

June 16, 2021

Melanie A. Bachman  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

**Re:** Notice of Exempt Modifications – AT&T Site CTL01289  
AT&T Telecommunications Facility @ 1375 North Road, Dayville, CT 06240

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC (“AT&T”) currently maintains a wireless telecommunications facility on an existing +/- 287’ self support tower at the above referenced address, latitude 41.871500, longitude - 71.821500. Said self support tower is operated by American Tower Corporation.

AT&T desires to modify its existing telecommunications facility by swapping six (6) antennas, adding nine (9) remote radio units, removing three (3) remote radio units, removing two (2) tower mounted amplifiers, adding six (6) Y-Cables, and adding one (1) OVP and mount modifications as more particularly detailed and described on the enclosed Construction Drawings prepared by Infinigy Engineering, PLLC, last revised on May 15, 2021. The centerline height of the existing antennas is and will remain at 254 feet.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as tower operator and property owner, Jason Anderson, Chairman of the Town of Killingly Town Council as chief elected official and Ann-Marie L. Aubrey, Director of Planning & Development of the Town of Killingly.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commissions safety standard. *Please see the RF emissions calculation for AT&T’s modified facility enclosed herewith.*
5. The proposed modifications will not cause an ineligible change or alternation in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis dated December 22, 2020 and prepared by American Tower Corporation enclosed herewith.

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A §16-50j-72(b)(2).

Best Regards,

**Brad Harding**

*Site Acquisition Consultant – Agent for AT&T*  
*Centerline Communications LLC*  
750 West Center St. Ste 301  
West Bridgewater, MA 02379  
978-882-1999  
bharding@clinellc.com

Enclosures:     Exhibit A – Original Facility Approval  
                     Exhibit B – Property Card and GIS  
                     Exhibit C – Construction Drawings  
                     Exhibit D – Structural Analysis  
                     Exhibit E – Mount Analysis  
                     Exhibit F – NIER/RF Emissions Report  
                     Exhibit G – Notice Deliver Confirmations

Cc:                 American Tower Corporation, as tower operator and owner  
                     Jason Anderson, Chairman, Town of Killingly Town Council, as chief elected  
                     official and property owner  
                     Ann-Marie L. Aubrey, Director of Planning & Development, Town of Killingly

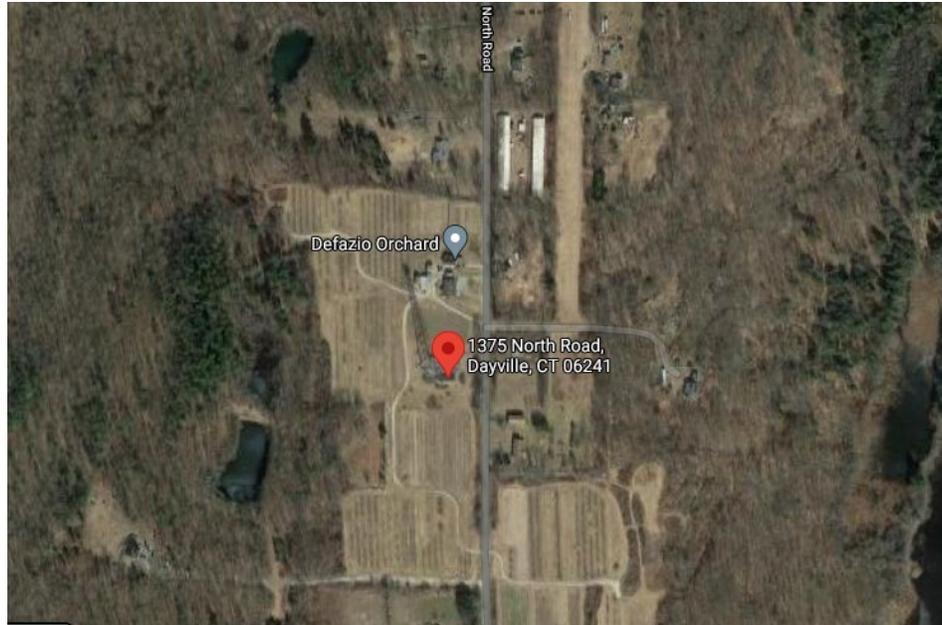
# Exhibit A

Original Facility Approval



# Exhibit B

Property Card & GIS



☰ 1375 North Road, Dayville, CT 062 🔍 | ✕



### 1375 North Road

Building

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Directions Save Nearby Send to your phone Share

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 1375 North Road, Dayville, CT 06241

Situs : 1375 NORTH RD

Map ID: 000072

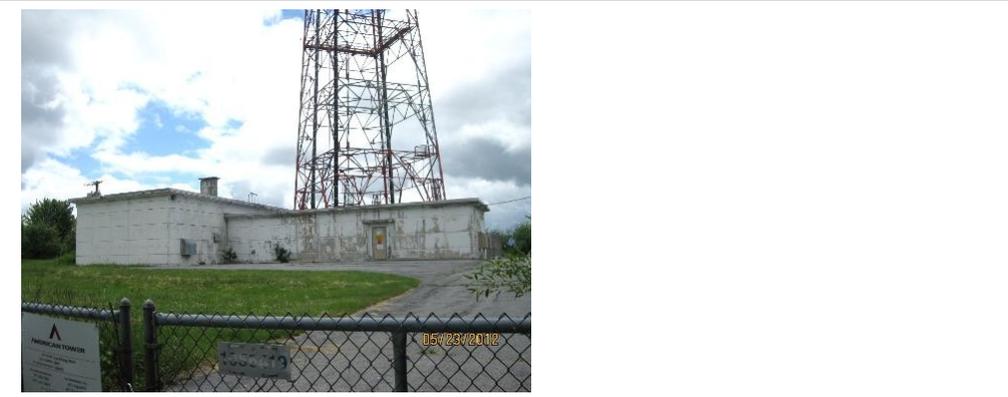
Class: Communication Towers

Card: 1 of 1

Printed: June 4, 2020

**CURRENT OWNER**  
AMERICAN TOWERS INC  
PO BOX 723597  
ATLANTA GA 31139

**GENERAL INFORMATION**  
Living Units  
Neighborhood 117  
Alternate Id 50-3  
Vol / Pg 772/5  
District 4  
Zoning RURAL DEVELOPMENT  
Class COMMERCIAL



**Property Notes**  
AT&T TRANSFER STATION

**Land Information**

Type	Size	Influence Factors	Influence %	Value
Primary	AC 2.0700			67,870

Total Acres: 2.07  
Spot: Location:

**Assessment Information**

	Assessed	Appraised	Cost	Income	Market
Land	47,530	67,900	67,900	0	0
Building	193,130	275,900	275,900	0	0
<b>Total</b>	<b>240,660</b>	<b>343,800</b>	<b>343,800</b>	<b>0</b>	<b>0</b>

**Manual Override Reason**  
Base Date of Value 10/01/2019  
Effective Date of Value 10/01/2020

Value Flag COST APPROACH  
Gross Building:

**Entrance Information**

Date	ID	Entry Code	Source
05/17/12	DB	View ed	Other
05/16/12	DB	View ed	Other
12/11/06	DH	Exterior	Other

**Permit Information**

Date Issued	Number	Price	Purpose	% Complete
09/18/19	27112	20,000	97 BPP Install 6 Repl Antennas, Rrus & Otl	995
08/21/18	26263	20,000	73 CREP Replace Existing Antennas With N	997
07/09/18	26159	80,000	51 BLDG Install Tmobile Cabinets On Concre	995
11/15/17	25690	15,000	97 BPP Repl 6 Antennae Panels & Add 6 F	995
08/09/17	25460	55,000	72 CREN Structural Modifications To Existing	997

**Sales/Ownership History**

Transfer Date	Price	Type	Validity	Deed Reference	Deed Type	Grantee
02/16/00	186,528	Land & Bldg	Love And Affection Sale	772/5		AMERICAN TOWERS INC

Inspection Witnessed By \_\_\_\_\_

Situs : 1375 NORTH RD

Parcel Id: 000072

Class: Communication Towers

Card: 1 of 1

Printed: June 4, 2020

Building Information	
Year Built/Eff Year	1960 /
Building #	1
Structure Type	Radio/Tv Transmitter
Identical Units	1
Total Units	
Grade	B-
# Covered Parking	
# Uncovered Parking	
DBA	AMERICAN TOWER

Building Other Features															
Line	Type	+/-	Meas1	Meas2	# Stops	Ident	Units	Line	Type	+/-	Meas1	Meas2	# Stops	Ident	Units

Interior/Exterior Information															
Line	Level From	- To	Int Fin	Area	Perim	Use Type	Wall Height	Ext Walls	Construction	Partitions	Heating	Cooling	Plumbing	Physical	Functional
1	01	01	100	2,048	158	Light Manufacturin	16	Concrete Bl	Wood Frame/Joist/B	Normal	None	None	Normal	4	4
2	01	01	100	1,575	151	Light Manufacturin	12	Concrete Bl	Wood Frame/Joist/B	Normal	None	None	Normal	4	4

Interior/Exterior Valuation Detail					
Line	Area	Use Type	% Good	% Complete	Use Value/RCNLD
1	2,048	Light Manufacturing	60		77,300
2	1,575	Light Manufacturing	60		57,830

Outbuilding Data										
Line	Type	Yr Blt	Meas1	Meas2	Qty	Area	Grade	Phy	Fun	Value
1	Fence Chai	1960	6	240	1	1,440	C	3	3	1,780
2	Asph Pav	1960	1	3,700	1	3,700	C	3	3	4,000
3	Tow er Cell	1960	1	300	1	300	C	3	3	135,000

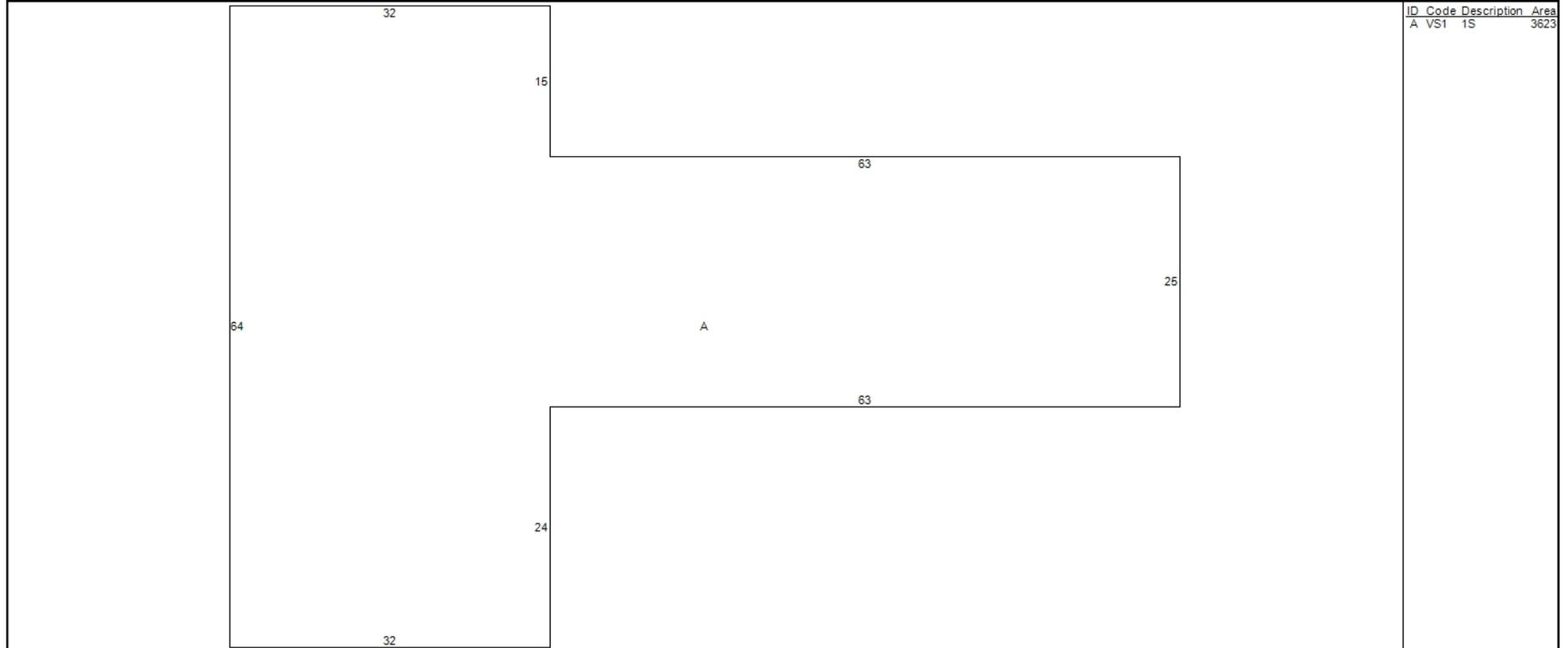
Situs : 1375 NORTH RD

Parcel Id: 000072

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Card: 1 of 1

Printed: June 4, 2020



Additional Property Photos



Situs : 1375 NORTH RD

Parcel Id: 000072

Class: Communication Towers

Card: 1 of 1

Printed: June 4, 2020

**Income Detail (Includes all Buildings on Parcel)**

Use Mod Grp	Inc Type	Model Description	Units	Net Area	Income Rate	Econ Adjust	Potential Gross Income	Vac Model	Vac Adj	Additional Income	Effective Gross Income	Expense Model %	Expense Adj %	Expense Adj	Other Expenses	Total Expenses	Net Operating Income
07	S	Light Manuf/Warehouse	0	3,623						0							

**Apartment Detail - Building 1 of 1**

Line	Use Type	Per Bldg	Beds	Baths	Units	Rent	Income

**Building Cost Detail - Building 1 of 1**

Total Gross Building Area	3,623
Replace, Cost New Less Depr	135,130
Percent Complete	100
Number of Identical Units	1
Economic Condition Factor	
Final Building Value	135,130
Value per SF	37.30

**Notes - Building 1 of 1**

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**Income Summary (Includes all Building on Parcel)**

Total Net Income	
Capitalization Rate	0.000000
Sub total	
Residual Land Value	
Final Income Value	
Total Gross Rent Area	3,623
Total Gross Building Area	3,623

North

Report Mailing Labels Add/Remove Zoom

Parcel #	Owner	Address
176-066-000-000	215 <b>NORTH ST</b>	ALIX ROCHELLE A
043-006-000-000	1499 <b>NORTH RD</b>	ALLAIRE MARC W &
021-021-000-000	1655 <b>NORTH RD</b>	ALLEN VINCENT
049-003-000-000	1380 <b>NORTH RD</b>	AMERICAN TOWER SYSTEMS INC
050-003-000-000		

176

Search

Abutters

Layers

CAI AxisGIS

Parcel #: 050-003-000-000

Documents & Links Assessment

ID	7391
ParcelNumber	050-003-000
GisFullNumber	050-003-000-000
CamaFullNumber	050-003-000-000
PropertyAddress	1375 NORTH RD
PropertyStreet	NORTH RD
MapSheet	50
OwnerName	AMERICAN TOWERS INC
CoOwnerName	N/A
OwnerAddress	PO BOX 723597
OwnerAddress2	N/A
OwnerCity	ATLANTA
OwnerState	GA
OwnerZip	31139
AccountNum	000072
PID	N/A
ACCOUNT NUM	000072

2.4 AcC

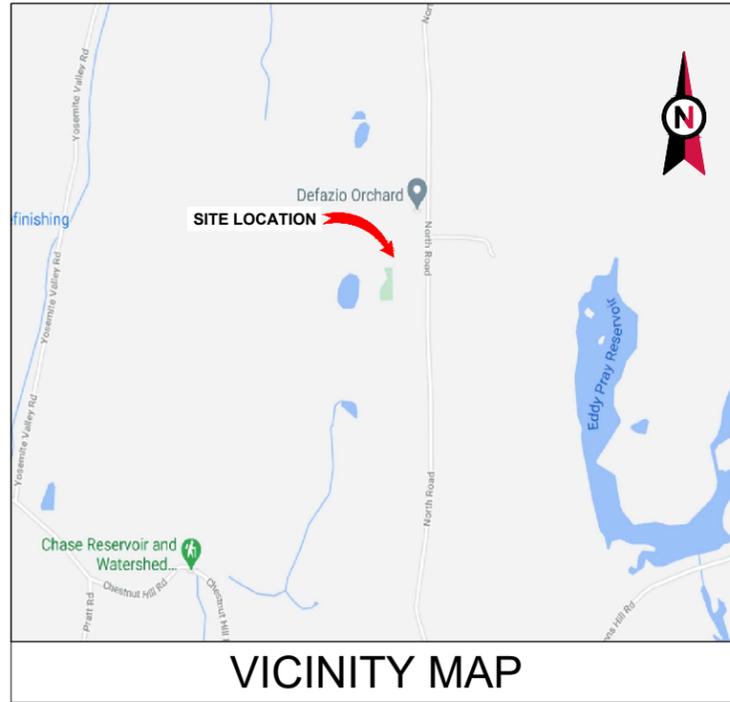
8

200ft X: -71.82118, Y: 41.87097

esri

# Exhibit C

Construction Drawings



VICINITY MAP

**CURRENT PROJECTS:**  
 LTE 2C - MRCTB048458  
 LTE 3C - MRCTB048536  
 LTE 4C - MRCTB048628  
 5G NR 1DR-1 - MRCTB048559  
 4TX4RX SOFTWARE RETROFIT - MRCTB048517



**AMERICAN TOWER®**

ATC SITE NAME: EAST KILLINGLY NORTH  
 ATC SITE NUMBER: 88011  
 AT&T PACE NUMBER: MRCTB048458  
 AT&T SITE ID: CTL01289  
 AT&T FA CODE: 10141309  
 AT&T SITE NAME: KILLINGLY CT NORTH ROAD DAS ISE  
 SITE ADDRESS: 1375 NORTH ROAD  
 DAYVILLE, CT 06241



LOCATION MAP

AT&T MOBILITY PLAN: LTE 2C, LTE 3C, LTE 4C, 5G NR 1DR-1, 4TX4RX SOFTWARE RETROFIT  
**AT&T MOBILITY  
 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. 2018 INTERNATIONAL BUILDING CODE (IBC) 2. 2017 NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 1375 NORTH ROAD DAYVILLE, CT 06241  COUNTY: WINDHAM COUNTY  <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41° 52' 17.4" N LONGITUDE: 71° 49' 17.6" W GROUND ELEVATION: 745' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (6) ANTENNA(s), (2) TMA(s) AND (3) RRH(s)  INSTALL (6) ANTENNA(s), (9) RRH(s), (6) Y CABLES, (1) OVP AND MOUNT MODIFICATIONS  EXISTING (4) ANTENNA(s), (4) TMA(s), (12) DIPLEXER(s) AND (6) COAX CABLE(s) TO REMAIN  <u>GROUND WORK:</u>  REMOVE (1) BB6601  INSTALL (2) BB6630, (1) iXRE ROUTER AND (1) XMU  EXISTING (1) RBS 3206 TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> INFINIGY ENGINEERING, PLLC 1033 WATERVLIET SHAKER RD ALBANY, NY 12205  <u>PROPERTY OWNER:</u> N/A 1375 NORTH ROAD KILLINGLY, CT 06241	<u>PROJECT NOTES</u>  1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.	G-001	TITLE SHEET	0	5/15/2021	EDZ
<u>UTILITY COMPANIES</u>  POWER COMPANY: CT LIGHT & POWER PHONE: (800) 286-2000  TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 921-8102		<u>PROJECT LOCATION DIRECTIONS</u>  TAKE ROUTE 395 TO EXIT 97. AT END OF THE RAMP, TAKE A LEFT ONTO 44 EAST. AFTER YOU CROSS FIVE MILE RIVER, GO ABOUT ANOTHER .5 MILES AND TAKE A RIGHT ONTO EAST PUTNUM ROAD. AT THE 3RD STOP SIGN, TAKE A LEFT. LOOK FOR NORTH ROAD ON YOUR RIGHT. TAKE NORTH ROAD. TOWER IS ON THE RIGHT.	G-002	GENERAL NOTES	0	5/15/2021	EDZ
			C-001	OVERALL SITE PLAN	0	5/15/2021	EDZ
			C-101	DETAILED SITE PLAN	0	5/15/2021	EDZ
			C-102	EQUIPMENT PLAN	0	5/15/2021	EDZ
			C-201	TOWER ELEVATION	0	5/15/2021	EDZ
			C-401	ANTENNA INFORMATION & SCHEDULE	0	5/15/2021	EDZ
			C-501	MOUNT DETAILS	0	5/15/2021	EDZ
			C-502	EQUIPMENT SPECIFICATIONS	0	5/15/2021	EDZ
			E-501	GROUNDING DETAILS	0	5/15/2021	EDZ
			R-601	SUPPLEMENTAL	0	5/15/2021	EDZ
			R-602	SUPPLEMENTAL	0	5/15/2021	EDZ
			R-603	SUPPLEMENTAL	0	5/15/2021	EDZ
			R-604	SUPPLEMENTAL	0	5/15/2021	EDZ
			R-605	SUPPLEMENTAL	0	5/15/2021	EDZ
			R-606	SUPPLEMENTAL	1	5/15/2021	EDZ
			R-607	SUPPLEMENTAL	2	5/15/2021	EDZ
			R-608	SUPPLEMENTAL	3	5/15/2021	EDZ
			R-609	SUPPLEMENTAL	4	5/15/2021	EDZ



**INFINIGY®**  
 ENGINEERING, PLLC  
 1033 WATERVLIET SHAKER ROAD  
 ALBANY, NY 12205

REV.	DESCRIPTION	BY	DATE
0	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
 ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
 AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
 SITE ADDRESS:  
 1375 NORTH ROAD  
 DAYVILLE, CT 06241



DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

TITLE SHEET

SHEET NUMBER:	REVISION:
<b>G-001</b>	<b>0</b>

**GENERAL CONSTRUCTION NOTES:**

1. OWNER FURNISHED MATERIALS, AT&T MOBILITY "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 AT&T MOBILITY 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 AT&T MOBILITY REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T MOBILITY REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T MOBILITY 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 AT&T MOBILITY 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 AT&T MOBILITY 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 AT&T MOBILITY 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 AT&T MOBILITY 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 AT&T MOBILITY REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MOBILITY MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
  23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T MOBILITY SPECIFICATIONS AND REQUIREMENTS.
  24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T MOBILITY FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
  25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T MOBILITY 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 AT&T MOBILITY 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 AT&T MOBILITY REP. ANY WORK FOUND BY THE AT&T MOBILITY 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. AT&T MOBILITY FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T MOBILITY WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNGRATE, 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. AT&T MOBILITY 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 AT&T MOBILITY OR THEIR ARCHITECT/ENGINEER.

