May 28, 2025
Max Usage : 54%
Analysis Result : Contingent Pass

Prepared By:
Julia Zee
Structural Engineer
Julia Zee


Michael Deese
Signed by Michael Deese
Date: 2025.05.29 13:30:56 -04'00'



Eng. Number 15320585_C8_01
May 28, 2025
Page 3

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 130.5 ft.

Supporting Documents

Specifications Sheet:	Site Pro 1 VFA8-RRU, dated August 22, 2018
Radio Frequency Data Sheet:	RFDS ID #DN04235A, dated March 31, 2025
Reference Photos:	Site photos from 2023

Analysis

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

Basic Wind Speed:	107 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	59 mph (3-Second Gust) w/ 0.21" radial ice concurrent
Codes:	ANSI/TIA-222-I / 2015 IBC
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Sds = 0.15, Sd1 = 0.067
Site Class:	Default
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

*Live Load(s) reduction is confirmed to either not govern or not be applicable

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- For Alpha sector only, relocate existing mount pipe in position 1 to be located 48" from left end of mount face looking out from tower.
- For Alpha sector only, install P3 (3.5" x 120") in mount pipe position 1 to be located 6" from left end of mount face looking out from tower. Connect with Site Pro 1 SCX7-U (or approved equivalent) crossover plate kits.
- No structural failures were addressed with the noted contingencies. Contingencies address Carrier's antenna spacing requirements.

If you have any questions or require additional information, please reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact MountAnalysis@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

ATC Tower Services, LLC - 1 Fenton Main, Suite 300 - Cary, NC 27511 - 919.468.0112 Office - 919.466.5414 Fax - www.americantower.com

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