**SPECIAL CONSTRUCTION**

**ANTENNA INSTALLATION NOTES:**

1. WORK INCLUDED:
  - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T MOBILITY 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 AND EQUIPMENT.
  - B. INSTALL ANTENNA AS INDICATE ON DRAWINGS AND AT&T MOBILITY SPECIFICATIONS.
  - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS
  - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
  - 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/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

**ELECTRICAL NOTES:**

1. ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTURAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

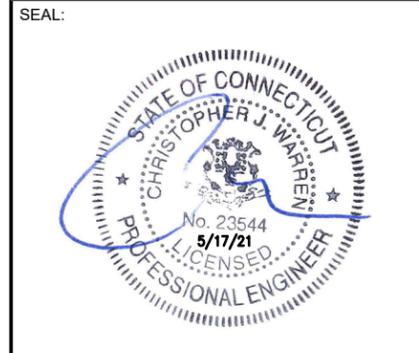
**ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE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



**INFINIGY**  
ENGINEERING, PLLC  
1033 WATERLIET SHAKER ROAD  
ALBANY, NY 12205

REV.	DESCRIPTION	BY	DATE
A	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
SITE ADDRESS:  
1375 NORTH ROAD  
DAYVILLE, CT 06241



DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**GENERAL NOTES**

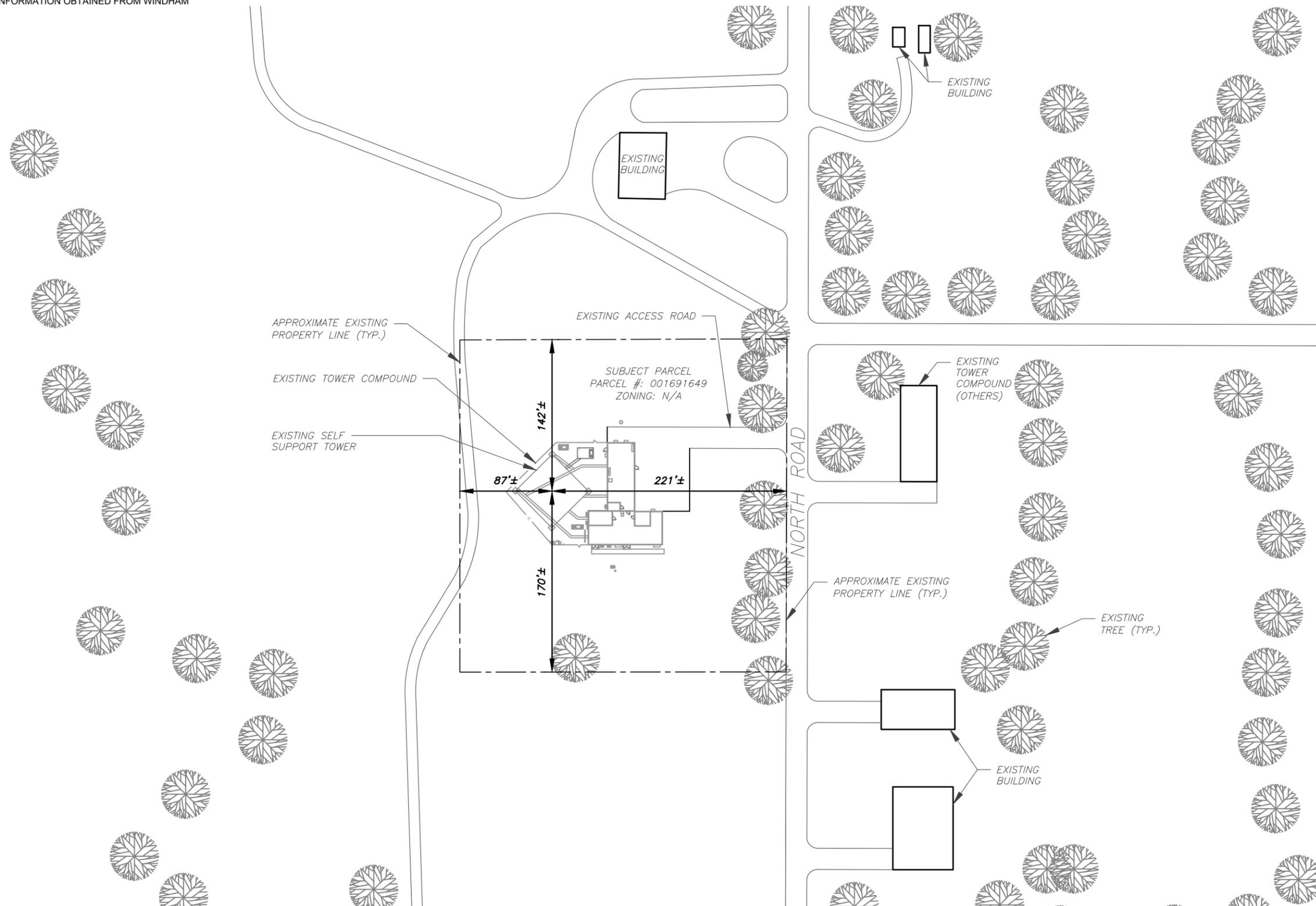
SHEET NUMBER: <b>G-002</b>	REVISION: <b>0</b>
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**NOTES:**

- BOUNDARY LINES OBTAINED FROM WINDHAM COUNTY ONLINE GIS.
- ZONING INFORMATION OBTAINED FROM WINDHAM COUNTY

INFORMATION CONTAINED WITHIN THESE DRAWINGS IS BASED ON PROVIDED INFORMATION. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.



**1 OVERALL SITE PLAN**



SCALE: 1"=100' (11X17)  
1"=50' (22X34)



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SITE ADDRESS:  
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DATE DRAWN:	01/21/21
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CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**OVERALL SITE PLAN**

SHEET NUMBER: <b>C-001</b>	REVISION: <b>0</b>
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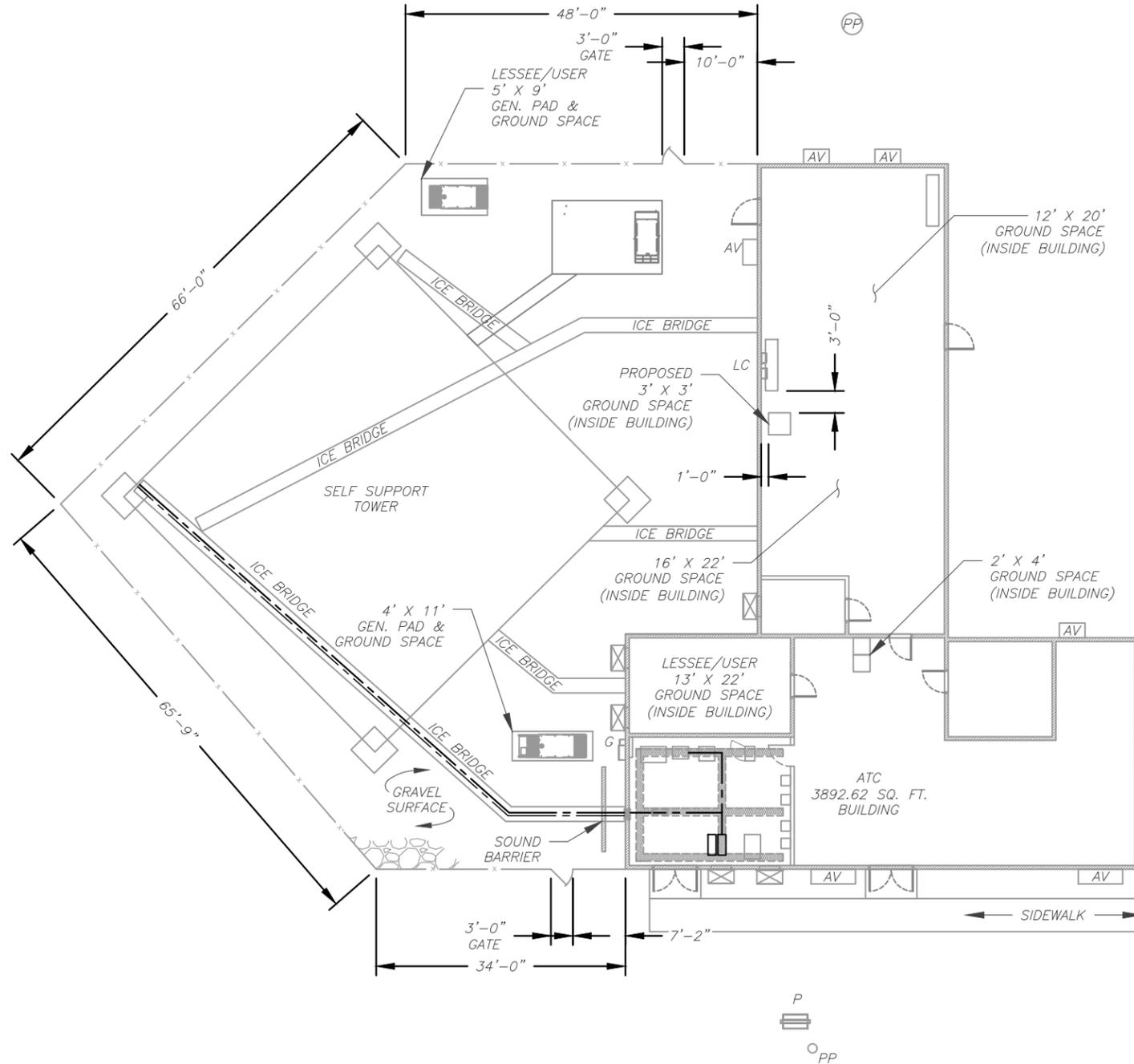
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**SITE PLAN NOTES:**

1. THIS SITE PLAN REPRESENTS THE BEST CURRENT 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 CABLES 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 AT&T MOBILITY 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.

INFORMATION CONTAINED WITHIN THESE DRAWINGS IS BASED ON PROVIDED INFORMATION. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.

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
x	CHAINLINK FENCE



**PROPOSED CABLE LENGTH:**

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **338'**. 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.
2. 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).



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C			
D			
E			

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CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**DETAILED SITE PLAN**

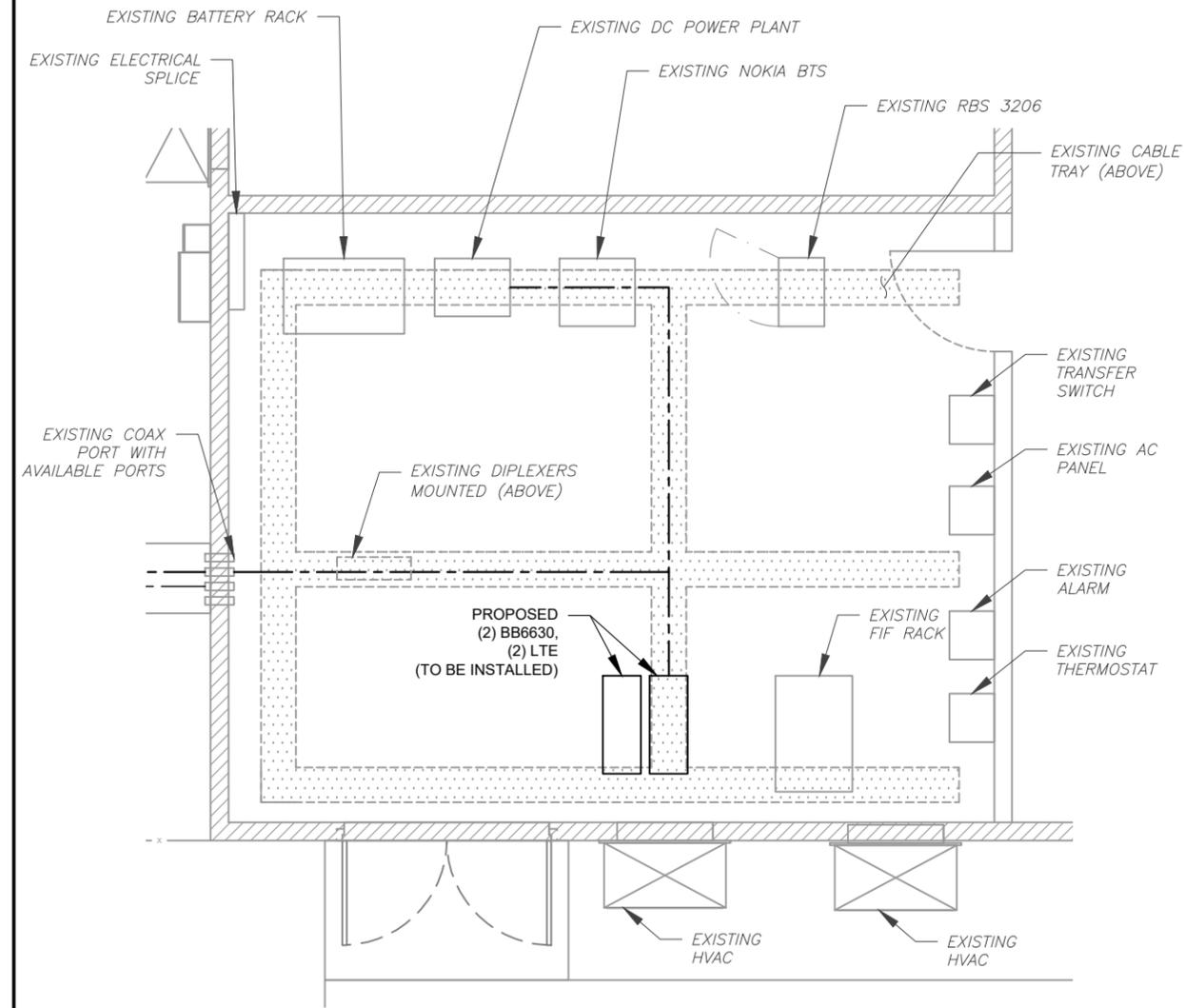
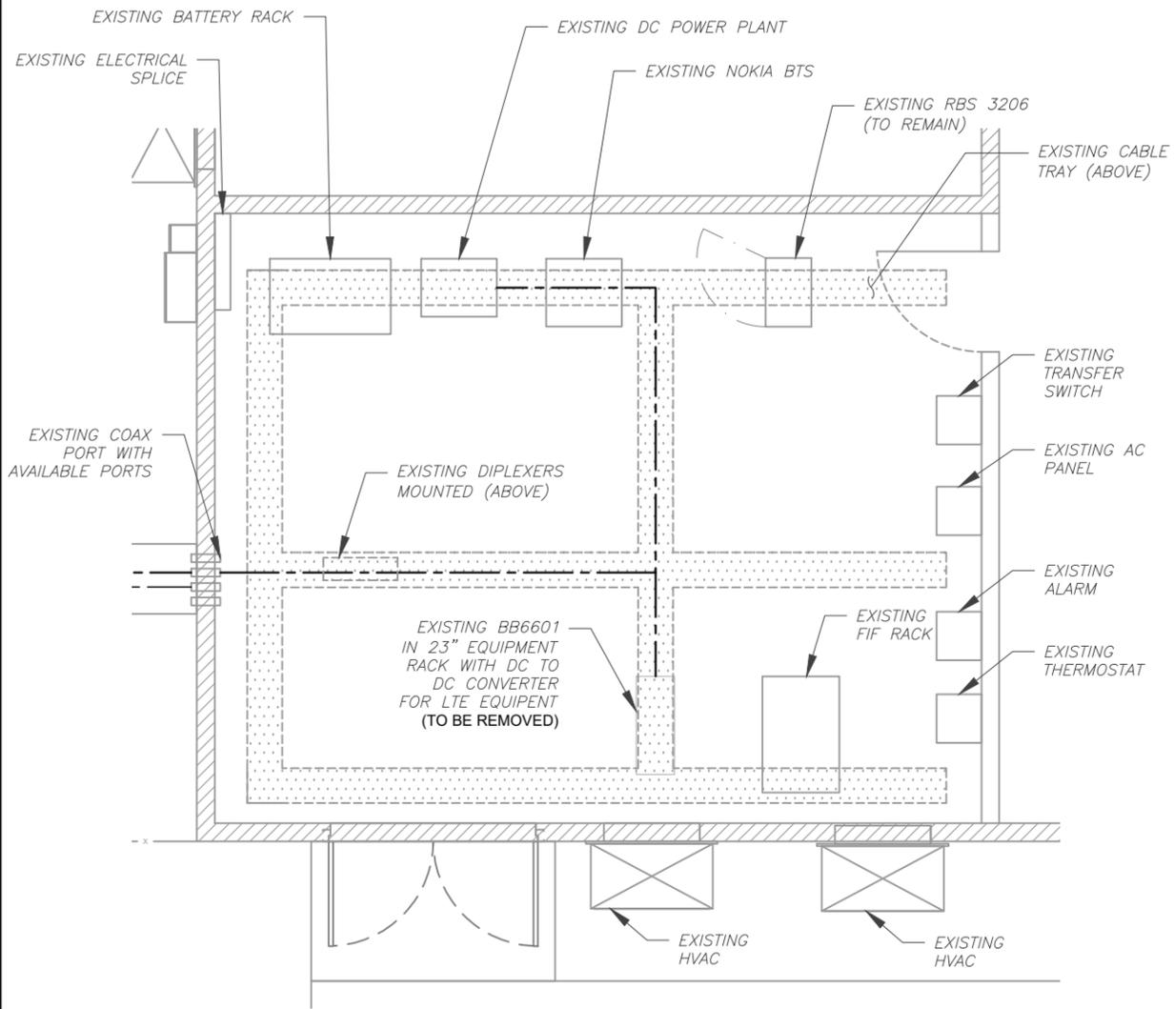
SHEET NUMBER:	REVISION:
<b>C-101</b>	<b>0</b>

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**SITE PLAN NOTES:**

1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. REMOVE EXISTING 2G CABINETS, AND POWER / TELCO WHIPS ASSOCIATED WITH THE DEAD EQUIPMENT IF APPLICABLE.
3. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
4. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO BE REMOVED FROM EQUIPMENT AREA. DISPOSE OF MATERIALS PROPERLY OFF SITE.

INFORMATION CONTAINED WITHIN THESE DRAWINGS IS BASED ON PROVIDED INFORMATION. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.



1 EXISTING GROUND EQUIPMENT LAYOUT  
 SCALE: 1"=5' (11X17)  
 1"=2.5' (22X34)

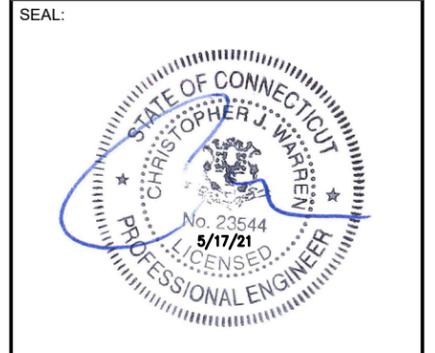
2 PROPOSED GROUND EQUIPMENT LAYOUT  
 SCALE: 1"=5' (11X17)  
 1"=2.5' (22X34)



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 SITE ADDRESS:  
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 DAYVILLE, CT 06241



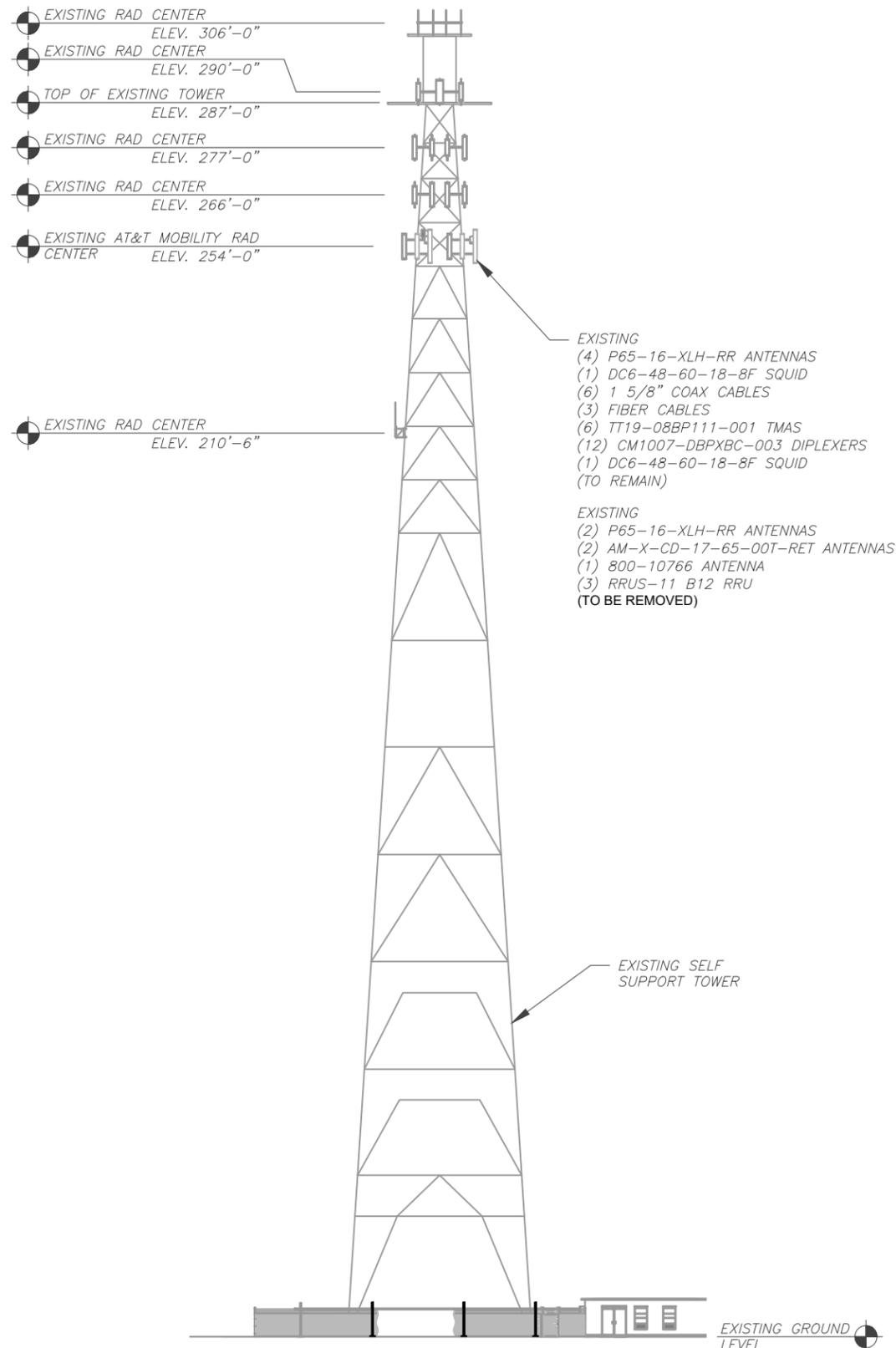
DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**EQUIPMENT PLAN**

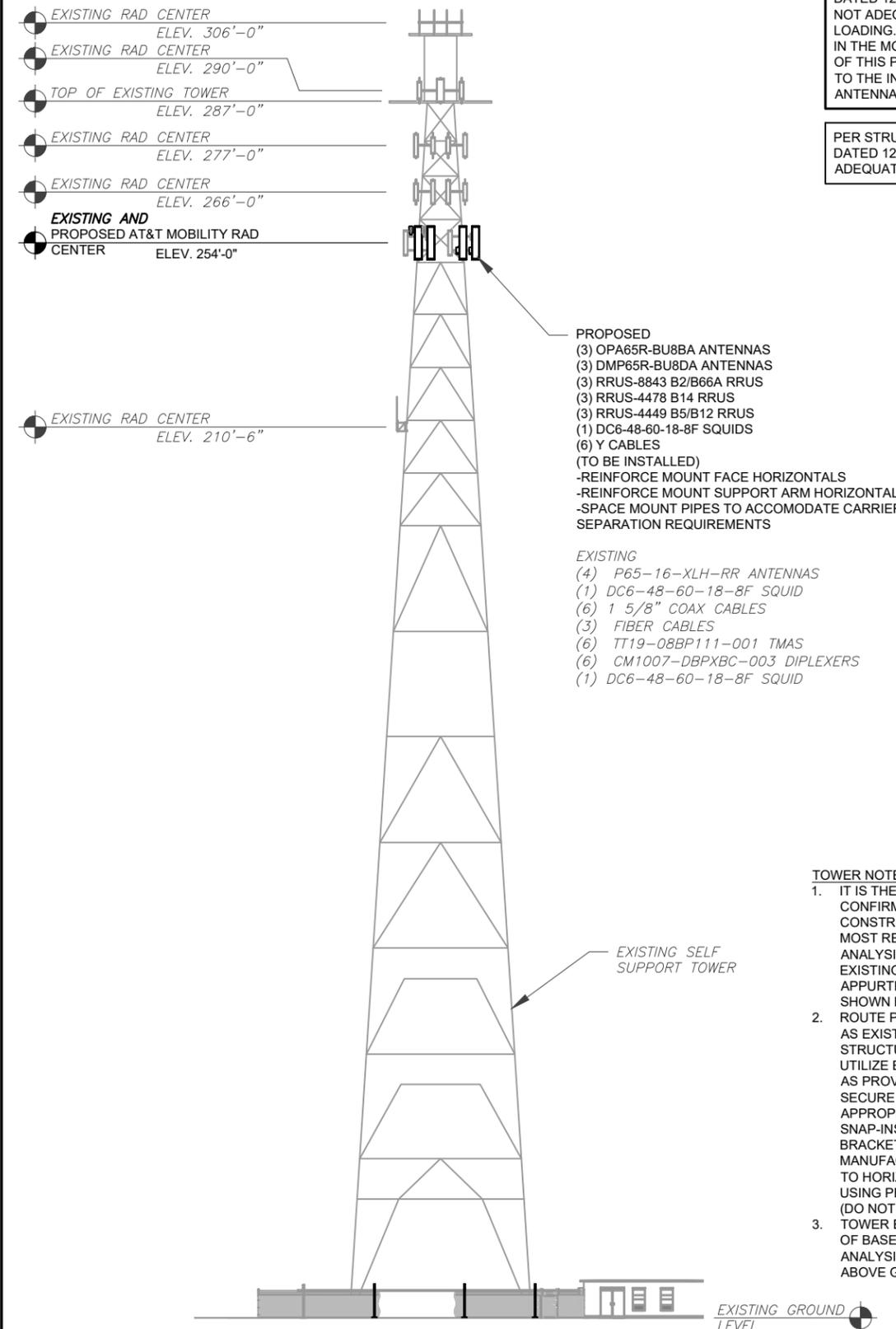
SHEET NUMBER: <b>C-102</b>	REVISION: <b>0</b>
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EXISTING CONFIGURATION IS BASED ON RFDS.  
CONTRACTOR TO VERIFY EXISTING CONDITIONS.



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



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

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 12/23/2020, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT

PER STRUCTURAL ANALYSIS COMPLETED BY ATC, DATED 12/22/2020, THE EXISTING TOWER CAN ADEQUATELY SUPPORT THE PROPOSED LOADING

**TOWER NOTE:**

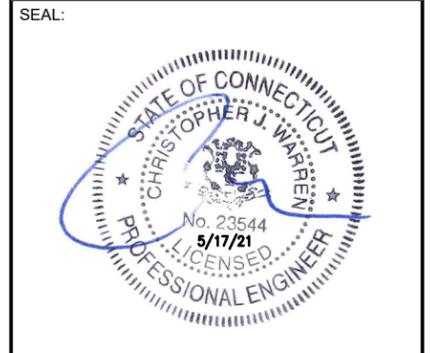
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
- ROUTE 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 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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 AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
 SITE ADDRESS:  
 1375 NORTH ROAD  
 DAYVILLE, CT 06241

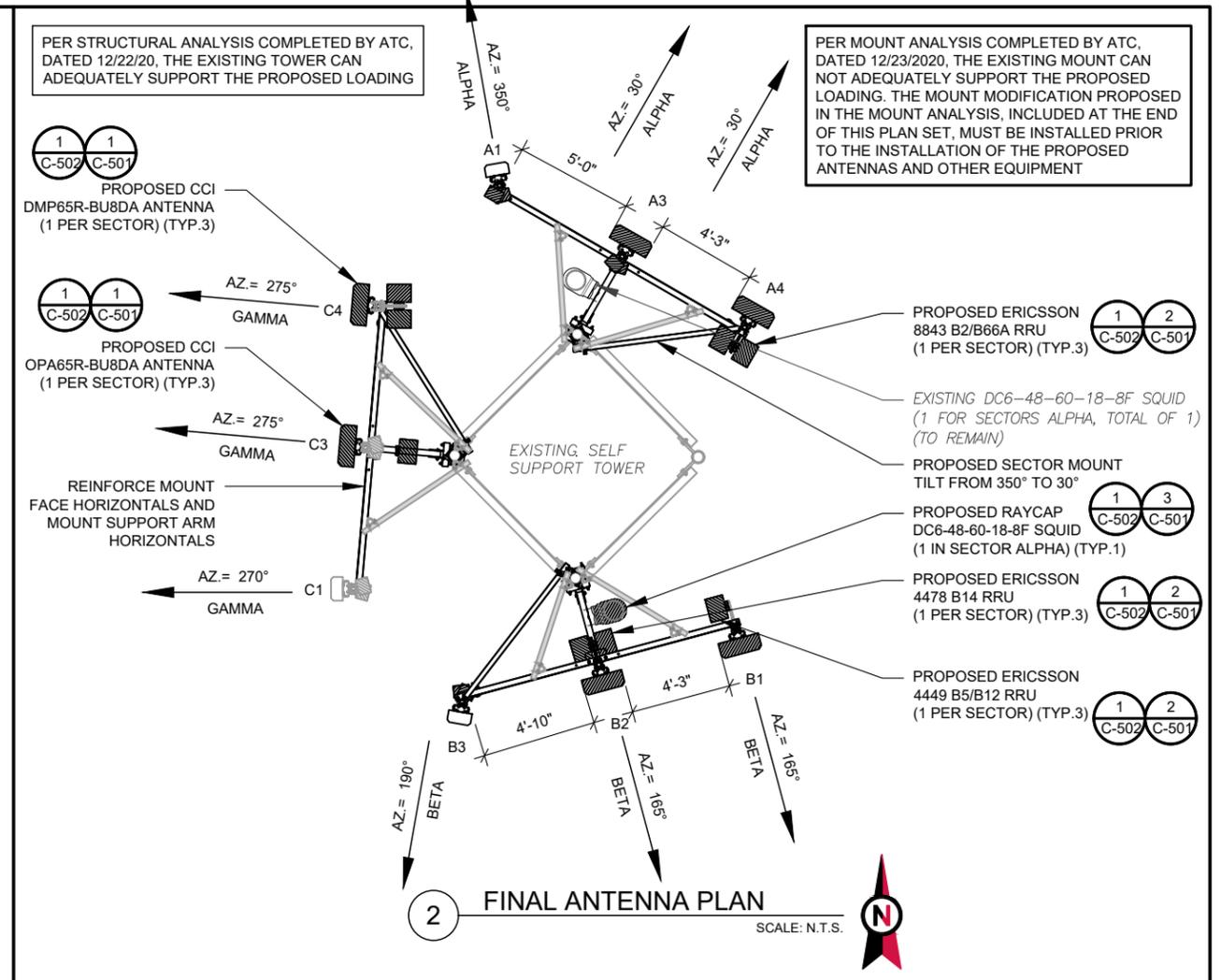
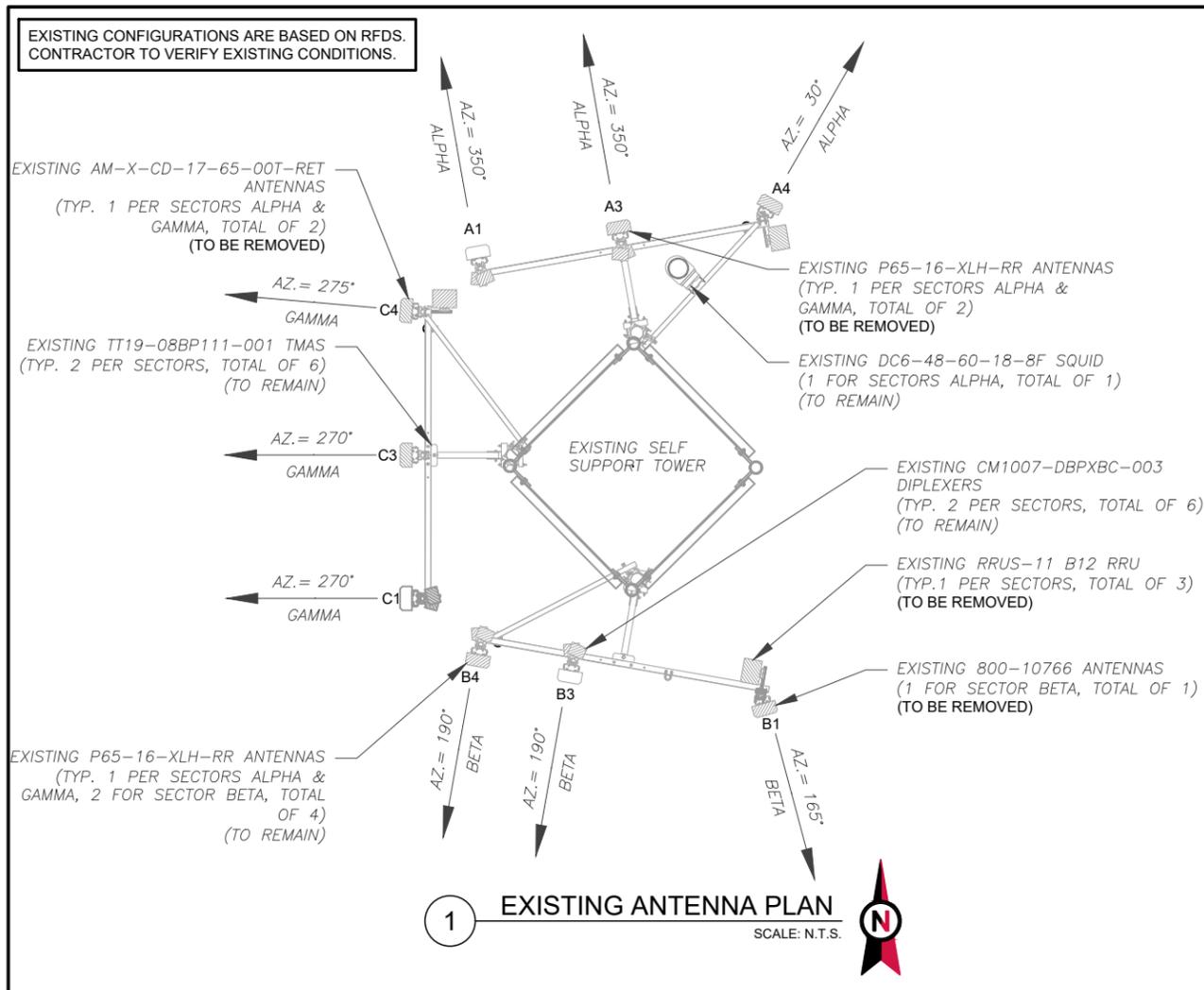


DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**TOWER ELEVATION**

SHEET NUMBER: <b>C-201</b>	REVISION: <b>0</b>
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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	254'	350°	A1	POWERWAVE P65-16-XLH-RR	UMTS 850	0°/2	RMN	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMN
			A3	POWERWAVE P65-16-XLH-RR	GSM 850	0°/2°	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMN
		30°	A4	KMW AM-X-CD-17-65-00T-RET	LTE 700	0°/10°	RMV	(1) DC6-48-60-18-8F (1) RRUS-11 B12	RMN RMV
BETA	254'	165°	B1	KATHREIN 800-10766	LTE 700	0°/0°	RMV	(1) RRUS-11 B12	RMV
			B3	POWERWAVE P65-16-XLH-RR	UMTS 850	0°/9°	RMN	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMN
		190°	B4	POWERWAVE P65-16-XLH-RR	GSM 850	0°/9°	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMV
GAMMA	254'	270°	C1	POWERWAVE P65-16-XLH-RR	UMTS 850	0°/2°	RMN	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMN
			C3	POWERWAVE P65-16-XLH-RR	GSM 850	0°/2°	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMN
		275°	C4	KMW AM-X-CD-17-65-00T-RET	LTE 700	0°/5°	RMV	(1) RRUS-11 B12	RMV

**NOTES**

- BASED ON APPROVED ATC APPLICATION 13320909, DATED 11/16/2020. CONFIRM WITH AT&T MOBILITY 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**

SQUID 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	254'	350°	A1	POWERWAVE P65-16-XLH-RR	UMTS 850	2°	RMN	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMN
			A3	CCI OPA65R-BU8DA	LTE 700, LTE 1900	5°/5°/5°	ADD	(1) CM1007-DBPXBC-003 (1) TT19-08BP111-001 (1) RADIO 4478 B14	RMN RMN ADD
		30°	A4	CCI DMP65R-BU8DA	LTE 700, LTE 850, LTE AWS, 5G 850	5°/5°/5°/5°	ADD	(1) RADIO 4449 B5/B12 (1) RADIO 8843 B2/B66A	ADD ADD
BETA	254'	165°	B1	CCI DMP65R-BU8DA	LTE 700, LTE 850, LTE AWS, 5G 850	10°/10°/8°/10°	ADD	(1) RADIO 4449 B5/B12	ADD
			B2	CCI OPA65R-BU8DA	LTE 700, LTE 1900	10°/8°/8°	ADD	(1) RADIO 8843 B2/B66A (1) RADIO 4478 B14	ADD ADD
		190°	B3	POWERWAVE P65-16-XLH-RR	UMTS 850	9°	RMN	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMN
GAMMA	254'	270°	C1	POWERWAVE P65-16-XLH-RR	UMTS 850	2°	RMN	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMN
			C3	CCI OPA65R-BU8DA	LTE 700, LTE 1900	10°/8°/8°	ADD	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001 (1) RADIO 4478 B14	RMN RMN ADD
		275°	C4	CCI DMP65R-BU8DA	LTE 700, LTE 850, LTE AWS, 5G 850	12°/10°/8°/10°	ADD	(1) RADIO 4449 B5/B12 (1) RADIO 8843 B2/B66A	ADD ADD

EXISTING FIBER DISTRIBUTION/SQUID								EXISTING CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	STATUS	DC	STATUS	FIBER	STATUS	DC	STATUS	FIBER	STATUS
(1) DC6-48-60-18-8F	RMN	(6) 1 5/8"	RMN	-	-	(3) FIBER CABLES	RMN	-	-	(3) FIBER CABLES	RMN

FINAL FIBER DISTRIBUTION / SQUID				FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	STATUS	DC	STATUS	FIBER	STATUS
(1) DC6-48-60-18-8F	RMN	(6) 1 5/8"	RMN	-	-	(3) FIBER CABLES	RMN
(1) DC6-48-60-18-8F	ADD	-	-	-	-	(6) Y CABLES	ADD

**3 EQUIPMENT SCHEDULES**

**AMERICAN TOWER®**

**INFINIGY® ENGINEERING, PLLC**  
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ALBANY, NY 12205

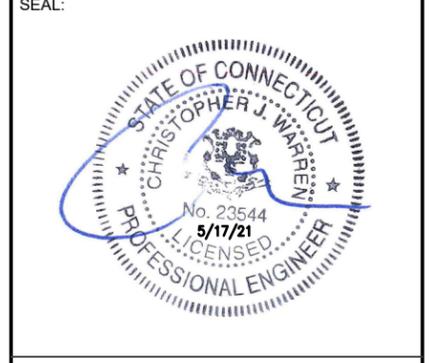
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ATC SITE NUMBER:  
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**AT&T**

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CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**ANTENNA INFORMATION & SCHEDULE**

SHEET NUMBER:	REVISION:
<b>C-401</b>	<b>0</b>

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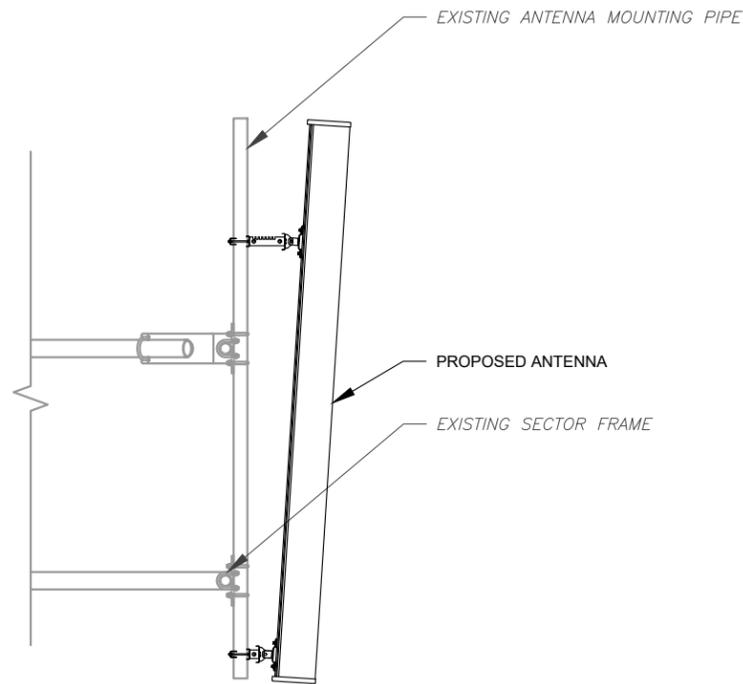
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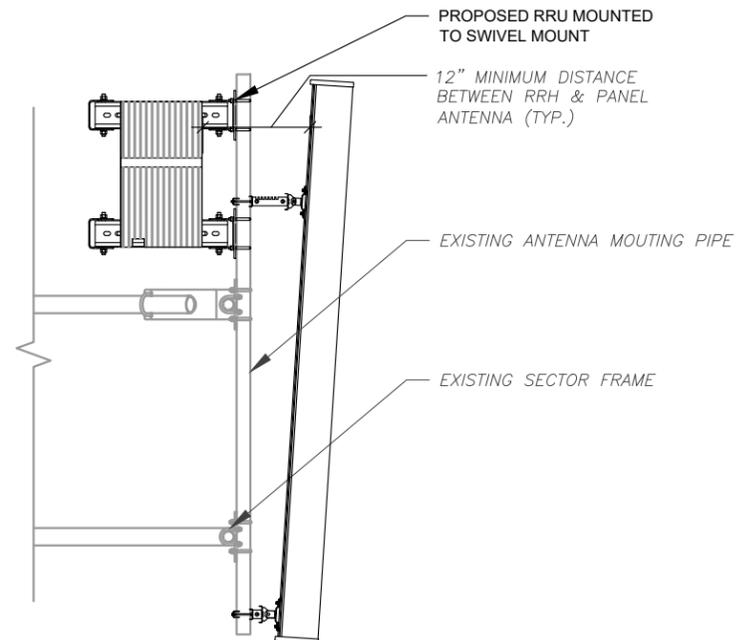
DATE DRAWN:	01/21/21
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CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**MOUNT DETAILS**

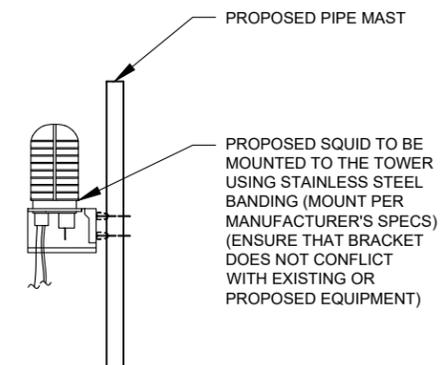
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<b>C-501</b>	<b>0</b>



**1** ANTENNA DETAIL  
SCALE: N.T.S.

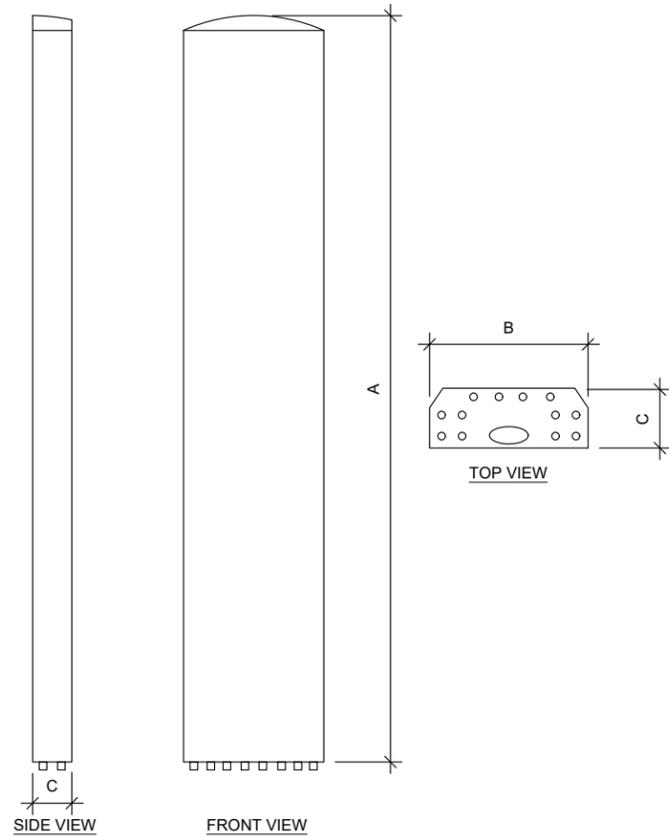


**2** PROPOSED RRU MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.

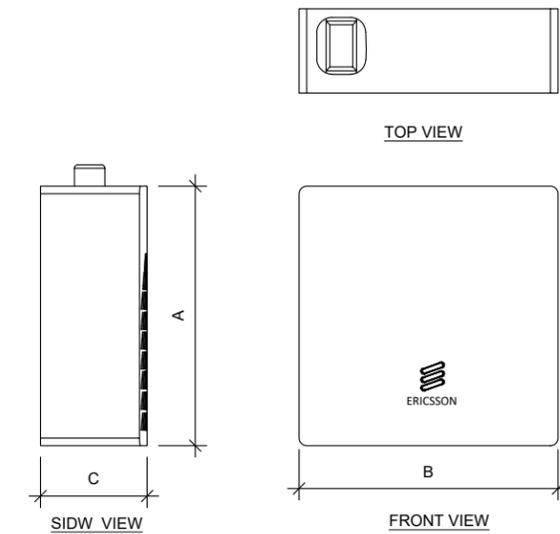


**3** PROPOSED SQUID MOUNTING  
SCALE: N.T.S.

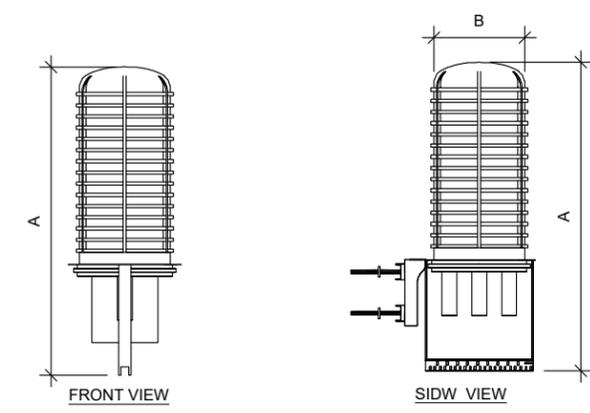
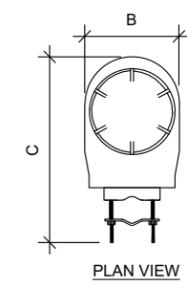
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ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
CCI OPA65R-BU8DA	96.0"	21"	7.8"	76.5
CCI DMP65R-BU8DA	96.0"	20.7"	7.7"	95.7



RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4478 B14	18.1"	13.4"	8.3"	59.4
8843 B2, B66A	14.9"	13.2"	10.9"	72.0
4449 B5, B12	17.9"	13.2"	9.4"	71.0



RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
DC6-48-60-18-8F	24.0"	11.0"	11.0"	31.8

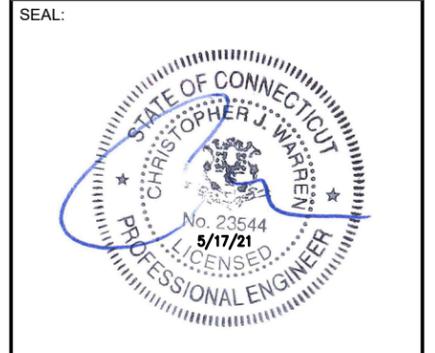
**1** EQUIPMENT SPECIFICATIONS  
SCALE: N.T.S.



**INFINIGY**  
ENGINEERING, PLLC  
1033 WATERVLIET SHAKER ROAD  
ALBANY, NY 12205

REV.	DESCRIPTION	BY	DATE
A	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
SITE ADDRESS:  
1375 NORTH ROAD  
DAYVILLE, CT 06241

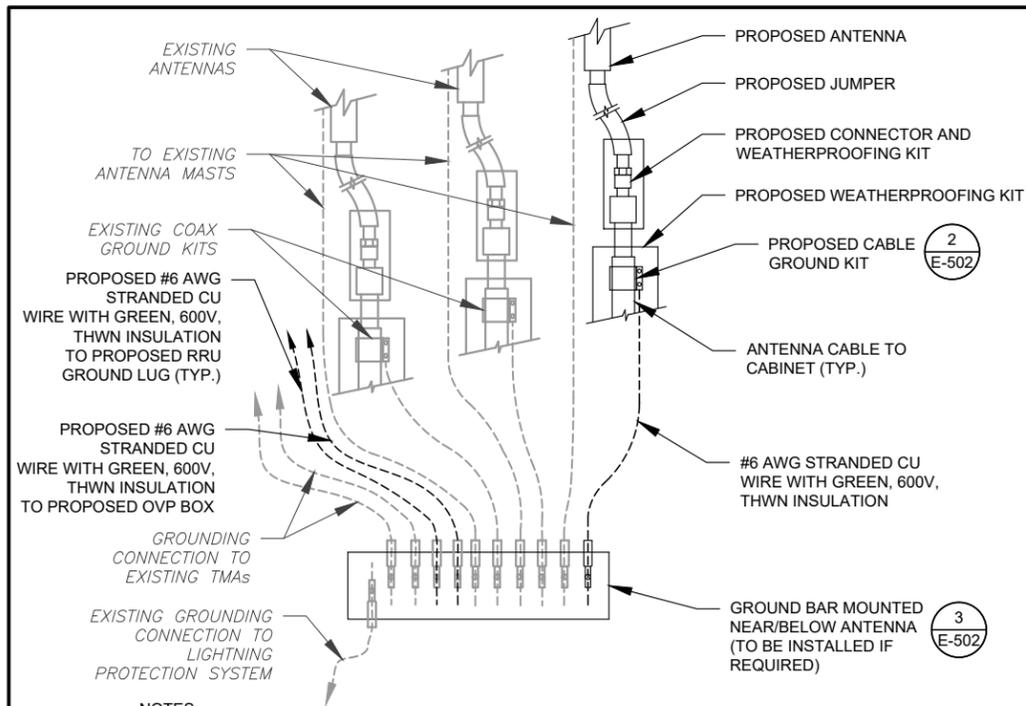


DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**EQUIPMENT SPECIFICATIONS**

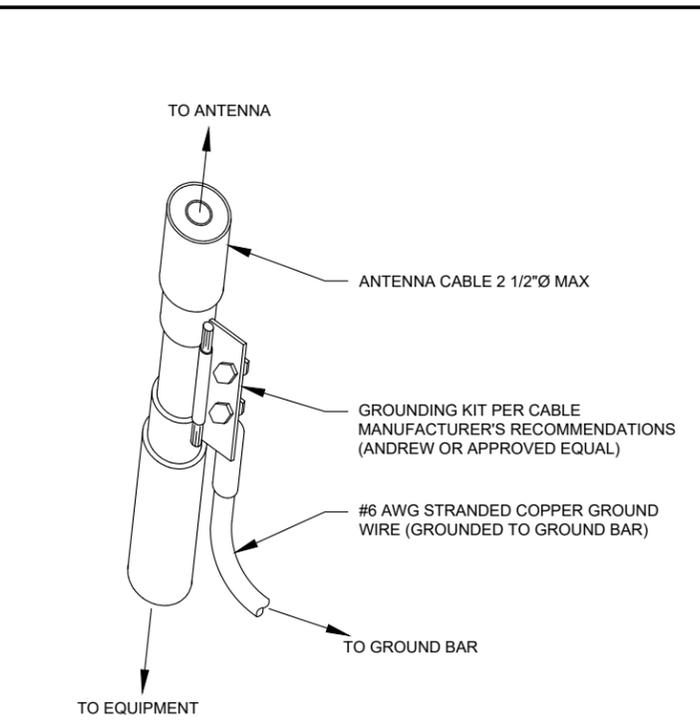
SHEET NUMBER:	REVISION:
<b>C-502</b>	<b>0</b>

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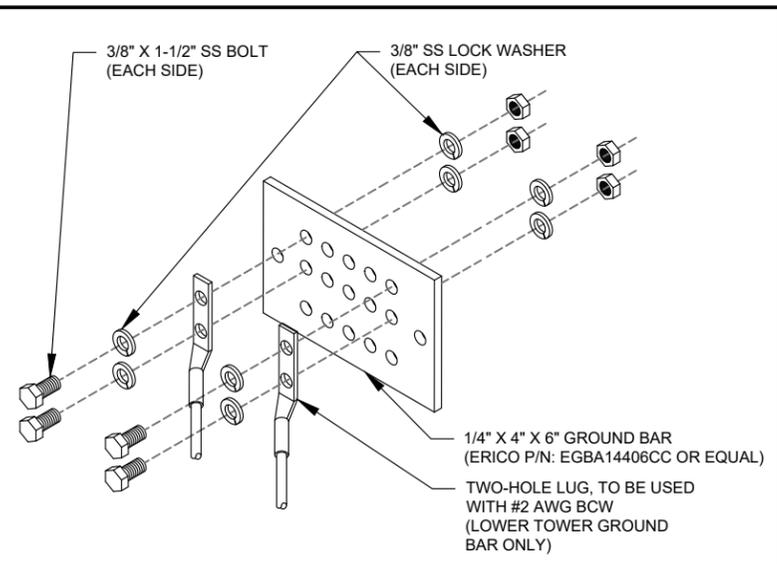
- NOTES:**
- THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
  - SITE GROUNDING SHALL COMPLY WITH AT&T MOBILITY GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T MOBILITY 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.



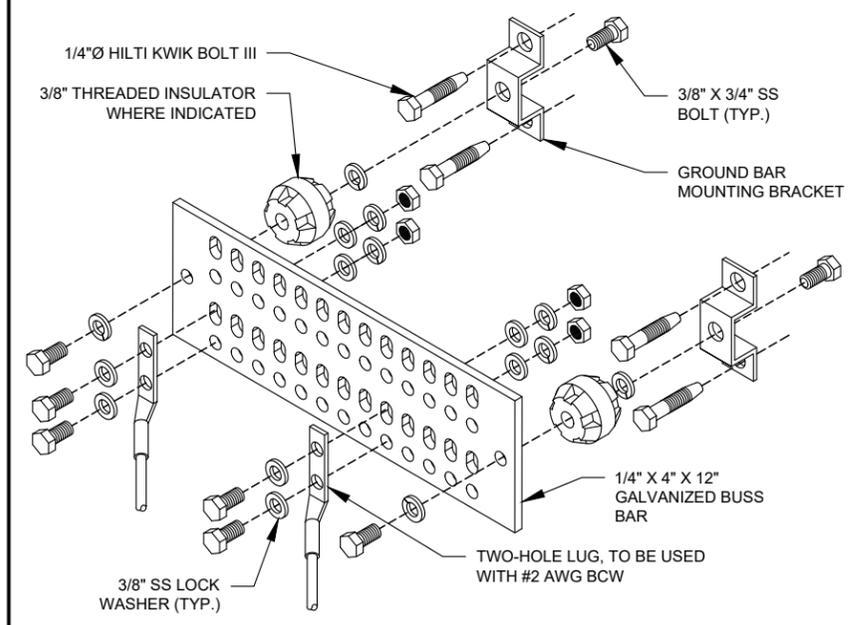
- GROUND KIT NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
  - CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

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



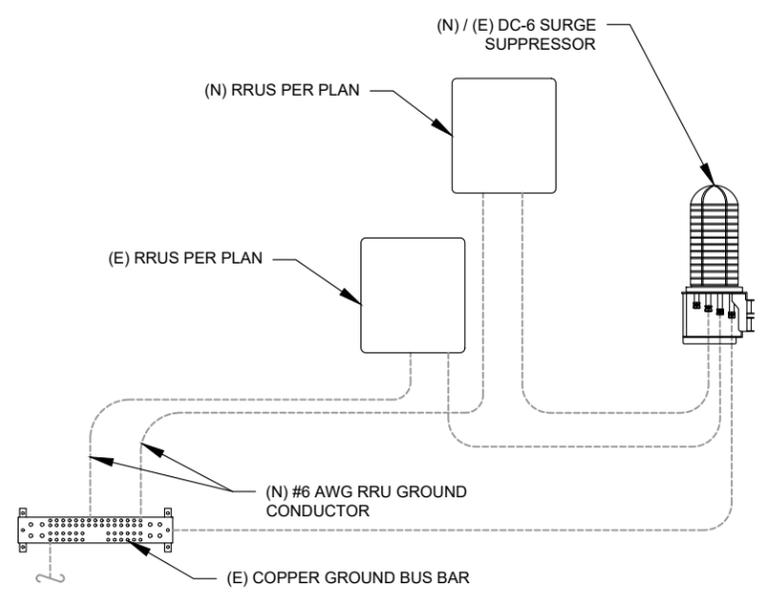
- GROUND BAR NOTES:**
- GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
  - GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

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

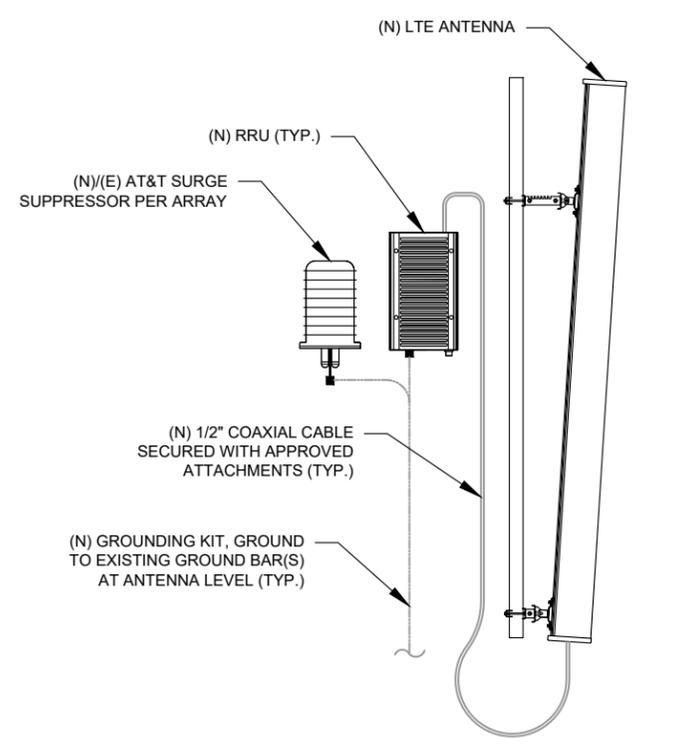


- GROUND BAR NOTES**
- GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
  - GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

**4 MAIN GROUND BAR DETAIL**  
SCALE: N.T.S.



**5 RRU GROUNDING**  
SCALE: N.T.S.



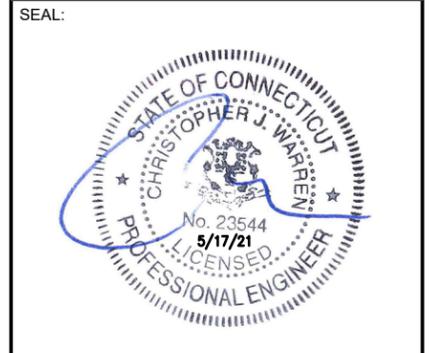
**6 ANTENNA/RRU GROUNDING**  
SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
SITE ADDRESS:  
1375 NORTH ROAD  
DAYVILLE, CT 06241



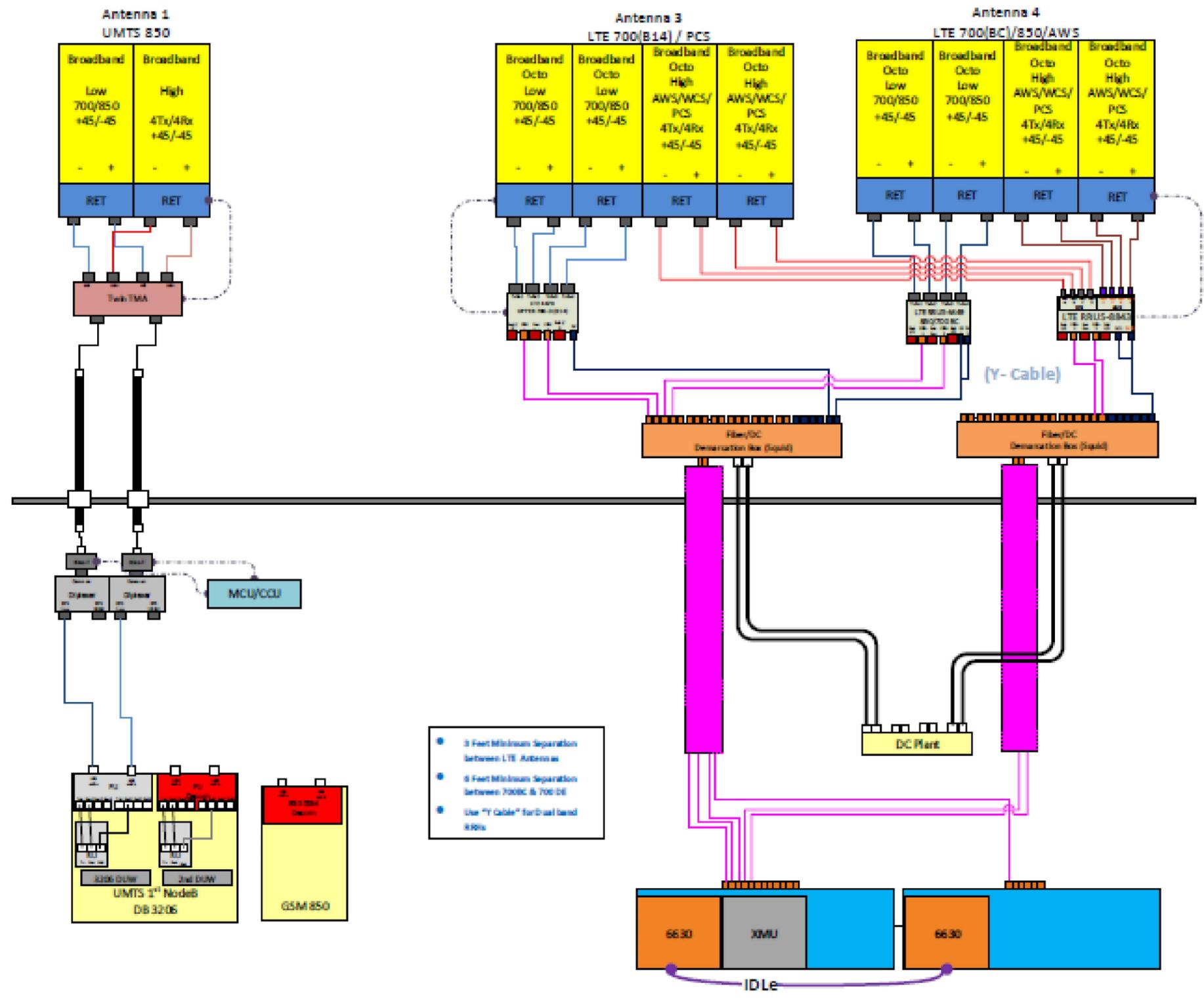
DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**GROUNDING DETAILS**

SHEET NUMBER: <b>E-501</b>	REVISION: <b>0</b>
-------------------------------	-----------------------

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Diagram - Sector A      Diagram File Name - CT1289\_A\_C\_LTE Multi Carrier\_BrStd\_Rev1.vsd  
 Atoll Site Name - CT1289      Location Name - KILLINGLY CT NORTH ROAD DAS ISE      Market - CONNECTICUT      Market Cluster - NEW ENGLAND  
 Comments: "Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna\_Radio Connection Drawings Playbook v6.0\_Ericsson"



- 3 Feet Minimum Separation between LTE Antennas
- 6 Feet Minimum Separation between 700(B1) & 700(B14)
- Use "Y Cable" for Dual Band 850s

1 PLUMBING DIAGRAM (ALPHA SECTOR)      SCALE: N.T.S.

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.



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REV.	DESCRIPTION	BY	DATE
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1	FOR CONSTRUCTION	EDZ	05/15/21

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**FOR REFERENCE ONLY**



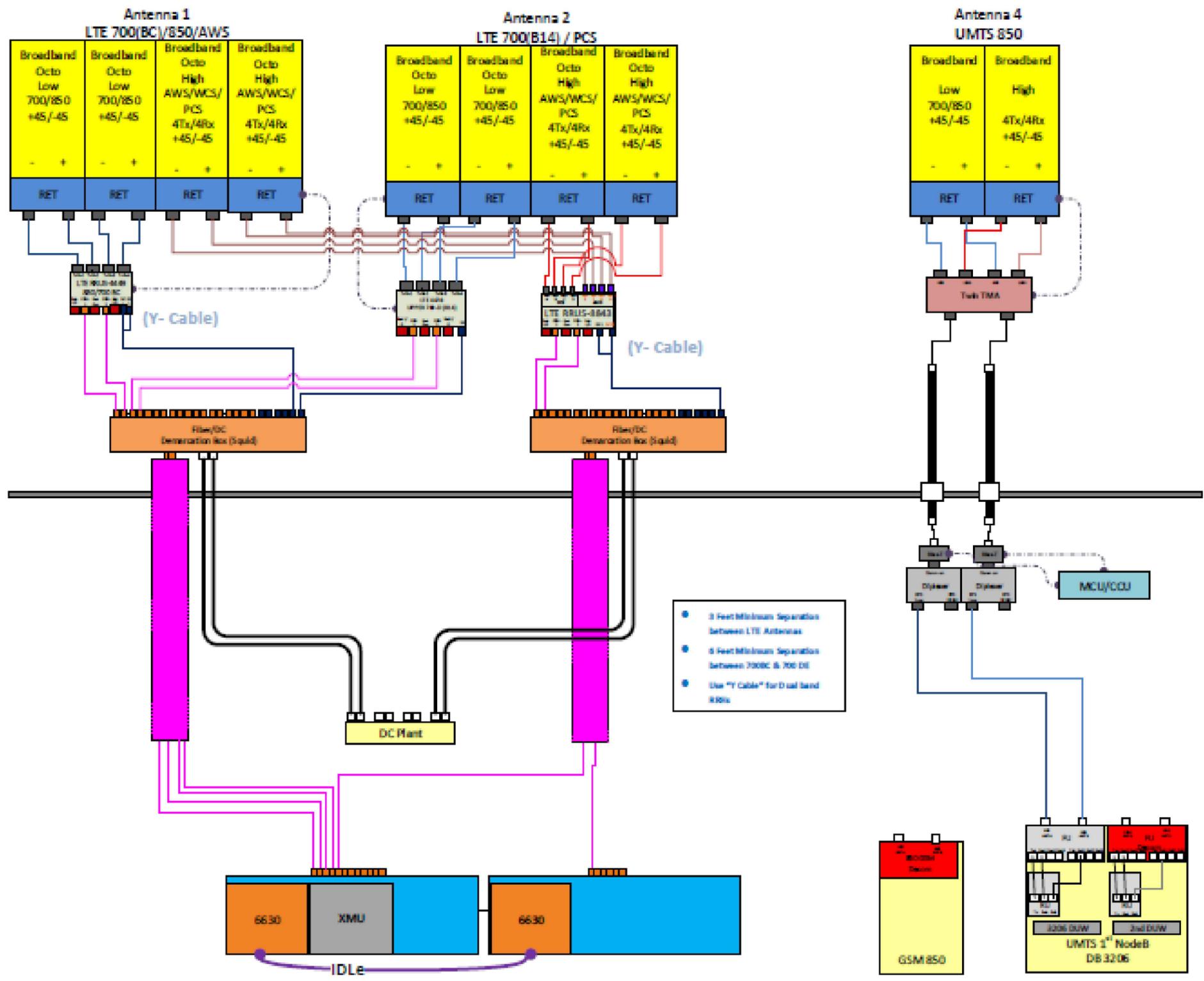
DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
<b>R-601</b>	<b>0</b>

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Diagram - Sector B Diagram File Name - CT1289\_B\_LTE Multi Carrier\_BrStd\_Rev1.vsd  
 Atoll Site Name - CT1289 Location Name - KILLINGLY CT NORTH Market - CONNECTICUT Market Cluster - NEW ENGLAND  
 Comments: \*Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna\_Radio Connection Drawings Playbook v6.0\_Ericsson\*



1 PLUMBING DIAGRAM (BETA SECTOR) SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
0	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
 ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
 AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
 SITE ADDRESS:  
 1375 NORTH ROAD  
 DAYVILLE, CT 06241

**FOR REFERENCE ONLY**



DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

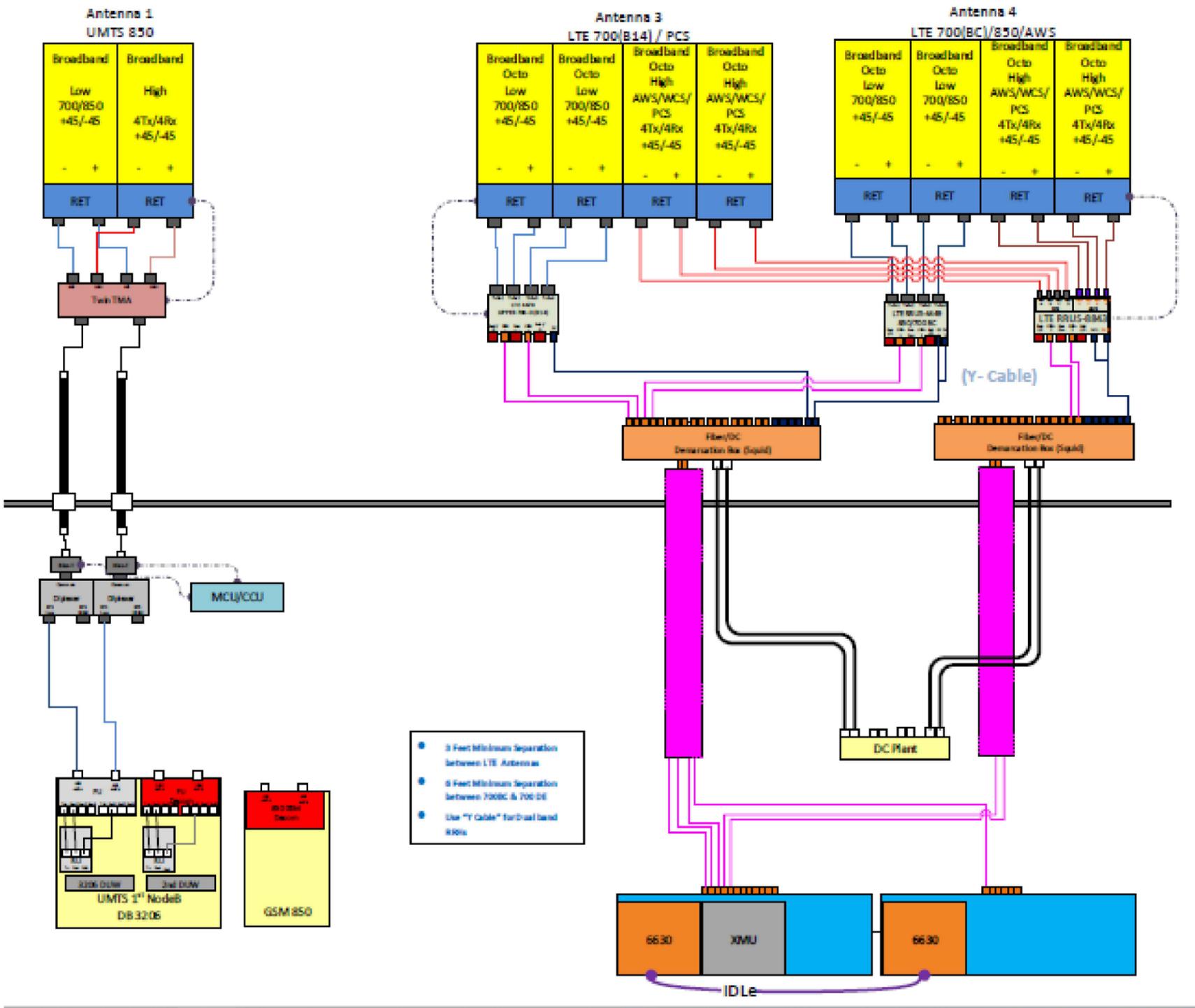
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
<b>R-602</b>	<b>0</b>

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Diagram - Sector C      Diagram File Name - CT1289\_A\_C\_LTE Multi Carrier\_BrStd\_Rev1.vsd  
 Atoll Site Name - CT1289      Location Name - KILLINGLY CT NORTH ROAD DAS ISE      Market - CONNECTICUT      Market Cluster - NEW ENGLAND  
 Comments: "Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna\_Radio Connection Drawings Playbook v6.0\_Ericsson"



1 PLUMBING DIAGRAM (GAMMA SECTOR)      SCALE: N.T.S.

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REV.	DESCRIPTION	BY	DATE
0	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
 ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
 AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
 SITE ADDRESS:  
1375 NORTH ROAD  
DAYVILLE, CT 06241

**FOR REFERENCE ONLY**



DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
<b>R-603</b>	<b>0</b>

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Eng. Number 13320909\_C8\_01  
December 23, 2020  
Page 1

## Antenna Mount Analysis Report

ATC Site Name : EAST KILLINGLY NORTH, CT  
 ATC Site Number : 88011  
 Engineering Number : 13320909\_C8\_01  
 Mount Elevation : 246 ft  
 Carrier : AT&T Mobility  
 Carrier Site Name : MRCTB048458  
 Carrier Site Number : CTL01289  
 Site Location : 1375 North Road  
 Killingly, CT 06241-1404  
 41.871525, -71.82154444  
 County : Windham  
 Date : December 23, 2020  
 Max Usage : 187%  
 Result : Fail

Prepared By:  
Kyle Sammarco  
Structural Engineer

Reviewed By:



Authorized by "EOR"  
23 Dec 2020 08:52:18  
cosign

COA: PEC.0001553

### Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 246 ft.

### Supporting Documents

Mount Mapping	ETS Project #203063.IE.01, dated October 26, 2020
Radio Frequency Data Sheet	RFDS ID #10141309, dated August 21, 2020
Reference Photos	Site photos from 2020

### Analysis

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

Basic Wind Speed:	122 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.186, S1 = 0.053
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

### Conclusion

Based on the analysis results, the antenna mount does not meet the requirements per the applicable codes listed above. The mount can support the equipment as described in this report after the modifications listed below are completed:

- Reinforce mount face horizontals.
- Reinforce mount support arm horizontals.
- Space mount pipes as shown to accommodate carrier separation requirements.

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



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REV.	DESCRIPTION	BY	DATE
0	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
88011  
ATC SITE NAME:  
EAST KILLINGLY NORTH  
AT&T MOBILITY SITE NAME:  
MRCTB048458  
SITE ADDRESS:  
1375 NORTH ROAD  
DAYVILLE, CT 06241

**FOR  
REFERENCE  
ONLY**



DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

SUPPLEMENTAL

SHEET NUMBER:  
**R-604**  
REVISION:  
**0**



**SITE NAME: EAST KILLINGLY NORTH**  
**SITE NUMBER: 88011**  
**ATC PROJECT NUMBER: 13320909\_C9\_08**  
**SITE ADDRESS: 1375 NORTH ROAD**  
**KILLINGLY, CT 06241**



**A.T. ENGINEERING SERVICE, PLLC**  
 3500 REGENCY PARKWAY  
 SUITE 100  
 CARY, NC 27518  
 PHONE: (919) 468-0112  
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
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REV.	DESCRIPTION	BY	DATE
0	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

**MOUNT REINFORCEMENT DRAWINGS  
 PREPARED FOR AT&T MOBILITY**

ATC SITE NUMBER:  
**88011**  
 ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
**CONNECTICUT**  
 SITE ADDRESS:  
 1375 NORTH ROAD  
 KILLINGLY, CT 06241

ATC SITE NUMBER:  
**88011**  
 ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
 AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
 SITE ADDRESS:  
 1375 NORTH ROAD  
 DAYVILLE, CT 06241



Authorized by "EOR"  
 26 Apr 2021 09:30:54 cosign

DRAWN BY: NYG  
 APPROVED BY: TCR  
 DATE DRAWN: 04/22/21  
 ATC JOB NO: 13320909\_C9\_08

COVER

SHEET NUMBER: <b>G-001</b>	REVISION: <b>0</b>
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**FOR REFERENCE ONLY**

DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

PROJECT TEAM	PROJECT DESCRIPTION	SHEET	SHEET TITLE	REV.	
<p><b>TOWER OWNER</b>            AMERICAN TOWER            10 PRESIDENTIAL WAY            WOBURN, MA 01801</p> <p><b>ENGINEERED BY</b>            ATC TOWER SERVICES            3500 REGENCY PARKWAY, SUITE 100            CARY, NC 27518</p> <p><b>CARRIER INFORMATION</b>            CARRIER: AT&amp;T MOBILITY            CARRIER SITE NAME: MRCTB048458            CARRIER SITE NUMBER: CTL01289</p>	<p>THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE MOUNT ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER 13320909_C8_07 DATED 03/09/21. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE MOUNT MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE MOUNT ANALYSIS WAS COMPLETED.</p> <p><b>COMPLIANCE CODE</b></p> <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. ANSITIA/EIA: STRUCTURAL STANDARDS (222-H EDITION)            2. INTERNATIONAL BUILDING CODE (2015 IBC)            3. CONNECTICUT STATE BUILDING CODE (2018)</p> <p><b>PROJECT LOCATION</b></p> <p><b>GEOGRAPHIC COORDINATES</b>            LATITUDE: 41.871525            LONGITUDE: -71.82154444</p>	G-002	IBC GENERAL NOTES AND MOUNT MODIFICATION INSPECTION	0	
		S-101	T-ARM SECTOR FRAME MOUNT REINFORCEMENT INSTALLATION DETAILS	0	
		S-102	SUPPLEMENTAL	0	
		R-601	SUPPLEMENTAL	0	
		R-602	SUPPLEMENTAL	0	
		R-901	SUPPLEMENTAL	0	
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		R-903	SUPPLEMENTAL	0	

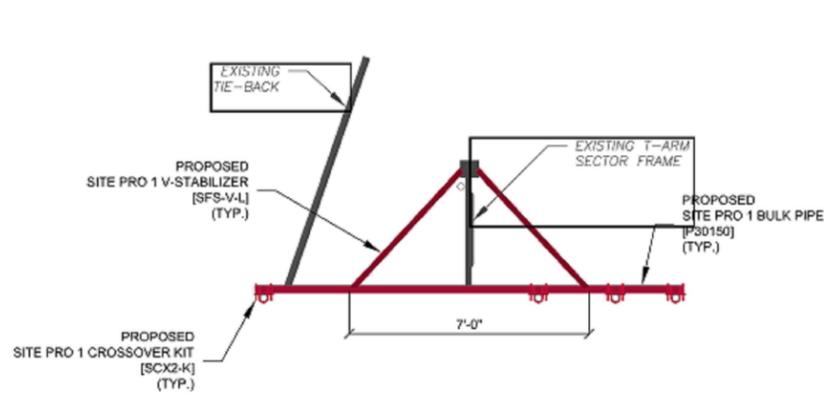
1 MOUNT MODIFICATIONS  
 SCALE: N.T.S.

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

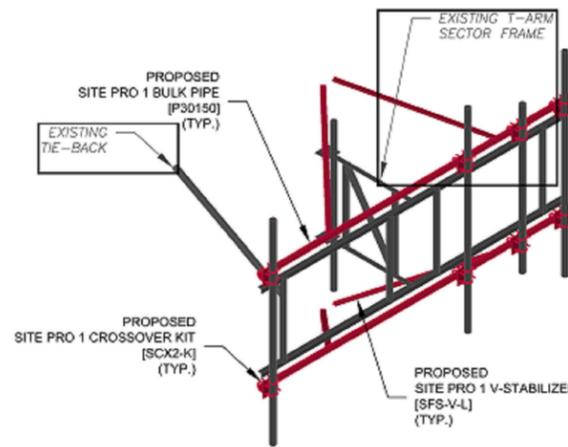
**SUPPLEMENTAL**

SHEET NUMBER: <b>R-605</b>	REVISION: <b>0</b>
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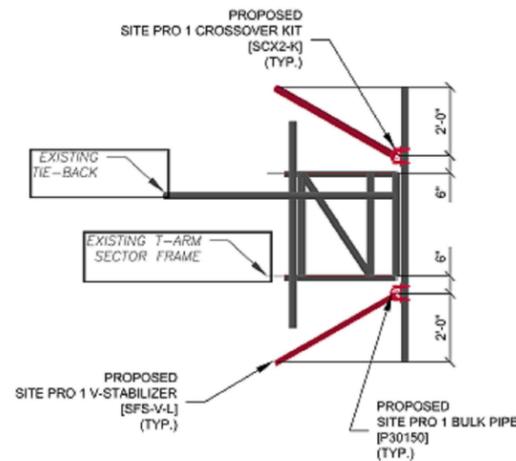


MOUNT MODIFICATION - TOP VIEW

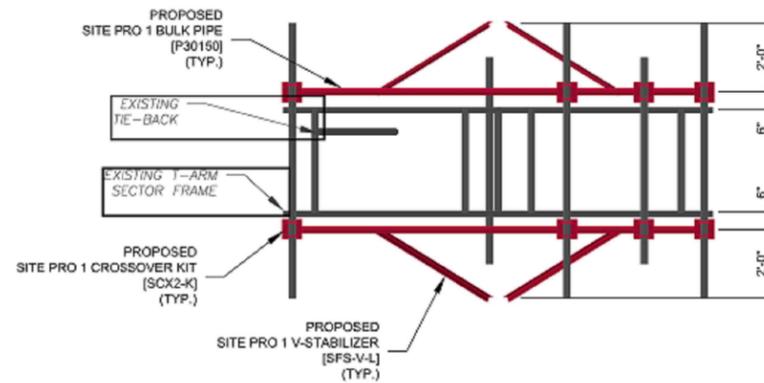


MOUNT MODIFICATION - ISOMETRIC VIEW

NOTE(S):  
1. SITE PRO 1 PIN: [SFS-V-L] TO BE FIELD CUT TO 5'-4".



MOUNT MODIFICATION - SIDE VIEW



MOUNT MODIFICATION - FRONT VIEW

NOTE:  
IN THE EVENT A PROPOSED MODIFICATION PART LISTED IN THE DRAWINGS IS NOT AVAILABLE, AN APPROVED EQUIVALENT CAN BE SUBSTITUTED. FOR APPROVAL OF EQUIVALENT PART OR QUESTIONS PLEASE CONTACT AMERICAN TOWER PMI INBOX AT PMI@AMERICANTOWER.COM.

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	NG	04/22/21

ATC SITE NUMBER:  
**88011**  
ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
CONNECTICUT  
SITE ADDRESS:  
1375 NORTH ROAD  
KILLINGLY, CT 06241



Authorized by "EOR"  
26 Apr 2021 09:30:55 cosign

DRAWN BY:	NYG
APPROVED BY:	TCR
DATE DRAWN:	04/22/21
ATC JOB NO:	13320909_C9_08

T-ARM SECTOR FRAME  
MOUNT REINFORCEMENT  
INSTALLATION DETAILS

SHEET NUMBER:	REVISION:
<b>S-101</b>	<b>0</b>



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REV.	DESCRIPTION	BY	DATE
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0	FOR CONSTRUCTION	EDZ	05/15/21

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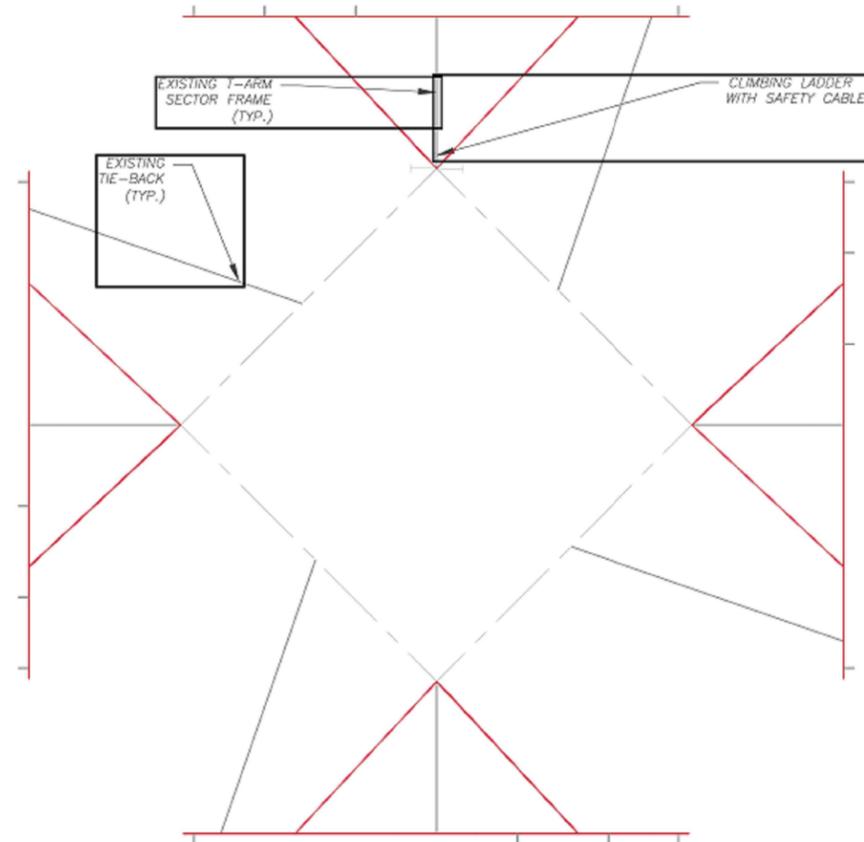
DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
<b>R-606</b>	<b>0</b>

**1 MOUNT MODIFICATIONS**  
SCALE: N.T.S.

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.



SAFETY CLIMB LOCATION



NOTE:  
 CONTRACTOR TO INSTALL MOUNT MODIFICATIONS PER THE MANUFACTURERS SPECIFICATION. MODIFICATIONS SHALL NOT OBSTRUCT, INTERFERE, OR BLOCK EXISTING SAFETY CLIMB SYSTEM. IF ANY OF THESE OCCURS DURING INSTALLATION CONTACT THE AMERICAN TOWER PMI INBOX PMI@AMERICANTOWER.COM

**AMERICAN TOWER®**  
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 3500 REGENCY PARKWAY  
 SUITE 100  
 CARY, NC 27518  
 PHONE: (919) 468-0112  
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	NG	04/22/21

ATC SITE NUMBER:  
**88011**  
 ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
**CONNECTICUT**  
 SITE ADDRESS:  
 1375 NORTH ROAD  
 KILLINGLY, CT 06241



Authorized by "EOR"  
 26 Apr 2021 09:30:55 **cosign**

DRAWN BY:	NYG
APPROVED BY:	TCR
DATE DRAWN:	04/22/21
ATC JOB NO:	13320909_C9_08

COVER	
SHEET NUMBER:	REVISION:
<b>S-102</b>	<b>0</b>



**INFINIGY®**  
 ENGINEERING, PLLC  
 1033 WATERLIET SHAKER ROAD  
 ALBANY, NY 12205

REV.	DESCRIPTION	BY	DATE
0	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
 ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
 AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
 SITE ADDRESS:  
 1375 NORTH ROAD  
 DAYVILLE, CT 06241

**FOR REFERENCE ONLY**



DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
<b>R-607</b>	<b>0</b>

1 MOUNT MODIFICATIONS  
 SCALE: N.T.S.

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REV.	DESCRIPTION	BY	DATE
0	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
SITE ADDRESS:  
1375 NORTH ROAD  
DAYVILLE, CT 06241

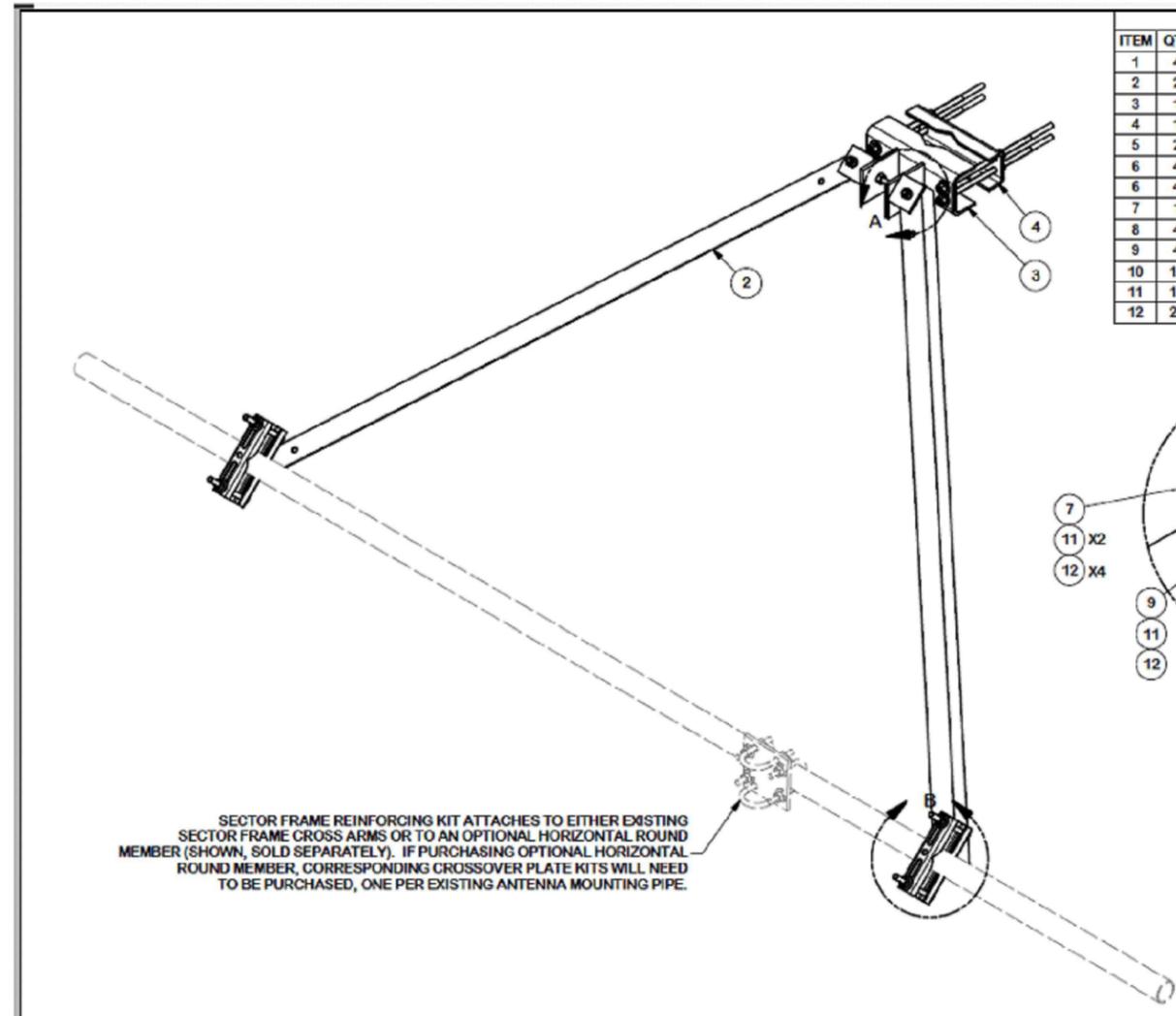
**FOR  
REFERENCE  
ONLY**



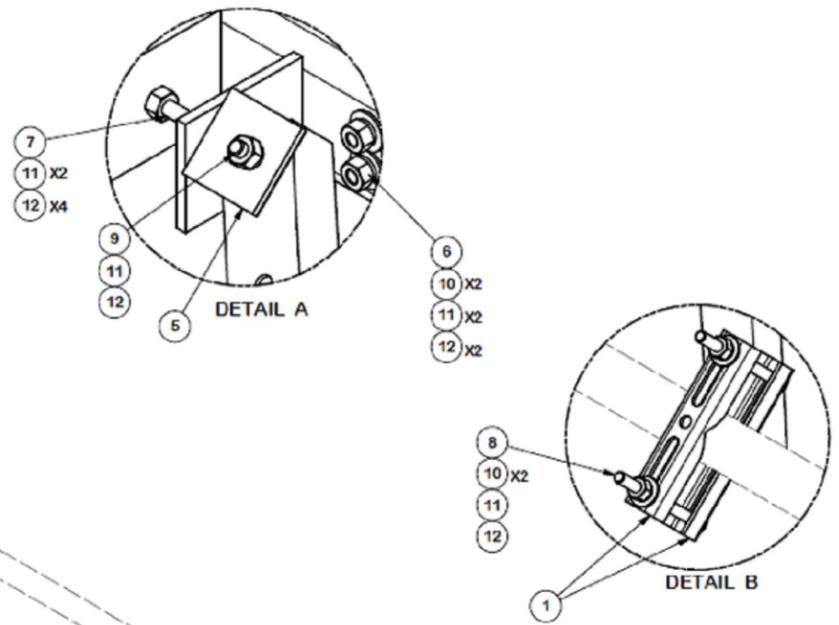
DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**SUPPLEMENTAL**

SHEET NUMBER:  
**R-608**  
REVISION:  
**0**



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-STU	STIFF ARM CHANNEL BRACKET	8 1/2 in	1.37	5.49
2	2	X-254924	DIAGONAL ANGLE - SITE PRO 1	72 in	19.71	39.41
3	1	CFS	LOWER GATE FOOT WELDMENT		12.72	12.72
4	1	GBB	GATE BACKING BAR	11 1/2 in	4.53	4.53
5	2	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	3.72
6	4	G12R-15	1/2" x 15" THREADED ROD (HDG.)		0.40	1.60
6	4	G12R-12	1/2" x 12" THREADED ROD (HDG.)		0.40	1.60
7	1	G12R-6	1/2" x 6" GALV. THREADED ROD		0.33	0.33
8	4	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	1.64
9	4	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1/2 in	0.15	0.59
10	16	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.55
11	18	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.25
12	20	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.43
<b>TOTAL WT. #</b>						<b>76.65</b>



SECTOR FRAME REINFORCING KIT ATTACHES TO EITHER EXISTING SECTOR FRAME CROSS ARMS OR TO AN OPTIONAL HORIZONTAL ROUND MEMBER (SHOWN, SOLD SEPARATELY). IF PURCHASING OPTIONAL HORIZONTAL ROUND MEMBER, CORRESPONDING CROSSOVER PLATE KITS WILL NEED TO BE PURCHASED, ONE PER EXISTING ANTENNA MOUNTING PIPE.

**TOLERANCE NOTES**  
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")  
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES  
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES  
BENDS ARE ± 1/2 DEGREE  
ALL OTHER MACHINING (± 0.030")  
ALL OTHER ASSEMBLY (± 0.060")

DESCRIPTION <b>SECTOR FRAME STABILIZER - VERTICAL LONG</b>			Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX Engineering Support Team: 1-888-753-7446	
CPD NO. 5563	DRAWN BY CEK	ENG. APPROVAL 3/23/2017	PART NO. <b>SFS-V-L</b>	1 OF 3 PAGE
CLASS 81	SUB 01	DRAWING USAGE CUSTOMER	CHECKED BY BMC	
PROPRIETARY NOTE: THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.			DWG. NO. <b>SFS-V-L</b>	

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	5563	BC	10/25/2017

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26 Apr 2021 09:30:55

SUPPLEMENTAL  
SHEET NUMBER:  
**R-601**  
REVISION:  
**0**

1 MOUNT MODIFICATIONS  
SCALE: N.T.S.

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1033 WATERLIET SHAKER ROAD  
ALBANY, NY 12205

REV.	DESCRIPTION	BY	DATE
0	PRELIM	BHE	01/21/21
0	FOR CONSTRUCTION	EDZ	05/15/21

ATC SITE NUMBER:  
**88011**  
ATC SITE NAME:  
**EAST KILLINGLY NORTH**  
AT&T MOBILITY SITE NAME:  
**MRCTB048458**  
SITE ADDRESS:  
1375 NORTH ROAD  
DAYVILLE, CT 06241

**FOR  
REFERENCE  
ONLY**

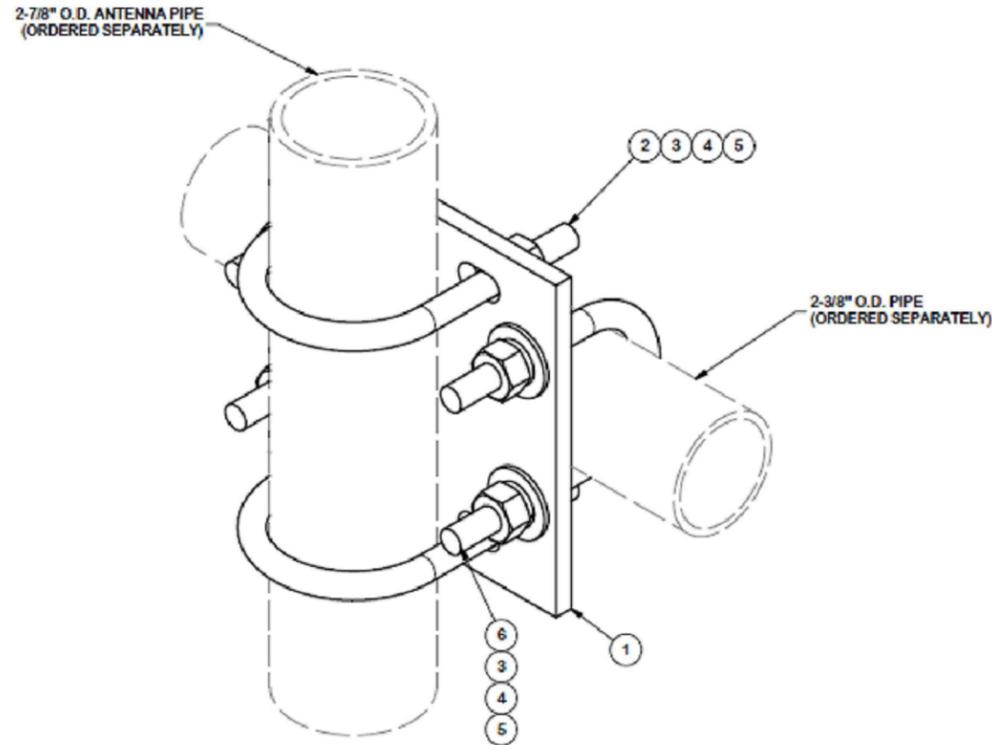


DATE DRAWN:	01/21/21
ATC JOB NO:	13320909
CUSTOMER ID:	MRCTB048458
CUSTOMER #:	CTL01289

**SUPPLEMENTAL**

SHEET NUMBER:  
**R-609**      REVISION:  
**0**

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX2	CROSSOVER PLATE	7 in	4.80	4.80
2	2	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.66	1.31
3	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
4	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
5	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
6	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	1.25
TOTAL WT. #						8.39



**TOLERANCE NOTES**  
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030$ )  
DRILLED AND GAS CUT HOLES ( $\pm 0.030$ ) - NO CONING OF HOLES  
LASER CUT EDGES AND HOLES ( $\pm 0.010$ ) - NO CONING OF HOLES  
BENDS ARE  $\pm 1/2$  DEGREE  
ALL OTHER MACHINING ( $\pm 0.030$ )  
ALL OTHER ASSEMBLY ( $\pm 0.060$ )

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DESCRIPTION  
**CROSSOVER  
PLATE  
KIT**

**SITE PRO**  
A valmont COMPANY  
Locations:  
New York, NY  
Atlanta, GA  
Los Angeles, CA  
Plymouth, IN  
Salem, OR  
Dallas, TX  
Engineering  
Support Team:  
1-888-753-7446

CPD NO.	DRAWN BY <b>CEK</b>	ENG. APPROVAL	PART NO. <b>SCX2-K</b>	1 OF 1 PAGES
CLASS	DRAWING USAGE <b>SHOP</b>	CHECKED BY <b>BMC</b>	DWG. NO. <b>SCX2-K</b>	

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26 Apr 2021 09:30:55

SUPPLEMENTAL

SHEET NUMBER:  
**R-602**      REVISION:  
**0**

1 MOUNT MODIFICATIONS  
SCALE: N.T.S.

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# Exhibit D

## Structural Analysis Report

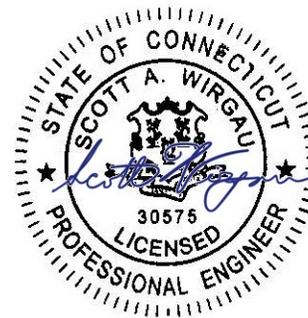


**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 287.5 ft Self Supported Tower  
**ATC Site Name** : EAST KILLINGLY NORTH, CT  
**ATC Asset Number** : 88011  
**Engineering Number** : 13320909\_C3\_03  
**Proposed Carrier** : AT&T MOBILITY  
**Carrier Site Name** : MRCTB048458  
**Carrier Site Number** : CTL01289  
**Site Location** : 1375 North Road  
Killingly, CT 06241-1404  
41.871500,-71.821500  
**County** : Windham  
**Date** : December 22, 2020  
**Max Usage** : 89%  
**Result** : Pass



Prepared By:  
Adam Pittman  
Structural Engineer II

Reviewed By:

*Adam Pittman*

**COA: PEC.0001553**



**Table of Contents**

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Supporting Documents .....	1
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Calculations .....	Attached



## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 287.5 ft self supported tower to reflect the change in loading by AT&T MOBILITY.

## Supporting Documents

<b>Tower Drawings</b>	CSEI Analysis, ATC Eng. #26726321, dated September 13, 2006
<b>Foundation Drawing</b>	CSEI Analysis, ATC Eng. #26726321, dated September 13, 2006
<b>Geotechnical Report</b>	FDH Velocitel Project #17PXNW1600, dated February 27, 2017
<b>Modifications</b>	ATC Project #45432633, dated July 9, 2010 ATC Project #OAA686695_C6_04, dated November 28, 2016

## Analysis

The tower was analyzed using Power Lines Systems INC., tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

<b>Basic Wind Speed:</b>	122 mph (3-Second Gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 1" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	B
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft

## Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation 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](mailto:Engineering@americantower.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

**Existing and Reserved Equipment**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier
306.0	3	Commscope NNVV-65B-R4	Side Arm	(4) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
	3	RFS APXVTM14-ALU-I20			
	6	Alcatel-Lucent RRH2x50-08			
291.0	-	-	-	(6) 1 5/8" Coax	
290.0	1	Procom CXL 900-3LW	Side Arm	(1) 7/8" Coax	SIGFOX S.A.
	1	Generic 5" x 3" x 2" Cavity Filter			
	1	Generic Low Noise Amplifier			
277.0	4	RFS APXVAARR24_43-U-NA20	Sector Frame	(4) 1 1/4" Hybriflex Cable (4) 1 5/8" Hybriflex (1) 1/2" Coax	T-MOBILE
	4	Ericsson AIR32 B66Aa/B2a			
	1	Commscope SHP2-13			
	4	Ericsson RRUS 11 B4			
	4	Ericsson RRUS 11 B12			
	4	Ericsson RRUS 4415 B25			
	4	Ericsson Radio 4478 B71			
	4	Commscope CBC6AE7LQ-DS-43			
	4	Commscope CBC1923Q-43			
	4	Ericsson Air6449 B41			
	266.0	3			
1		Raycap RC3DC-3315-PF-48			
6		Amphenol Antel LPA-80063-4CF-EDIN-X			
2		Commscope JAHH-65B-R3B			
3		Samsung B5/B13 RRH-BR04C			
4		Commscope JAHH-45B-R3B			
3		Commscope CBC78T-DS-43-2X			
246.0	-	-	-	(1) 0.39" (10mm) Fiber Trunk (6) 2 1/4" Coax	AT&T MOBILITY
210.5	1	Andrew DB264	Leg/Flush	(1) 7/8" Coax	US DEPT OF JUSTICE
50.0	1	MicroPulse GPS-QBW-26N	Leg/Flush	(1) 1/2" Coax	VERIZON WIRELESS

**Equipment to be Removed**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier
246.0	6	Powerwave Allgon TT19-08BP111-001	-	(2) 0.78" (19.7mm) 8 AWG 6 (6) 2 1/4" Coax (1) 3" conduit	AT&T MOBILITY
	3	Raycap DC2-48-60-0-9E			
	1	Raycap FC12-PC6-10E (20.35 lb)			
	2	KMW AM-X-CD-17-65-00T-RET (96" Height)			
	6	Powerwave Allgon P65-15-XLH-RR			
	1	Kathrein Scala 800 10766			
	3	Ericsson RRUS-11			



**Proposed Equipment**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier
246.0	6	Powerwave Allgon LGP21901	Sector Frame	(1) 0.39" (10mm) Fiber Trunk (4) 0.82" (20.8mm) 8 AWG 6 (2) 2" conduit	AT&T MOBILITY
	2	Raycap DC6-48-60-18-8F			
	3	Ericsson RRUS 8843 B2, B66A			
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 4449 B5, B12			
	3	Kathrein Scala 800 10122			
	3	CCI DMP65R-BU8D			
	3	CCI OPA65R-BU8D			

<sup>1</sup> Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed coax alongside of the existing AT&T Mobility lines.



### **Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	68%	Pass
Diagonals	89%	Pass
Trussed Diagonals	66%	Pass
Horizontals	56%	Pass
Trussed Horizontals	68%	Pass
Anchor Bolts	44 %	Pass

### **Foundations**

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	292.6	63%
Axial (Kips)	410.6	8%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.



## Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

# Exhibit E

Mount Analysis



**AMERICAN TOWER®**  
CORPORATION

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## Antenna Mount Analysis Report

**ATC Site Name** : EAST KILLINGLY NORTH, CT  
**ATC Site Number** : 88011  
**Engineering Number** : 13320909\_C8\_07  
**Mount Elevation** : 246 ft  
**Carrier** : AT&T Mobility  
**Carrier Site Name** : CTL01289  
**Carrier Site Number** : CTL01289  
**Site Location** : 1375 North Road  
Killingly, CT 06241-1404  
41.871525 , -71.82154444  
**County** : Windham  
**Date** : March 9, 2021  
**Max Usage** : >200%  
**Result** : Fail

Prepared By:  
Max Carter  
Structural Engineer

*Max Carter*

Reviewed By:



**COA: PEC.0001553**



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Analysis ..... 1

Conclusion ..... 1

Antenna Loading..... 2

Structure Usages..... 2

Mount Layout ..... 3

Equipment Layout ..... 4

Standard Conditions..... 6

Calculations ..... Attached



## Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 246 ft.

## Supporting Documents

<b>Mount Mapping</b>	ETS Project #205063.IE.01, dated October 26, 2020
<b>Radio Frequency Data Sheet</b>	RFDS ID #CTL01289, dated August 21, 2020
<b>Reference Photos</b>	Site photos from 2020

## Analysis

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

<b>Basic Wind Speed:</b>	122 mph (3-Second Gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 1" radial ice concurrent
<b>Codes:</b>	ANSI/TIA-222-H
<b>Exposure Category:</b>	B
<b>Risk Category:</b>	II
<b>Topographic Factor Procedure:</b>	Method 2
<b>Feature:</b>	Flat
<b>Crest Height (H):</b>	0 ft
<b>Crest Length (L):</b>	0 ft
<b>Spectral Response:</b>	Ss = 0.186, S1 = 0.055
<b>Site Class:</b>	D - Stiff Soil
<b>Live Loads:</b>	Lm = 500 lbs, Lv = 250 lbs

## Conclusion

Based on the analysis results, the antenna mount does not meet the requirements per the applicable codes listed above. Modifications to be designed in subsequent service to address below failures:

- Face horizontals.
- Face verticals.
- Standoff horizontals.
- Install mount pipe E to hold the proposed RRUs. A 2.0" SCH 40 x 72" pipe was proposed in this analysis.
- The rough cost estimate, pre-MOD design, is estimated to be <\$10k. Please note, a more refined cost estimate will be provided as part of the Modification document package.

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



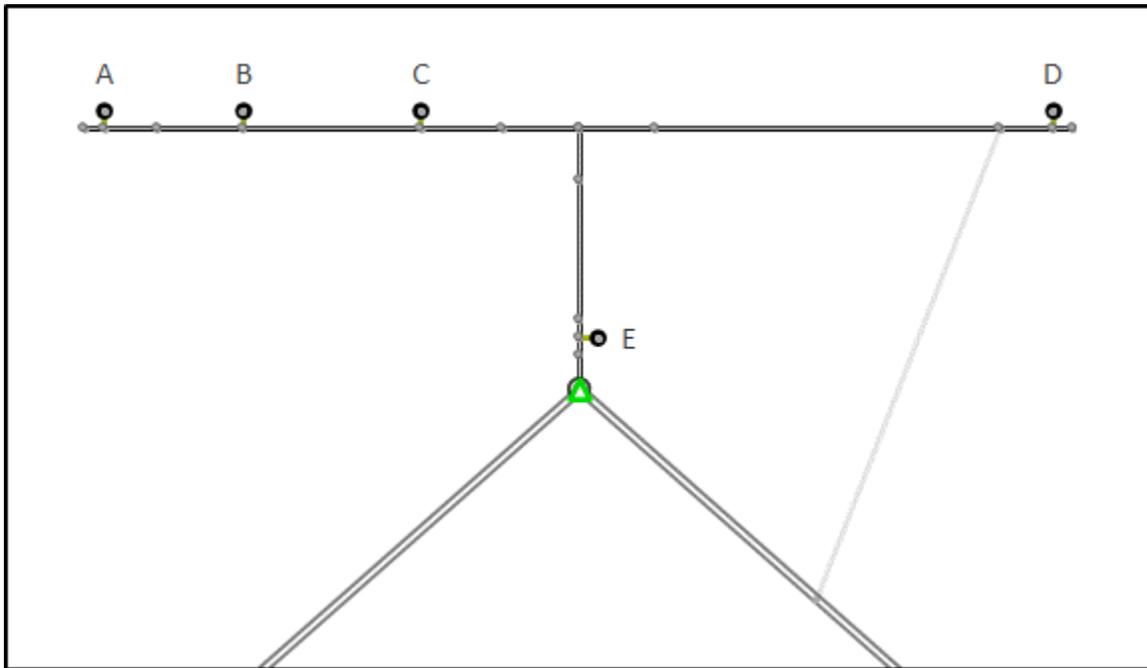
**Application Loading**

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
246.0	246.0	3	Powerwave Allgon P65-16-XLH-RR
		3	CCI OPA65R-BU8D
		3	CCI DMP65R-BU8D
		3	Powerwave Allgon TT19-08BP111-001
		6	Powerwave Allgon LGP21901
		2	Raycap DC6-48-60-18-8F
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 4449 B5, B12
		3	Ericsson RRUS 8843 B2, B66A

**Structure Usages**

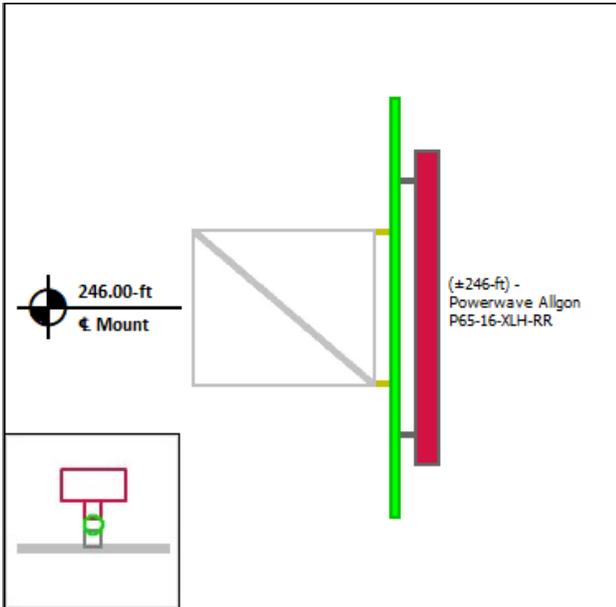
Structural Component	Controlling Usage	Pass/Fail
Horizontals	545%	Fail
Verticals	127%	Fail
Diagonals	28%	Pass
Tie-Backs	6%	Pass
Mount Pipes	55%	Pass

**Mount Layout**

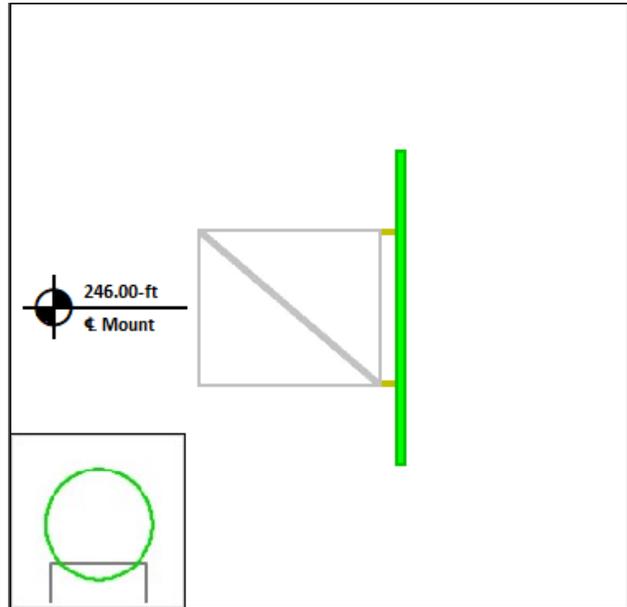


**Equipment Layout**

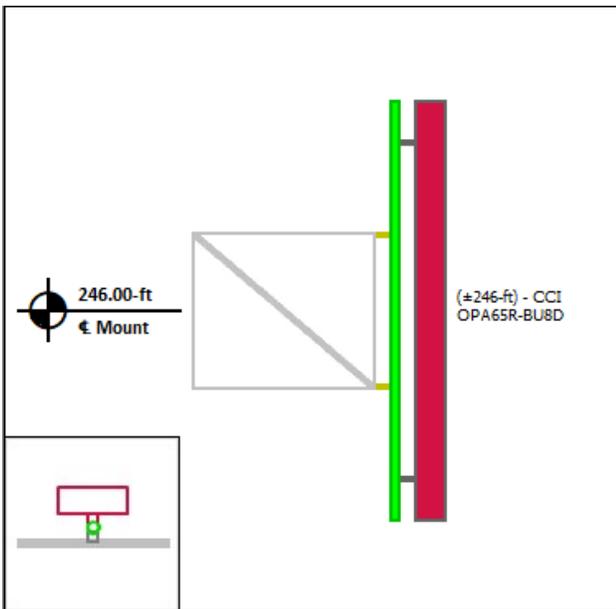
**Mount Pipe A**



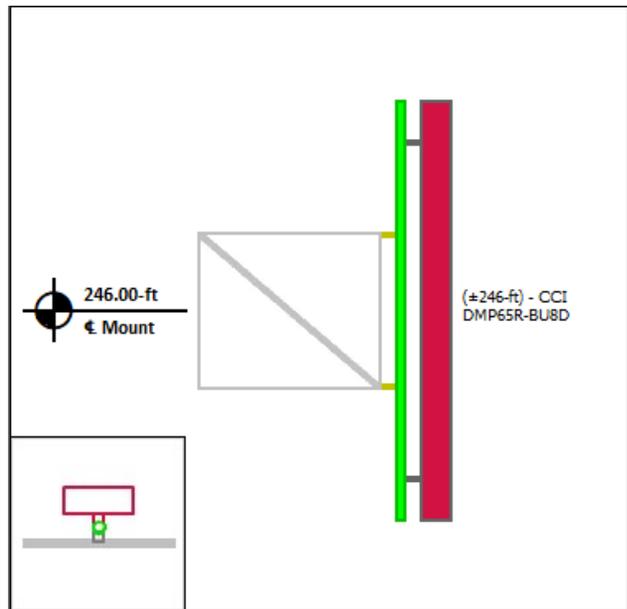
**Mount Pipe B**



**Mount Pipe C**

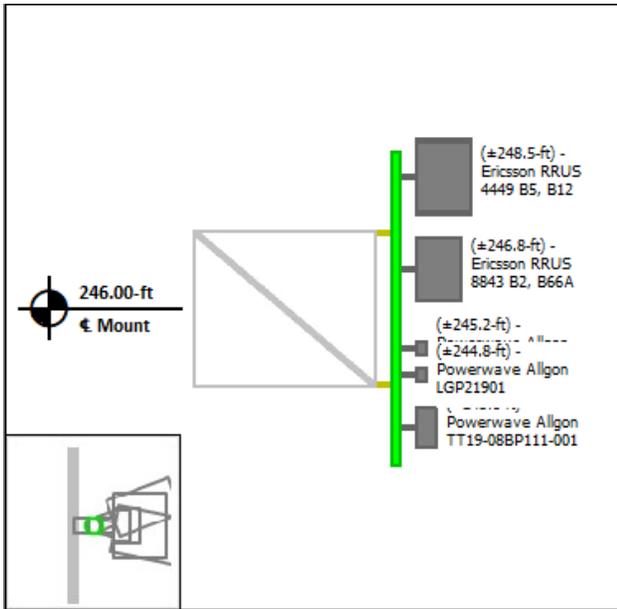


**Mount Pipe D**



**Equipment Layout Cont'd.**

**Mount Pipe E**





### **Standard Conditions**

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

# Exhibit F

NIER/RF Emissions Report



**Lawrence Behr  
Associates** INC  
www.lbagroup.com

# NIER Study Report

SITE NAME:

**88011 East Killingly North**

LOCATION:

**Killingly, Connecticut**

COMPANY:

**American Tower Corporation  
Woburn, Massachusetts**

*March 10, 2021*

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## DISCLAIMER NOTICE

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LAWRENCE BEHR ASSOCIATES, INC.  
GREENVILLE, NORTH CAROLINA

# NIER STUDY REPORT

## 88011 East Killingly North

*Killingly, Connecticut*

### INTRODUCTION

Lawrence Behr Associates, Inc. (LBA) has been retained by American Tower Corporation (ATC) of Woburn, Massachusetts to evaluate the RF emissions of an existing tower at this location.

### SITE AND FACILITY CONSIDERATIONS

Site 88011 East Killingly North is located at 1375 North Road, in Killingly, Connecticut at coordinates 41.87152, -71.82154. The support structure is a 288' self-support. The installation consists of one antenna level with radiation center of 306', 291', 290', 277', 266', 246', and 210.5' above ground level. All antennae will have a radiation center as described above. All data used in this study was provided by one or more of the following sources:

1. ATC furnished data
2. Compiled from carrier and manufacturer standard configurations
3. Empirical data collected by LBA

A satellite view of the study area is located in Appendix 2. The load list may be seen in Appendix 3.

### POWER DENSITY CALCULATIONS

Graphs of the power density at different distances from the transmitter, compared to FCC MPE general population and occupational limits, may be seen in Appendix 7. These limits are based upon the Information Relating to MPE Standards found in Appendix 8. Study methodology may be seen in Appendix 9, which describes the Non-Ionizing Radiation Prediction Models. As long as the site has perimeter fencing of at least 15 feet from the tower base, with signage in compliance with OET-65 and internal vendor compliance, this site WILL BE in compliance with FCC OET-65 MPE limits. This site IS in compliance with FCC OET-65 MPE limits.

March 10, 2021

*Jeutuanna Walston*

Jeutuanna Walston  
Wireless Services Coordinator

# APPENDIX 1

## Executive Summary

This report presents non-ionizing radio frequency (RF) emissions analysis, which predicts the Maximum Permissible Exposure (MPE) potential to humans at or near wireless communication sites. The predicted RF emissions are evaluated against acceptable MPE limits as defined by specific established standards. The analysis then determines if the communications site is in compliance with these standards or other regulations regarding safe human exposure to radio frequency radiation.

The analysis was performed on the ATC\_88011 East Killingly North site/tower. The report consists of Sections that provide details of the communications site, antenna systems, operational frequencies, MPE analysis and associated Appendices.

A summary of the MPE analysis results is depicted in the following Table.

MPE Zone	Max %	Feet	% of Total	Status
Zone 1	20%	0	0	N/A
Zone 2	50%	151	34.55	Pass
Zone 3	75%	286	65.45	Pass
Zone 4	100%	0	0	N/A
Zone 5	150%	0	0	N/A

The *MPE Zone* column represents the five MPE Zone classifications. The *Max %* column indicates the maximum percentage level calculated for that particular Zone.

The *Feet* column indicates the number of feet on a tower or area (square feet) on a rooftop that has MPE levels for that particular Zone. The *% of Total* column indicates the percentage of the total tower height or total area of a rooftop that has MPE levels for that particular Zone.

The *Status* column indicates a Pass or Fail of the analysis for that particular Zone.

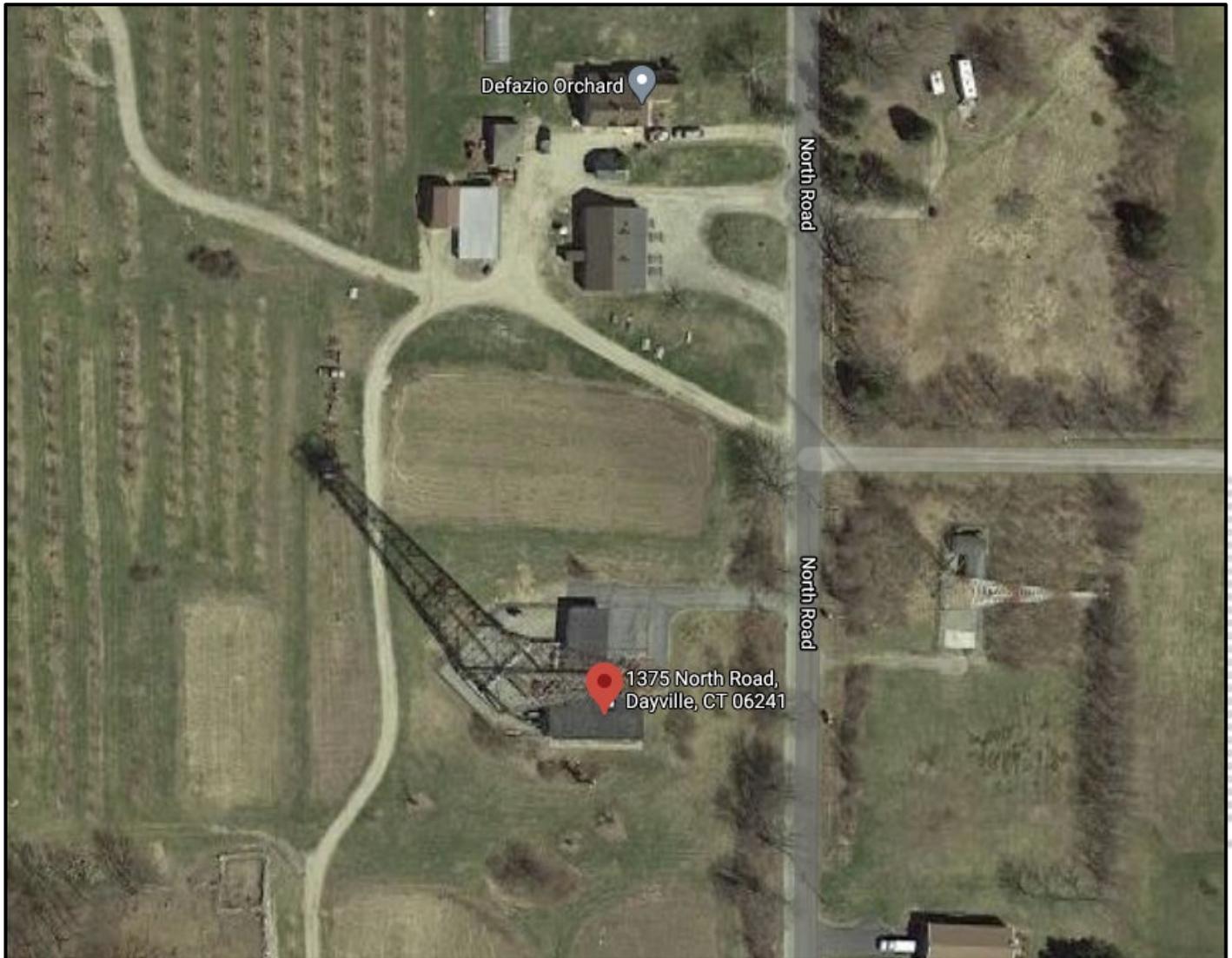
The percentage of exposure in the above Table is a worst-case exposure for the General population.

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## APPENDIX 2

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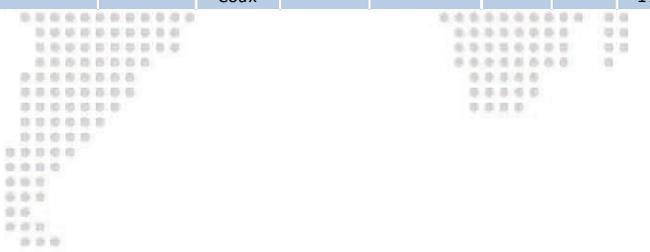
Satellite Photo



# APPENDIX 3

## Load List

Proposed	Customer	RAD Height (ft)	Equipment Quantity	Equipment Type	Manufacturer	Model Number	Line Quantity	Line size	Mount Type	Azimuths	TX Power	ERP	TX Frequency	RX Frequency
No	SPRINT NEXTEL	306	3	PANEL	RFS	APXVTM14-ALU-I20	6	1 5/8" Coax	Side Arm	0/140/240			2496-2690	2496-2690
No	SPRINT NEXTEL	306	3	PANEL	Commscope	NNVV-65B-R4				0/140/240			1850-1995, 806-869	1850-1995, 806-869
No	SPRINT NEXTEL	291	3	PANEL	Generic	72" x 8" Panel	6	1 5/8" Coax	Platform with	0/140/240				
No	SIGFOX S.A.	290	1	OMNI	Procom	CXL 900-3LW			Side Arm	0			905.2	905.2
No	T-MOBILE	277	4	PANEL	Ericsson	AIR32 B66Aa/B2a	4	1 5/8" Hybriflex	Sector Frame	45/135/225/315			1850-1910, 2110-2155	1710-1780, 1930-1990
No	T-MOBILE	277	4	PANEL	Ericsson	Air6449 B41	0		Sector Frame	45/135/225/315			2496-2690	2496-2690
No	T-MOBILE	277	4	PANEL	RFS	APXVAARR2 4_43-U-NA20	0		Sector Frame	45/135/225/315			1850-1910, 2110-2155, 617-652,	1710-1780, 1930-1990, 663-697,
No	T-MOBILE	277	1	DISH-HP		SHP2-13	1	1/2"	Sector	45			2130-2155	1730-1755
No	VERIZON WIRELESS	266	4	PANEL	Commscope	JAHH-45B-R3B			Stand-Off	0/200			185-1970, 2110-2130, 746-757,	1710-1730, 1890-1905, 776-787,
No	VERIZON WIRELESS	266	2	PANEL	Commscope	JAHH-65B-R3B			Stand-Off	280			1970-1985, 2110-2130, 746-757,	1710-1730, 1890-1905, 776-787,
No	VERIZON WIRELESS	266	6	PANEL	Amphenol Antel	LPA-80063-4CF-EDIN-X	6	1 5/8" Coax	Stand-Off	0/185/270			869-880, 890-892	824-835, 845-847
No	AT&T MOBILITY	246	3	PANEL	CCI	DMP65R-BU8D	0		Side Arm	30/150/270			1710-1720, 1730-1735, 704-710, 710-716, 716-722,	2135-2140, 722-728, 734-740, 740-746, 845-846.5,
No	AT&T MOBILITY	246	3	PANEL	CCI	OPA65R-BU8D	0		Side Arm	30/150/270			1850-1865, 704-710, 710-716,	1930-1945, 722-728, 734-740,
No	AT&T MOBILITY	246	3	PANEL	Kathrein Scala	800 10122	6	2 1/4" Coax	Side Arm	30/150/270			824-835, 835-845, 869-880,	845-846.5, 846.5-849, 890-891.5,
No	US DEPT OF JUSTICE	210.5	1	DIPOLE		DB264	1	7/8" Coax		Omni			163.9375, 170.500	



# APPENDIX 4

## Communication Systems

The Table below presents a list of the communications systems at the site.

System	Provider	Technology	Frequency Band
1	Sprint Nextel	LTE	806 - 896 MHz - Land Mobile
2	Sprint Nextel	LTE	1710 - 1990 MHz - PCS
3	Sprint Nextel	LTE	2400 - 2483.5 MHz - ISM Wireless Data
4	SIGFOX S.A.	FM Land Mobile	896 - 960 MHz - Land Mobile
5	T-Mobile	LTE	614 - 746 MHz - Broadcast
6	T-Mobile	LTE	614 - 746 MHz - Broadcast
7	T-Mobile	LTE	1710 - 1990 MHz - PCS
8	T-Mobile	EDVO	2110 - 2200 MHz - E-Technology
9	T-Mobile	LTE	2110 - 2200 MHz - E-Technology
10	T-Mobile	LTE	2400 - 2483.5 MHz - ISM Wireless Data
11	Verizon Wireless	LTE	746 - 806 MHz - 700 MHz Band
12	Verizon Wireless	LTE	896 - 960 MHz - Land Mobile
13	Verizon Wireless	LTE	1710 - 1990 MHz - PCS
14	Verizon Wireless	LTE	2110 - 2200 MHz - E-Technology
15	AT&T	LTE	614 - 746 MHz - Broadcast
16	AT&T	LTE	806 - 896 MHz - Land Mobile
17	AT&T	LTE	2110 - 2200 MHz - E-Technology
18	AT&T	LTE	2110 - 2200 MHz - E-Technology
19	US DEPT OF JUSTICE	FM Land Mobile	150 - 174 MHz - Land Mobile



# APPENDIX 5

## Antenna Systems

The Table below presents a list of the antenna systems at the site.

Ant #	Mfg	Antenna Model	Gain (dBd)	Hgt (ft)	Orient (deg)	Sec-tor	Ant Use	Transmission Line Type	Line Loss (dB)	Line Length (ft)
1	RFS	APXVTM14-ALU-I20	19.5	291	0	1	Dplx	1-5/8 in. Air	2.08	336
2	RFS	APXVTM14-ALU-I20	19.5	291	140	2	Dplx	1-5/8 in. Air	2.08	336
3	RFS	APXVTM14-ALU-I20	19.5	291	240	3	Dplx	1-5/8 in. Air	2.08	336
4	Commscope	NNVV-65B-R4	16	291	0	1	Dplx	1-5/8 in. Air	3.36	336
5	Commscope	NNVV-65B-R4	16	291	140	2	Dplx	1-5/8 in. Air	3.36	336
6	Commscope	NNVV-65B-R4	16	291	240	3	Dplx	1-5/8 in. Air	3.36	336
7	Commscope	NNVV-65B-R4	16	291	0	1	Dplx	1-5/8 in. Air	4.54	336
8	Commscope	NNVV-65B-R4	16	291	140	2	Dplx	1-5/8 in. Air	4.54	336
9	Commscope	NNVV-65B-R4	16	291	240	3	Dplx	1-5/8 in. Air	4.54	336
14	Procom	CXL 900-3LW	8.1	290	0	0	Dplx	1/4 in. Air	17.28	320
10	RFS	APXVAARR24_43-U-NA20	15.7	277	45	1	Dplx	1-5/8 in. Foam	2.21	307
11	RFS	APXVAARR24_43-U-NA20	15.7	277	135	2	Dplx	1-5/8 in. Air	1.9	307
12	RFS	APXVAARR24_43-U-NA20	15.7	277	225	3	Dplx	1-5/8 in. Air	1.9	307
13	RFS	APXVAARR24_43-U-NA20	15.7	277	315	4	Dplx	1-5/8 in. Air	1.9	307
15	RFS	APXVAARR24_43-U-NA20	15.7	277	45	1	Dplx	1-5/8 in. Air	1.9	307
16	RFS	APXVAARR24_43-U-NA20	15.7	277	135	2	Dplx	1-5/8 in. Air	1.9	307
17	RFS	APXVAARR24_43-U-NA20	15.7	277	225	3	Dplx	1-5/8 in. Air	1.9	307
18	RFS	APXVAARR24_43-U-NA20	15.7	277	315	4	Dplx	1-5/8 in. Air	1.9	307
19	RFS	APXVAARR24_43-U-NA20	15.7	277	45	1	Dplx	1-5/8 in. Air	3.07	307
20	RFS	APXVAARR24_43-U-NA20	15.7	277	135	2	Dplx	1-5/8 in. Air	3.07	307
21	RFS	APXVAARR24_43-U-NA20	15.7	277	225	3	Dplx	1-5/8 in. Air	3.07	307
22	RFS	APXVAARR24_43-U-NA20	15.7	277	315	4	Dplx	1-5/8 in. Air	3.07	307
23	Ericsson	AIR32 B66Aa/B2a	18.4	277	135	2	Dplx	1-5/8 in. Air	3.68	307
24	Ericsson	AIR32 B66Aa/B2a	18.4	277	225	3	Dplx	1-5/8 in. Air	3.68	307
25	Ericsson	AIR32 B66Aa/B2a	18.4	277	315	4	Dplx	1-5/8 in. Air	3.68	307
26	Ericsson	AIR32 B66Aa/B2a	18.4	277	45	1	Dplx	1-5/8 in. Air	3.68	307
27	Ericsson	AIR32 B66Aa/B2a	18.4	277	45	1	Dplx	1-5/8 in. Air	3.68	307
28	Ericsson	AIR32 B66Aa/B2a	18.4	277	135	2	Dplx	1-5/8 in. Air	3.68	307
29	Ericsson	AIR32 B66Aa/B2a	18.4	277	225	3	Dplx	1-5/8 in. Air	3.68	307
30	Ericsson	AIR32 B66Aa/B2a	18.4	277	315	4	Dplx	1-5/8 in. Air	3.68	307
31	Ericsson	Air6449 B41	19.5	277	45	1	Dplx	1-5/8 in. Air	4.14	307
32	Ericsson	Air6449 B41	19.5	277	135	2	Dplx	1-5/8 in. Air	4.14	307
33	Ericsson	Air6449 B41	19.5	277	225	3	Dplx	1-5/8 in. Air	4.14	307
34	Ericsson	Air6449 B41	19.5	277	315	4	Dplx	1-5/8 in. Air	4.14	307
35	Amphenol	LPA-80063-4CF-EDIN-X	15.7	266	0	1	Dplx	1-5/8 in. Air	1.84	296
36	Amphenol	LPA-80063-4CF-EDIN-X	15.7	266	185	2	Dplx	1-5/8 in. Air	1.84	296
37	Amphenol	LPA-80063-4CF-EDIN-X	15.7	266	270	3	Dplx	1-5/8 in. Air	1.84	296
38	Amphenol	LPA-80063-4CF-EDIN-X	15.7	266	0	1	Dplx	1-5/8 in. Air	1.84	296
39	Amphenol	LPA-80063-4CF-EDIN-X	15.7	266	185	2	Dplx	1-5/8 in. Air	1.84	296
40	Amphenol	LPA-80063-4CF-EDIN-X	15.7	266	270	3	Dplx	1-5/8 in. Air	1.84	296
41	Commscope	JAHH-45B-R3B	17.5	266	0	1	Dplx	1-5/8 in. Air	2.96	296

42	Commscope	JAHH-45B-R3B	17.5	266	185	2	Dplx	1-5/8 in. Air	2.96	296
43	Commscope	JAHH-45B-R3B	17.5	266	270	3	Dplx	1-5/8 in. Air	2.96	296
44	Commscope	JAHH-65B-R3B	17.5	266	30	1	Dplx	1-5/8 in. Air	3.55	296
45	Commscope	JAHH-65B-R3B	17.5	266	150	2	Dplx	1-5/8 in. Air	3.55	296
46	Commscope	JAHH-65B-R3B	17.5	266	270	3	Dplx	1-5/8 in. Air	3.55	296
47	CCI	DMP65R-BU8D	15.7	246	30	1	Dplx	1-5/8 in. Air	1.71	276
48	CCI	DMP65R-BU8D	15.7	246	150	2	Dplx	1-5/8 in. Air	1.71	276
49	CCI	DMP65R-BU8D	15.7	246	270	3	Dplx	1-5/8 in. Air	1.71	276
50	CCI	OPA65R-BU8D	15.7	246	30	1	Dplx	1-5/8 in. Air	1.71	276
51	CCI	OPA65R-BU8D	15.7	246	150	2	Dplx	1-5/8 in. Air	1.71	276
52	CCI	OPA65R-BU8D	15.7	246	270	3	Dplx	1-5/8 in. Air	1.71	276
53	Kathrein	800 10122	18.4	246	30	1	Dplx	1-5/8 in. Air	3.31	276
54	Kathrein	800 10122	18.4	246	150	2	Dplx	1-5/8 in. Air	3.31	276
55	Kathrein	800 10122	18.4	246	270	3	Dplx	1-5/8 in. Air	3.31	276
56	Kathrein	800 10122	18.4	246	30	1	Dplx	1-5/8 in. Air	3.31	276
57	Kathrein	800 10122	18.4	246	150	2	Dplx	1-5/8 in. Air	3.31	276
58	Kathrein	800 10122	18.4	246	270	3	Dplx	1-5/8 in. Air	3.31	276
59	DIPOLE	DB264	8.5	211	0	0	Tx	7/8 in. Air	1.21	241



# APPENDIX 6

## Transmitter Frequencies

The Table below presents a list of all transmitter frequencies at the site.

Freq #	Ant #	Provider	Model	Technology	Channel Label	ID	Frequency	Power (Watts)	BW (KHz)
1	1	Sprint Nextel	Ericsson	LTE	1	A	806.000000	16	5000
2	2	Sprint Nextel	Ericsson	LTE	1	B	806.000000	16	5000
3	3	Sprint Nextel	Ericsson	LTE	1	C	806.000000	16	5000
4	4	Sprint Nextel	Ericsson	LTE	1	D	1850.000000	16	5000
5	5	Sprint Nextel	Ericsson	LTE	1	E	1850.000000	16	5000
6	6	Sprint Nextel	Ericsson	LTE	1	F	1850.000000	16	5000
7	7	Sprint Nextel	Ericsson	LTE	1	G	2496.000000	16	5000
8	8	Sprint Nextel	Ericsson	LTE	1	H	2496.000000	16	5000
9	9	Sprint Nextel	Ericsson	LTE	1	I	2496.000000	16	5000
10	10	SIGFOX S.A.	Ericsson	FM Land Mobile	1	N	905.000000	50	16
11	11	T-Mobile	Ericsson	LTE	1	J	663.000000	16	5000
12	12	T-Mobile	Ericsson	LTE	1	K	663.000000	16	5000
13	13	T-Mobile	Ericsson	LTE	1	L	663.000000	16	5000
14	14	T-Mobile	Ericsson	LTE	1	M	663.000000	16	5000
15	15	T-Mobile	Ericsson	LTE	1	O	728.000000	16	5000
16	16	T-Mobile	Ericsson	LTE	1	P	728.000000	16	5000
17	17	T-Mobile	Ericsson	LTE	1	Q	728.000000	16	5000
18	18	T-Mobile	Ericsson	LTE	1	R	728.000000	16	5000
19	19	T-Mobile	Ericsson	LTE	1	S	1930.000000	16	5000
20	20	T-Mobile	Ericsson	LTE	1	T	1930.000000	16	5000
21	21	T-Mobile	Ericsson	LTE	1	U	1930.000000	16	5000
22	22	T-Mobile	Ericsson	LTE	1	V	1930.000000	16	5000
23	26	T-Mobile	Ericsson	EDVO	1	W	2110.000000	16	5000
24	23	T-Mobile	Ericsson	EDVO	1	X	2110.000000	16	5000
25	24	T-Mobile	Ericsson	EDVO	1	Y	2110.000000	16	5000
26	25	T-Mobile	Ericsson	EDVO	1	Z	2110.000000	16	5000
27	27	T-Mobile	Ericsson	LTE	1	AA	2130.000000	16	5000
28	28	T-Mobile	Ericsson	LTE	1	AB	2130.000000	16	5000
29	29	T-Mobile	Ericsson	LTE	1	AC	2130.000000	16	5000
30	30	T-Mobile	Ericsson	LTE	1	AD	2130.000000	16	5000
31	31	T-Mobile	Ericsson	LTE	1	AE	2496.000000	16	5000
32	32	T-Mobile	Ericsson	LTE	1	AF	2496.000000	16	5000
33	33	T-Mobile	Ericsson	LTE	1	AG	2496.000000	16	5000
34	34	T-Mobile	Ericsson	LTE	1	AH	2496.000000	16	5000
35	35	Verizon Wireless	Ericsson	LTE	1	AI	776.000000	16	5000
36	36	Verizon Wireless	Ericsson	LTE	1	AJ	776.000000	16	5000
37	37	Verizon Wireless	Ericsson	LTE	1	AK	776.000000	16	5000
38	38	Verizon Wireless	Ericsson	LTE	1	AL	869.000000	16	5000

39	39	Verizon Wireless	Ericsson	LTE	1	AM	869.000000	16	5000
40	40	Verizon Wireless	Ericsson	LTE	1	AN	869.000000	16	5000
41	41	Verizon Wireless	Ericsson	LTE	1	AO	1970.000000	16	5000
42	42	Verizon Wireless	Ericsson	LTE	1	AP	1970.000000	16	5000
43	43	Verizon Wireless	Ericsson	LTE	1	AQ	1970.000000	16	5000
44	44	Verizon Wireless	Ericsson	LTE	1	AR	2110.000000	16	5000
45	45	Verizon Wireless	Ericsson	LTE	1	AS	2110.000000	16	5000
46	46	Verizon Wireless	Ericsson	LTE	1	AT	2110.000000	16	5000
47	47	AT&T	Ericsson	LTE	1	AU	734.000000	16	5000
48	48	AT&T	Ericsson	LTE	1	AV	734.000000	16	5000
49	49	AT&T	Ericsson	LTE	1	AW	734.000000	16	5000
50	50	AT&T	Ericsson	LTE	1	AX	890.000000	16	5000
51	51	AT&T	Ericsson	LTE	1	AY	890.000000	16	5000
52	52	AT&T	Ericsson	LTE	1	AZ	890.000000	16	5000
53	53	AT&T	Ericsson	LTE	1	BA	1930.000000	16	5000
54	54	AT&T	Ericsson	LTE	1	BB	1930.000000	16	5000
55	55	AT&T	Ericsson	LTE	1	BC	1930.000000	16	5000
56	56	AT&T	Ericsson	LTE	1	BH	2110.000000	16	5000
57	57	AT&T	Ericsson	LTE	1	BI	2110.000000	16	5000
58	58	AT&T	Ericsson	LTE	1	BJ	2110.000000	16	5000
59	59	US DEPT OF JUSTICE	Ericsson	FM Land Mobile	1	BK	170.500000	100	16
60	59	US DEPT OF JUSTICE	Ericsson	FM Land Mobile	2	BL	163.900000	100	16

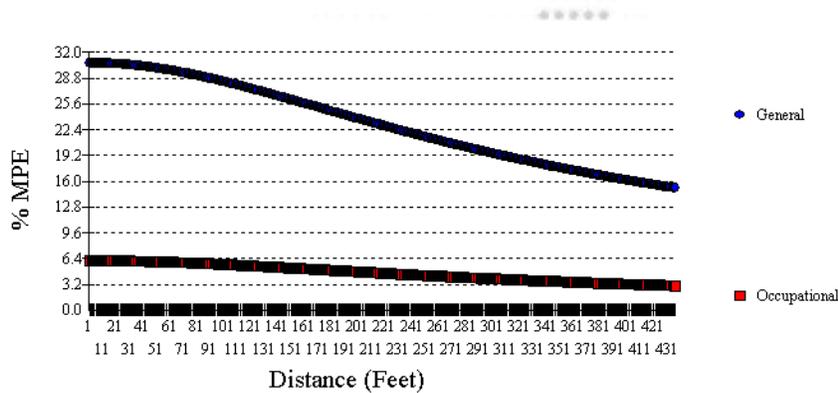


# APPENDIX 7

## Maximum Permissible Emission Analysis

The MPE analysis consists of evaluating the RF transmitter power being emitted from each active antenna at the communications site. Power density calculations are performed based on where a human (observer) would be located at the site. The power density values are then converted to MPE percentages and each antenna's MPE percentages are summed together to provide a composite MPE percentage for each observer location.

The composite graph is presented below. As shown on the graph, the MPE levels are highest where the antennas are concentrated. Any MPE levels above the 100% Limit Line exceeds the maximum permissible exposure levels for humans, based on the MPE Standard selected.



Composite Maximum Permissible Emissions Graph

Calculation details for each antenna are provided in the following Table. The Max %MPE column depicts the General Population Maximum Permissible Exposure percentage for that particular antenna.

The calculated Antenna Gain and Antenna EIRP are based on the antenna pattern gain at the location where the Maximum %MPE is determined.

Provider	Ant Nbr	Ant Hgt (feet)	Ant Lgth (feet)	Frequency (MHz)	Line Loss (dB)	Filter Loss (dB)	Tx Qty	Total Tx Pwr (watts)	Calc'd Ant Gain (dB)	Ant EIRP (watts)	Max %MPE
Sprint Nextel	1	291	6.35	806.0000	2.08	0.81	1	8.21	0	13.47	0.79
Sprint Nextel	2	291	6.35	806.0000	2.08	0.81	1	8.21	0	13.47	0.79
Sprint Nextel	3	291	6.35	806.0000	2.08	0.81	1	8.21	0	13.47	0.79
Sprint Nextel	4	291	4.83	1850.0000	3.36	0.81	1	6.12	0	10.04	0.44
Sprint Nextel	5	291	4.83	1850.0000	3.36	0.81	1	6.12	0	10.04	0.44
Sprint Nextel	6	291	4.83	1850.0000	3.36	0.81	1	6.12	0	10.04	0.44
Sprint Nextel	7	291	7	2496.0000	4.54	0.81	1	4.67	0	7.66	0.04
Sprint Nextel	8	291	7	2496.0000	4.54	0.81	1	4.67	0	7.66	0.04
Sprint Nextel	9	291	7	2496.0000	4.54	0.81	1	4.67	0	7.66	0.04
SIGFOX S.A.	10	290	11.9	905.0000	17.28	1	1	0.74	0	1.22	0.01
T-Mobile	11	277	7.95	663.0000	1.90	0.81	1	8.56	0	14.04	0.89
T-Mobile	12	277	7.95	663.0000	1.90	0.81	1	8.56	0	14.04	0.89
T-Mobile	13	277	7.95	663.0000	1.90	0.81	1	8.56	0	14.04	0.89
T-Mobile	14	277	7.95	663.0000	2.21	0.81	1	7.98	0	13.08	0.89
T-Mobile	15	277	7.95	728.0000	1.90	0.81	1	8.56	0	14.04	0.81
T-Mobile	16	277	7.95	728.0000	1.90	0.81	1	8.56	0	14.04	0.81
T-Mobile	17	277	7.95	728.0000	1.90	0.81	1	8.56	0	14.04	0.81
T-Mobile	18	277	7.95	728.0000	1.90	0.81	1	8.56	0	14.04	0.81
T-Mobile	19	277	4.83	1930.0000	3.07	0.81	1	6.54	0	10.73	0.49
T-Mobile	20	277	4.83	1930.0000	3.07	0.81	1	6.54	0	10.73	0.49
T-Mobile	21	277	4.83	1930.0000	3.07	0.81	1	6.54	0	10.73	0.49
T-Mobile	22	277	4.83	1930.0000	3.07	0.81	1	6.54	0	10.73	0.49
T-Mobile	23	277	276	2110.0000	3.68	0.81	1	5.68	0	9.32	0.00
T-Mobile	24	277	276	2110.0000	3.68	0.81	1	5.68	0	9.32	0.00
T-Mobile	25	277	276	2110.0000	3.68	0.81	1	5.68	0	9.32	0.00
T-Mobile	26	277	276	2110.0000	3.68	0.81	1	5.68	0	9.32	0.00
T-Mobile	27	277	276	2130.0000	3.68	0.81	1	5.68	0	9.32	0.00
T-Mobile	28	277	276	2130.0000	3.68	0.81	1	5.68	0	9.32	0.00
T-Mobile	29	277	276	2130.0000	3.68	0.81	1	5.68	0	9.32	0.00
T-Mobile	30	277	276	2130.0000	3.68	0.81	1	5.68	0	9.32	0.00
T-Mobile	31	277	7	2496.0000	4.14	0.81	1	5.11	0	8.38	0.05
T-Mobile	32	277	7	2496.0000	4.14	0.81	1	5.11	0	8.38	0.05
T-Mobile	33	277	7	2496.0000	4.14	0.81	1	5.11	0	8.38	0.05
T-Mobile	34	277	7	2496.0000	4.14	0.81	1	5.11	0	8.38	0.05
Verizon Wireless	35	266	7.95	776.0000	1.84	0.81	1	8.7	0	14.26	0.81
Verizon Wireless	36	266	7.95	776.0000	1.84	0.81	1	8.7	0	14.26	0.81
Verizon Wireless	37	266	7.95	776.0000	1.84	0.81	1	8.7	0	14.26	0.81

Verizon Wireless	38	266	7.95	869.0000	1.84	0.81	1	8.7	0	14.26	0.72
Verizon Wireless	39	266	7.95	869.0000	1.84	0.81	1	8.7	0	14.26	0.72
Verizon Wireless	40	266	7.95	869.0000	1.84	0.81	1	8.7	0	14.26	0.72
Verizon Wireless	41	266	7	1970.0000	2.96	0.81	1	6.71	0	11.01	0.06
Verizon Wireless	42	266	7	1970.0000	2.96	0.81	1	6.71	0	11.01	0.06
Verizon Wireless	43	266	7	1970.0000	2.96	0.81	1	6.71	0	11.01	0.06
Verizon Wireless	44	266	276	2110.0000	3.55	0.81	1	5.86	0	9.6	0.00
Verizon Wireless	45	266	276	2110.0000	3.55	0.81	1	5.86	0	9.6	0.00
Verizon Wireless	46	266	276	2110.0000	3.55	0.81	1	5.86	0	9.6	0.00
AT&T	47	246	7.95	734.0000	1.71	0.81	1	8.95	0	14.67	0.95
AT&T	48	246	7.95	734.0000	1.71	0.81	1	8.95	0	14.67	0.95
AT&T	49	246	7.95	734.0000	1.71	0.81	1	8.95	0	14.67	0.95
AT&T	50	246	7.95	890.0000	1.71	0.81	1	8.95	0	14.67	0.79
AT&T	51	246	7.95	890.0000	1.71	0.81	1	8.95	0	14.67	0.79
AT&T	52	246	7.95	890.0000	1.71	0.81	1	8.95	0	14.67	0.79
AT&T	53	246	276	1930.0000	3.31	0.81	1	6.19	0	10.15	0.00
AT&T	54	246	276	1930.0000	3.31	0.81	1	6.19	0	10.15	0.00
AT&T	55	246	276	1930.0000	3.31	0.81	1	6.19	0	10.15	0.00
AT&T	56	246	276	2110.0000	3.31	0.81	1	6.19	0	10.15	0.00
AT&T	57	246	276	2110.0000	3.31	0.81	1	6.19	0	10.15	0.00
AT&T	58	246	276	2110.0000	3.31	0.81	1	6.19	0	10.15	0.00
US DEPT OF JUSTICE	59	211	20	170.5000	1.21	3.5	2	67.69	0	111.01	7.95

In cases where the predicted power density levels exceed MPE limits, altering the location of the antennas can lead to changing the composite power spectral density and thus bringing the tower/site into compliance. Also, reducing the transmitter output power, if possible, can lead to lowering the average power density and thus reducing the amount of RF exposure.



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## APPENDIX 8

### *Information Pertaining to MPE Studies*

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In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.

MPE limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm<sup>2</sup>), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). The far-field of a transmitting antenna is where the electric field vector (E), the

magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

**Occupational/controlled exposure** limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

**General population/uncontrolled exposure** limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area. Additional details can be found in FCC OET 65.



# APPENDIX 9

## MPE Standards Methodology

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.

The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	900/F <sup>2</sup>	6
30 - 300	61.4	0.163	1.0	6
300 - 1500	--	--	f/300	6
1500 - 100,000	--	--	5	6

f = frequency



\* = Plane-wave equivalent power density

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	180/F <sup>2</sup>	30
30 -300	27.5	0.073	0.2	30
300 -1500	--	--	f/1500	30
1500 -100,000	--	--	1.0	30

f = frequency

\* = Plane-wave equivalent power density

General population/uncontrolled exposures apply in situations in which the general public may be exposed or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.

The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still has a curvature but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65. As this study is concerned only with Near Field calculations, we will only describe the model used for this study. For additional details, refer to FCC OET Bulletin 65.

### **Cylindrical Model (Near Field Predictions)**

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\pi RL$$

Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \pi RL$$

Where:

S = Power Density

$\theta_{BW}$  = Beam width of antenna in degrees (3 dB half-power point)

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.

## Spherical Model (Far Field Predictions)

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

# Exhibit G

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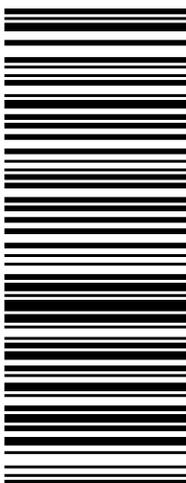
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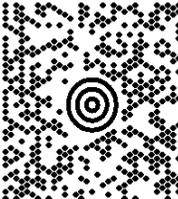
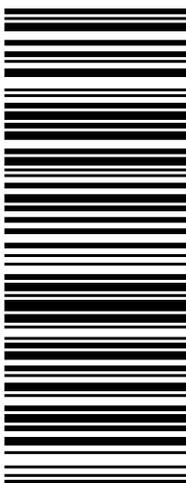
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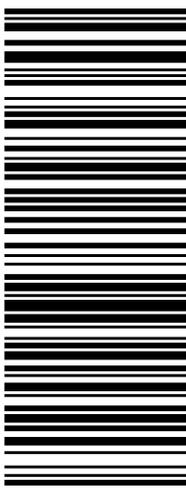
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